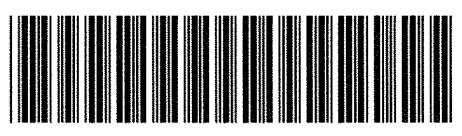


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XVII PARLIAMENT

CHAMBER OF DEPUTIES

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PARLIAMENTARY COMMISSION OF INQUIRY INTO CASES OF DEATH AND SEVERE ILLNESSES AFFECTING ITALIAN PERSONNEL ASSIGNED TO MILITARY MISSIONS ABROAD, FIRING RANGES AND THE SITES WHERE MUNITIONS ARE STOCKED, ON THE EXPOSURE TO PARTICULAR CHEMICAL, TOXIC AND RADIOLOGICAL FACTORS WITH A POSSIBLE PATHOGENIC EFFECT AND ADMINISTRATION OF VACCINES, WITH SPECIAL ATTENTION TO THE EFFECTS OF DEPLETED URANIUM SHELLS AND OF THE DISPERSION IN THE ENVIRONMENT OF NANOPARTICLES OF HEAVY MINERALS PRODUCED BY THE EXPLOSION OF WARFARE MATERIAL AND ANY RELATED INTERACTION

(Established by the Chamber of Deputies resolution of 30 June 2015 amended with subsequent resolution of November 15, 2017)

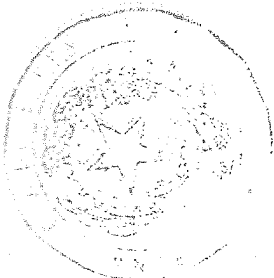
(Composition: Scanu, Chairperson; Catalano, Duranti, Deputy Chairpersons; Boldrini Paola, Rizzo, Secretaries; Amato, Capelli, Carrozza, Causin, Cirielli, Cova, Crivellari, Grillo, Lacquaniti, Massa, Pili, Simonetti, Vito, Zardini)

INQUIRY REPORT

(Rapporteur: Honourable Gian Piero SCANU)

Approved by the Commission at its meeting on 7 February 2018

Sent to the Presidency of the Chamber of Deputies on February 7, 2018, pursuant to article 4, paragraph 2, of the resolution of the Chamber of Deputies of 30 June 2015, amended by subsequent resolution of 15 November 2017



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No more a forbidden peninsula, no more soldiers who died for no reason.

It has become the emblem of the curse that for too many decades has weighed heavily upon the Army universe: a piece of land of our country, of rare beauty, where in Capo Teulada men was banned by itself; the Delta Peninsula used for over 50 years as the area of arrival of shots (from 2009 to 2013 about 24,000 between heavy artillery, missiles, rockets), that one where the movement of people and vehicles are permanently banned.

Satellite images depict an uncontrolled landfill: 30,000 craters up to 19-20 meters in diameter. On the surface, tons of debris containing large quantities of pollutants able to contaminate soil, water, air, vegetation, animals. And, men. In Foxi, part of the municipality of Sant'Anna Arresi, near the area where military exercises, using armoured vehicles and live-fire activities including long range missiles, were carried out in the period 2000-2013, there is a doubled mortality rate due to all causes, and at least three times greater risk of cardiovascular disease (CVD) mortality and morbidity. And in other areas located near the firing range, such as Sa Portedda and Gutturu Saidu, excesses due to respiratory and digestive diseases, urinary system and tumours.

A drainage was imposed by the Decree of the Minister of Defence of 22 October 2009, but the area continued to be a target for the exercises.

At this point, inquiries carried out by the Public Prosecutor at the Court of Cagliari for the crime of wilful disaster were not surprising, following the "submission of complaints from citizens of Teulada or Sant'Anna Arresi, who reported that some relatives or themselves had contracted serious cancer diseases and assumed that this had happened as a result of having come into contact with contaminants spread by the exercise activities that took place into the firing range of Capo Teulada." A disaster involving the Delta Firing Range and the opposite seaside stretch, which was caused by military exercises even increased after and in violation of the Ministerial Decree of 2009. A disaster that is not surprising if we only reflect on the rules adopted by the Administration of Defence on the drainage of the Delta Firing Range under the banner of a disappointing "advantage":

I. Rules for using the Firing Range of Capo Teulada (approved on 11 August 1987 by the Chief of Defence Staff)

"D Range" (peninsula of Capo Teulada) has been permanently banned to the movement of men and means. In fact, it is used exclusively as an area of arrival of shots (bullets, rockets and bombs) and **no drainage operations are carried out on it**".

II. Regulation of the environment protection of the Firing Range of Capo Teulada (approved on 12 May 2008 by the Commander General of the Military Command of Sardinia)

"D Range"

Located in south, on the Capo Teulada peninsula, which is permanently banned to transit of means and persons due to the presence of **explosive debris of which the drainage is not possible nor advantageous**".

III. Rules for using the permanent Range of Capo Teulada (approved on 30 March 2010 by the Commander General of the Autonomous Military Command of Sardinia)

Section I

"D Range"

Located in south, on the Capo Teulada peninsula, which is permanently banned to transit of means and persons due to the presence of **explosive debris of which the drainage is not possible nor advantageous**.

The firing range is used as the arrival area of the following:

- mortar and artillery shots;
- anti-tank guided missiles;
- navy shooting at coast;
- bombing and machine-gunning raid;
- for aircraft emergency releases."

Section II

"The peninsula of Capo Teulada ("D" Range), permanently the area considered as arrival of the naval and terrestrial artillery shots, of the supplied/testing weapons and weapon systems, and the ground and emergency release area for aircraft, is included in the banned areas for the sole purpose of transit and landing. At the end of the live-fire activities, during which the peninsula of Capo Teulada was involved as an area of shots arrival, the Director of Exercise (DE) shall complete, in 4 copies, the planned "Declaration of Drainage" as provided in Annex "L"."

The omitted drainage for matters of "convenience", the continuation of the exercises, are strategic choices that jar out dye to the growing and deafening alarm risen between citizens and institutions of the banned peninsula; they returned at the hearing of 5 October 2017 of the Deputy Prosecutor of the Republic of Cagliari Dr. Emanuele Secci:

EMANUELE SECCI. I am referring to the Regulation of 2008, where, regarding the Delta peninsula, it is claimed that it is an area where drainage is not required nor expected, **for reasons of economic advantage**, as well as for the dangers associated with this operation for the soldiers who had been appointed." "We have not found a genetic provision resulting on the ban of this area, although repeatedly requested.

LUIGI LACQUANITI. You are telling us that you have not found an act on prohibition of access, so we have an area of our territory where we cannot actually access, but we do not know why.

EMANUELE SECCI. The access bans have been arranged from time to time, for example in the case of the seaside stretch the water mirror adjoining the port authority. There are specific, annual, periodic and subsequent measures, but originally a provision, for example, by the Minister of Defence or the Commander General of the Defence General Staff does not exist. There is no provision of this nature, or at least we have not found it." "First of all it is banned for a serious safety hazards."

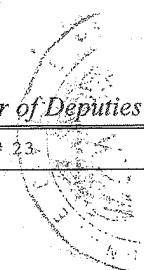
EDMONDO CIRIELLI. Probably there are unexploded devices.

EMANUELE SECCI. Unexploded missiles...

EDMONDO CIRIELLI. Are still in there.

EMANUELE SECCI. Those remain there and are not made shined. There is this first danger. In addition, there are 166 tons of metals, which create the conditions for heavy metal pollution." "Following the inquires we carried out, we detected presence of radioactive materials. The presence of thorium, which was a component of MILAN missiles, was revealed the radiometric tests. It seems to me that during the exercises from the early 1990s to 2004, when they were removed from circulation, more than 4,200 have been fired." "In case of **unexploded** missiles or munitions, there is an obligation to neutralizing them by artificers and to determining their explosion, so that they cannot cause injury or danger to the training soldiers. The same procedure is not yet done in the banned peninsula and, therefore, a situation of extreme danger for public safety persists. Based on the very empirical evidence we have found, it would seem that up to now there are in the banned peninsula **566 tons of armaments** and that only eight years have been destroyed in two years. As a result, I think there is a massive intervention required for drainage." "From 2008 onwards, despite the entry into force of the Ministerial Decree of 2009 requiring the drainage of the places affected by the training actions, this area continued to be the target of the exercises. Of course, completely draining up that area is not easy. Since the end of 2014, when the gate creations begun, very little has been seized and taken away, no massive action has been taken. What I have learned up, in other situations, when we realized that an area was contaminated as a result of the exercises, the activity was abandoned, not to expose the personnel who are there to further risks." "This is a Ministerial Decree that since 2009 has forced military administrations, when they carry out exercises, to clean up their dirty." "No exemption was allowed, such as "without prejudice to the firing ranges that have a banned peninsula, to which this rule does not apply."

No more sick or dead soldiers without knowing why, never again a "banned peninsula": these are the goals pursued by the Fourth Parliamentary Commission of Inquiry into depleted uranium. No more a land management under the exclusive responsibility of the military authority, without substantial discussions with the Environment Authorities, the Region and the Local Autonomies. Ensuring safety and health of the military personnel is not a dream, and we owe it to our Armed Forces for the commitment and the spirit of sacrifice shown every day serving our country.



CHAPTER 1

INVESTIGATION CARRIED OUT BY THE COMMISSION OF INQUIRY 17th PARLIAMENT

1. Introduction

With Resolution of 30 June 2015, published in the Official Journal No. 160 of 13 July 2015, the Chamber of Deputies established a Parliamentary Commission of Inquiry into cases of death and severe illnesses affecting Italian personnel assigned to military missions abroad, firing ranges and the sites where munitions are stocked, on the exposure to particular chemical, toxic and radiological factors with a possible pathogenic effect and administration of vaccines, with special attention to the effects of depleted uranium shells and of the dispersion in the environment of nanoparticles of heavy minerals produced by the explosion of warfare material and any related interaction.

This Commission is the fourth established in the history of the Italian Parliament to investigate the complex matters concerning the use of depleted uranium by our Armed Forces, as well as, in the specific case of the XVII Parliament, on a wide spectrum of related pathogenic factors, and both on the health accidents of the military personnel, as well as of civil servants of the Defence administration and the civilian populations residing in areas adjacent to firing ranges and military installations on the national territory.

Before summarizing the activity carried out in this field by the Commission established in this Parliament, we should briefly review the works of the previous commissions of inquiry into depleted uranium, also in view of the fact that, pursuant to Article 1, paragraph 2 of the resolution passed on 30 June 2015, the Commission «bases its activities on the fact-findings and promotes the implementation of the proposals contained in the final reports», presented by the parliamentary commissions of inquiry established by the Senate of the Republic in 2006 and 2010.

This is an early base period inquiry, yet still current; therefore, meeting the requirement that Article 82 of the Constitution prescribes for the establishment of a parliamentary commission of inquiry, talking about «matters of public interest». The special interest and current relevance of the matter have given rise to the resolution with which the Chamber of Deputies has evidently considered that the reasons underlying the establishment of a new Commission of Inquiry into depleted uranium, while remaining unaltered the fact-findings reached by the previous ones, were still largely unresolved or need further investigation, such as they can best be met only with the exercise of the instrument of a parliamentary inquiry.

Pursuant to the resolution, the term of the Commission activities was fixed within twenty-four months of its establishment, which took place with the election of the Bureau on 17 December 2015; however, with the subsequent resolution of the Chamber of 15 November 2017, the term of office was extended until the end of the 17th Parliament, to allow the Commission to complete the large program undertaken.

2. The Commissions of Inquiry on depleted uranium established in the XIV and XV Parliament.

The **First Commissions of Inquiry on depleted uranium** was established in the 14th Parliament by Senate, taking up matters of fact-finding inquiry on risk prevention and security conditions of the Italian military personnel engaged in the Balkans, established in the final phase of the 13th Parliament by the Defence Commission of the Chamber of Deputies.

A parallel fact-finding inquiry was also authorised in January 2001 by Senate with reference to the Italian state of knowledge about the use of ammunition containing depleted uranium by NATO, during war operations in the Balkans, and the measures adopted by the Italian Armed Forces for the prevention of risks deriving from the use of this ammunition¹.

Due to the topicality and the sensitive nature of the questions raised by the aforementioned fact-finding inquiries, in January 2001 the *process* began also in the Senate for the establishment of a single-chamber commission of inquiry; this *process*, however, failed to end due to the expiry of the 13th Parliament.

Thus, it was only in the 14th Parliament that the Senate approved the Document XXII, No. 27, upon initiative of Senator Forcieri et al., on the "Establishment of a Parliamentary Commission of Inquiry into the cases of death and serious illness among Italian military personnel employed in international peace missions, and into the storage conditions of depleted uranium and its possible use in military exercises on national soil." The Commission of Inquiry established in this way, however, began its work only almost four years after the beginning of the 14th Parliament, under the initial presidency of Senator Salini, and later of Senator Paolo Franco.

The final report of this first inquiry on depleted uranium, approved on 1 March 2006, highlighted several criticisms, but above all confirmed the need to extend the scope of investigations to the Italian personnel employed in missions abroad, not exclusively in the Balkans, firing ranges, ammunition storage sites and the risks of exposure to pathogenic factors of various kinds for the civilian populations living in conflict theatres and in the areas adjacent to the military settlements on the national soil, with special attention to the effects of depleted uranium shells and of the dispersion in the environment of nanoparticles of heavy minerals produced by the explosion of warfare material.

This same scope of the inquiry, extended in precisely these terms, was later the matter of the **Second Commissions of Inquiry on depleted uranium**, always established by Senate in the 15th Parliament, with Resolution adopted by the Defence Commission on 11 October 2006. The Commission, chaired by Senator Lidia Brisca Menapace, worked from February 2007 to the same month of the following year, providing sufficient fact-findings to justify, even in this case, the need for further study continuing the inquiry activity in the subsequent Parliament,

¹ Both inquiries were based on a branched output by NATO SHAPE (*Supreme Headquarters Allied Power Europe*) on 1 July 1999, containing the description of the risks associated to the depleted uranium exposure and the precautions recommended for military personnel in the presence of such risks. This document had caused serious concern about the health conditions of the military personnel who had taken part in the peacekeeping missions in Kosovo and in Bosnia and Herzegovina, during which the use of depleted uranium ammunition was known and documented.

and contributing, even in the short term available, to clarify some basic principles as a starting point for the evaluation work of the subsequent Commissions.

In particular, among the principles set out in the Menapace Commission's conclusions, a **Criterion of Probabilistic Causation**, according to which, with reference to the pathologies, hypothetically, being depleted uranium exposure related, could neither be affirmed nor denied with certainty, in relation to the results achieved by scientific research, a directly causal link between the exposure and the onset of the disease. Therefore, in its conclusions, the Commission opted for the application, for this causal link, of a principle of probable cause, to be adopted, with reference to the indemnity of severely disabling or mortal pathologies contracted by military personnel, and in national missions or abroad, in the administrative procedure to ascertain these diseases and to assign the related benefits².

3. Results of the investigation carried out by the Commission of Inquiry on depleted uranium established in the XVI Parliament.

Follow these previous steps, in the 16th Parliament, the **Third Commission of Inquiry on depleted uranium** was established, always single-chambered and again approved by Senate (16 March 2010), which began its work on 15 September 2010, under the presidency of Senator Rosario Giorgio Costa, concluding it with the approval of the final report on 9 January 2013.

From the beginning of its activity, the Costa Commission, in adopting the principle of probable cause enunciated by the Menapace Commission, was able to ascertain that both the current legislation and the methods of application of the same by the administrations concerned were incomplete and inconsistent under this respect. Because of this, the procedure for assigning the benefit of the so-called "special donation"³ to persons treated as victims of terrorism it was particularly cumbersome (in many cases, contradictory), giving rise to frequent and extensive judicial litigation, in which the administration was often unsuccessful, above all due to the lack of motivation of the acts of refusal of the invoked benefit.

Examining the documents produced by the Ministry of Defence and others⁴, as well as the conclusions of the Mandelli Commission and of the SIGNUM project, as well as the findings of the hearings, the Costa Commission confirmed that scientific knowledge did not allow to state with certainty the causal role of all the risk factors considered (including exposure to depleted uranium) compared to the claimed effects; but, at the same time, did not allow to exclude that a concomitant and interacting action of the potentially harmful factors could be the basis of the observed pathologies and deaths.

² For a more detailed reconstruction on the work of the previous Commissions of Inquiry on depleted uranium, see the introductory part of the *Report on occupational safety and social security protection in the Armed Forces*, approved by the Commission on 26 May 2016, p. 5 and ff.

³ For further information on the special donation, please see *Report on occupational safety and social security protection in the Armed Forces*, cit, p. 24 and ff. and p. 28 and ff.

⁴ In particular, the opinion delivered to the European Commission by the Scientific Commission on Health and Environmental Risks – SCHER, on 28 May 2010, entitled *Opinion on the Environmental and Health Risks Posed by Depleted Uranium*.

First, the Commission recommended to administrations called to ensure compliance with the rules on the protection of the health of military and civilian personnel to adopt the **precautionary principle**, on the basis of which activities involving chemical, physical or biological risks that cannot be controlled by basic containment or minimization measures should be avoided and inhibited, or "not expected to be being contained or quickly consolidated in terms of environmental impact, implications for the food chain, the effects of exposure on humans even with the use of individual protection means." Consequently, the same administrations would not have to authorize operations by the personnel without the use of organizational measures, procedures or operating instructions for safety (including in particular personal protective equipment - PPE).

On **vaccines** and the risks associated with their uncontrolled administration, the conclusions of the Costa Commission instead stated the need for each activity of administration of drugs, vaccines, antidotes to be carried out taking into account the particular individual situation of the recipient, in relation to specific clinical indications, prior punctual collection and registration of a specific medical history for the type of administration to be performed, as well as the acquisition of informed consent, with a detailed illustration of the effects and risks associated with the intervention, in strict compliance with the protocols and schedules.

A further relevant conclusion emerged from the inquiry carried out in the 14th Parliament and that it is worth stressing here, as an essential basis for this Report, is represented by the enunciation of the **criterion of multifactorial pathogenesis**. By avoiding the merits of the single scientific hypotheses - often discordant - on the toxicity or etiopathogenesis related to single environmental factors or causal agents, illustrated by the numerous experts and researchers audited during the inquiry, the Costa Commission has always considered to stick to the close political, regulatory and administrative merit, which required to abstain from any scientific or medical position, focusing instead on the principle of multifactorial causal processes, i.e. on the concomitant possible causes with regard to the onset of the pathologies considered by the inquiry.

In the light of what has been said so far, it is therefore possible to observe how, despite the succession of the various Parliaments and the progressive enlargement of the inquiry, the final reports of the three parliamentary commissions of inquiry on depleted uranium attest a substantial continuity of assessments and of contents, as well as a similar methodological approach, such as to be considered part of a single inquiry developed over three legislative terms.

Moreover, the same resolution of 30 June 2015, with which the Chamber of Deputies has ordered the establishment, in the 17th Parliament, of the Fourth Parliamentary Commission of Inquiry on the matters already investigated by the previous Parliaments, intended to make explicit this principle of continuity with the aforementioned provision (Article 1, paragraph 2) expressly referring to the conclusions and implementation of the proposals contained in the final reports presented at the end of the work of the similar Commissions established in the 15th and 16th Parliaments.

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4. The institutional activity of the Uranium Commission in the XVII Parliament: temporal and methodological scanning.

Over its two years of activity, the Commission has carried out an extensive work program, ranging from a wide range of instruments that can be used by the parliamentary inquiry, and proceeding right away in the wake of several broad and complex strands of inquiry, some of which requested further sensitive details.

The scope of the inquiry was immediately so manifold, as required by the extensive list of the tasks of the Commission contained in its title, which were approved during the course of the work two relationships defined as both intermediate, going beyond the same letter of the institutive resolution, in which only the presentation of an interim report was foreseen, at the end of the first year of activity, and of a final report at the end of the work of the Commission.

In particular, the **first phase of activity of the Commission** – which led to the approval of the Report on Occupational Safety and Social Security in the Armed Forces - has followed a purely fact-finding procedure, aimed at identifying and overcoming the regulatory shortcomings in the field identified by the inquiry. This led to produce, together with the approved report, a draft law, aimed at parliamentary scrutiny by the relevant Commissions, containing all the amendments to the current legislation for creating a homogeneous and all-encompassing occupational safety framework for the military personnel and civilian employees.

The **second phase of activity of the Commission** has instead chosen a *modus operandi* markedly inspective, opting for the conduct of a major investigation activity, borrowed from the model of parallelism with the powers of the judicial authority referred to in Article 82 of the Constitution. This allowed the Commission to critically deepen the previously identified regulatory gaps and those relating to the application of the current regulations, refining and enhancing its investigative tools in relation to the degree of criticality encountered in the hearing of the individuals from time to time heard in witness form or during the numerous inspections carried out at the military firing range in the national soil. At the end of this second working *tranche*, the Report on the activity of inquiry in the field of occupational safety and environmental protection in the armed forces was approved: critical issues and proposals.

As we can see, we are dealing with a range of extremely wide-ranging inquiries, which the Commission has been able to develop through an intense program of hearings, that mainly cognitive in nature, in the first phase of its activity, and a strictly inspection nature in the second phase, also with the help of an extensive documentary collection and with the support of a highly specialized consulting apparatus, referring to the different technical profiles of the inquiry.

5. Investigating strands

From the beginning of the planning of the works, the Commission has decided to define key lines of its work, overlapping the scope as closely as possible on the tasks of the inquiry, as outlined in Article 1 of the Resolution passed on 30 June 2015. In fact, according to the establishing resolution, the Commission is in charge of investigating into the following:

a) cases of death and severe illnesses affecting Italian personnel assigned to military missions abroad, firing ranges and the sites where munitions are stocked, on the exposure to particular chemical, toxic and radiological factors with a possible pathogenic effect and administration of vaccines, with special attention to the effects of depleted uranium shells and of the dispersion in the environment of nanoparticles of heavy minerals produced by the explosion of warfare material and any related interaction;

b) the specific environmental conditions of the different operational contexts in order to evaluate the measures adopted for the selection of the best forms of logistical arrangement and the most appropriate individual protection equipment for the troops deployed;

c) the adequacy of the health data collection and epidemiological analysis relating to military and civilian personnel, both those operating in firing ranges and military bases in the national soil, or sent in missions abroad;

d) the components of the vaccines administered to military personnel, regardless of its subsequent employment;

e) routes of administration of vaccines to the military personnel, and the detection of immune conditions of individuals under observation, taking into account the outcomes of the project entitled «Study of the Genotoxic Impact in Military Units» (SIGNUM);

f) the risks associated with the presence of radon gas and asbestos-containing materials in environments where military personnel are called to perform service;

g) the adequacy of the compensation, social security and income support bodies provided by law in favour of those affected by diseases related to the possible risk situations indicated in letters a), d), e) and f). »

That was the legal basis on which the Commission founded its work and, in particular, outlined distinct strands of its activity, each of which summarizing one or more letters of the aforementioned Article 1.

Therefore, in-depth studies were carried out in the following areas, referred to both military and civilian personnel of the Defence Administration:

- a. **Cases of military personnel seriously ill**, following exposure to the pathogenic factors included in the inquiry
- b. **Occupational safety and health**, both in the national territory and abroad
- c. Adequacy of the compensation and social security bodies, related to the inquired risk factors
- d. **Environmental risk** inherent to Armed Forces activities **into firing ranges**, also with reference to the neighbouring territories and to the resident populations
- e. Health risks resulting from the use and administration of **vaccines**
- f. Health risks resulting from exposure to **asbestos** and related drainage processes
- g. Health risks resulting from exposure to **radon**

For each of these strands, the Commission carried out a high number of audits and hearings, as well as an extensive program of missions, which revealed numerous critical

issues and whose results, in terms of evaluations, conclusions and operational proposals, merged specific content of the two aforementioned interim reports produced by the Commission to prepare this final report.

6. Auditions

Auditions, experienced, as you know, all the first phase of the Commission's work, have complied to the need to focus on the entity and the nature of the health risks to which the members of the Armed Forces and Defence civilian servants are exposed.

Some of them in particular, which had already been held before the Costa Commission in the 16th Parliament, had the purpose of explaining to the Commission the current state of scientific and technical knowledge regarding exposure to depleted uranium and other pathogenic factors, above all in connection with the possibility of affirming the existence of a causal link between this exposure and the onset of specific pathologies considered by the inquiry.

This includes, for example, auditing numerous technicians, professors, military personnel and even consultants of the Commission, specifically requested to intervene on the matter to provide an information framework as neutral and "secular" as possible.

The Commission in this case, usefully, as in some recent practises of the commissions of inquiry, has decided to use the untraditional instrument of the hearing of its own consultants⁵, while taking into account the need for a qualified opinion of experts, considered by the commissioners more accredited in this matter, but in a more flexible way of filing an usual specific technical appraisal, which does not allow immediate comparison with the commissioners themselves.

During Commission's sittings aimed at witnessing and dutifully listening to the reasons of the victims, moreover, they provided an illuminating framework for the numerous **auditions of sick soldiers and family members of victims of diseases related to depleted uranium exposure and multiple vaccinations**. These individual hearings, and collective in some cases, beyond the strong emotional impact and ethical reflections able to arouse in individual consciences, have had the merit of raising a veil on the condition of loneliness and serious abandonment, in which these soldiers, and their families, were found over the years; this, not only in facing the disease progress (lethal, in many cases), but also in the subsequent judicial process, of which the Commission noted the slowness and the excess of depersonalization towards of those who put their lives and their health at the national service.

The following individuals were audited into a free form:

Falco ACCAME, President of the National Assistance Association of military personnel victims and their relatives, (17.2.16); Raffaele TARTAGLIA, Representative of the Permanent Observatory and study centre for the personnel of the Armed Forces and Police, (18.2.16); Andrea RINALDELLI, Representative of the National Coordination of Vaccine injured - CONDAV

⁵ The following were audited: Professor Antonietta GATTI, an expert in nanoparticles and former consultant of the Costa Commission in the 16th Parliaments; Dr. Raffaele GUARINIELLO, former Chief Prosecutor of the Turin Public Prosecutor's Office and consultant in the field of occupational safety; the retired military technician General Fernando Termenti, hearing form, at his express request; the environmental prevention technician Omero NEGRISOLO.

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(24.2.16) and father of the major caporal Francesco Rinaldelli (whose death, according to his father, would be due to the administration of multiple vaccinations); Giorgio TRENTA President of the Italian Association of Radioprotection, (25.2.16 and 23.3.16); Luciano CARLEO representative of CONTRAMIANTO and other risks - Onlus, (2.3.16 and 26.7.17); Carlo MAGRASSI Secretary General of the Ministry of Defence, (3.3.16, 17.3.16 and 20.4.16); Maura PAOLOTTI Director-General for Military Pension System and services - PREVIMIL, (9.3.16 and 31.3.16); Massimo DE FELICE President of INAIL, Giuseppe LUCIBELLO Director General, Ester ROTOLI, Director of the Central Management Prevention of INAIL, and Agatino CARIOLA, Director of the Central Management Insurance, Prevention and Institutional Services of INAIL (10.3.16 and 25.5.16); Enrico TOMAO Inspector General of Military Health (IGESAN), (16.3.16 and 13.4.16); Mario MELAZZINI President of the Italian Medicines Agency (AIFA), (30.3.16); Luigi BUONINCONTRO, Carlo CALCAGNI, Adam FERRARA, Lorenzo MOTTA, Vincenzo RICCIO, a military man affected by pathologies related to the inquiry, and Giuseppe TRIPOLI, who at the time of the hearing claimed to have contracted diseases related to vaccination (30.3.2016); Enrica PRETI, Director General of the General Directorate of Supply and General Services (COMMISERVIZI) of the Ministry of Defence, (6.4.16); Col. Claudio DE ANGELIS, Director of the Epidemiological Observatory of the Ministry of Defence, (7.4.16); Gualtiero RICCIARDI, President of the Higher Institute of Health, Loredana MUSUMECI, Director of the Department of Environment and related primary prevention of the Italian Institute of Health, and Angelo DEL FAVERO, Director General, (21.4.16); Cirino STRANO, scientific advisor of the Movement No M.U.O.S. Sicily (21.4.16); Fiorenzo Marinelli, researcher at the Institute of Molecular Genetics of the CNR in Bologna (21.4.16); Claudio Graziano Chief of the Italian Defence General Staff, (28.4.16); Cons. Edoardo ANDREUCCI, former Chairman of the Audit Commission for the Service Cases of the Ministry of Economy and Finance (4.5.16); Paolo GEROMETTA, chairman of the Steering Commission of the Central Board of Inter-Agency Representation, Antonio CIAVARELLI, COCER representative for the Navy, Antonsergio BELFIORI, COCER representative for the Aeronautics, Giovanni CUTRUPI, COCER representative for the Guardia di Finanza, Andrea CARDILLI, COCER representative for the Arma dei Carabinieri, Roberto CONGEDI, COCER representative for the Army (11.5.16 and 19.5.16); Bernardo DE BERNARDINIS, President of the Higher Institute for Environmental Protection and Research (ISPRA), Luciano BOLOGNA, Giancarlo TORRI and Claudio NUMA, Senior managers of the Institute for Environmental Protection and Research (ISPRA) (18.5.16); Antonio CANCEDDA, Francesco DE ANGELIS, Salvatore DONATIELLO and Gaetano LUPPINO, soldiers affected by diseases related to this inquiry, Santa PASSANITI, mother of the soldier Francesco Finessi (who during the hearing claimed that the son would die as a result of pathologies related to vaccine administrations) and Salvatrice PIROSA, widow of the carabinieri Giuseppe Bongiovanni (18.5.16); Roberta PINOTTI, Minister of Defence (26.5.16); Massimo CAPPAL, professor of medical statistics at the University of Florence (20.7.16 and 3.8.16); Annibale BIGGERI, manager of Arpas Sardegna, (20.7.16 and 3.08.16); Francesco PIGLIARU, President of the Sardinia Region, (3.8.16); Massimo MASSELLA DUCCI TERI, Advocate General of State (3.8.16); Paolo PASQUINELLI (9.11.16 and 11.01.17); Fausta DI GRAZIA, Chairman of the Audit Commission for the causes of service at the MEF, (19.1.17 and 2.2.17); Homer NEGRISOLO, environmental prevention technician ARPAV Veneto, (1.2.17); Adriano CHIÒ, associate professor of neurology at the University of Turin, (8.2.17); Marco LAMPIS,

Mayor of Escalaplano, Giuseppe CABONI and Riccardo CABONI, lawyers of the same Municipality, accompanied by the Municipal Councilor Nicola PRASCOLU (22.2.17); Gen. Enrico TOMAO Inspector General of Military Health, Gen. Div. Angelo PALMIERI Head of the VI Department of Italian CHOD - C4I Systems and Transformation, Col. Claudio DE ANGELIS, Director of the Epidemiological Observatory of the Ministry of Defence, Alessandro SGRÒ, Captain of Fregata, officer in charge of the information systems support department of the VI Department - C4I Systems and transformation, of the Chiefs of Defence. (8.3.17); Corporal Major First Class Antonio ATTIANESE and his wife Maria FORINO (15.3.17); Rosario CROCCETTA, President of the Sicilian Region, and Maria LO BELLO Vice President of the Sicilian Region (17.5.17); Silvana MIOTTO, mother of the soldier David Gomiero (who during the hearing claimed that the serious pathologies affecting her child would be due to diseases related to administration of vaccines) (31.05.17); Teresa RUOCCO, mother of the soldier Fulvio Pazzi (31.5.17); Biagio MAZZEO, Public Prosecutor at the Court of Lanusei (21.6.17); Emanuele SECCI, Deputy Public Prosecutor at the Court of Cagliari (28.6.17); Carlo CHIARIGLIONE, an operative soldier intervened on behalf of the Major Corporal First Class Antonio Attianese (previously audited by the Commission and subsequently died for the outcomes of the contracted pathology), Walter CECCHETTIN, soldier on seriously ill leave, Francesco ZITO, father of the deceased soldier Leonardo Zito, Mercedes PACILEO, widow of the soldier Enzo Liguori, Giovanna SORIA, widow of the soldier Pasquale Cinelli, Gianluca PARISI, soldier on leave for health reasons and Salvatrice PIROSA, widow of the soldier Giuseppe BONGIOVANNI (13.9.17); Salvatore RULLO, Patrizia SADOCCO and Alberto Tuzzi, representing As.so.di.pro, Salvatore ANTONACI, father of the deceased soldier Andrea Antonaci, Pier Paolo CIPRIANI, brother of the deceased Maresciallo Luciano Cipriani, Marisa MARCOLINI, mother of the deceased soldier Valerio Saviantoni, Aniello BRANCALEONE, brother of the deceased Major Corporal First Class Alfonso Brancaleone and Fabio FELACO, son of the Marshal Helper of the Air Force Giovanni Felaco (11.10.17); Stefano SILVESTRI, hygienist at the Institute for Cancer Study and Prevention - ISPO (18.10.17); Alessandro MARINACCIO, researcher at the Department of medicine, epidemiology, occupational hygiene and environmental of INAIL (19.10.17); Dario MIRABELLI, researcher at the Center of reference for epidemiology and cancer prevention in Piedmont - Piedmont CPO (26.10.17); Raffaele GUARINIELLO, former Prosecutor Vicar at the Public Prosecutor's Office of Turin (15.11.17); Antonietta Morena GATTI, researcher and expert on nanoparticles (15.11.17); Ezio BONANNI, President of the National Observatory on Asbestos (6.12.17); Gen. D. (ris.) Osvaldo BIZZARI (6.12.17); Angelo Fiore TARTAGLIA, legal consultant for the Military Observatory and Center for the personnel of the Armed Forces and Police (7.12.17); Vincenzo TOMBOLINI, Professor of Radiotherapy at the "La Sapienza" University of Rome (20.12.17); Fabrizio CIPRANI, Chief Medical Officer of the State Police (20.12.17).

Among the auditions, that of Prof. Giorgio Trenta, President of the Italian Association of Medical Radioprotection deserves attention. The Professor, during the sitting of 23 March 2016, solicited with a series of questions from the Chairman and the commissioners, recognizes, by referring to the principles of qualified probability and multifactorial factors in the genesis of tumour pathologies, the responsibility of depleted uranium in generating nanoparticles and

micropowders, capable of inducing tumours that also affected our soldiers sent to operate in areas where massive use of depleted uranium shells was made.

7. Hearings of witnesses

After a first *tranche* of activities relating to acquiring the widest possible information framework, through the performance of a substantial number of hearings (phase ending with the approval of the first report on occupational safety and social security), the Commission, as stated above, continued its work by giving a different mark, characterized by a marked inspection.

In this second phase of activities, a wide series of hearing was carried out, during which the Commission was able to hear as persons directly involved on this inquiry both some of the individuals already invited previously in the freely hearing, and further new individuals able to provide consistent information, also as a result of the legally stricter forms of the hearing.

In this context, the largest group of hearings concerned the heads of the supervisory bodies on the application of the rules on occupational safety and health of the military personnel. In particular, these are the hearings of heads of the competent offices of the General Secretariat of Defence, the Central Supervision Coordination Office (UCoCeV), the Area Supervision Coordination Units (UCoSeVA), divided into the respective areas Army (EI), Navy (MM), Air Force (AM), Corps of the Carabinieri (CC), the Directorate for Central Coordination of the Supervisory Service, Prevention and Protection of the Military Staff, as well as the various Security Services (SV), also with reference to the firing ranges visited during the missions carried out by the Commission. On this matter, there are also the hearings of the Inspector General of Military Health, various representatives of the Operational Command of the Inter-force Summit (COI) and the NBC Inter-technical Logistic Technical Center (Nuclear Biological Chemical).

The testimonies of the hearings (preceded by a similar free hearing) by the Director of the Epidemiological Observatory of the Ministry of Defence are mainly connected to the adequacy of the data collection on pathologies related to the service carried out by the military in Italy and abroad, while a further group of witnesses, of a more heterogeneous nature, involved scientific experts and researchers, as well as some soldiers who in previous times had served in areas affected by specific risk factors to health, whose presence had been for a long time denied or still remains controversial.

The following individuals were audited into a free form by the Commission:

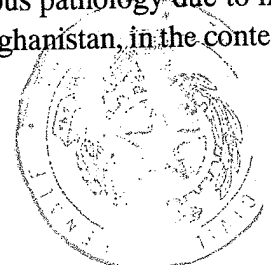
Antonino BONASERA, responsible for UCoCeV - Defence/DNA General Secretariat (13.12.16); Col. Giovanni TRIVISONNO and Ten. Col. Antonio ODORE, UCoSeVA AM - Inspection Office (14.12.16); Ten. Col. Marcello BIANCHI, UCoSeVA AM - Technical-administrative supervision office (14.12.16); Col. Onofrio GARZONE, UCoSeVA E.I. (21.12.16); Ten. Col. Angelo DI SPIRITO, UCoSeVA E.I. (21.12.16); Ten. B. Antonello VESPAZIANI, former Commander of the firing range of Cellina Meduna (21.12.16); Ten. Col. Mario ANGELI, location doctor of the firing range of Cellina Meduna (21.12.16); Ten. Col. Francesco BATTAGLINI, Head of the prevention and protection service of the firing range of Cellina Meduna (21.12.16); Col. Alessandro LAZZINI, responsible for the Coordination Office of Area Supervision Services of the Army General Staff (18.1.17); Col. Francesco NASCA, Head

of the Accident Prevention and Occupational Medicine Office of the Army General Staff (18.1.17); Gen. B. Carmelo COVATO, Directorate for the Central Supervisory, Prevention and Protection Service Coordination of the Army General Staff (18.1.17 and 16.11.17); C.V. Francesco BATTAGLIA, UCOSEVA MM (25.1.17) (8.2.17 and 16.2.17); C.V. Massimo CASTELLI, Northern Area Supervision Services MM (25.1.17); Col. Filippo AGOSTA, JMED COI (25.1.17, 15.3.17 and 24.7.17); Magg. Raffaele RUOCCO, Head of the 3rd Section of Accident Prevention Supervision CC (26.1.17); Cap. Antonio PRIMIANI, Attaché 3rd Section of Accident Prevention Supervision CC (26.1.17); Col. Claudio DE ANGELIS, Director of the Epidemiological Observatory of the Ministry of Defence, (15.2.17 and 1.3.17); Gen. div. Vito FERRARA, Head of the Health Directorate of the Carabinieri, (15.2.17); Amm. Sq. Giuseppe CAVO DRAGONE, COI Commander, (23.2.17 and 18.5.17); Ten. Col. Ing. Vinicio PASQUALI, Interim Director of the Inter-technical Logistic Technical Center NBC (8.3.17 and 4.5.17); Col. Pietro LO GIUDICE, Head of the J4 Division of the Joint Interforces Command (COI) (2.3.17, 9.3.17 and 4.5.17); Gen. Giorgio RUSSO, Commander of the Interforce Firing Range of Salto di Quirra (29.3.17); Roberto COMELLI, Head of the Fourth Logistics and Infrastructure Department of the Defence General Staff, (29.3.17, 10.5.17 and 7.6.17); Col. Ing. Gioacchino PAOLUCCI, Director of the military ammunition plant in Baiano di Spoleto (12.4.17); Tech. Ass. Silvestro CAMPANA, Responsible for the prevention and protection service of the military ammunition plant in Baiano di Spoleto (12.4.17); Col. Ing. Giulio BOTTO, Director of the Military Ammunition restoring and recovering Plant of Noceto di Parma (12.4.17); Ten. Col. Ing. Massimo PIAZZA, Responsible for the prevention and protection service of the Military Ammunition restoring and recovering Plant of Noceto di Parma (12.4.17); Rear Admiral Claudio BOCCALATTE, Director of CISAM (3.5.17); Alessandro CAVAGNARO, CISAM worker representative for security (3.5.17); Ten. Col. Raffaele ZAGARELLA, Head of qualified expert section of CISAM (3.5.17); Col. Antonino MANNINO, Head of Medical Intelligence (11.5.17); Col. Sergio CARDEA, Head of COI J3 Division (17.5.17); Gen. Enrico TOMAO, Inspector General of Military Health (10.5.17 and 24.5.17); Col. a.ter t.ISSMI Stefano GIRIBONO, Commander of the 7th NBC Regiment. (24.5.17); Gen. S.A. Roberto NORDIO, Defence Deputy Chief of Staff (7.6.17 and 21.6.17); Giuseppe CAROFIGLIO, Retired Marshal of the Guardia di Finanza (28.6.17 and 5.7.17); Ten. Col. doctor Ennio LETTIERI (5.7.17); Prof. Francesco RICCOBONO (27.9.17); Gen. Francesco PIRAS (27.9.17); Marshal Francesco PALOMBO (27.9.17); Vittorio LENTINI, former Caporal Major Chief First Class of the Italian Army. (12.10.17); Maresciallo Massimo ORRÙ (25.10.17); Gen. B. (ris.) Fernando TERMENTINI (16.11.17); Vincenzo TOMBOLINI Professor of radiotherapy at "La Sapienza" University of Rome (21.12.17).

8. Transmission of documents to the judicial authority

In relation to three specific cases arising during the inquiry, the Commission agreed to forward the acquired documents in the respective hearings to the competent public prosecutor's offices and, in two circumstances, also to the Military Attorney General's Office.

The first case concerns the soldier Antonio Attianese, a victim of a serious pathology due to his stay in territories contaminated by the presence of depleted uranium in Afghanistan, in the context



of two different military missions in the early 2000s, who subsequently died, as a result of the same disease, in the months following the hearing before the Commission on 15 March 2017. The Corporal Major First Class Attianese was invited by the Commission to be audited on his personal case following an interview he made during a well-known television broadcast, in which he denounced the obstructive attitude of certain superiors and the serious threats he suffered during the treatment of practices for welfare and social security relating to its military service.

The documents relating to the hearing of the Corporal Major First Class Attianese, including documentation filed by the soldier, were sent for taken appropriate initiatives to the Military Prosecutor of the Republic at the Military Court of Rome on 23 March 2017.

In a second circumstance, the Commission decided to transmit documents to the judicial authorities, in particular in the case represented by **Lieutenant Colonel Doctor Ennio Lettieri**, during the hearing carried out before the Commission on 5 July 2017. On that occasion, Lieutenant Colonel Lettieri claimed to have directly witnessed, during his last mission in Kosovo as Infirmarium Director of the KFOR Command, the presence of a highly carcinogenic water supply for the Italian contingent, in a context of poor or inefficient health supervision on the Italian military personnel employed therein, and of serious environmental hazard, completely underestimated or ignored by the commands in office.

Finally, the Commission ensure that the Public Prosecutor at the Court of Rome received the documents relating to the hearings carried out before the Commission on 16 November 2017 by General Carmelo Covato, of the Directorate for the Central Supervisory, Prevention and Protection Service Coordination of the Army General Staff. In the present case, General Covato stated, during a television interview broadcast a few days before the convocation before the Commission, that the Italian soldiers employed in the Balkans were aware of the presence of depleted uranium in the ammunition used, and were consequently equipped; those statements appeared to be in contrast with the findings of the Commission's work and with the information acquired during the whole inquiry.

Lastly, the *Mid-term report of the inquiry in the field of occupational safety and environmental protection in the Armed Forces*, approved by the Commission on 19 July 2017, was sent to the Procurator General of the Court of Auditors for competency assessment.

9. The missions⁶

Meeting these two different phases of the Commission's inquiry has also required to develop an intense program of missions in the territory, for the fulfilment of inspection function and document acquisition at the firing ranges and arsenals, which produced the required material analysis of consultants, and discussion of the conclusions approved in the two reports.

The conduct of the missions followed a number of guidelines, which were the specific subject of the Commission. This is in particular the inquiry strand concerning **arsenals** and the related

⁶ For reports of the meetings held, the inspections carried out, and the auditions/hearings carried out during the mission, see the annex to this report.

security issues and social security protections regarding the risk of the presence of **asbestos**; inspections for verification on the safety of workers and on the state of workplaces, also in environmental terms, of the **military firing ranges** on national soil; in-depth analysis of the problems related to the presence of **radon gas**.

During the missions, under the scope of the remainder, the Commission decided to use not only the usual instrument of the hearings, but also the carrying out of hearing *on site*, focusing particularly on those responsible for the safety and protection of workers' health. These individuals were identified from time to time in the figure of the commander, the person in charge of the prevention protection service, the location doctor, as well as the workers' representatives and any other person capable of providing knowledge to the Commission, according to the most traditional inquiries.

The Commission carried out the following missions:

Visits to **arsenals of Taranto** (20 May 2016), **Augusta** (1 July 2016), **La Spezia** (28 July 2016).

Sardinia : The mission (from 2 to 7 October 2016) included visits to the firing ranges of Salto di Quirra, Capo Teulada, Capo Frasca and the ammunition depot of Santo Stefano (La Maddalena).

Padova, Pordenone and Ravenna : The mission (12 and 13 January 2017) included visits to the firing ranges of Cellina Meduna and Foce Reno and auditions of personnel employed at the 1st ROC of Venda mount.

Pisa : The mission (15 and 16 March 2017) included a visit the Joint Task Force for Military Applications - CISAM.

Bari and Lecce : The mission (21 and 22 March 2017) included visits to the firing ranges of Torre Veneri and Torre di Nebbia.

Agrigento, Caltanissetta and Catania : The mission (from 3 to 6 April 2017), included visits to the NRTF - MUOS station of Niscemi, the Sigonella base and the Drasy range.

9.1 Site visit at the NRTF - MUOS station of Niscemi

The visit to the NRTF - MUOS station of Niscemi (CL) shown specificities due to the fact that it is a military installation for the exclusive use of allies or to support NATO devices, in particular the MUOS (*Mobile User Objective System*) on the territory of Niscemi.

On that occasion, the Commission, in addition to acquiring specific documentation, carried out a visit to the site, a hearing of the Chief Prosecutor of Caltagirone (CT) Giuseppe Verzera, some territorial representatives, and the then President of the Sicilian Region, Rosario Crocetta.

The MUOS is a data transmission facility for the exclusive use of the US NAVY, called NRTF, managed according to an agreement between the Italian and US Armed Forces. During the aforementioned mission in Sicily, which took place between 3 and 6 April 2017, the Commission delegation had the opportunity to know, thanks to the collaboration offered by the US authorities, the potential of that system which remains for the exclusive use of the United States and that, alongside the pre-existing 46 antennas, it has in fact made the Niscemi site,

immersed in a splendid cork oak, a strategic military site, but with a high impact on the territory and its inhabitants.

On this sensitive issue, before the Commission the judiciary had already moved, through the Procuration of Caltagirone, which opened an inquiry file for illegal building, despite the required *procedure* had obtained the clearance of all the institutions involved.

Specifically, during the hearing of the Chief Prosecutor of Caltagirone, Giuseppe Verzera, on April 5 in Caltanissetta, what emerged was the following:

CHAIRMAN. Mr. Prosecutor, we went from a building problem, arose as an abuse in violation of the decree establishing the prohibiting building, to a possible existence of environmental crime. However, that building abuse was not been cancelled?

GIUSEPPE VERZERA, *Chief Prosecutor of Caltagirone*. No, there is an ongoing trial pending.

For environmental risks on the local population and the employees of our Armed Forces, deriving from the emission of electromagnetic waves by the "antenna forest", or the existing 46 antennas but not all simultaneously operating, very little has been unfortunately done in the past. This is demonstrated by the case of the former Italian soldier serving in 2002 at the NRTF base in Niscemi, SALVATORE FERLITO, who was also audited in Catania by the Commission on 5 April 2017, which states: «We were about 40 soldiers, who were dealing with anti-terrorism and monitoring this American base. I do not know why we were there, however, we were. We operated internally, right under the antenna under investigation. We have never seen American military personnel. We were only equipped of this tent. »

On these two lines, or the lack of health control before 2009 and the current trial pending at the Prosecutor's office of Caltagirone, on what the Arpa Sicily has declared to carry out in terms of environmental control and data that the US administration has declared to provide in monitoring the electromagnetic emissions of MUOS, the Commission concluded its visit obtaining from the US the willingness to define and to determine a much closer and institutional relationship with the regional ARPA for the verification of data on the possible electromagnetic pollution, with a continuous monitoring project. ARPA, and consequently the Sicilian Region, will have to find the necessary funding to set up an additional way of detecting this data with highly reliable tools. On this point, the then President of the Sicilian Region, Crocetta, was urged during the hearing on 17 May 2017. To date, no new system of continuous monitoring was changed, not left to the same managing institutions of the MUOS.

Furthermore, many of the commitments envisaged in the Memorandum of Understanding have not yet been implemented by the Administrations concerned, which allowed the start of the procedures for the installation of the antennas, signed on 1 June 2011 between the Sicilian Region and the Ministry of Defence, including in particular the following:

- providing advice of the then Joint Military Research Studies Center (CISAM) and the measurement equipment required to carry out continuous monitoring of electromagnetic fields. By integrating the aforementioned equipment into the regional monitoring network of Arpa Sicily, which will take care of data management and processing, and whose data will always be made available to the administration of Niscemi;

- equipping the natural area of the Sughereta building, in six months from the start of the construction of the MUOS, an environmentally friendly infrastructure for the control, management and reception, adequate to support the activity of units on horseback and systems for park liveability, in agreement with the park managing body.
- supporting actions of the territorial organizations for the promotion of the agri-food product of the Niscemi area on the national and international territory, also involving appropriate bodies such as ICE;
- promoting direct collaborative relationships, also through specific twinings, with the managing bodies of one or more natural parks in the United States of America through the relevant consular office, in order to promote continuous cultural relations and exchanges, between young people living in the territory of the "Sughereta di Niscemi" Nature Reserve and the young users of the protected natural areas of the United States of America, also attracting experts from the United States to support the territory during the start of the innovative management of the Sughereta Park, also through specific training actions, as well as contributing to the dissemination of knowledge of the Oriented Nature Reserve and of the Niscemese territory, all around the world;
- working towards the promotion and establishment of *summer schools* in twinning with American centres of excellence and to encourage the creation of scholarships for Niscemi students for the conduct of study/research activities in the United States of America.

10. Technical support activities to the Commission: working groups.

Since the beginning of its work, the Commission has distinguished itself for the need of a high degree of technicality, which is expressed into the decision of establishing as soon as possible a highly qualified *team* staff, extremely varied, expert in the matters of this inquiry. This team was joined by magistrates experts in labour law, scientific researchers and doctors on prophylactic vaccination and exposure to nanoparticles, experienced lawyers in matters of social security protection of workers, university professors of environmental law, ballistic technicians, doctors and pathologists, physicists, accounting and military magistrates.

The consultants' contribution has covered the activity of the Commission since the beginning of its work, through an effective participation in the sessions and the planning of the inquiry; this became particularly evident, in its size as an assignee expert group of a specific study goal, only in the second tranche of Commission's work, characterized by a more exacerbated investigatory connotation.

This *team* work was performed beyond the traditional patterns of the commissions of inquiry, being completely unmarked by the possible establishment of special commissions within the *plenum*, whereas for the Commission was not required. Working groups, while a *sui generis* subject since they are independent from the participation of the commissioners, they have nevertheless acquired their own *ubi consistam* of effective support for the Commission's work. Assuming a dual operative modality, on the one hand they have contributed in a valuable way to the technical preparation of the Commission's single sittings, particularly as regards the preparation of the required technical base for carrying out the numerous hearing; on the other

hand, they have conducted a collegiate work of drawing up contributions *ad hoc*, previously identified by the Commission around defined objects, which took the specific form of annexes to the second progress report and filed in Commission's documents.

With the support of this working group, varying by skills, the Commission intends to identify and deepen nine different inquiry strands, within each of which a specific technical report has been provided. Those are the following:

- 1) monitoring and analysis of **epidemiological data** referring to the military personnel;
- 2) analysis, for inspection purposes, of the **risk assessment documents** prepared for the military and defence personnel;
- 3) monitoring the work of the **supervisory bodies** and doctors responsible for military personnel and civilian servants;
- 4) carrying out inspections and checking the environmental status of the **military firing range** and the personnel employed therein;
- 5) verification and acquisition of data on **vaccines** and their administration to the military personnel;
- 6) verification of the presence of **asbestos** and analysis of the related risks in the sites where Defence civilian and military personnel are employed;
- 7) **risk prevention** for the military personnel in an international context;
- 8) analysis and monitoring of the **environmental impact of military sites** on the soil and surrounding populations;
- 9) study and detection of the risk deriving from the presence of **radon gas** and ionizing radiation in the sites where Defence civil and military personnel are employed.

A **specific working group**, were established for each of these topics, composed by Commission consultants previously identified by the Chairman and, in two cases, coordinated by the two Vice-Chairmen (this is the vaccine group, coordinated by Vice-Chairman Ivan CATALANO, and the asbestos group, coordinated by the Vice-Chairman Donatella DURANTI). The working groups used the material received by the Commission during the auditions and hearings (shorthand reports and subsequently documentation filed or produced), as well as collected during the missions, to prepare the respective technical contributions, subsequently merged into the contents of the progress reports, after having been examined and adopted by the Presidency with the consent of the Commission's groups.

11. Progress reports.

Since the beginning of its activity, the Commission has scheduled very short work deadlines, the first of which provided for the preparation of a preliminary progress report within a time frame lower than the one indicated by the same institutional resolution, with the precise aim of accelerating the time of the examination of the inquiry, and allowing more time to be devoted to the subsequent investigative activity of the Commission.

Thus approving on 26 May 2016, after about six months from its establishment, the **Report on Occupational Safety and Social Security in the Armed Forces**, the Commission intended to immediately give form and content to the first part of its work, dedicated to carrying out purely cognitive activities of the state of the art on a complex matter, also through a declaratory step of the conclusions reached by the previous commissions on depleted uranium.

The subsequent approval on 19 July 2017, one year after the first, of a further **Progress Report on activities of occupational safety and environmental protection in the Armed Forces**, has instead accounted for the most inspection core of work carried out by the Commission, dedicated, as stated above, to the hearings of the main individuals identified within the Defence administration as directly involved and responsible in security supervision system, command of military firing ranges, management of data health related to the military personnel.

These are two broad documents dealing with similar and complementary angles the need to verify the level of effective implementation of the legislation on occupational safety among workers belonging to the defence administration, with particular regard to the members of the Armed Forces, deepening the specific features of the Defence sector, in the light of the particular system of "domestic jurisdiction" in terms of occupational diseases and accidents, currently in force for workers in this sector.

Referring to the specific content of these progress reports for a detailed analysis of the results of the individual auditions and hearings carried out by the Commission during its work⁷, it may be useful to briefly mention the main problems identified on the sides indicated by the titles of the same reports and conclusions reached by the two approved documents, which touched on all the topics covered by the individual strands of inquiry. There was in fact a range from detecting obvious deficiencies in the level of effectiveness of the protection of the military personnel in terms of occupational safety, focusing in particular on the inadequacy of compensation institutions, social security and income support provided by law in favour of individuals affected by the pathologies indicated in the inquiry, to the analysis of the serious consequences on the civilian populations in the areas adjacent to military bases in the national territory, due to the specificity in the management of military firing ranges, and the insufficient precautions with reference to the prevention of possible environmental damage; to the careful and critical verification of the adequacy - or rather, of inadequacy - of the collection and epidemiological analysis of health data related to military and civilian personnel; the analysis, in a highly critical key, of the routes of administration of vaccines to military personnel and assessment of the risks connected to the presence of radon gas and materials containing asbestos in environments where military and civilian personnel serve; the detection of worrying delays in the asbestos drainage activity, particularly in military arsenal sites.

In particular, the most critical issues were noted by the Commission in the field of application by the Defence Administration of the regulations in force on occupational prevention and safety and in the protection against accidents and occupational diseases, as regards it mainly concerns risks assessment, employer's responsibility, delivery of adequate prevention facilities and services. In this field, in fact, the Commission found in some cases a failure or inadequate preparation by the

⁷ For a detailed analysis of the contents of individual reports, see DOC text. XXII-bis No. 7 and DOC. XXII-bis No. 11.

figures in charge of the safety of workers, of the fundamental security planning documents provided by Legislative Decree of 9 April 2008, No. 81: from the DVR (Risk Assessment Document) to the DUVRI (Single Document for the Evaluation of Interference Risks), from the PSC (Safety and Coordination Plan) to the information-training programs for workers.

In this framework, the Commission requested the Defence General Staff to transmit the risk assessment documents of all firing ranges, exercise areas and military arsenals throughout Italy; however, the documents received by the Commission involved only a small part of the relevant sites. The fact that the DVRs of many military sites were not produced to the Commission denotes in several cases the non-preparation of these documents by the obliged individuals, in many cases a current "widespread negligence", not only dating back in time, of the military supervisory bodies to this obligation, as duly highlighted in the conclusions of the first progress report.

Both during the auditions, and the missions related to this matter, the Commission has repeatedly referred to the examined commanders (exercising the role of employers for the purposes of the legislation on occupational safety) to fulfil the obligation of drafting the documents required by Legislative Decree No. 81 of 2008, explicitly underlining the need that also for the exercise and training activities a specific assessment of all the risks is required, including those from interference related to the previous, current and subsequent activities that take place in the firing ranges by the exercised departments and by the departments managing these areas.

The Commission was also able to reconstruct, through a group of auditions, hearing and some specific missions⁸, the speciality of the military system for what concerns the structure of prevention and protection services and the exercise of inspection and supervisory functions; a speciality that is expressed in a peculiar organization inspired by a criterion of absolute self-sufficiency⁹.

The findings of the previous commissions of inquiry already found critical aspects of this organizational model, which, tending to overlap the role of the controller with that of the controlled, is missing the necessary requirement of the third party, thus assuming the characteristics of a domestic jurisdiction only not adequately motivated in its speciality, but also productive of deteriorating effects in Defence employee compared to that guaranteed to the common worker.

A further speciality of the Defence administration, critically recognized by the Commission as a negative incident on the level of protection of the worker, is that concerning the peculiar acceptance of the **role of employer within the Armed Forces**. Presidential Decree (DPR) of

⁸ See the hearings of the heads of the central military surveillance services, as well as those of the commanders, RSPP, location doctors of each of the firing ranges visited during the missions carried out in Sardinia, Sicily, Friuli and Emilia-Romagna.

⁹ Article. 13, paragraph 1-bis, Legislative Decree No. 81/2008 establishes that in the workplaces of the Armed Forces, Police Forces and Firefighters, supervision of the application of legislation on occupational health and safety is exclusively carried out by the health and technical services set up in the aforementioned administrations." Correspondingly, pursuant to Article 249, paragraph 1, Presidential Decree No. 90/2010, "within Defence administration, in order to protect the information of which, in the interests of military defence and national security, disclosure is prohibited, in accordance with the current unified rules for the protection and protection of classified information and for the protection of state secrets, the prevention and protection service referred to in Article 31 and following of the Legislative decree No. 81 of 2008, consists exclusively of military or civilian personnel of Defence administration, possessing the skills and professional requirements referred to in Article 32 of the same Legislative Decree, as well as of adequate qualification of security."

15 March 2010, No. 90, bearing the Consolidated Law on military regulations, in fact, in paragraph 2 of Article 246, identifies this role also in individuals declared "without autonomous expense powers", thus contravening the provisions of Article 2, paragraph 1, letter *b*), of Legislative Decree No. 81/2008, under which the employer shall instead be "equipped with autonomous decision-making and spending powers."¹⁰ As the Commission has observed, above all during the inspections carried out at the military firing ranges, the lack of autonomous decision-making and spending powers in these individuals determines a substantial inefficacy of the rules on the responsibility of the same employer with regard to the implementation of the rules in the protection of the health and safety of the worker, particularly the military personnel.

A further critical point that the Commission was called upon to dissolve concerned the **social security protection of personnel of the Armed Forces**, with particular regard to granting the provisions provided by law in the case of diseases related to the exercise of duty, also in relation to exposure to the pathogenic factors indicated in the inquiry.

In this context, the Commission conducted a wide-ranging investigation, which, starting from the verification of the effectiveness of the procedures provided by law for the allocation of the aforementioned provisions, has come to the indication of precise gaps or regulatory inconsistencies, to the assessment individual responsibilities, including through the examination of individual cases and hearings of the individuals responsible for the administration of Defence or Ministry of the Economy.

This specific field of inquiry was discussed extensively in the first progress report on occupational safety and social security in the Armed Forces, to which reference should be made for the aspects of content and detail. However, as already stated in the aforementioned report, the Commission's inquiry has highlighted "the inadequacy of the social security protection guaranteed to the Armed Forces personnel by the current application practices", and that "this inadequacy is not due to entity of provisions envisaged by law in force, but to the inconsistencies and critical aspects of the procedure for assigning such provisions", particularly in the cumbersome and inadequacies of the administrative process and in the particular *modus operandi* of the Audit Commission for the causes of service established at the Ministry of Economy with the task of ascertaining the traceability of pathologies arising from special environmental and operational conditions.¹¹

¹⁰ This derogation would be justified by the alleged need for a "proximity" of the employer to military personnel, especially in cases where there is a considerable material distance between the military personnel and the hierarchical referent with spending powers (contingents operating abroad).

¹¹ On this point, see the first progress report approved by the Commission showing that it has indeed established that the administrative process leading to the recognition of the so-called "Cause of service" includes: the opinion of the CMO (Hospital Medical Commission) composed of military doctors, who decides on the severity of the disease and on the corresponding percentage of disability deriving from it, but not on the etiopathogenesis; the opinion of the CVCS (Commission for verification of the causes of service), MEF body, in which the military doctors are in the majority and decisive in the formulation of judgement on the existence of the causal link, pronounced on a purely documental basis and in the absence of a real contradictory with the interested party. It follows that, in the course of the procedure described, the third-party judgement in the proceedings does not appear to be sufficiently guaranteed. This report also highlights that the aforementioned CVCS has often motivated its opinions contrary to the granting of benefits with the absence of a causal link between the exposure to pathogenic factors and the onset of disease, rejecting the consolidated probabilistic-statistical principle, affirmed by a constant jurisprudence.

The second report of the Commission, which comes after several judgements confirming in legal terms the existence of a causal link, between exposure without protection in environments contaminated by depleted uranium and cancer, has instead focused on **environmental risk** and prevention and protection policies, and the **safety of personnel assigned to firing ranges in Italy**. In these sites and in the contiguous areas¹² the lack or late drainage of the ammunition residues used in the exercises has produced considerable environmental risks even to the detriment of the populations living in the surrounding territories¹³. The Commission has indeed noted that the soil drainage activity where there are firing ranges has been and continues to be clearly insufficient, such as to irreversibly compromise the state of the places (this is the case of the so-called "banned peninsula", in the area of Capo Teulada), and is likely to cause serious health risk even for local populations.

Moreover, the conditions in which various military sites and installations (first of all the CISAM facilities of Pisa, visited by the Commission in a specific mission), as well as arsenals and ammunitions depots, attest that, in some cases, safety standards guaranteed by the Defence administration in the territory are not adequate to the level of risk to which workers are subject to. Documents requested and acquired by the Commission have, in fact, highlighted risks of exposure to chemical and carcinogenic agents related to the use in military activity of various dangerous substances, as well as physical, biological risks, risks of exposure to explosive atmospheres, as well as stress-related conditions; while further risks were detected in barracks, depots and military plants (structural risks, maintenance shortages, presence of hazardous materials such as asbestos, whose work of complete drainage in ships, airplanes, helicopters and other equipment supplied to the Armed Forces is not yet completed).

The **problem of asbestos**, intended as environmental drainage of military sites and equipment, ships and workshops, as well as damage to the health caused to the so-called "former exposed" for the period in which the harmfulness of the mineral was not yet recognized, was the object of a series of three missions that the Commission carried out to inspect the **arsenals of Taranto, La Spezia and Augusta**, under the guidance of Vice-Chairman Donatella Duranti¹⁴. The state of decay and neglect of some of the facilities visited by the Commission have exacerbated the concerns of the visiting delegation, confirming the judgement on an insufficient level of protection of the health of workers, especially the civilians employed in the production processes of the arsenals.

Also the risks related to the **presence of radon gas**, whose carcinogenicity has been recognized for some time, were subject to careful attention of the Commission with the carrying out of a specific mission in Padua, for deepening the problem of contamination by the presence of radon

¹² During the course of separate missions, the Commission visited in Sardinia the sites of Capo Teulada, with the area of the so-called "banned peninsula", the Interforce Firing Ranges of Salto di Quirra (PISA) and of Capo Frasca; in Sicily, the Drasy Firing Range; in the province of Ravenna, the Firing Range of Monte Romano and, in the province of Pordenone, the one of Cellina Meduna.

¹³ Before carrying out the missions and inspections in those firing ranges, the Commission required and acquired the respective risk assessment documents, which were submitted to the consultants' evaluation, and on the basis of which the inspection activity on the surveillance to protect workers' safety was carried out. But the main purpose of these Commission's missions was to investigate the problems related to the protection of the environment in the territories adjacent to military installations and firing ranges.

¹⁴ For the report of these missions, see the relevant annex.

within the military installations of the Venda mount I ROC¹⁵, as well as in the work done by the *ad hoc* group of consultants, which produced a specific document on the subject.

A last inquiry strands initiated by the Commission, on which several auditions and hearings were carried out and with respect to which the Commission proceeded to the acquisition of substantial documentation, is represented by the problem concerning the risk deriving from **prophylactic vaccination against the components of the Armed Forces**, also in view of participation in international missions on foreign soil. With the support of the relevant consultants' working group, the Commission has conducted in this field a wide recognition, not only of the routes of administration of vaccines (considered responsible, in the framework of an etiological multifactorial criterion, of the onset of different pathologies, particularly in individuals who under stress or stress immunosuppression in situations of conflict or tension were particularly vulnerable), but also of the methods of analysis of health data of the military personnel by the military offices responsible for this purpose¹⁶.

12. Conclusive phase of the Commission investigatory works

Following the approval, in July 2017, of the second progress report, the activity of the Commission resumed, after the summer break of the Chamber's work, with the aim of completing the discussion of some issues addressed by the two approved reports, which needed further investigations, including the request by individual members of the Commission, to enable the preparation of the conclusions and political evaluations to form the core of the final report on the findings of the overall activity of the Commission.

From this point of view, the Commission carried out numerous auditions and hearings of soldiers, scientific experts, university professors and researchers, with the aim of responding on the one hand to specific requests from individuals interested in being audited, on the other to particular knowledge needs represented by individual working groups during the respective activity. He also received documentation requests, from the first phase of the work, to both military and civilian institutions, which was subject of study by the vaccine working group chaired by Vice-Chairman Ivan Catalano.

The fact-findings of this conclusive *tranche* of the Commission's work have essentially invested the theme of the ascertainment of particular pathogenic environmental conditions in the territory of the military firing range and of the adjoining areas¹⁷, as well as the application of the regulations on the safety of the military personnel in the operational theatres abroad, possibly

¹⁵ From the ongoing criminal proceedings at the Court of Padua (about which the Commission has taken all useful documentation from the competent Public Prosecutor's office), it appears that the NATO Armed Forces were aware of the high concentrations of radon present in the Monte Venda military installations already at end of the 80s and had implemented actions to protect their staff. On the contrary, it would appear that the Italian Armed Forces still exposed their staff to radon for decades, not adopting adequate safeguards.

¹⁶ In particular, see the auditions and hearings of witnesses carried out against the representatives of the Epidemiological Defence Observatory and the General Inspectorate of Health of the Ministry of Defence, in which the major shortcomings were found in the inadequacy of the *follow up* related to any diseases connected with the service provided, since the soldiers on leave are excluded from data collection.

¹⁷ In particular, see the hearings carried out before the Commission by Prof. Francesco Epicondylar (27.9.17) and the Gen. Francesco Piras (27.9.17).

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affected by the presence of depleted uranium, with particular regard to the condition of the Italian contingent sent to the Balkans between the end of 1990s and the beginning of 2000s.¹⁸

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In some cases, inquiries carried out by the Commission were achieved to the specific need to verify the accuracy of statements made in the immediacy of the inquiry by members of the military world on the possible presence of depleted uranium in the armaments available to our armed forces, employed abroad in the past¹⁹, or by the need to listen to people already mentioned or involved in the activity of previous commissions of inquiry into depleted uranium and which, in light of the evidence obtained during the current inquiry, were called to clarify statements with them discordant or particularly difficult to interpret because of the time lapse of events told or witnessed²⁰. Finally, they have discussed of the composition of vaccines given to the military personnel and the *follow-up* of the SIGNUM project, already mentioned above, concerning the presence of vaccination activity among the multifactorial risk factors on the health of the military personnel.

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The last part of the work of the Commission saw an intensification of the work of the consultants' working groups, called to pull the strings of a complex and stratified work during the previous months, which gave rise, on the impulse of the Commission, to an uninterrupted flow of informative and documentary requests addressed to the competent administrations, as well as of solicitations sent for the formal routes to the ministers concerned in order to obtain the required evidence of specific inconsistencies from time to time detected, during the inquiry, within the current Parliament - both primary and secondary - on the protection of the occupational safety of members of the Armed Forces.

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This confirmed the genuinely constructive nature of the work carried out by the Commission, aimed at positively reforming the regulatory framework for defence workers, in order to guarantee them the same level of security that the law provides for all other national workers.

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¹⁸ In particular, he noted the serious witness given on 16 November 2017 by General Fernando Termentini, already in service in the Balkans and affected by serious pathologies due to factors considered by the inquiry.

¹⁹ The hearing, made on 16 November 2017 by Gen.. B. Carmelo Covato, of the Central Coordination Department of the Supervisory, Prevention and Protection Service of the Army General Staff, highlighted some significant discrepancies between the most recent and significant findings of the Commission's work in the 17th Parliament and the position represented by the officer in a tv station, without the outcome of the examination itself being able to adequately clarify this point.

²⁰ This is the case of the aforementioned hearing of the Gen. Francesco Piras (27.9.17), called to clarify his informative contribution on the presence of depleted uranium in the territory of the firing range of Salto di Quirra, or the ordinary professor of radiotherapy at "La Sapienza" University of Rome Vincenzo Tombolini, listened on 21 December 2017 to report on previous technical advice in the case of service brought to the Ministry of Defence by a soldier with carcinoma, a few months after the service provided in an area affected by highly pathogenic factors.

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CHAPTER 2.

CRITICALITIES AND PROPOSALS ON SAFETY AT WORK

1. Criticalities

1.1. The parliamentary inquiry and the judicial inquiries

In the primary sector of safety and health at work, the Commission of Inquiry, thanks to the penetrating investigative methodologies it adopted, has discovered - in the context of the reassuring statements made by the heads of the Defence Administration and in spite of the deafening silence generally maintained by the Government Authorities notwithstanding explicit solicitation - the disturbing critical issues that both in Italy and missions abroad have contributed to sowing death and disease among our nation's military workers.

An all the more precious work carried out by the Commission of Inquiry when we bear in mind that unfortunately the interventions of criminal prosecutors to protect the safety and health of Defence Administration personnel do not appear to be at all systematic.

It is of course true that there are however some noteworthy exceptions. Like the trial that on 2 November 2017 in Padua, upon the initiative of the Public Prosecutor's Office, led the Court to sentence, in the first instance, a former director of military health for the crimes of manslaughter and personal injury through negligence to the detriment of three soldiers exposed to radon in the underground site of Venda mount (100 meters deep and only artificially aerated), as well as compensation for damages from pro-tempore Minister of Defence in relation to two soldiers (see the sentence issued on 29 December 2017). Attention should also go to two ongoing debates: one at the Court of Lanusei for the crime of aggravated omission of caution against accidents and disasters referred to in Article 437 of the Criminal Code against officers of the detachment of Capo San Lorenzo and commanders at the head of the Inter-forces Experimental and Training Firing Range of of Salto di Quirra, "the largest military firing range in Europe" entrusted to "tiny judicial offices" according to what the current Public Prosecutor eloquently highlighted; the other at the Court of Padua for the crimes of manslaughter and neglect of incapacitated persons brought against 14 directors and commanders of the Administration of Defence for asbestos related diseases in 63 navy members at sea and on land. And of fundamental importance are the investigations carried out for the crime of causing a deliberate disaster by the Public Prosecutor's Office at the Court of Cagliari.

It is alarming, however, that, in the indifference of the competent authorities, in the matter of the pathologies striking military personnel or citizens residing near military sites - including the same asbestos mesotheliomas or lung cancer from radon - proceedings for crimes such as manslaughter or negligent personal injury are not even being initiated, or develop with such slowness or without the necessary insights so that they end with an acquittal on merit or due to the statute of limitations.

The result is devastating. In the Defence administration a sense of impunity very harmful to the future continues to spread; the idea that there were rules, there are rules and there will be, but that they can and can continue to be violated without incurring in any actual responsibilities.

And what is even worse is that among the victims and their relatives spreads an equally discomfoting sense of denied justice, proclaimed in heartfelt hearings before the Commission of Inquiry.

It is not surprising then that, during a hearing on 11 October 2017 of relatives of deceased soldiers, solicitor Patrizia Sadocco, working for Assodipro, called to assist families in several criminal proceedings, made a painful statement:

"For uranium we are speaking of 7-8-10,000 deaths and illnesses, I know that more than a thousand victims have been individuated in the navy and in Venda mount there are hundreds of them too. It seems almost impossible to speak about it. It seems that it is spoked as if it were the massacre of Ustica, meaning that it is madness to think of a criminal prosecution. In fact, I think they are very serious things, which must go to the criminal courts. From what I think - I do not know if I'm wrong - I do not think that there are any criminal convictions against the top military in Italy, from what I understand, from what I know. From what I understand there is no depleted uranium trial. I do not know of any criminal case being brought for depleted uranium. Although there have been the very courageous and prepared magistrates to start these investigations, these are isolated magistrates, completely isolated, because in Padua the situation, from my point of view, is worrying. There was great enthusiasm for the start of the criminal proceedings, but it's an inspector dealing with it, because as you know, there is no pool of judicial police. A doctor is looking into it. There are two magistrates, one of whom has been transferred, dealing with it. There is no definitive sentence against the military leaders. The Marina 1 procedure is worrying. Why? Because there was an acquittal in the first degree on the basis of a scientific theory that never existed. There was a sentence in the Court of Appeal on the basis of a limitation that never existed. The Court of Cassation said: "That's enough, let's end this. This scientific theory of a killer dose never existed. It is not true that there was a statute of limitations. It remanded to the Court of Appeals and the Court of Appeals again made a decision to acquit. Now the plaintiffs want to appeal to the Supreme Court, but it seems that the Prosecutor General does not want to know. What I'm trying to convey is that they look like criminal proceedings that will not go anywhere. I understand well where the competences of politics end and where those of the judiciary start, but my proposal to the Commission, if it can be of advice, is to try to create a working group, because thousands, thousands and thousands have died or are sick. You know it a lot better than me. Now I do not want to compare this to the "mani pulite" team, however, but, I mean, when you want to create a working group of doctors, judicial police and magistrates, it doesn't matter where this working group is. I think I know why there is no criminal prosecution on depleted uranium, because I believe that the only competent body could be only the Rome Prosecutor's Office and I understand that it cannot initiate criminal proceedings of this kind. I believe this, because we have the deaths, we have the ill. How could such a serious thing ever be possible? It's singular that there are have been no convictions and also singular is the attitude of the judges. The attitude of those judges and magistrates who have carried things forward is laudable. I do not know if this Commission can in any way not interfere, because - I repeat - what pertains to the political and criminal sphere is very clear to me, but I do not think it should be so underestimated or say "It's criminal... they will never be able to do anything".

It is disappointing for a young professional and is disappointing for families.

This is why on 15 October 2017, the Commission sent the *Report On The Activity Of Inquiry In The Field Of Occupational Safety And Environmental Protection In The Armed Forces: Critical Issues And Proposals* to the Minister of Justice, recalling to their attention "the observations made in order to the institution, in the sector of deaths caused by work and the environment, by a Public Prosecutor's Office of this nation, also in order to meet the need, repeatedly emphasized in front of this Commission by fallen soldiers and relatives of deceased soldiers, of organic and systematic interventions of the criminal justice system to protect the health and safety of Defence personnel".

1.2. The lurking risks

Yet, there are many and fearsome potential risks to workers and citizens due to the activities carried out by the Armed Forces, but also by the State Police and by the Fire Brigade. These are precisely the risks that the Commission of Inquiry has managed to bring to light: just to give some examples, asbestos, depleted uranium, vaccines, but not only, also for example that silent killer which is the second biggest cause of lung cancer, radon.

Suffice it to think of **shooting ranges** on the national territory in which the failed or late reclamation of ammunition residues used in exercises has produced environmental risks to the detriment of those who have been and are called to operate or live in their area. Worth noting are the Capo Teulada Firing Range with the so-called interditory peninsula, but also PISQ, Monte Romano, Torre di Nebbia, Carpegna, Val D'Oten, Candelo Massazza, and Cellina Meduna, only recently freed from thorium-containing bezels. The delay by the heads of the firing ranges in reconstructing the use made in the past of the MILAN missiles, and, consequently, in quantifying the presence on the ground of dangerous residues such as the thorium bezels, demonstrates the inadequacies in risk management.

The Commission has acquired significant elements regarding the blasting operations of obsolete ammunition, in particular at PISQ. And only in 2015, thanks to Dr. Marcello Campagna, a competent physician of the inter-force range, that a first assessment of the exposure to airborne nanoparticles during these operations was carried out. Thus disproving what was declared during the hearing of October 5, 2016 before the Commission by General Giorgio Francesco Russo, Commander of the PISQ:

"This is the famous blasting activity, which was interrupted more or less twenty years ago. We are in 2016 and the last activity of this type, as I recall, should dated back to the end of the 1980s, thus even further back in time, and was made for training purposes even with expired material. For what concerns the period from 2013 onwards, I'm sure of what I say: no weapon was ever destroyed. What has been destroyed is ammunition - I repeat - for training purposes."

No doubt that the activities carried out at the shooting ranges are dangerous, not only because of the intrinsic nature of the operations carried out, but also because of the characteristics of the weapons systems and ammunition used. Risks associated with fumes, powders and nanopowders containing, among other things, heavy metals; risks arising from ionizing radiations (e.g. radon) and non-ionizing radiations, in particular electromagnetic fields and

artificial optical radiation; risks of exposure to chemical and carcinogenic agents due to the use of substances used in various activities, from fuels to paints, from solvents to smoke bombs.

With regard to the risks of **ionizing radiation** exposure to Armed Forces personnel, further data has emerged. Following the testimony given by the Marshal on leave Giuseppe Carofiglio on June 28 and July 5, 2017, and a subsequent request for information, the Commission received a note from the General Command of the Guardia di Finanza of 26 October 2017, which indicates the holding / presence of 576 "API" bullets (*Armor-Piercing Incendiary* produced by the US company *Aerojet Ordnance Company*) for two patrols of the Guardia di Finanza, and made with depleted uranium. Such bullets were allegedly acquired by the Corpo della Guardia di Finanza in 1985, subsequently kept at the Ammunition Depository of "Montagna Spaccata" (Pozzuoli NA), and all "disposed of" in an exercise at the Military Range of Torre Astura (LT) in 1994.

Threatening risks weigh even on barracks, depots, military bases: both due to structural deficiencies (particularly critical in areas with greater seismicity), lack of maintenance, and hazardous materials such as asbestos. **Asbestos**, incidentally, whose presence has unfortunately featured ships, planes, helicopters. To the point that the Prosecutor of the Republic of Padua has come to ascertain that in the navy alone 1,101 people have died or have fallen ill due to asbestos-related diseases (with about 570 mesotheliomas). The general prospects outlined by the Director of RENAM Alessandro Marinaccio, heard on 19 October 2017, are also alarming: "The peak of mesothelioma cases, both by number of cases and rate of incidence, was presumably in the period **between 2015 and 2020**". Meanwhile, as can be inferred from a technical report by Marinaccio transmitted on 29 January 2018 by the President of INAIL Massimo De Felice, in the context of military bodies, "830 cases of malignant mesothelioma have been identified with exposure in this sector". And it is disheartening to learn from this report that "in the RENAM archives there is information concerning 9 cases of malignant mesothelioma with a 'familiar' exposure code arising in exposed subjects for reasons of cohabitation with family members exposed in the 'national defence' sector: an exposure that has even crept into the homes of the military, affecting their families.

A precious contribution was given by an authoritative expert such as Dr. Stefano Silvestri in an expert witness report filed on December 18, 2014 in the context of a criminal proceeding established at the Public Prosecutor's Office of Turin regarding the asbestos exposure of navy crews and received on formal request to this Commission:

- "1) The use of asbestos on iron ships during the 1900s was massive and military ships were not exempt from this use;
- 2) A **large number** of soldiers and civilians employed by the navy have contracted asbestos-correlated diseases for having directly manipulated materials containing asbestos (MCAs), for having been present during maintenance works involving use and processing of MCAs, for having spent most of the time during their work on board ships containing MCAs;
- 3) Military and civilian personnel employed in the military arsenals suffered asbestos exposure during maintenance interventions carried out both on board and land-based workshops.

On several occasions the concentration of airborne fibres was found to be several **thousands** per litre of air. The detection of such concentrations is probable given that most of the MCAs used in the nautical field were to be considered friable and consequently released large amounts of fibres in the air.

The period in which these exposures occurred is quite long. Insulation with asbestos and the use of MCAs were already widespread even before the Second World War, a period in which some cases had already started their service in the navy.

Neither the scientific debate on the dangers of asbestos, already fervent in the '60s, nor what happened in Italian manufacturing companies at the turn of the 70s with the development of trade union initiatives aimed at demanding more hygiene and safety in the workplace, including the shipyards, or what had happened years earlier in the US navy and in the British Royal navy, nor the rich international literature concerning studies on the health of seafarers and shipyards was sufficient to arouse the need to at least pay attention to the problem in those responsible at every level; in the doctors involved in health monitoring and in Maritime Health in general, as was ignored the fact that the asbestos present in the Italian naval vessel could have put a serious risk to the health of all Italian military sailors and staff employed in the arsenals, as it happened and it was happening abroad. This problem has inevitably emerged and with far from negligible numbers at the end of the latency time and to the extent that to this day, many years from the work situations at risk, we still cannot remedy what happened."

Speaking of **radon**, farsighted was the question no. 4-16746 presented by the MPs Ruzzante, Pinotti, Pisa, Lumia, Luongo, De Brasi and Rotundo in the Chamber of Deputies since September 20, 2005, stating that "in the first half of the eighties the Americans were aware of the risk radon so that, different contingents of the Center-South NATO bases were moved and, at the USF base of Aviano a complex procedure for reclamation from infiltration of this radioactive gas was initiated", but that "our Government, unlike what has been done by the Americans, has not taken any provision to eliminate or reduce risks from exposure from radon and, only in 1998, when the Venda base was discontinued, the National Health Plan also came to include the reduction of risks from radon while, only in 2002, the Veneto Region published the first monitoring data from the territory, which show how the Euganean Hills are a site close to alarm levels as to radon concentration". In the course of its investigation, the Commission found past and/or present exposure at even higher radon concentrations in multiple military sites. On 2 November 2017 - accepting the assessments made by the expert witnesses Forastiere, Bochicchio and Soffritti and considering non-persuasive the contrary deductions of the technical consultant of Pira - the Court of Padua pronounced a sentence of conviction for manslaughter and negligent personal injury due to lung tumors in soldiers exposed to radon at Venda mount. And in the sentence filed on 29 December 2017, it highlighted some eloquent data:

"The court observes that the ability to know, within the military organization, of the radon phenomenon, is peacefully ascertained by the repeated checks on the radioactivity of **the thermal waters** insistent in **the military establishment of Ischia**, carried out by the very same CISAM since 1960 and in the following years. In 1977 the workers of the baths were inserted, on the indication of CISAM itself, in the second group among those indicated ex art. 3 lett. H,

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Presidential Decree of the Italian Republic February 13th 1964 no. 185. At the time, therefore, the properties and characteristics of radon were well known to the Military Administration, which the Administration itself referred to as being in areas such as thermal ones or ones of volcanic origin. They did not escape the Administration, which prudently compared the measurements made by CAMEN at the Ischia plants since 1978, for the purposes of health protection of workers, "just the opinion expressed by the CNEN in this regard", not to the limit marked by Ministerial Decree 6/6/1968, but at the lower limits indicated in publication 24 of ICRP3I, of 60,000 pc/L (equal to about 2,200 Bq/sq.m.), not even the current legislation and the threshold indicated by the *International Commission on Radiological Protection*."

The Court of Padua also notes how "the uncertainty on the harmfulness of the environment, deriving from its geological characteristics should suffice to induce employers to investigate the presence of potential harmful to workers, not being able to endorse a consciously and culpably inert attitude".

Why, more than half a century since 1960, has not even the current Government - explicitly informed by the so-called "Interim Report" - concerned itself with immediately imposing an effective and systematic monitoring on the consistency of the phenomenon?

It is not the only thorny question: why is it dead letter in Italy that in the United States (but also in Canada), among the Gulf War veterans, an incidence of ALS was found leading led the authorities of that country to recognize ALS as a disease related to military service, and therefore as an indemnifiable disease, for all veterans who served for more than 90 days? How come the Defence Administration of our country does not appear to have carried out investigations and conducted studies on ALS among the military? And why does the Defence Chief of Staff, although called to do so by Article 26, paragraph 1, letter b) of Presidential Decree no. 66/2010 to ensure "relations with the corresponding military authorities of the other States" - not appear to have informed himself on the initiatives taken on the subject of work risks by the military authorities of other countries?

The situation of the **theatres of action abroad** is thus alarming. First of all, the Commission has had to take note of the exposure, not only to depleted uranium, but also to environmental pollutants that in several cases are not even monitored. Moreover, the lack of knowledge, admitted by the same military leaders responsible for the coordination of missions (COI: Joint Operational HQ), about the use in such contexts of dangerous armaments possibly employed by allied countries is also singular. Illuminating, among the many evidential acquisitions by the Commission, are, in this regard, the statements made on March 15, 2017 by Col. Filippo Agosta, JMED division head at COI:

PRESIDENT: I would like to read to the colonel a passage from the report by Colonel Pietro Lo Giudice, from the J4 division: "The IOC does not have communications or information on the use of particular ammunition by the countries and/or coalitions that may have been used in the theaters object of deployment of Italian troops". Do you confirm this passage in the report by Colonel Pietro Lo Giudice?

FILIPPO AGOSTA. I confirm it widely.

Nor can the testimony given on July 5, 2017 by the Lieutenant Colonel Doctor Ennio Lettieri be ignored. Col. Doctor Ennio Lettieri for several years on mission to Kosovo, the last time as director of the infirmary of the KFOR Command, a base located in the capital, in Pristina:

"As soon as I arrived at this base in Pristina called Film City, it was immediately pointed out to me that water with a very special taste was distributed and sold in various shops, pizzerias or restaurants. I also discussed it with the mission commander who is currently an Italian general and then I decided to look for something inherent in the chemical and bacteriological composition of this water.

The first thing to jump out at me was the origin of this water, which was a Kosovar water, distributed both in natural form and in a fizzy form and then sold in restaurants and pizzerias. I tried to locate analyses of this water and found nothing in the archives of my infirmary. I tried asking the competent laboratory, which is a German laboratory, and they told me: "We'll look for it and then we'll call you back and possibly let you have a copy."

I also talked about this with the JMED, an extremely important figure because he is a health care consultant for the mission commander, who is also German and who told me: «I have already requested the analysis of this water, as soon as it arrives I'll let you have a copy»".

After about a month (it takes more or less twenty days to do that kind of analysis) I asked again for these analyses and he was very evasive, at which I called the laboratory and the laboratory director replied: "Without his authorization (i.e. the authorization of the German JMED) I cannot perform any kind of analysis, I cannot give you any kind of report". So I then decided to do it officially via the institutional email of my office and to that email I never received an answer.

Knowing that I was on the right track, I then tried to contact all the Italian medical colleagues who had taken turns in that infirmary, hoping that some of them would have kept a copy of those analyses. Fortunately, a colleague who was in Lebanon at the time sent me the analyses he had kept, which dated back to January 30, 2015.

In that report is reported the amount of bromate ions of the samples analysed only for the part of natural water known by the name *Dea*.

In practice, the amount of bromate of these samples exceeded about ten times the maximum allowed, that is, if the amount of bromate ion is at most 10 micrograms per litre, in the samples analyzed the amount of bromate ion was from 65 to 97 micrograms on litre.

I immediately tried to contact our general, who was on leave but on his return I immediately talked to him, who was very happy to hear those things, because even the taste of that water did not convince him, in fact he was told that he went to the bathroom often and sometimes also felt a certain sense of nausea.

In agreement with him, I wrote to my direct superior, who was an Irish colonel, asking to suspend the distribution of *Dea* natural water and as a precaution that of sparkling water, because I had no analysis related to that type of water, so on January 10 I wrote to this colonel asking to withdraw it.

He himself called me telling me: "You maybe wrong because the analyses you sent me are of 30 January 2015", but I said: "No, it was no mistake, because that is the document I was able to find", so it was almost two years that we already knew about that substance in the water and then the confirmation was given by some soldiers who were there for one or two years, who told me that the water had actually been removed and then after a few months reintroduced both in distribution and on sale.

The bromate ion is a class 2 B carcinogen, a possible carcinogenic to humans, but by binding with potassium it forms potassium bromate, which is a pure carcinogen. I do not know why then this water (only the natural one) was replaced by a Croatian water within a few days, which however the label reported as being water destined exclusively for export to Kosovo".

1.3. Strategic choices on workplace safety in the military world

The critical issues are, and will continue to be, fueled by an unresolved problem: the universe of military security is not governed by adequate **norms** and **practices**. The basic strategic choices that currently inspire security policy in the world of the Armed Forces remain unchanged. Those strategic choices that paradoxically transform Defence Administration personnel into a category of weak workers. Those strategic choices that, moreover, humiliate soldiers who are sick or dead because of the mortifying disproportion between the dedication shown in highly dangerous activities and the institutional reluctance to the timely recognition of adequate compensation.

These are strategic choices that dutifully, between 19 and 20 September 2017, the Commission of Inquiry reported to the competent Authorities, transmitting, in particular, to the president of the Council of Ministers, as well as to the Ministers of Defence, Health, Work and Social Policies, the Environment and the Protection of the Territory and the Sea, its own "Report on the activity of inquiry in the field of safety at work and environmental protection in the armed forces: critical issues and proposals" (so-called Intermediate Report of 19 July 2017), "with the request to provide the Commission itself with any information, news, document and clarification regarding the many serious and serious problems represented by the aforementioned report, as well as any action taken in this regard".

The Commission of Inquiry notes that the Minister of Health sent on December 15, 2017 "the contributions of this Ministry with the hope that they may be useful for the purpose of a greater understanding of the issue under consideration, from the health point of view", while the Minister of Defence expressed on 11 January 2018 the "full satisfaction of the fact that the interlocutions held in recent months, between the representatives of this Dicastery and the Commission, have evidently contributed to the definition of the proposed amendments in the budget maneuver. In particular, I refer to the approved modifications regarding the activities carried out in the military firing ranges and to the in-depth analyses carried out to identify potential measures for the best protection of Defence Administration personnel" revealed "how the document offers a many points of reflection", and reassured that "the competent Defence structures have already begun and will continue an intense examination and investigation of these complex issues, the results of which will be held in the utmost consideration by the Dicastery for the definition of the appropriate improvement actions".

In turn, the Ministry of the Environment and Protection of the Sea, signed by the Director General for Waste and Pollution, by letter dated 10 January 2018, reported the existence of a "Memorandum of Understanding for environmental protection and military exercise activities, which dates back to 18 June 2015.

The systematic and in-depth investigations by the Commission of Inquiry lasted for two years. These two years of wide-ranging investigations have enabled us to re-unite the different threads discovered in a single plot, and, in particular, have finally shed light on the **eight procedural and organizational mechanisms that objectively converge in producing the double effect of obfuscating the risks looming on the military and citizens and at the same time limiting the responsibilities of the real holders of power.**

1.3.1. Employers without autonomous decision-making and spending powers

The Commission has verified that, within the Armed Forces, employers designated in accordance with article 246 of Presidential Decree no. 90/2010 are generally lacking in effective decision-making and spending powers. Not surprisingly, General Roberto Comelli, Head of the IV Department of the Chief of Defence Staff, examined by this Commission on 7 June 2017, said: "We know very well that within our organization not all employers have financial autonomy, but those who do not have this availability require it from the higher authority, from which they hierarchically depend, and therefore represent their need". And he added that he was not able to "affirm that financial coverage is always guaranteed to employers who appeal to the higher agency".

Also. The SMD-L-018 Directive, having as its object "the coordination of the technical/operational bodies of the Defence and the recourse to external Institutions in the Chemical, Biological, Radiological and Nuclear (CBRN) fields", approved by the Chief of Defence Staff in the November 2006, provides that, if the need arises to assess risks with the help of the specialized skills of the technical-operational organs of Defence (such as CISAM and CETLI), an employer must submit a request, and that this request is accepted on the exclusive decision of the Chief of Defence Staff. It is easy to ask: is a typical function of an employer such as risk assessment carried out by the formal employer or by the Chief of Defence?

Another example. With a note sent by the IOC (Joint Inter-operational Command) to the General Staff of Defence on September 16, 2016, the need for monitoring the healthiness of the air in Mosul, Erbil and Baghdad was communicated because "the smelly presence perceived in the air of 'burning plastic waste', to Atrush because there are «residues from 2 oil refineries within a radius of 10 km ", and in Mogadishu because there are" fumes from adjacent landfills". In the witness test of May 7, 2017, the Lt. Col. Pietro Lo Giudice, Head of the IOC J4 Division told the Commission that, of all the requests sent to the General Staff of Defence, only two had been approved (measurements of radon at the deployment in the dam area of Mosul and biological control in Kosovo). It is legitimate to ask: in this case, is a typical function of the employer not actually exercised by the Chief of Defence Staff? And what autonomy do the commanders formally identified as employers have if a higher body can block the execution of

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monitoring deemed necessary by the employers themselves on the health and safety risks of the military operating on their site?

Not, on the other hand, does it appear that, in order to exercise the primary role entrusted to it by the SMD-L-018 Directive, the Chief of Defence Staff is acquiring elements of assessment such as:

- the incidence of accidents and occupational diseases at the military sites involved;
- the results of the inspections;
- periodic reports on the state of military security from bodies such as IGESAN and the General Secretariat of Defence.

So one wonders why, instead of exercising functions typical of the employer, the Chief of Defence Staff did not assure the appointed employers the necessary funding to perform their tasks in the field of health and safety protection of military and civilian personnel of the Armed Forces independently.

And we remain dismayed to learn from the technical advice filed by Dr. Stefano Silvestri on December 18, 2014 in the context of criminal proceedings established at the Public Prosecutor's Office of Turin on the exposure to asbestos of the navy crews, how many sailors could have been saved, and were not:

"Substantial technical documentation has been found relating to an insulating material produced in Italy at the end of the 19th century without any use of asbestos that was suitable for the insulation of pipes, even in the naval field. This is martinite, from the name of the manufacturing company (Manifatture Martiny of Turin), which had been used for the insulation of Italian navy ships built at the turn of the 20th century. In a Martiny technical brochure there is a long list of ships:

- The "Varese" ship built in the Orlando Shipyard of Livorno 1898 - 1901
- The "Dante Alighieri" ship at Castellammare di Stabia 1909 - 1913
- The ship "S. Giorgio" in Castellammare di Stabia 1905 - 1908
- The "Ferruccio" ship in the Military Arsenal of Venice 1899 - 1902
- The "Marsala" ship at Castellammare di Stabia 1911 - 1914
- The "Nino Bixio" ship at Castellammare di Stabia 1911 - 1913
- The "Benedetto Brin" ship at Castellammare di Stabia 1899 - 1901
- The ship "Emanuele Filiberto" in Castellammare di Stabia 1893 - 1901
- The "Vittorio Emanuele" ship at Castellammare di Stabia 1901 - 1908
- The "Marco Polo" ship at Castellammare di Stabia 1890 - 1894
- The "Napoli" ship at Castellammare di Stabia 1903 - 1908
- The "Saint Bon" ship in the Venice Military Arsenal 1894 - 1901

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- The ship "Enrico Dandolo" in the Military Arsenal of La Spezia 1873 - 1882
- The "Regina Margherita" ship in the Military Arsenal of La Spezia 1898 - 1904.

In the technical *brochure* available at the municipal library of Turin, we find information about the thermal insulation characteristics of martinite comparable, if not superior to those of insulators containing asbestos, incidentally also produced and marketed by Martiny. The cupels for the isolation of pipes in the naval field could have been made from martinite. An article on the material is present in a 1940 issue of the *Architettura* magazine when it deals with the problems of so-called "autarkic" materials, i.e. built entirely in Italy with raw materials exclusively available within national borders, during the fascist period. The technical characteristics of martinite are shown in a document by Martiny. In a control certificate of the company GMT (Grandi Motori Trieste) of 1/6/1976, where martinite is compared with capisolite (containing asbestos), the analyst Casadei concludes that from a thermal isolation point of view the two materials are equivalent. An equally important document coming from the personal archive of the Consultant is the certification of the suitability of martinite by UNAV, now missing, which was the unification body in the naval field with the same tasks as UNI. UNAV declared that martinite was suitable for the construction of fire doors with naval use. The document is from 1949. The reasons why the asbestos-containing materials with respect to martinite and in particular in the Italian navy are unknown, given that this insulation was well known, but one fact is certain: if this material had been used instead of the insulators containing asbestos it would have saved hundreds of related asbestos pathologies from arising in the military and civilian employees of the navy, many of which with the most nefarious effects."

An event, this, that:

- Dr. Silvestri reiterated at the hearing on October 18, 2017 ("So if this type of insulation had been developed and had more important representatives than asbestos because Martiny was not a multinational, maybe thousands of lives would have been saved, and not only in Italy. Unfortunately, though, those who sold asbestos won, to the extent that Martiny then closed about thirty years ago");

- this confirms the fundamental strategic choices of the summits for the protection of the health of the military, rather than the occasional initiatives of employers without actual decision-making and spending powers;

- this makes it clear how far-sighted the teachings of the Court of Cassation proved to be:

"It is necessary to distinguish between deficiencies inherent to the ordinary functioning of the apparatus and structural defects, given that for the latter the responsibility of the top management remains" (so, for all, Cassation June 14th 2017 No. 25732).

The "basic strategic choices" - this is the guideline set by the Supreme Court - the "basic management decisions", the "structural weaknesses", the "general choices of company policy" are all attributable to the sphere of responsibility of the "company vertices".

1.3.2. "Domestic" inspectors

Under Article 13, paragraph 1- *bis*, Legislative Decree no. 81/2008, in the workplaces of the Armed Forces as well as of the Police and Firefighters, supervision on the application of legislation on health and safety at work is carried out exclusively by the health and technical services established within the aforesaid administrations.

So, unlike private companies and other public enterprises, the Armed Forces (as well as the State Police and the Fire Brigade) have a "domestic jurisdiction" designed to reduce Legislative Decree no. 81/2008 to the rank of a law written on paper more than applied and enforced. It is not enough, in fact, to contemplate an apparatus of bodies responsible for supervising compliance with accident prevention provisions, if the organizational context which in fact is worthy of making the action incisive is defective.

Surprising, but uncovered by the testimonial examinations and the acquired documents, is the widespread inattention - currently, mind you, and not dating back to the past - of the military supervisory bodies in relation to the four fundamental security planning documents provided for in Legislative Decree no. 81/2008: from the DVR (Risk Assessment Document) to the DUVRI (Single Document for Interference Risks Assessment), from the PSC (Safety and Coordination Plan) to the worker information and training programs. And it is easy to realize that such inattention, and more generally the inadequacy and inadequacy of controls, are fatally reverberating on the behaviour of security debtors.

The action of "domestic" supervisors has proved to be insufficient both quantitatively and qualitatively.

One striking case for all.

In these years, in **combat zones abroad**, there has never been any supervisory activity, with the only singular exception of the "deployments" (until 2016, Vienna, Paris, Berlin, Warsaw, London, Madrid). With the result that our soldiers can be sent to areas where no serious risk assessment has been carried out. An example is taken from the testimony given on 5 July 2017 by Lt. Col. Doctor Ennio Lettieri: the Italian base of Pristina in Kosovo close to "a power plant that has two chimneys named Kek 1 and Kek 2, from which every day there is an emission of smoke that makes the air extremely irritating and potentially harmful".

The distinction made in the supervision between "deployments" and combat zones is too drastic and net, not to appear the result of a plan designed to limit the checks to "deployments" (not by chance, according to the same Gen. Comelli, without discovering "situations of particular gravity such as to determine fines or having to denounce someone"), and to free potentially dangerous places such as combat zones from embarrassing inspections. And it is natural to wonder why such a design could have been accepted by the military leaders. One of the two: either through disinterest or approval.

Yet, the experience of asbestos should make us understand the heavy consequences of "domestic jurisdiction" on the health of the military. And we remain dismayed to learn from the technical advice filed by Dr. Stefano Silvestri on December 18, 2014 in the context of criminal proceedings established at the Public Prosecutor's Office of Turin on exposure to asbestos of navy crews, how many sailors could have been saved, and were not:

"Among the reasons that have contributed to the delay in the implementation of measures for risk prevention and that certainly have not helped to safeguard the health of personnel, there is certainly that of the isolation in which military facilities operate, only in part due to the objective problem of confidentiality with which "military affairs" are dealt with, for reasons of national security and the Armed Forces themselves. The problem of the impossibility of carrying out vigilance in military environments the on the application of prevention norms by the traditionally established bodies has presented itself in a very similar way in the Ferrovie dello Stato, where only a few years ago the supervisory body of the Local Health Authorities gained access to F.S. work environments. As is well-known, even among the Ferrovie dello Stato [railway] personnel, there are and have been serious problems for the health of employees because of the asbestos. In this regard, however, it must be remembered that with Presidential Decree no. 90/2010, which came into force on October 9, 2010, a prevention structure was established, called Marivigilanza, which was assigned the task of monitoring hygiene and safety in all the structures of the Italian navy, including the ships. The attribution provided for the appointment of some judicial police officers chosen among the navy soldiers. It is the writer's opinion that there will be inevitable conflicts of interest and understandable difficulties for these new UPGs when they will have to sanction or even report their own fellow soldiers with a fault, certainly not positive on the application of the rules and therefore respect for prevention in general."

1.3.3. DVR and DUVRI omitted or inadequate

The Commission has verified that two fundamental documents such as the Risk Assessment Document (DVR) and the Single Document for Interference Risks Assessment (DUVRI) have not received due attention from military employers, and this:

- without the RSPP and competent doctors fulfilling their obligation to dissuade employers from choices that may be economically seductive, but conflicting with the requirements of health protection in the workplace;
- that the "domestic" inspectors were concerned with preventing the prosecutor from reporting the crime and issuing appropriate prescriptions to the offenders the undisturbed consumption of penalties punished as DVR and DUVRI missing or inadequate;
- and without the heads of the Administration of Defence working in any way to stem choices and violations so fatal for security.

The fact is that the absence, as well as the inadequacy of the DVR and DUVRI, are the most effective method to spread a veil anything but piteous about the exposure of personnel to the risks looming on military sites in Italy and abroad and at the same time to maintain a gloomy silence on the failure to adopt prevention and protection measures.

At this point it is understood that the widespread failure to comply with the obligations inherent in risk assessment - far from constituting a merely formal non-fulfillment and far from representing a random phenomenon - is perfectly functional to a systematic underestimation when not concealment, of risks and of actual responsibilities.

A further confirmation can be gained from the examination of Admiral Giuseppe Cavo Dragone, COI Commander (Joint Inter-operational Command), whom has been been unmovable since 23 February 2017 in declaring that in foreign combat zones a strict observance of risk assessment should not necessarily be made. A clearly conflicting declaration, not only with the general provisions of articles 17, paragraph 1, letter a), and 28 of Legislative Decree no. 81/2008, but also with the same specific rule dictated by article 255 of Presidential Decree No. 90/2010, entitled "Evaluation of risks", and explicit in keeping firm "the obligations of the employer pursuant to article 17, paragraph 1, letter a), of the legislative decree No. 81 of 2008, for the purposes of assessing risks in the activities and workplaces of the Defence Administration", without thereby making any distinction between activities carried out in Italy or abroad. But a declaration made by the commander of a basic organism headed by the General Staff of Defence, and a statement that goes to explain the deficiencies detected by the Commission in the risk assessments at operational sites abroad.

In this regard, the case of the Italian mission within the NATO *Joint Enterprise* operation in Kosovo is paradigmatic. In the documents provided, the mission commander explicitly states that no "specific roles for constituting a risk prevention and protection service are established by Legislative Decree no. 81/08" and that the superior authorities" have never ordered, according to paragraph 4 of article 253 of Presidential Decree 90/2010, the methods by which to implement Legislative Decree 81/08 during operations and activities carried out by the Armed Forces outside the national territory".

Consider the Italian mission in the context of the NATO *Joint Enterprise* in Kosovo. In the documents provided, the mission commander explicitly states that no "specific roles for constituting a risk prevention and protection service are established by Legislative Decree no. 81/08" and that the superior authorities" have never ordered, according to paragraph 4 of Article 253 of Presidential Decree 90/2010, the methods by which to implement Legislative Decree 81/08 during operations and activities carried out by the Armed Forces outside the national territory".

An example is taken from the testimony given on 5 July 2017 by Lt. Col. Doctor Ennio Lettieri for several years on mission to Kosovo, the last time as director of the infirmary of the KFOR Command, a base located in the capital, in Pristina:

"Regarding monitoring, if we talk about health monitoring we refer to text 81, so we should have in our base a DVR, a risk assessment document, as far as I know there is no risk assessment document and therefore, if there is no risk assessment, it is not possible to establish which subjects must be subjected to health monitoring. I have never seen a DVR of the six missions have done in three countries (Afghanistan, Lebanon and Kosovo), being a competent doctor also of the barracks is one of the first things I go to check, but there is nothing. However, I am aware of the fact that at the base of Mosul when I was in Kosovo, in the period January 2016 January 2017, the drafting of a DUVRI was started by one of our general, who asked for help from a colleague who asked me to where to start for the drafting of a DUVRI".

It is appropriate to add that the employer must - should - evaluate all the risks, including "the potential and peculiar environmental risks related to the characteristics of the country in which the work must be performed, such as, for example, the so-called "Aggravated general risks

linked to the geopolitical situation of the country (e.g. civil wars, attacks, etc.) and to the sanitary conditions of the geographical context of reference not considered abstractly, but having the reasonable and concrete possibility of manifesting in correlation with the work activity carried out" (according to the Commission instituted at the Ministry of Labor No. 11 of 25 October 2016).

1.3.4. RSPP and Competent Physician between inertias and language notes

Two are the cornerstones of a safe enterprise in the design of Legislative Decree No. 81/2008: first of all, the power, but also the skills, personified by the Head of the Prevention and Protection Service (RSPP) and the Competent Physician (MC).

These are figures of fundamental importance. Regarding the RSPP, the Court of Cassation notes that "the violation of the duties of prevention and information charged to the RSPP is due to an ambiguous (and therefore lacking) diction concerning the preventive measures to be adopted in relation to the specific risk assessment", and that "the generic content of the prescription contained in the DVR prepared by the RSPP does not fulfill the obligation to identify in a specific and precise manner the prevention and protection measures to be adopted in the specific case". It explains that the duty of the RSPP is to indicate the necessity of compliance in terms of cogency, urgency and indifference given the burden of the risk being assessed and prevented", and "to fulfill the obligation of assessment and prevention of risk in compliance with the provisions of the relevant regulations, formulating specific and mandatory technical requirements for all parties intended to operate in the company structure, regardless of the specific knowledge and skills of individual operators". He believes that the employer cannot ignore a specific indication coming from the RSPP (and if they do so they would be held exclusively responsible)" (so, for example, Cassation 7 September 2017 No. 40718).

The contribution of the competent physician is also decisive. In fact, the Court of Cassation teaches that "the accomplishment of tasks by the competent doctor involves an effective integration in the company context and cannot be limited to a merely passive role in the absence of solicitation from the employer".

In the perspective marked by Legislative Decree No. 81/2008 and the established jurisprudence of the Court of Cassation, assuming a decisive weight, above all, at least, are the presence of the RSPP and the competent physician, but also their professionalism and autonomy: professionalism, essential to provide the employer with indications inspired by the accredited scientific and technological knowledge about specific risks and appropriate precautionary measures; and autonomy, equally indispensable to establish a dialectic with the employer without any kind of discounts and to solicit the fulfillment of preventive interventions "in terms of cogency, urgency, indifference".

In the military world, are the RSPP and competent physician really prepared and autonomous figures?

A first datum highlighted by the Commission's findings makes sense: in some sites, RSPP and/or competent physician were even absent. Consider the aforementioned Italian mission in the context of the NATO *Joint Enterprise* in Kosovo. In the documents provided, the mission

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commander explicitly states that no "specific roles for constituting a risk prevention and protection service are established by Legislative Decree no. 81/08" and that the superior authorities" have never ordered, according to paragraph 4 of Article 253 of Presidential Decree 90/2010, the methods by which to implement Legislative Decree 81/08 during operations and activities carried out by the Armed Forces outside the national territory". In the document, there are two missives (one of April, the other of October 2016) sent by the commander of the mission to the IOC in which he wonders how he should deal with the problem, highlighting that "the known organic absence and made in T.O. of all the professional figures provided for by the relevant legislation, would make it impossible to follow, in the ways and in the forms required by law, those activities made binding by the contract clauses for works and/or service contracts that expressly refer to this standardization".

Another example: in the Risk Assessment Document of the Al Minhad *Task Force Air* the roles of RSPP and competent doctor are "to be named".

Moreover, the declaration made on January 25, 2017 by the head of JMED of the Joint Interforces Operational Command (COI) Col. Filippo Agosta regarding the operational theaters:

PRESIDENT: Are you telling us that the competent doctors are missing?

FILIPPO AGOSTA. Yes, the competent doctors are missing. To that we are trying to remedy.

In other situations, the heads of the prevention and protection service and the competent physicians, although present, did not know how or were not able to offer an adequate contribution.

Typical case of the competent doctor of the Cellina Meduna range:

"I carry out the functions of physician competent for the 132nd Armored Brigade "Ariete" Command, the command department of the 132nd "Ariete" Brigade, the 132rd Artillery Regiment of Maniago, the Logistic Regiment of Maniago and the Command of the "La Comina" sports centre of Pordenone. They are all military entities. At the moment I am also the physician for the 11th Bersaglieri Regiment of Orcenico Superiore.

My institutional positions are, in order: Head of the Health Service of the "Aries" Command Department and tactical support and of the 132nd "Ariete" Armored Brigade. I am also a *medical advisor* of the 132nd «Ariete» Brigade Command and, therefore, a consultant to the command of the 132nd Armored Brigade".

Regarding the obligations of the competent physician, including the obligation to visit "at least" once a year of all work environments imposed on the competent physician by Article 25, paragraph 1, letter i), Legislative Decree no. 81/2008, here are the admissions-confessions of the competent physician of the Cellina Meduna range:

"I do an annual survey of the workplace together with the RSPP, the commander and workers' safety representatives. I do it annually. Then, if necessary, I can increase the frequency.

PRESIDENT: What does this annual visit consist of?

COMPETENT PHYSICIAN. It consists of going to **where the employer, through his main collaborator, who is the RSPP, tells me to go** in order to evaluate together, in harmony, with what they have already evaluated, and make a contribution from the part of the doctor responsible for this assessment of the workplace, with reference to risk factors, if any, in order to then draw up what may be a health monitoring program. The health monitoring program is the health protocol. **Regarding the Cellina Meduna Firing range, I have not collaborated directly on this type of territory. I go where they tell me to go. I do nothing more. Then if they say "Go to see this site, go see that infrastructure", considering that I have many departments, I go where they tell me to go.** Then, if there is a problem to be addressed and analyzed, I will eventually give my contribution. **I become a proactive member when they submit a problem to me.** At that point I must come into play, let's say. Of course **the workload is important.** I'm not saying it's too much, but it's important, certainly".

PRESIDENT: Have you ever asked the RENAM for cases of mesothelioma arising between the military operating in your area?

COMPETENT PHYSICIAN. No.

PRESIDENT: Did you report the presence of occupational diseases?

COMPETENT PHYSICIAN. As for the occupational disease, **at the moment I have not reported.** I simply ascertained the non-suitability for the permanent task.

MAURO PILI. Have you ever heard of thorium in the of Cellina Meduna Range?

COMPETENT PHYSICIAN. I have heard of thorium in the Cellina Meduna Range **in the last months, in the last period of convocation, now that I have been summoned here.**

MAURO PILI. You have said before that you made inspections in all areas.

COMPETENT PHYSICIAN. Yes, let's **call them inspections**, but, in reality, I'm not going there to make inspections. I go there, then I'm there, I know these places, these sites where you shoot in the ranges in the firing line, but not in terms of the assessment of certain risk factors if not those specific to the shooting line, the pitches, but certainly not in terms of a risk factor presented to me in a DVR. They tell me: "Doctor, what does this risk factor mean?" That's it.

MAURO PILI. Have you ever personally been in this range in the target areas? Have you ever carried out an inspection?

COMPETENT PHYSICIAN. I went to the target areas ten days ago for the first time. I went because I had been summoned on December 5th.

MAURO PILI. So, you did not take charge of the precautions for the staff who went to take thorium from this shooting area?

COMPETENT PHYSICIAN. No, **no one ever told me**, but not even from a distance... cannot... I'm not a figure that can...

PRESIDENT: I understand from the answers you are making to the very pertinent questions of my colleague Pili that you were not, if not until some months ago, aware of the existence of the thorium in that range and that, in any case, you believe that this eventuality was not within your duties. Is that so?

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COMPETENT PHYSICIAN. Of course, yes. A few months ago I learned about information on the press, but I want to emphasize this aspect strongly: the competent doctor... is me for these institutions, then there are, there can be a lot of infrastructure. A territory of **thousands of acres**... those who know before me certain risk factors **must tell me where the problem lies** and must bring my attention to any certain problem. They must tell me: "Now let's assess this together." I can be an advisory body. Then, the moment they put the problem to me, then I become [incomprehensible]. This is important.

Unfortunately, there are contradictions, as for **polycyclic aromatic hydrocarbons**, known carcinogens:

PRESIDENT: Have you had the opportunity to detect a certain or probable or otherwise possible exposure to carcinogens, mutagens or teratogens?

COMPETENT PHYSICIAN. No.

But then:

COMPETENT PHYSICIAN. For the sake of precision, I have the biological monitoring carried out on workshop personnel and workers in the fuel depot, including for urinary metabolites of the polycyclic aromatic hydrocarbons, hippuric acid and trans-muconic acid.

In turn, the competent physician of the range of Capo Teulada revealed some shortcomings.

COMPETENT PHYSICIAN. I am aware of the presence of **asbestos** in a part of the base, but it is not a part of the base frequented by our employees.

PRESIDENT: Is it frequented?

COMPETENT PHYSICIAN. It is not a part of the barracks where a working activity is carried out by the actual personnel of the barracks. They are hangars which have always been there, certainly since before I arrived, which are not used by the staff who work in Capo Teulada.

PRESIDENT: You did therefore consider that this fact did not in itself constitute a potential danger to workers' health.

COMPETENT PHYSICIAN. Given the distance... We assessed that there was no risk in this sense. Nobody works there. This is the answer. Nobody works there. They exist. Surely, they are supervised. Surely, someone will go there, but they do not go there...

PRESIDENT: Have you ever dealt with work-related stress?

COMPETENT PHYSICIAN. No.

PRESIDENT: Why?

COMPETENT PHYSICIAN. We have not evaluated it.

PRESIDENT: If the Commission were in a position to help you solve the problems you have found and find in the exercise of your duties, what would you ask of the Commission? What kind of interventions would you ask for? Excuse me, doctor, we have understood that there are many things that unfortunately do not go well. We have also formed the idea that this did not happen through your fault. Probably, indeed certainly, the system does not work. Dialectically,

then, perhaps the best thing to do is to ask you what you would like the Commission to do so that you can be placed in a position to do your job well, as you would like and know how to do.

COMPETENT PHYSICIAN. I think that the position of competent doctor should be an **exclusive** task. This is my answer.

An example is taken from the testimony given on 5 July 2017 by Lt. Col. Doctor Ennio Lettieri for several years on mission to Kosovo, the last time as director of the infirmary of the KFOR Command, a base located in the capital, in Pristina:

ENNIO LETTIERI. I had a patient who went into kidney failure, among other things was also a patient with a kidney transplant, that is, we had in the combat zone a person who had perhaps circumvented health checks and had arrived there with one kidney...

PRESIDENT: So, Colonel, you're telling us that there was a soldier in the combat zone who had had a kidney transplant, right?

ENNIO LETTIERI. Yes, about five years earlier. Repatriated with priority 1 first at Celio hospital and then at Policlinico Tor Vergata, fortunately within a few days of hospitalization they immediately started a dialysis treatment and managed to save the functioning kidney, but he was an extremely critical patient that I as director of a small infirmary could not handle it, so we sent him to the German hospital which is equipped enough for dialysis, because we do not expect to have a similar patient in the combat zone, nor in the forces...

PRESIDENT: I guess you did not know that this soldier had undergone a kidney transplant...

ENNIO LETTIERI, Lt. Col. Doctor. No, I did not know, we learned it with a trick because he had a lung that did not work, was extremely dyspnoic, had an important difficulty in breathing, a clinical picture that did not make sense to me or to the colleague who was with me, so there had to be something more than what he had told us, this kind of asthma. With a ploy we were able to find out that he had undergone this surgery. He was understandably reticent because he knew that by giving such information I would have immediately requested a priority 1 evacuation to avoid losing the only functioning kidney or even death, because he was in danger for his life, so something had to be done. What is inexplicable is how a soldier who had undergone a kidney transplant could enter the combat zone, as well as another who recently reported to me with a gastric bypass, clinical conditions incompatible with a mission abroad, where a soldier must be ready at any time to escape and perform all the activities related to operational service, and for a person with a gastric bypass or a renal failure it seems difficult that they may actively participate in operational service.

PAOLO COVA. As a doctor, at a general objective examination, looking at a soldier leaving for a mission, is it possible or can it not be understood that he has had a transplant?

ENNIO LETTIERI. Yes, kidney transplantation is done in the iliac fossa, then anteriorly, and the first thing you do is have them undress...

PAOLO COVA. Because we can say that there is a military that is reticent, but, since in recent months we have been told that all the military are subjected to visits and checks before leaving, I imagine that this soldier has been subjected to at least one visit, at a general objective examination.

ENNIO LETTIERI. No, because I asked the nephrologist who took that patient and told him: "Can you tell me who assessed this man's suitability?" And he replied: "He does not have suitability", so it was bypassing the Military Health Service.

PAOLO COVA. Does that mean he left without having had a visit?

ENNIO LETTIERI. Certainly. It is impossible for a doctor not to have noticed such a thing.

PAOLO COVA. Either he did not have a visit or it's impossible...

ENNIO LETTIERI. He did not do it. I tell you this that clarifies the concept of how our fitness works: I have prepared 8-9 contingents, a list is made that is called Attack and is given to the doctor. The doctor begins to make his visits, his samples, he takes the precedents, if the soldier comes from another department he asks the other department for the medical record, so it is a necessary requirement for leaving, unless those who want it do not sign and subscribes that they can leave, regardless of whether or not they have the health requirements, otherwise I cannot explain this, I could not explain the gastric bypass, I could not explain who currently in the theater (my colleagues who are in Libya have confirmed) he has a body mass index of more than 30, but there you are, so how did they do it? Those who want them to leave for a mission let them, regardless of whether health requirements are met, and imagine all these people who eventually have problems in the theater when they come back, what they do first? They ask for the cause of service, but I cannot determine whether they contracted it there or it was a pre-existing condition at the start.

MARIA CHIARA CARROZZA. I can understand that someone escapes the controls and manages to leave even when they should not, what I do not understand is if you as a medical manager (I do not remember exactly the qualification) or who has this feature has access to the medical records of all those who arrive. If someone comes during the mission to be visited, you should have the opportunity to look at their medical record and say that it is congruent or not congruent, and this is the first thing, so there is something that is not working even in the procedure to activate monitoring, because now this path should be simple with the electronic medical records...

ENNIO LETTIERI. It should be more immediate, so much so that when I arrived I asked and obtained with another colleague of arms to verify the arrival of all the Italian staff their vaccinations and fitness levels. At first I managed, then they bypassed me.

MARIA CHIARA CARROZZA. Having responsibility for health, those who have these functions must have access to medical records, vaccinations and everything.

The RSPPs examined by the Commission also revealed serious limitations in carrying out their activities. Let's start from the case of the RSPP at the military ammunition plant of a territory such as that of Baiano di Spoleto: heard on 12 April 2017, he was unable to explain why the DVR did not contain any assessment of the seismic vulnerability of buildings and plants. And again, speaking of an incident that occurred on December 22, 2016 at the Baiano di Spoleto plant, he declared:

RSPP. In this case, with regard to that type of activity (we are talking about setting up the MF 2000 hand grenade, which started first experimentally and then definitively), before the event

we built about 80,000 hand grenades, with an assembly line also approved by the higher authorities in this case. Certainly **my role** at that time and even today is **not to establish a line of work**, because I do not have competence on the matter, but who built the bomb on the basis of previous experimentation has also acquired elements for the protection of workers on the basis of risks to which they were exposed. For what reason the event happened, **it is not up to me to establish**, the judiciary will have to do its course with the opinions of the party.

PRESIDENT: You are aware that your DVR is dated, it is stopped in 2010 and you have not made the additions in mind of the legislative decree no. 39 of 2016?

RSPP. The last one was signed seems to me in 2015.

PRESIDENT: No, what you sent us is from 2010 and, as you well know, in 2016 legislative decree no. 39 came into effect, which requires fulfillment. So you have the **DVR** from about **seven years back**. So we strongly recommend that you proceed immediately with the arrangement of everything.

PRESIDENT: We inform you that MILAN contains thorium, so it would have been, it would be and it will be essential that this was taken into account in the management of safety inside the factory. Do you know that the plant was built in a seismic zone 1?

RSPP. I know it's an earthquake zone, but **I did not know it was seismic zone 1**.

It is also useful to take into consideration the declarations of the RSPP of Capo Teulada:

"Up to now, I have been mainly interested in the so-called tabulated risks, those with job duties, as I always use to say: from tasks actually carried out. In fact, one could have an assignment, but carry out another one, so I use this terminology. I refer to the classic workshop, carpentry, electrician, masonry work and so on. **I thank you, however, because I learned today that there are other types of risk, such as the repeatedly named nanoparticle one**. However, I would like to add that this is why we took the opportunity and, given the availability of the University of Cagliari, we immediately took advantage of and traced some collaborative lines, which continue".

Which is where the role of trainer supervised by the commission of inquiry emerges, which is necessarily limited to the examined RSPPs. But the RSPP of Capo Teulada added an economic consideration:

PRESIDENT: Have risks associated with asbestos been identified in the range?

RSPP. Yes. In this regard, as I was present at the question you asked the commander, I will try to explain a little better. Inside the base we were able to dispose of all **asbestos in full**, through specialized companies. As for the hangar, instead, which is located a few kilometers from the base, the roofing is in any case not flaking. I do not say that, **but the technician from CETLI**, who came, and I was present. He took samples, analyzed them and established that the current conditions allow us to "breathe", that is, we have some useful time before we must dispose of it. If I remember correctly, we asked for a cost estimate, and **2,000 square meters is a good blow**. They told us, if I remember correctly, **two years and then they would come to check it again, before acting...**

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The RSPP of the Salto di Quirra range was also examined:

RSPP. The risks that require a deeper look and which we are still being looked into, in collaboration with the competent doctor and the University, are linked to all those activities that are carried out during exercises in the ground range area. In fact, as a result of the measures and the known events of the District Attorney, practically since 2011 we have not carried out any activities. Now we are carrying out a series of analyses, checks and monitoring of the evolution of all those phenomena that may be harmful or damaging to workers' health.

PRESIDENT: I did not understand what tasks the people who in your opinion would be more exposed to occupational risks perform.

RSPP. The tasks most exposed to professional risk are the normal ones. On the spot, it's hard to say. However, there are no high risks; they are all low security risks. There are no exceptional cases that attract great attention, they are all low security risks.

Contradictory or incomplete elements also surface about the exercises:

PRESIDENT: The risk assessment document (DVR) of the Salto di Quirra range consists of almost 9,000 pages. However, in these 9,000 pages the risk deriving from exposure to chemical and physical agents that are dispersed in the environment during fire drills is not evaluated. How do you explain such a glaring omission?

RSPP. Personally I do not consider it a deficiency. The activity of the range has stopped since the first months of 2011, since the investigation of the District Attorney began. There is one thing to say: there is no worker in the range that follows, within the frame of security that the user communicates to the range... Let me explain better, making a little larger preamble. The user, or the third person who uses the areas of the range to carry out his activity, which can be experimental or training, and requires the use of the areas, must produce the required safety documentation at the range: integrated safety data sheets and the study of distribution in the environment of the emissions produced as a result of the activity to be carried out. These analyses are validated by the Higher Institute of Health and accompanied by an assessment of our general health management, for the purpose of excluding any danger to public safety deriving from exposure to chemical agents present in the area or otherwise produced by the activities. This document is presented. However, before having the authorization to carry out the activity, as an extension of article 26 of the Legislative Decree No. 81, a security coordination is made, in which the user provides us with all the data related to these factors. At the same time, it also provides the security frames, i.e. the areas of clear space to be applied, outside which the risk for safety is practically nil. These are applied. In the absence of these acts, the user's activity is not authorized and is not carried out. Since 2011, when investigations started, there have been only two activities during this year. Practically the absence of this risk analysis is due precisely to the absence of activity. I cannot do an a priori assessment, because I do not know what they will use. When I know what they use and its impact on the environment or on health, I can write something.

PRESIDENT: I believe that in a range, which by definition is the place where fire drills take place, this type of prediction must be absolutely present. This consideration, Colonel, refers to a report by our experts, which deals with the content relating to the DVRs made available to

the Commission, that of Perdasdefogu (Salto di Quirra) and that of Capo San Lorenzo. We are talking about the first one. The first document contains for accuracy (we finally have the exact number) 8,857 pages. In addition to having a certainly high number of pages, this document is difficult to read because it is missing an index. This is not an organic and structured document, but a document stratified over time. Who says these things, Colonel, is the chairman of the previous Commission of Inquiry, Senator Costa, who, in his report of January 9, 2013, wrote about this document that "the documentation is not presented in an organic, harmonious and integrated fashion and, consequently, it is not a simple evaluation approach". Therefore, the last paragraph of article 28, paragraph 2 of the legislative decree No. 81 does not seem respect. As you well know, it states that the choice of the criteria for drafting the document is left to the employer, who sees to it you with criteria of simplicity, brevity and comprehensibility, so as to guarantee its completeness and suitability as an instrument operational planning of business interventions and prevention.

Another issue has gone unaddressed:

PRESIDENT: From the examination of the register of carcinogens exposed to colonel, we find that the following exposures to carcinogens have been identified: hardwood powders for carpenters, polycyclic aromatic hydrocarbons (PAH) for maintenance of thermal power stations, naphthalene for operators to refuel aviation fuels and benzene for the petrol supply operators. How do you therefore explain, Colonel, that the document assessing the carcinogenic risks of an assessment of exposure to naphthalene and PAHs, that the assessment of benzene was carried out with a non-standardized method and that the hardwood powders were determined only for the detachment of Capo San Lorenzo? Were you not aware of these things, Colonel?

Omissions which also emerge from the RSPP examination of the Capo San Lorenzo range:

PRESIDENT: We would also like a specific assessment of the risk of exposure to carcinogens for workshop and refueling personnel. Do you undertake to send it to us and to report this deficiency, so that it can be integrated in these terms? For us, it is important that you report this shortcoming.

RSPP. Yes, I commit myself, but I thought I had made this assessment. Maybe it's not articulated...

PRESIDENT: Now, however, we are more relaxed than in the risk assessment document, thanks to what you will be able to represent as the RSPP manager. This integration can take place. [...] In relation to the activities carried out within the range by the operators, how is safety ensured with regard to so-called interferential risks? Is the DUVRI processed?

RSPP. A report of interference is drawn up between us, which we host users - for us, the operators are users - and the operators. We interface with their manager, we tell him what the risks are within the area where they go to work and we do this ...

PRESIDENT: The so-called single document for the assessment of interference risks, the DUVRI? Is this it?

RSPP. We call it a coordination report. Yes, that's it, because there is not...

PRESIDENT: You will undertake to make the relevant report, which does not need a general report, but serves the DUVRI.

The incomplete assessment of radiological risk is also worth noting:

RSPP. We realized that we did not have the capacity to cope with a radiological risk emergency. As a result, we told anyone in that area to alert firemen if necessary, not to tell them only about a possible fire, but about the risk of fire, so that they equipped themselves in a certain way. Surely, then, the procedure could be written better, it could... "

On its part, the RSPP of a site as the repeatedly evoked Cellina Meduna range states:

PRESIDENT: For example, risks related to the conduct and performance of the training activity? **RSPP. Risks, no.**

MAURO PILLI. 300 MILAN missiles were fired: 3 grams per missile are almost a kilo of thorium. Is this quantity significant or irrelevant quantity for you?

RSPP. I cannot tell you, because I do not know the effects on people.

MARIA AMATO. On Risk Assessment Documents, at least from 2013 onwards, that is, since this area has been fenced, it appears that the risk is radiogenic?

RSPP. For the Cellina Meduna range, the **Risk Assessment Document was not drafted** because we had already communicated that the regulation of the range, the regulations for use and the Environmental Protection Plan contained all the rules concerning the safety of personnel.

Equally eloquent are the declarations of the RSPP of the Foce Reno range:

RSPP. I completed the course as head of the prevention and protection service, I'm not mistaken, on March 20, 2015, so I was officially trained from that date onwards. I must also point out that in 1998 - let's talk about the beginning of prevention and protection in the Armed Forces, so there was perhaps a little confusion - my command invited me to attend an **update course** for RSPP that had no type of training purposes, but of updating. Being, however, the only one of the command that **understood** the matter learned in the training institutes a bit, I was responsible for being responsible for the prevention and protection service, combined with other tasks, so, much good will and much effort. [...] (The DVR is) a document that we update at least annually, although it would obviously be updated **at least once every four years** [?]. (The DVR) is **always** being updated.

PRESIDENT: Do you think you can exclude that there may be a staff exposure to carcinogens, mutagens or teratogens?

RSPP. No, chairman. I would say no. From what I understand, no. I exclude it because the types of activities that we carry out **at the firing range has never occurred that there are sources of pollution** that can produce these diseases.

PRESIDENT: For your risk assessment tasks, have you ever asked for specialist advice from CISAM or CETLI?

RSPP. At CETLI, there is practically a plan, a plan to assess **soil pollution** this year. CISAM is the same thing with regards to risk, but it is planned for next year.

But the RSPP examination of the Foce Reno range proved useful also in terms of autonomy:

PRESIDENT: Can you let us have it now (the DVR)?

RSPP. At the moment, there is availability, **but I have been told that I cannot...**

PRESIDENT: Who told you that you cannot give it to us?

RSPP. No, from the **language notes**.

1.3.5. RLS appointed by the employer.

The figure of the Workers' Safety Representative (RLS) appeared very briefly during the investigations carried out by the Commission.

Yet, the thirteen attributions reserved to the RLS from article 50, paragraph 1, Legislative Decree no. 81/2008 let the basic role for the purpose of effective protection of health and safety in the workplace be understood. Suffice it to say that the RLS "accesses the workplaces where the work is carried out", "promotes the development, identification and implementation of prevention measures suitable to protect the health and physical integrity of workers", "Formulates observations on the occasion of visits and verifications carried out by the competent authorities, from which it is normally heard", "makes proposals regarding the prevention activity", "warns the company manager of the risks identified in the course of his activity", it can even appeal to the competent authorities if it considers that the risk prevention and protection measures adopted by the employer or the managers and the means used to implement them are not suitable for guaranteeing safety and health at work". (About the control function attributed to the RLS v. Cassation 19 October 2017 No. 48286).

No wonder, therefore, if the Legislative Decree no. 81/2008 is concerned with guaranteeing the autonomy and independence of the RLS. It is not by chance that they are defined as "the person elected or appointed to represent the workers as regards the aspects of health and safety at work"; provides that "the workers' representative for safety cannot be prejudiced due to the performance of their activity"; and, in any case, leads to the workers the designation or election of the RLS.

The fact is that Article 250 of Presidential Decree No. 90/2010 introduces a singular distinction between representatives of civilian workers for security and representatives of military workers for security: the first "are elected or designated according to the procedures provided for in articles 47 and following of Legislative Decree No. 81 of 2008, and in compliance with national collective agreements between trade unions and the Agency for the representation of public employment administrations"; the latter, on the other hand, "**are appointed by the employer** on a non-binding proposal of the organs of military representation (COBAR, referred to in Article 871, Book IV, Title IX, Chapter I, Section I)".

Everyone intends that with this rule the circle closes: the employer not only designates the RSPP and the competent physician, but also designates the RLS.

13.6. The CISAM and CETLI crisis

For the sake of adequate risk assessment at military sites, the contribution of the technical and operational bodies available to the Armed Forces is key, first of all the CISAM and the CETLI, within the framework outlined by the SMD - L - 018 Directive.

The Commission concerned itself with furthering the activity carried out by these technical-operational Bodies, both through the testimonial examination of their exponents, and through a specific mission at CISAM.

The result was as unexpected as disappointing. The Director of CISAM, in his testimonial of May 3, 2017, to the question "Are you as CISAM director able to absolve and to absolve the institute all functions provided by law in an incontrovertible and complete manner, yes or no?", he replied "no". And on the same date, one of his collaborators, Lt.Col. Raffaele Zagarella, expressed himself with the words "to say that CISAM does not do 100 percent of what is asked of it, is evident". The case of the Monte Romano Firing Range was emblematic. In a report sent on March 20, 2017, relating to an intervention carried out by CISAM technicians in November 2016, a new finding was highlighted: in two areas of the Firing Range other than those checked in 2013, of a total of 70 thorium bezels were found. This is the conclusion: "The area of the Monte Romano Firing Range has already been subjected to various measures and operations of systematic collection of thorium residue on several occasions; the activities were preliminary to the premise of a complete work characterizing and reclamation of the site in relation to a possible contamination resulting from the thorium contained in the MILAN anti-tank missile guidance system. Even if the first partial results do not show the presence of particularly significant radiological risks, it is however essential, as a prerequisite for any further remediation action, to proceed to a complete radiometric characterization of the site. Given the extent of the area, the activity exceeds the current operational capabilities of CISAM, so it is suggested to proceed, similarly to what was done at the Firing Range of Cellina Meduna (PN), requesting the collaboration of other institutional bodies (ARPA, ISPRA, ENEA, CNR, etc.)". It follows that, after about 10 years of checks, CISAM indicates a complete radiometric characterization of the site as necessary, hitherto never carried out, and at the same time declaring its operational inability to see to it.

Also significant is what was reported in the hearing of October 5, 2017 by the Deputy Prosecutor of the Republic of Cagliari on the CISAM intervention at the Firing Range of Capo Teulada:

"CISAM, a technical organ of the military administration, since the early 1990s, had intervened several times in the firing range. However, it had carried out checks inside the firing range without entering the areas where the exercises were carried out, but limited to permanent installations, such as the command offices and the areas used by the military".

"Even before the investigations carried out by us, CISAM was supplied with unreliable and very reductive data regarding the exploded armaments and the number of exercises carried out. This is not meaningless".

The assessments of the activities carried out by the CETLI NBC regarding chemical and biological risk factors also highlighted several critical issues. Already in the testimonial test of

March 8, 2017, the Interim Director of the Inter-technical Logistic Technical Center NBC stated that "the institution is not able to perform analysis on aerodisperse and nanoparticulate particulate matter", and in an April 8th report 2016 on the "environmental monitoring of an Italian base in Djibouti" reads: "From the chemical analyses conducted it was not possible to ascertain the nature of the phenomena related to the unpleasant odours perceived by the personnel. Nevertheless, analyzing the photographic documentation acquired during the sampling phase, shown in attachment C, it is possible to identify two potential sources of pollution along the base perimeter: either the presence of various heaps of undifferentiated waste positioned close to the perimeter of the base, which if fires, in addition to causing a bad smell, could create the emission of highly harmful substances (eg dioxins, PCBs, etc.), whose analysis is not among the expressive potentialities of the NBC CETLI; or the presence of water potentially contaminated by leachate deriving from waste present in the area".

Of course, the Director of the CETLI reported that the Center is working to overcome these shortcomings, although unfortunately the solution "is not around the corner". To the extent that, during the witness hearing of May 4, 2017, he reported that the Center is plagued by staff shortages.

No wonder then that more monitoring requests from employers are not met. Suffice it to say that, pursuant to the SMD-L-018 Directive, the employer of military sites in Italy and abroad, where he considers it necessary to monitor certain risks, must contact the General Staff of his own Armed Forces, which will represent the requirement in the Joint Coordination Commission (CIC), which "having concluded a general analysis of the application, assessed the feasibility of the requirement both in capacitative and financial terms... submits it to the approval of the Head of SMD for its inclusion in the next useful financial plan, as an annual or multi-year objective to be achieved with high priority".

This organization highlights not only an objective limit to the autonomy of the commanders in the assessment of risks and the consequent identification and implementation of prevention and protection measures, but also a lack of resources that does not allow the technical bodies to provide timely support risk assessment.

A further example among the many cases that emerged thanks to the Commission's investigation activity. With a note sent by the IOC (Joint Inter-operational Command) to the General Staff of Defence on September 16, 2016, the need for monitoring the healthiness of the air in Mosul, Erbil and Baghdad was communicated because "the smelly presence perceived in the air of 'burning plastic waste', in Atrush because there are «residues from 2 oil refineries within a radius of 10 km", and in Mogadishu because there are "fumes from adjacent landfills". But it is not enough. In the witness hearing of May 7, 2017, the Lt. Col. Pietro Lo Giudice, Head of the IOC J4 Division told the Commission that, of all the requests sent to the General Staff of Defence, only two were approved (the measurement of radon at the Mosul dam area deployment and biological controls in Kosovo).

Not to mention that both CISAM and CETLI NBC lose control of the situations that are the subject of their activities, and are not involved in the research and application of solutions.

The critical issues of fundamental bodies such as CISAM and CETLI - brought to light by the Commission's investigation activity, once again in substitution of the military surveillance bodies remained completely inert - have been brought to the attention of the Top Management Representatives of Defence, who surprisingly claimed that they were not aware of it.

1.3.7. A scientifically unacceptable epidemiological defence observatory

"The reported surveillance data does not support the hypothesis that there is a problem of higher incidence of neoplasia among military personnel, nor that participation in OFCN missions represents a specific risk for the onset of neoplasia".

This is the explosive conclusion presented by the Director of the Defence Epidemiological Observatory, Col. Claudio De Angelis during his hearing on 7 April 2016.

Subsequently, the Commission deepened the investigations. In particular, it came to ascertain, on the data supplied by the Public Prosecutor of Padua, that only 1101 people are deceased or ill due to asbestos-related pathologies (about 570 mesotheliomas); and from a technical report by the Director of RENAM Alessandro Marinaccio transmitted on January 29th 2018 by the president of INAIL Massimo De Felice, he deduced that "within the military bodies" 830 cases of malignant mesothelioma have been identified with exposure in the sector".

Where the Director of the Epidemiological Defence Observatory had reported to the Commission that among the soldiers of all the Armed Forces there were 107 cases of mesothelioma, which became 126 to a subsequent witness report by Col. De Angelis on 7 February 2017.

Why this amazing data difference?

"We" - here is the clamorous explanation later given by Col. De Angelis on 7 February 2017 against the complaints made by the Commission - "we lose the data of staff on leave".

Not surprisingly, the Commission asked the Inspector General of Military Health Gen. Enrico Tomao if it seemed fair, and if it seemed **scientifically acceptable**, that a structure called the Defence epidemiological Observatory merely collects and evaluates cases related to the soldiers in service? The answer given by Gen. Tomao during his testimonial examination was "no".

An answer, that of Gen. Tomao, shared by epidemiologists Alessandro Marinaccio and Dario Mirabelli, audited by the Commission on October 19 and October 26, 2017, respectively, whose statements have also been used to focus on the sensitivity of epidemiological studies and the need for unfortunately neglected approaches and checks by the Defence Epidemiological Observatory:

PRESIDENT: Do you agree that what is limited to such a short period of time and is not extended to the whole biological life of the person cannot be defined as an epidemiological procedure?

ALESSANDRO MARINACCIO, *Department of Medicine, Epidemiology, Occupational Hygiene and Environmental of INAIL*. I would certainly say yes, especially for diseases such as asbestos-related ones, and in particular like mesothelioma, which have such long latency

times and very often derive from professional exposures. The exposure to the harmful agent starts from the working age, at least, of the subject. In pá, the disease tragically needs a number of years, on average 40, but it can also be of pá. The average age of cases of mesothelioma in the RENAM, if I remember correctly, is around 70-75 years, so in any case the average age of mesothelioma cases is very high by nature, so much so that for example the system for registration of mesothelioma cases through the National Registry would not make much sense if it was limited to the working population. Most of the cases are people who became in fact sick, when outside the circuit. "The peak of mesothelioma cases, both by number of cases and rate of incidence, was presumably in the period between 2015 and 2020". This we preached a few years ago and the data we have today substantially confirm this prediction, indicating that the moment of greatest incidence of the disease in the population is currently underway. It is presumable that in the coming years - the precise date is impossible to say - the tendency will necessarily be that of a decrease in cases. It is evident that all these analyses have as essential reference the dynamics and the amount of asbestos consumption before the ban. In all the statistical-epidemiological exercises the asbestos consumption curve started in Italy after the Second World War and was growing until the 60s and 70s is correlated, and unfortunately in Italy also during the 80s.

DARIO MIRABELLI, *Member of the Piedmont CPO*. The dependent workforce of a certain industrial activity is monitored from the health point of view as long as it is in service. When people are discharged due to retirement or because they move to another business, they are no longer seen and supervised by the company doctor, at least not by the company's medical doctor, but by the new firm in which the person eventually moves. This means that certain phenomena, certain consequences on health, if there are professional exposures, can be intercepted and some others not. Which can be intercepted? Which cannot be intercepted by a system of this kind? The short-term consequences can be intercepted. If there are substances that cause bronchial asthma in some people and those people develop bronchial asthma, this is a phenomenon that is established within a few weeks from the beginning of exposure to the asthmatic substance. It is clear that a phenomenon of this kind can be intercepted by the so-called service of the competent doctor. Similarly, it can be intercepted by an epidemiological observatory of the Armed Forces that functions with this criterion. A professional hearing requires exposure to prolonged noise, for example, of two or three years, before it can begin to set up. It depends on how long the stay in the workplace is. If it is long enough, the onset of professional hearing can clearly be intercepted by the service of the competent doctor. When we move towards diseases that have a much longer "deadline" than the beginning of exposure - we already think of asbestosis - if we are not facing asbestos exposures like those that occurred between the end of 1800 and the beginning of the 1900s, which caused massive asbestosis in the space of four or five years, but faced with exposures like those of the Eternit of the Fifties, much lower than the others, which cause asbestosis, but after thirty forty years, it is clear that a system of health surveillance based on the logic of the competent doctor, the company doctor ("I look at the workers as long as they are employees of my company and then do not look after them anymore"), will not intercept if not a first part of the cases of asbestosis, those that get sick earlier. Those who then have a progressive fibrosis over time, which continues to progress slowly even after the cessation of active exposure - let's not forget that asbestos remains in the

tissues, so an account is the external exposure, an account is the internal exposure of our respiratory system - for which this fibrosis continues to progress, it is evident that the competent doctor does not intercept those cases that develop after thirty or forty years, but not even the Observatory can intercept them if it does not equip itself with other instruments. That's why, when we do a cohort study - it's not easy, it's challenging, it takes a lot of time and lots of human resources - we "pursue" a person even after they leave the plant. Eternit workers were monitored for their life status and causes of death even and especially after they left the Eternit. Even when we knew that the worker had ceased to work in the factory, for example, in 1980, we continued to ask the communes of residence what the living status was and, if deceased, what were the causes of death, at least to know the causes of death. Knowing other aspects of people's health is much more difficult, practically impossible.

PAOLA BOLDRINI. I would like to know if, in your opinion, it can be correct to bring together, if we find measures to do so, all the data of the life of soliders throughout their military career. The Epidemiological Defence Observatory should also deal with the what comes after that.

DARIO MIRABELLI. Yes, I think it is essential, for a complete epidemiological observation, not to limit monitoring to the period in which people are in active service. It is a fact so well known in epidemiology that when one is in active service there is a profile of health, and when one goes away there is another, which is called the healthy worker effect. Of course, you can imagine how strong a healthy worker effect can be if you are interested in people serving in the Armed Forces, where selection for physical performance is a bit more pushed than that of someone entering a private company. However, there are also those who dedicate themselves to manual work in a private company, but the physical selection for those who serve in the Armed Forces is important. The healthy worker effect is not only due, moreover, to an initial selection of persons physically fit to provide a certain type of activity, but also to a stay in service of healthy people, then to a component not only of healthy worker effect for selection, but also of healthy worker effect for survival. It is something extremely complex. It is obvious that if we want to intercept all the consequences that exposure can have, we need to equip ourselves with long-term monitoring tools and for after dismissal. It is also obvious that, since these tools are rather demanding, burdensome in terms of the very materials, these are not things that can be done in a generalized way. Priorities must be set, and surveillance tools must be set up on the basis of those.

MARIA CHIARA CARROZZA. I only have one question. These longitudinal studies are burdensome, as you said, but they should also be used to infer potential monitoring and assistance measures for all those who come into contact with a similar situation. If a longitudinal study is carried out and it turns out that there are these effects, it is fair to think that we have to monitor more and more the same population longitudinally with the same studies. Not being able to do so, however, so extensive, you should decide that who is exposed or has passed, for example, from the barracks of Casale Monferrato, has a greater risk of contracting certain diseases, and therefore has the right to more monitoring, more support for their health. They have a greater risk of contracting certain diseases. In my opinion, measures should be taken and extended to a greater number of people in terms of monitoring their health and risk for them, and support from public structures to those who were more exposed, not by choice but because they found themselves working so.

DARIO MIRABELLI. I can only agree.

PAOLO COVA. The person in charge of the RENAM came to speak. Now, let's take a soldier, the most classic example, that may have been in the Armed Forces for professional reasons or for military reasons, gets sick of mesothelioma or asbestosis. The simplest example are military conscripts, and they are not considered. Automatically, if military conscription was performed, they should be asked whether it was in MILAN, in Puglia. Where they were. When were they there? Have they been to Casale Monferrato for a year? Was it for a month? Secondly, easy, sometimes they ask if you have been a in the navy, on the tanks. They can answer that they were in the fury in Piedmont, in Casale Monferrato, and that's it. Does this happen or not?

DARIO MIRABELLI. No. I have not had the opportunity to tell you how we work, not only in Piedmont, but also in Lombardy, Puglia, Emilia-Romagna and in general, to reconstruct and document the history of exposure of a case of mesothelioma. First of all, a case of mesothelioma must be intercepted. It must be pointed out or we must go to find it. It's more frequently the second case rather than the first one. Once, however, that we have identified a case, we try to get a personal interview with the person concerned. It is not always possible, because survival is short, because people are ill, because sometimes the family network tends to be protective around a patient, to shield them from contact with us, and it will become clear in a moment why. In this case, we will not get a direct interview, but an indirect interview, for example we will interview the spouse or a child, a daughter. Through a respondent we will try to know, what? We will try to ascertain, reconstruct, first of all, the whole work history of a person and, within which we always place the service in the Armed Forces, even if it is a conscription service and is not a professional service. Then we reconstruct their entire living history to understand if the person, for example, lived near an anthropogenic and environmental source of asbestos pollution. We also reconstruct the history of the work carried out by people with whom the person has lived, because there are cases in which those who have become ill with mesothelioma are not the exposed person, but a cohabitant of the person. Other aspects of the living and domestic environment are reconstructed. There are cases due to the fact that in the home environment particular materials containing asbestos were present or used. It is, therefore, a complex, costly interview, which lasts one hour, when it is OK, but can also be two. Among other things, if it is an interview made to a respondent, you cannot always get all those details and all the information that might be useful. To focus the attention on the period in the Armed Forces, of course, we ask exactly where the service was served, also by conscription, where the training was done, where they subsequently served.

PAOLO COVA. Do they ask all over Italy?

DARIO MIRABELLI. Sure. Then it may be that the person involved in the interviews in a certain COR, which makes 250, 300, 400 interviews a year, as in the case of Lombardy, is very well-trained personnel. In a much smaller COR, with a smaller population, a lower incidence, in which 20 interviews are made each year, it is clear that there will be staff with less training, forcibly. They can be, as less trained, maybe even less prepared to solicit information. If this is not provided spontaneously, you risk losing it. I'm not saying that everything goes well, madame, that all is perfect everywhere. There are certainly situations in which there is a much greater experience and others where there is a lesser one. Furthermore, experience is not the

same with regard to all the areas where there has been exposure to asbestos. We have the ability to ask good questions if someone has worked in asbestos-cement, in building or in the textile sector, but if we happen to have someone who has worked in the port activities or in the shipbuilding industry, we do not have experience. Notoriously, in Piedmont there are not these realities. Regarding that person's working period, the interviewer finds himself in difficulty and either he is told spontaneously, or is unable to ask pertinent questions.

And of equal significance is the statement made by Franco Ciprani, Chief Medical Officer of the State Police, in a letter dated 27 December 2017 sent to the Chairman of the Commission following his hearing:

"During the hearings that took place within the Commission the difficulty of gaining reliable epidemiological data - about the incidence and prevalence of cancer pathologies in the military - emerged due to the fact that the Defence body responsible for monitoring loses its cases when the military goes on leave.

Given that to the writer a search for those on military leave does not seem particularly tasking - even through a simple telephone interview on health status - we must not forget that some thousands of soldiers employed in the territories of the former Yugoslavia, in accordance with the provisions of law that allow it preferentially, passed into the Police Force, where they will remain until the sixtieth year of age.

The availability of data on these subjects is current and, above all, a prospective study on this population is very simple, with comparison with appropriate groups. Also in this sense, the involvement of external bodies with the concerned administrations would guarantee greater transparency and uniformity."

In this perspective, the Defence Epidemiological Observatory would also end up being functional to the basic strategic choices adopted by the Defence Administration. Indeed, it is evident that from a preventive point of view the underestimation of cases can erroneously lead to consider the prevention systems in place as efficient and not to stimulate a critical review. And it can induce one, and has induced in specific judicial and not only judicial branches, to consider the causal link between pathology and exposure to certain harmful agents to be unproven. An underestimation that becomes even more open to criticism, where we reflect on what was reported by Alessandro Marinaccio in the technical report sent on 29 January 2018, and that is, that "in the RENAM's archives there is information concerning 9 cases of malignant mesothelioma with 'familiar' exposure code arising in exposed subjects for reasons of cohabitation with family members exposed in the 'national defence' sector": an exposure, therefore, that more than escapes the attention of the Epidemiological Defence Observatory.

1.3.8. Sanctions paid by the State

The effects produced follow those of Article 253, paragraph 8 of Presidential Decree no. 90/2010, where it is stipulated that, "except as provided for in paragraph 7, the amounts of payments in the administrative offices provided for by Legislative Decree 19 December 1994, No. 758, and administrative sanctions provided for by legislative decree No. 81 of 2008, possibly imposed on military and civil defence administration personnel for violations

committed at military bodies, are temporarily charged against the pertinent chapter of the state of expenditure of the Ministry of Defence, without prejudice to any recourse from the Administration towards those concerned who are recognized as responsible for malice or gross negligence as a result of specific investigations pursuant to Title III of Book III ".

It is obvious that the mechanism contemplated by this provision appears functional to the basic strategic choices adopted by the Defence Administration, as it removes the deterrent efficacy of the sanctions provided for by the natural persons of employers, managers, supervisors, competent doctors, and at the same time lightens the burden of a responsibility reasonably ill-tolerated by subjects without autonomous decision-making and spending powers. It is no coincidence that, with a letter dated 19 April 2017, the Chief of Defence Staff, Gen. Claudio Graziano, reports, following a request by the Chairman of the Commission, that "on the basis of the subsequent investigations requested to the Major States of the Armed Forces and the General Command of the Carabinieri, I represent that, within the technical operational area No cases of recourse for malice or gross negligence have been detected by the Administration of Defence against the violators of the rules on safety and health in the workplace ". Nor does the subsequent note of 13 September 2017 change the overall picture, with which the Defence General Staff announced that "as a result of further investigations carried out by the Military Staff of the Army, as a correction of what was initially announced, it informed that in its context **a case of recourse** for malice or gross negligence was found for an amount equal to Euro 164.40 "(see also note of 21 November 2017 of the General Staff of Defence). Nor has the situation changed during 2017, since January 9, 2018 Gen. Covato, following a request by the Commission on 21 November 2017, announced that "during 2017 and up to now no recourse has been exercised following the administrative investigations referred to in Articles. 452 et seq. of the Presidential Decree 90/2010".

Anyone can perceive the difficulty of making a distinction between presence and absence of malice or gross negligence. Especially since a substantial aid cannot in this respect come from the judicial authorities, given that the criminal proceedings relating to the accident prevention laws are usually destined to close with the extinction of the crime due to an oblation pursuant to Legislative Decree no. 758/1994.

1.4. From the "denialism" of the military summits to the "subservience" of the commission of inquiry

In the framework described in the preceding paragraphs, two phenomena are felt, one of the other's contralto.

1.4.1. The "denialism" of the military summits

A first phenomenon is represented by the constant attitude of the top management to provide an exasperationally optimistic view of the military security world: both from the point of view of risks, both from the point of view of prevention and from the point of view of "domestic" supervision, even presented as "a virtuous example". An attitude that then had to be converted into declarations of amazement in the cases in which the Commission challenged the results of

its investigations: to the point, as concerns the critical conditions of CISAM, CETLI, and the Epidemiological Defence Observatory.

Even recently this attitude has manifested itself in an interview given to TG2, edition of 20.30, of November 8th, 2017 by Gen. B. Carmelo Covato, placed since September 2013 in a key position as head of the Central Coordination Department of the Supervisory, Prevention and Protection Service of the Army General Staff. This is an interview - as emerged from the testimonial given by Gen. Covato the following November 16, 2017 - that Gen. Covato released, not in a personal capacity in his office, but "at the Minister's Cabinet, Palazzo Baracchini, via XX Settembre", on an assignment given two or three days earlier by the Chief of Staff of Gen. Army. Danilo Errico, who told him "the Cabinet of the Minister asked me to send someone to do an interview with TG2 and I chose you". Gen. Covato expected that "they would pose the problem of the dead in Kosovo", because "the topic was an investigation into uranium in Kosovo", and he had documented himself, reading "all he could find, not to be unprepared". Also: "When the boss called me to tell me that he had chosen me to go and do this interview, he told me what the arguments were, he told me that he had definitely talked to the minister's spokesman about this matter, then the indications on what the interview was about were given to me by my Chief of Staff". So, a non-extemporaneous interview, but with all the shades of officialdom.

This is a first statement issued by Gen. Covato in the interview:

JOURNALIST.: Mr. General, did the men working on the ground in the former Yugoslavia know of the danger of depleted uranium bombing?

CARMELO COVATO. Absolutely yes, because during the planning phase all aspects of situations that may be present in a specific combat zone are taken into consideration, and a possible nuclear or biological and chemical threat is always taken into consideration.

Here is the tenor of the testimonial later given by Gen. Covato on 16 November 2017:

PRESIDENT: I ask you, then, if you are amazed at the statements in a report presented by Colonel Lo Giudice to the Commission on March 9, 2017, document 225/1, which reads "the IOC does not have communications or information of particular use ammunition by the countries and/or coalitions that could have used in the theaters object of deployment of Italian troops ", an affirmation confirmed by the team of admiral Giuseppe Cavo Dragone at the hearing on May 18, 2017. In light of these statements, Mr. General, do you feel that you can confirm what you said in the television interview?

CARMELO COVATO. "In answering the journalist's question, I referred to what is and has always been the line of defence in this field. In this case, re-reading the minutes of the investigation of the defence commission of the XIII legislature presided over by the Honorable Valdo Spini, during the hearing of the summits of Defence the Chief of Staff of the Defence in charge at the time, General Arpino, had declared what I said during the interview, that they knew, but not... ". "My answer is that I was not present at the time of the facts and I did not play roles for which I could be aware of the information that was requested. In responding to the journalist, I referred the knowledge I gained by reading these reports, which I mentioned earlier.

So mine was and is a report of acquired information, because at that time I was not in charge of appointments, I was not employed abroad and therefore I could not know what had been said".

PRESIDENT: Here we are in the XVII legislature, and in the XVII legislature the declarations that I mentioned to you a few moments ago were made. You play a senior role, you are a general, and it seems to me that the most natural and obvious thing for those who are not generals is to draw on the memory of the contemporary situation, not what has happened, if I remember correctly, in 1996, because you quote the XIII legislature, which began in 1996 and ended in 2001 ". Mr. General, did the men working on the ground in the former Yugoslavia know of the danger of depleted uranium bombing? Apparently, if you were able to be so assertive, you probably spoke to those men on that occasion.

CARMELO COVATO. No, sir.

Yet, Gen. Covato, in a previous examination of January 18, 2017, assured that "the establishment of this commission of inquiry, which I follow from the first day you started your work, has been a source of inspiration for several evaluations". And moreover, during the examination of 16 November 2017, he did not hesitate to claim to have read "very carefully" the so-called "Interim Report" of this Commission of 19 July 2017. Only that before the interviewer of TG2 Gen. Covato forgot about pages 14 and 15 of the "Interim Report" containing the statements of Lo Giudice, and he preferred to refer to statements dating back to the nineties attributed to the then Chief of Staff of Defence. Not without then adding:

CARMELO COVATO. In any case, my expertise does not extend abroad, in the sense that my competence as coordinator, as has been repeatedly stated, refers to Army personnel...

PRESIDENT: How could you respond in such an absolute way, not having knowledge of that foreign reality?

More reason for Gen. Covato to take into consideration the declarations made previously, on March 15, 2017, by Col. Major Sc. Antonio Attianese, unfortunately later deceased:

"I had two missions in Afghanistan and I got sick when I came back. I never knew of the danger of depleted uranium. I never knew that in areas devastated like those in which I operated, in addition to defending itself from the war situation, one also should defend themselves against this invisible enemy. When we asked our superiors about some news we heard on the radio, TV or reading in the newspapers, we were told that they were nonsense invented to go against the government, the military and the Americans. Until before I got sick, I was convinced that uranium was just a story invented not to send us on a mission. If we do not go on a mission, we cannot keep our family, because we know that unfortunately the salary we take is miserable. Many times we have been told, me and my colleagues, that if we wanted to go on a mission to get some money to send home, we had to think about working and not creating problems with illness or nonsense that we heard on TV. Unfortunately, for this nonsense I got sick. I knew that it was and it is forbidden to talk about depleted uranium or environmental hazards. In all the notes of engagement [language?] that were given to us and we were ordered to respect, they suggested not to speak or to give objectively false information."

Also useful was the hearing of Franco Ciprani, Chief Medical Officer of the State Police, heard on December 20, 2017 about his Official Technical Advice:

GIULIA GRILLO. In the CTU, you say that the risks of exposure to depleted uranium, carcinogenic chemicals, from the exhaust gases of the vehicles to those used for cleaning the weapons, were known to the military authorities before the use of the P. in combat zones.

CIPRANI, To the military authorities, not to the military employees. The toxicity of some factors was known, then, if no measures were taken, ask the administration.

But also the second answer given by Gen. Covato to the television journalist moves in the same horizon of minimization:

JOURNALIST: Yet there have been 340 deaths, almost 4,000 people suffering from various cancer diseases related to pollution due to the explosion of depleted uranium projectiles according to the lawyers of the military involved.

CARMELO COVATO. These figures, these numbers, if compared to a non-military population, one can absolutely notice that the numbers are considerably lower than those referring to military personnel.

Here is the next testimonial examination of Gen. Covato:

PRESIDENT: Would you like to explain what you meant by this statement? That one gets sick more in families, in domestic situations than on missions abroad? Can you then explain to us how you could make this comparison?

CARMELO COVATO. On the issue of numbers, as I do not have precise evidence, I made specific reference to what was stated several times (I also believe here in the Commission, if I remember correctly) by the general health inspector, General Tomao, who has repeatedly said that from the studies conducted, from the results of the Mandelli Commission initially and then from the studies and data held by the Epidemiological Observatory, a correlation could not be found between the use in theaters and the onset of diseases, and that in any case the cases found did not exceed those expected, that is, what was expected by comparing with larger populations, with larger samples.

PRESIDENT: General Tomao spoke of the so-called "military epidemiological observatory". The characteristic of this military epidemiological observatory is that it records illnesses that have arisen only during the period in which people perform that service. So, the work done by the Military Epidemiological Observatory, which you referred to, to the point that told the press that even you are healthier going to do military service, inspections and international missions rather than at home, you confirm them ?

CARMELO COVATO. It was simply an affirmation that referred to the fact that, from what I had and that you say is not correct, and I take note of it and I will evaluate in this other way possible, further reflections on this topic, I took note of what reported by the highest representative of health in the military.

Too bad that Gen. Covato could have developed these "further reflections" already in the presence of the television journalist if he had only taken the "Interim Report" he read "very carefully" into account, and, in particular, pages 69-75 dedicated to the Epidemiological Observatory of the Defence, considered scientifically unacceptable "just from the" highest representative of health in the military "taken as the inspiration of the television interview.

The third response given to the television journalist also aroused the interest of the Commission. "Our soldiers received all the protection that was possible with the knowledge of the period and therefore also with the technology of the period".

Less drastic the version exposed by Gen. Covato on 16 November 2017:

PRESIDENT: But, excuse me, what are you offering this Commission as an indisputable element to make this statement? You have just said that it would be irrefutable. How can you say in a commission of inquiry, but also to a passer-by, how can you engage in these terms, to the point of saying that it is irrefutable that our military have always had the maximum protection available? What elements do you have, as you told us that, for example, you do not take care of the missions of our military abroad? How can you present this news, not having, by your own admission, the right role to allow you to do it?

CARMELO COVATO. You asked me a question and I answered to the best of my knowledge. There are situations in which I am directly involved and others where I do not. Whenever I was engaged abroad, thus from **personal experience**, all the latest equipment was provided for personnel abroad.

PRESIDENT: General, I am sorry to point out to you that you are not entitled to make this apodictic statement. You are speaking, you are expressing an absolutely personal point of view, which is not of interest to this Commission. You entered with the Italian contingent in the Balkans, general?

CARMELO COVATO, General. No, sir.

Also in this regard it would have been beneficial to take account of what was declared to this Commission by Col. Maj. Sc. Antonio Attianese:

ANTONIO ATTIANESE. I enlisted on April 18, 1998, already with the establishment of the operational department, so I immediately made the selections to go in what at the time was the IV Battalion Alpine paratroopers. I was chosen to attend the ranger course, forces for special operations. After about a year, I finished the process, I qualified as a ranger, and I was also one of the first. I was then sent for the first mission in Afghanistan, ISAF, International Security Assistance Force, in Kabul, from 5 May 2002 to 4 September 2002. The second mission, from 20 February 2003 to 20 May 2003, was in Afghanistan, called "Enduring Freedom".

GIULIA GRILLO. When you went on a mission, obviously they did not tell you to use personal protective equipment with respect to a chemical-physical risk.

ANTONIO ATTIANESE. No.

GIULIA GRILLO. By any chance, in one of these missions were there other military contingents?

ANTONIO ATTIANESE. Even during the cleaning of the weapons, as a rule they should give us a mask and gloves. Most of these things are over, they were not there, they are gone, they were not there. All those powders, therefore, all those detergents...

PRESIDENT: You worked without protection.

mission: ANTONIO ATTIANESE. Exact. Unfortunately.

period and GIULIA GRILLO. On the occasion of one of these missions, there were at the same time contingents of other military forces of other countries, which instead, compared to you, used ...

disputable PRESIDENT: My colleague's question was as follows: compared to the soldiers of the other contingents, of the other countries, did you and your colleagues in the Italian contingent have a lesser set of security measures than the others?

can you ANTONIO ATTIANESE. Yes. Lesser, yes. We had nothing for these powders. The Americans had everything. They always had masks when there was some reclamation of something. They had good equipment.

terms, to maximum PRESIDENT: More effective and efficient.

you do not ANTONIO ATTIANESE. Yes, right.

it having, To the same effect were the declarations made on November 16, 2017, just after the examination of Gen. Covato, by Gen. Fernando Termentini, present in various missions, also in "massacre valley":

nowledge. "In the defence administration I practically covered all the tasks connected to command activities, and moreover I participated in missions abroad as responsible for the reclamation and training for the reclamation of explosive devices. Kuwait, immediately after the end of the Gulf War, at the end of June 1991; Somalia, on various occasions from 1992 onwards; Bosnia on several occasions from 1995 onwards. These are the most significant. Then I was in Mozambique, in warm territories or emerging from war periods of some importance. There I worked with a team of Italian officers who are experts in the sector to train local personnel to remove explosives from minefields. We also worked on blasting and eliminating bombs. In none of these occasions I have mentioned that, in addition to the classic bombs I had expected to find in front of me (unexploded projectiles, plane bombs, mines), there had been others. In Kuwait (and I found out later) I found myself in the presence certainly (with the benefit of hindsight) of material hit by depleted uranium bullets, but I did not know anything, so in the flares, in the sprints (so they are called technically), in the destruction of the projectiles, they may have been mixed with depleted uranium projectiles. The same thing in Bosnia, where we had not had any hint of the presence of this material. Moreover, I have always participated in these missions as a direct manager of the core of reclaimers, so I employed men in direct contact with the danger, and as a staff person, then at the contingent command level, but honestly I discovered it in 2001.

ver I was When we say that we wore suitable clothing for protection, if suitable clothing means the combat suit, the combat uniform, and the anti NBC mask that is part of the normal equipment of a soldier, yes, it is true, but we did not have any particular precautions against a hypothesis of possible danger.

vided for PRESIDENT: So, you are refuting at least two statements: the first is that the staff were informed of the risks present in a certain combat zone and also of a possible nuclear or biological or chemical threat, so you assert that this was not absolutely true.

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FERNANDO TERMENTINI. No, a possible biological and chemical nuclear threat is true, because institutionally we had the anti NBC mask in tow, so it is the demonstration of a targeted warning. As for other kinds of warnings, no, at least, at my level of responsibility, I have never received specific directives.

PRESIDENT: But only you or the other soldiers?

FERNANDO TERMENTINI. If I was the commander, the news had to come from me.

PRESIDENT: Therefore, as a consequence of this, the other clarification that you make in contradiction with General Covato is that the staff did not have any kind of equipment that could protect them from the risks resulting from exposure.

FERNANDO TERMENTINI. Absolutely. I can give you some practical examples: in Kuwait and in Bosnia I wore the combat uniform and I had a mask, in Somalia the same thing. We did not have any special precautions. I allowed myself to suggest that dust mask be worn when crossing suspicious areas, where depleted uranium could have been used, to prevent contaminated material from being inhaled through breathing. I was told (by the then Chief of Staff) "my technicians are working". I refer in particular to Kuwait and the borders of Kuwait with Iraq, where there is an expanse of land called "massacre valley". There he was full of Iraqi fighting vehicles, fleeing Iraqi civilian vehicles battered by coalition bombing. In retrospect, remembering the shape of those holes, when I began to hear about the use of depleted uranium, I began to draw my conclusions.

MAURO PILI. I would like to know if you are aware of your soldiers who have contracted your same disease in combat zones.

FERNANDO TERMENTINI. Yes sir, especially in Bosnia. Of those directly related to my activity, the reclamation, that I know of, about ten or fifteen.

1.4.2. The request of the Commission of Inquiry

In view of the reluctance of the military leaders in describing the critical aspects of workplace safety, the Commission has unexpectedly assumed a role of substitute.

It should be noted more regrettably that the effect of the Commission's activities, due to a "deterrence strategy", was satisfactory. Also because the Commission is not destined to work forever in order to guarantee legality in the military world of security.

It is only by way of example that, with the request to acquire the DVRs (Risk Assessment Documents) and with the witness test of commanders, RSPPs and competent doctors, the Commission ended up playing a role supplementary to the supervisory bodies, inducing those obliged to process for the first time or review, in more cases, their DVRs. The PISQ cases, Capo San Lorenzo, Capo Frasca are emblematic. But there are also significant cases of the first drafting of the DVR intervened between 2016 and 2017 reported on January 9, 2018 by Gen. Covato following the request of the Commission on 21 November 2017 and deserving of due examination in the inspection.

Equally emblematic is the review of the obligations of coordination and cooperation provided for in Article 26 of Legislative Decree no. 81/2008 testified by the new Directive 7027 of January 2017 on "Measures to protect the health of personnel to be adopted in firing ranges and training areas", which precisely in light of the indications emerging from the questions raised by the Commission in several testimonial exams repeal the previous note of the Army General Staff III Department No. 42843 of March 23, 2015.

That is to say, only at the CIC meeting of November 2016, consistent with a need highlighted by the Commission in its testimonial examinations, was it agreed to include among the recipients the reports of the technical-operational bodies such as CISAM and CETLI also the offices responsible for supervision, "in such a way as to give everyone a complete overview of the critical situations present" (as specified by Gen. Comelli).

Or do they reflect the critical issues of fundamental bodies such as the CISAM and the CETLI, highlighted by the Commission's investigation activity in addition to the military supervisory bodies remained entirely passive, and brought by the Commission itself to the attention of the top representatives of the Defence Administration declaring itself to be in the dark.

Or, only after the investigations carried out in this regard by the Commission, was it finally decided to satisfy the need to define the criteria on the basis of which the supervisory activity must be carried out in the theaters operating abroad, and in what must be identified "the figures of those who have to go to the various theaters to carry out surveillance activities", according to Gen. Roberto Comelli (Head of the IV SMD GDA Department).

2. THE PROPOSALS

In order to recover the military world to a dimension actually inspired by the constitutionally protected values of health and safety, the Commission of Inquiry puts forward a series of proposals fundamentally designed to block the distorting effects produced by the mechanisms described in paragraph 1.

2.1. Occupational safety in the draft law A.C. 3925

First of all, the approval of the SCANU A.C. 3925 bill would be fundamental, as signed by almost all the members of the Commission, more than ever essential to ensure effective prevention against risks looming on the military and citizens. As can be deduced in detail from the explanatory report of the proposal, the rules contained therein are aimed precisely at liberating the military world of occupational safety from the procedural and organizational mechanisms that preclude effective protection.

Firstly, the proposal, in Article 2, makes explicitly mandatory, also in relation to the Armed Forces, the identification of the employer in the subject endowed with autonomous decision-making and spending powers. And it consistently repeals the conflicting provisions of Presidential Decree no. 90/2010 (articles 246, paragraph 2, and 250, paragraph 10).

Article 9, in turn, breaks the perverse mechanism of domestic jurisdiction. In fact, it entrusts the supervision of the workplace of the Administration of defence to the staff of the Ministry

of Labour and Social Policies, provided that they possess adequate qualification of security, and gives this staff the right to use health and technical services identified by the Defence Administration. By necessity, therefore, the dissonant articles from 260 to 263 and 270 of Presidential Decree no. 90/2010 must be repealed.

For what concerns DVR and DUVRI, the objective pursued is to further specify the precepts rigorously dictated by the general norms of Legislative Decree no. 81/2008. Article 8, paragraph 1, letter *a*), adds among the "groups of workers exposed to particular risks", referred to in article 28, paragraph 1, of Legislative Decree no. 81/2008, also those who perform "activities or tasks involving operations related to equipment present in the workplace of the Armed Forces, such as special military equipment, weapons, ammunition, weapon systems, armaments, or frequenting places located close to such equipment, including the operations indicated in articles 2185 of the code referred to in Legislative Decree 15 March 2010, No. 66, and 1079, paragraph 1, of the consolidated text referred to in the Presidential Decree March 15, 2010, No. 90". Furthermore, to be repealed is Article 255, paragraph 3 of Presidential Decree no. 90/2010, which devitalises the obligation to assess a risk, the work-related stress, far from irrelevant within a hierarchically ordered administration. And also with regard to the DUVRI it is clarified that the obligations and obligations provided for by Legislative Decree no. 81/2008 in relation to the personnel used by the contracting companies operating for the Administration of the defence are to be borne by the employer of the contracting firm itself, but the obligations provided for by article 26 of the aforementioned are still to be borne by the employer as per legislative decree No. 81/2008. At the same time the strident article 256, paragraph 3 of Presidential Decree no. 90/2010 is repealed.

The bill also deals with safeguarding the autonomy of the RSPPs, since, in Article 9, it foresees that the managers and employees in the prevention and protection service perform their duties autonomously from superordinate hierarchical authorities. Moreover, in article 3, it establishes that the visits and the sanitary verifications finalized to the verifications foreseen by the article 41, paragraph 4, of the Legislative Decree N. 81/2008 are carried out by the competent doctor, who, for diagnostic tests, can make use of the health services of the Armed Forces, and explicitly safeguards "the full autonomy of the competent doctor". Moreover, in article 11, paragraph 1, letter *a*), it releases a fundamental preventive compliance such as the health surveillance carried out by the competent doctor from the bottlenecks of the so-called "tabulated risks", and therefore reconnects such fulfillment to the results of the risk assessment. inherent in activities or tasks involving "operations related to equipment in the workplace of the Armed Forces, such as special military equipment, weapons, ammunition, weapon systems, armaments, or the attendance of places located close to such equipment, including the operations indicated in articles 2185 of the code of the military system, as per legislative decree No. 66 of 2010, and 1079, paragraph 1, of the Consolidated Law on military regulations, as per the Presidential Decree no. 90 of 2010".

Lastly, it is determinant to repeal article 253, paragraph 8 of Presidential Decree no. 90/2010 and, therefore, the cancellation of the mechanism consisting in the payment of sanctions by the Ministry of Defence.

The hope remains that, in order to avoid unacceptable inequality of treatment, a similar provision is made for the police forces and for the National Fire Brigade.

2.2. Third party and efficient inspection services

The approval of the proposed law A.C. 3925 is essential, but not yet sufficient, to dismantle the procedural and organizational mechanisms that are likely to obscure in the military universe fearsome risks and actual responsibilities.

Other measures appear necessary in the light of the findings made by the Commission. The first is the organization of inspection services, not just third party, on the same basis as the draft law A.C. 3925, but also efficient and prepared.

Of course, the abandonment of domestic jurisdiction constitutes an essential premise. But it is also necessary for the Minister of Labor to:

- empower staff and even more the professionalism of the inspectors of the Ministry of Labor called by the proposed law A.C. 3925 to carry out the supervisory activity, and especially of a National Labor Inspectorate currently in difficulty, with specific regard to the peculiarities of the military world;

- avoid that the managers of the inspection services indicate as a primary objective a large number of inspections objectively to the detriment of their quality;

- rewarding, not punishing, the inspectors who are active in the supervisory activities;

- avoid the inspector announces the inspections;

- guarantee the unity of the behavior of the supervisory bodies, and thus avoid inadmissible differentiations in the interpretation and application of the rules between area and area and between sector and sector;

- avoiding any confusion between the supervisory activity and a substantial consultancy activity.

One point, the latter, which not surprisingly aroused the interest of the Commission during the testimonial examination of Gen. Covato, head of the Directorate for Central Coordination of the Supervisory, Prevention and Protection Service of the Military Staff of the Army, on 16 November 2017:

CARMELO COVATO. The preventive organization is naturally the responsibility of the individual employers, and my body is a high advisory body, in the sense that whenever the prevention workers in the suburbs have doubts about how to deal with a situation, how to interpret a norm, they turn to my accident prevention office, and in that case my experts who are there elaborate these consultations for the personnel in the suburbs.

GIULIA GRILLO. So you are a consultant, that is, vigilance is a consultation that you do. If they request it, you give the consultation, otherwise you do not do it.

CARMELO COVATO. We were talking about the preventive part.

GIULIA GRILLO. So it is a prevention on counseling, that is, you go to an office, they call you: "Will you advise me?" Is that how it works? Or do you have a specific proactive role in relation to vigilance, prevention and protection? Clarify exactly what your function is.

CARMELO COVATO. The question was related to the preventative aspect. In my organization the preventative aspect is separated from supervision, supervision is performed by another office, which is called the Coordination Office.

GIULIA GRILLO. Is it under your responsibility?

CARMELO COVATO. Also.

GIULIA GRILLO. So you are responsible.

CARMELO COVATO. Always under my responsibility, even if the supervision is an autonomous body, composed of judicial police officers who, as far as the investigations are concerned, dialogue directly with the prosecution. I am not a judicial police officer, I am in charge of the coordination of the activities, but the supervisory body from the point of view of the investigations is autonomous. When I said that we deal with consulting, I simply wanted to say that in the preventive part, which has branched out over the entire organization of the Defence, the central organ is the last organ to turn to if something is not clear, if there is to be evaluate something. In addition to this, of course, the office takes care of the training, so ensures that in the periphery all the staff who perform preventive tasks, the managers of the service and anything else, are properly trained, and, if they are not, worry about start them to training courses, take care of evaluating and providing their contribution in the technical tables when it comes to prevention, when it comes to rules, on bills and so on. This is the function of the preventive part of my organization, the vigilance part is another thing.

Where the distinction between prevention and vigilance is surprising: as if vigilance (of course, "domestic") had nothing to do with prevention.

2.3. A National Labor Security Office

It is alarming, however, that, in the apparent indifference of the competent authorities on in the matter of the pathologies striking military personnel or citizens residing near military sites - including the same asbestos mesotheliomas or lung cancer from radon - proceedings for crimes such as manslaughter or negligent personal injury are not even being initiated, or develop with such slowness or without the necessary insights so that they end with an acquittal on merit or due to the statute of limitations.

It would be time to move from words to deeds. We need to build a new organization in the areas of deaths and disasters caused by living or working environments, a national Prosecutor, or at least a national agency, highly specialized and with expertise extended to the whole country, on the model of the French *pôles de santé publique*.

Think of the most striking cases of tumors or other diseases that occur among the military. Whenever such an emergency occurs, there is a need for a unitary management of the case. And instead it happens that every single prosecutor's office doesn't even take charge of the phenomenon, or independently assesses only one aspect, is not able to ascertain the facts in their entirety, it does not have the overall picture, it examines a piece of the overall story.

What's more, we must admit that there are Prosecutors of the Republic (a few) specialized, and prosecutors of the republic (most) non-specialized, and mostly with a staff so reduced as to

prevent the few magistrates present to become competent and gain the necessary experience. Paradigmatic, under this verse, is the situation reported to the Commission of Inquiry by the Public Prosecutor at the Lanusei Court.

How to be astonished then if, for example, the investigations on the tumors occurred to soldiers carrying out the same activity and located in different parts of the Italian territory are closed in an area with the conviction (as, for example, in the first degree in Padua) and in the other areas do not even open or end up being archived?

2.4. Looking for the de facto employer

A fourth measure, closely connected to the previous ones, consists in the systematic application of article 299 of Legislative Decree no. 81/2008 by the inspection bodies.

This article establishes that "the guaranteeing positions relating to the subjects referred to in Article 2, paragraph 1, letters *b*), *d*) and *e*), shall also apply to those who, although lacking regular investiture, actually exercise their legal powers with reference to each of the subjects defined therein". The Court of Cassation concludes that the employer's security debt can derive from two sources: formal investiture as an employer and the de facto exercise of the typical functions of the employer (see, for example, Cassation 17 November 2017 No. 52536; Cassation 31 October 2017 No. 50019; Cassation 25 October 2017 No. 48940). "With the consequent possibility of coexistence, within the same company, of several figures having all the qualifications of employer who are responsible for assessing the risks to safety, to identify the necessary prevention measures and to control the exact fulfillment of the security obligations by the co-obligor "(so, for all, Cassation 20 April 2017 No. 19036).

The "domestic" inspectors have been careful not to apply these teachings of the Court of Cassation in the military sphere. It is up to third party inspectors to verify whether the exercise of typical employer functions such as - for example - those reserved for the Chief of Defence Staff by the SMD - L - 018 Directive, concerning the "coordination of technical bodies" of the Defence and the use of external institutions in the chemical, biological, radiological and nuclear (CBRN) field ", approved by the Defence Chief of Staff in November 2006, does not apply to identify a formal employer and a de facto employer function performed in the military, both of which are called to respond for the violation of an obligation such as risk assessment.

2.5. RSPP and competent physicians prepared and self-employed

Already the proposal of law A.C. 3925 introduces preordained variants to satisfy the need to guarantee the autonomy and the competence of the Heads of the prevention and protection service and of the competent military doctors. But these variations must be accompanied by measures to define appropriate procedures, promote good practices, increase resources allocated to the training of RSPPs and competent physicians, create at the level of the Armed Force an appropriate central coordination for the activity of RSPPs and competent physicians, now no longer involved in the supervision entrusted to external bodies.

In particular, the choice of RSPP can no longer fall on the person who in this or that department "knows about" security and we must avoid an RSPP being led to a refresher course without first having attended a basic training course.

With this in mind, it is hoped that, within the framework of the State-Regions Agreement No. 128/2016 "aimed at identifying the duration and minimum contents of training courses for managers and employees of prevention and protection services, pursuant to Article 32 of Legislative Decree 9 April 2008, No. 81, and subsequent modifications ", an additional specific module is envisaged for the RSPPs operating within the Armed Forces, as is the case for some other departments. A module that should specifically cover the risks related to weapons systems and related ammunition at all stages (from production, storage, use in firing ranges and combat zones, to reclamation, and disposal).

As for the competent physicians, it is necessary to ensure the updating of the ECM (Continuing Medical Education) training for the specific specialization, as required by Article 38, paragraph 3, of Legislative Decree no. 81/2008, also to allow the exchange of competences between civil and military competent physicians.

2.6. Regenerated technical-operational bodies

The crisis currently facing the technical-operational bodies requires the adoption of measures to allow a systematic and timely response to requests from employers.

It is not enough, however, to provide more resources to CISAM, CETLI and other technical-operational bodies. It is also necessary to conduct an analysis on the type and quantity of services expected as to meet the needs of the Armed Forces: for example, how many experts in radiation protection are indispensable, how many places should be monitored for radon, how many environmental investigations in different contexts (air, water, soil) are necessary to complete and in some cases to process the assessments of chemical, physical, biological, radiological, carcinogenic and teratogenic risks, how much asbestos is still present and how many analyses are needed to define the maintenance plans and control or to monitor its remediation?

In addition, in the light of the findings of the Commission, five measures were profitable:

- assignment to the technical-operational bodies of qualified personnel, not only military but also civil, with profiles and adequate technical-scientific training;
- implementation of scientific instrumentation;
- an inter-force network between the various technical-operational bodies to avoid overlapping skills and maximize the use of available resources;
- continuation of the controls by technical -operating bodies regarding the situations involved in their activities;
- involvement of technical-operational bodies in the research and application of solutions.

2.7. An RLS elected or designated by military workers

A workers' safety representative (RLS) appointed by the same employer is a figure that is consistently accompanied by an inspector who belongs to the same company to be supervised, under the banner of a wholly domestic jurisdiction.

The Court of Cassation wrote that "Article 9 of the Workers' Statute constituted the first regulatory recognition of the organized presence of workers for the purpose of implementing the right to safety in the workplace" and that this recognition "also finds comfort, ever more incisively, in anticipating the election or designation of the workers' representative for security, with access, consultation and proposition functions (see first legislative decree No. 626 of 1994 and then legislative decree 9 April 2008, No. 81) "(Cassation 30 June 2015 No. 27183).

A rule such as that dictated by Article 250 of Presidential Decree no. 90/2010, establishing the appointment of the RLS by the same employer, betrays the underlying logic underlying the figure of the RLS established by Legislative Decree no. 81/2008 in line with the EEC Main Directive 12/06/1989 No. 89/391/EEC: a figure specifically designed to encourage the participation of workers in the prevention activity and at the same time their control over the work of the employer. Everyone understands how arduous they become such participation and similar control by an RLS appointed by the same controlled.

Moreover, Article 250 introduces an unacceptable inequality of treatment within the same Defence Administration among the representatives of civilian workers for security "elected or appointed according to the procedures provided for in articles 47 and following of Legislative Decree no. 81 of 2008, and in compliance with the national collective agreements between the trade unions and the Agency for the representation of public employment administrations "and the representatives of military security workers" appointed by the employer on a non-binding proposal of the representative military bodies".

In this framework, it is proposed to integrate Article 12 of the proposed law A.C. 3925, indicating among the repealed rules also those provisions that in art. 250 Presidential Decree No. 90/2010 refer specifically to the representatives of military security workers in terms differentiated from the representatives of civilian security workers.

2.8. An epidemiological research entrusted to the Istituto Superiore di Sanità (ISS - National Institute of Health)

No doubt, then, that even in the military world epidemiological research is fundamental.

How many times, and still in these days, the military and citizens complain about a lack of response on the association of certain diseases to occupational or environmental exposures in or near military areas. We must urge and help scientific institutions to carry out in-depth and neutral research. And on the other hand we should go all over the country in search of the tumors caused by work, including the tumors that occurred in the military. Let's not allow them continue to remain buried in the archives of the municipalities and hospitals and that they continue to be not reported to the judicial authorities, to the insurer or supervisory bodies.

Also in this regard, a note written by the Commission's consultant, Dr. Pietro Comba, an epidemiologist at the Higher Institute of Health, is valuable, to be used as a point of reference for a serious reorganization of an epidemiological observatory in the military world:

"Epidemiological observatories are structures born with the implementation of article 58 of the law No. 833 of December 23, 1978: "In the National Health Plan referred to in Article 53, specific activity programs are planned for the detection and management of epidemiological, statistical and financial information required for national and regional health planning and for the management of health services. The activity programs, as regards the competences attributed to it by the previous article 27, are implemented by the Higher Institute of Health. As part of the programs referred to in the first paragraph, the regions provide IT services which must be organized taking into account the articulations of the National Health Service. With the decree of the Minister of Health, after hearing the National Health Council, rules are set for the criteria for the selection of the detection samples and for the standardization and comparison of data at national and regional level".

Two notions emerge in particular from this approach:

- 1) "Epidemiological information", i.e. information on the health status of the population, is collected according to precise rules and criteria.
- 2) This information is used for health planning. It can be derived from this brief analysis that an epidemiological observatory must qualify for scientific and public health coherence between its specific mandate, the instruments it is endowed with and the results it produces.

In the specific case of mesothelioma detection it is all too obvious that a truncated detection at the time of leave is invalid and a close connection with the National Mesothelioma Registry (RENAM) is required to achieve significant data collection. The Register, as anyone familiar with this subject knows, is a system based on the Regional Operating Centres, which hold the primary information, and on a central structure, located at the INAIL, which processes periodic summaries of the collected data, according to the procedures described in detail on the INAIL website, to which reference is made for a more in-depth analysis. It is very important that the epidemiological observatory - RENAM collaboration a) takes active action promptly; b) produces valid epidemiological indicators; c) produces useful information for preventive purposes, i.e. contributes to indicate the activities and territories in which important sources of asbestos have determined occupational and environmental exposure, still in progress or already removed. Those wishing to undertake a study in collaboration with the RENAM must therefore link up with the central structure (directed by Dr. Alessandro Marinaccio) and, through him, with the COR network. See, for example, how this connection was successfully found and without particular difficulties for the realization of the SENTIERI-RENAM Project on the incidence of mesotheliomas in the Sites of National Interest for reclamation."

It should be added that unfortunately the epidemiological defence observatory did not promptly or adequately observe these methodological indications even after the many hearings of its director before the Commission. In this regard, the president of INAIL, Prof. Massimo De Felice, informed the Commission that only on 22 March 2017 the Observatory sent a formal request aimed at acquiring certain types of data relating to the sector in question. And in turn

the Director of RENAM Dr. Marinaccio, audited on October 19, 2017, highlighted the bumpy, and far from concluded, relationship between RENAM and the Defence epidemiological observatory:

DONATELLA DURANTI. Since you have talked about this protocol between the RENAM and the Defence Epidemiological Observatory for a deepening of the cases in the defence sector, I would like to understand the point this protocol is at and whether it is possible to provide all the data.

ALESSANDRO MARINACCIO. After this preliminary discussion, in which it was made clear to us that recourse to regional CORs was essential, we provided the Observatory with the references and contacts of all COR managers, who were recently contacted by the Observatory and to whom was submitted a first draft protocol to see the availability and feasibility of the study. The CORs are responding, in these very days, with their availability, also by posing the problem of the resources needed for additional work compared to what they currently do and also asking to deepen the protocol and make it more operational. What has been circulating in a first phase, in fact, is probably a document that still needs to be developed and made more binding. Therefore, we are at the stage when the CORs are expressing their willingness to cooperate. What I have verified is that they require a more accurate definition of the protocol and also an identification, if possible, of the resources with which to carry out these further activities.

PRESIDENT: The actual activity has not yet begun.

ALESSANDRO MARINACCIO. No.

And of equal significance is the statement made by Franco Ciprani, Chief Medical Officer of the State Police, in a letter dated 27 December 2017 sent to the Chairman of the Commission following his hearing:

"During the hearings that took place within the Commission the difficulty of gaining reliable epidemiological data - about the incidence and prevalence of cancer pathologies in the military - emerged due to the fact that the Defence body responsible for monitoring loses its cases when the military goes on leave. Given that to the writer a search for those on military leave does not seem particularly tasking - even through a simple telephone interview on health status - we must not forget that some thousands of soldiers employed in the territories of the former Yugoslavia, in accordance with the provisions of law that allow it preferentially, passed into the police force, where they will remain until the sixtieth year of age. The availability of data on these subjects is current and, above all, a prospective study on this population is very simple, with comparison with appropriate groups. Also in this sense, the involvement of external bodies with the concerned administrations would guarantee greater transparency and uniformity."

Therefore, it becomes urgent to overcome the Defence Epidemiological Observatory, and to entrust the indispensable epidemiological research in the military world to a third body qualified for scientific consistency, such as the Istituto Superiore di Sanità (ISS - National Institute of Health).

Chapter 3

CRITICAL ISSUES AND PROPOSALS ON THE SUBJECT OF WELFARE

1. For adequate welfare protection of armed forces personnel

To verify the adequacy of the welfare protection armed forces personnel are guaranteed by current regulations and in practical application, the Commission first recognised the welfare and support services provided for such personnel, in the current state of the legislation.

It should be noted that, pursuant to the official interpretation of article 12-bis of decree law no. 11 of 23 February 2009, converted with amendments, by law no. 38 of 23 April 2009, the provisions of DPR no. 1124 of 30 June 1965 do not apply to armed forces personnel or to the police forces, which remain governed by their respective regulations, until the general review of the matter.

We have also considered that by express legislative measure, the repeal of verification of infirmity being caused by service, reimbursement of hospital admission expenses caused by service, the fair compensation and privileged pension provided for by article 6 of decree law no. 201 of 6 December 2011 does not apply to personnel belonging to the security, defence, fire service and paramedic departments. Armed forces personnel continue to be entitled to fair compensation, in the event of harm sustained during service.

This element differentiates the treatment of armed forces personnel from what is available to employees in general, including civilian state employees, who are not yet entitled to fair compensation, but instead to the compensation protection envisaged by DPR no. 1124 of 30 June 1965 (Consolidating act of provisions on mandatory insurance against work accidents and occupational illnesses), as amended.

The comparison between the two different forms of compensation protection is therefore rather significant for evaluating the adequacy of the welfare provisions for armed forces personnel.

1.1 Fair compensation

The basis for calculation of fair compensation was, until 31 December 1994, the initial salary class for the qualification or the employment grade (in the case of armed forces, the rank held) at the time of the claim, with a premium of 80%, according to the provisions of art. 154 of DPR no. 312/89 and by art. 1(120) of Law no. 662/96.

The criteria for calculating the basis for calculation of fair compensation have been amended many times over the years.

The discipline currently in force was provided by art. 1(210) of law no. 266 of 23 December 2015, pursuant to which the basis for calculation of fair compensation was established by the initial tabled salary of the rank held at the date of the claim, with exclusion of any other salary item and any premium.

To determine the amount of compensation, the aforesaid base amount for calculation must be multiplied by two and then by the coefficient applicable to the category of disability acknowledged, according to the following table:

Table	Category	Disability percentage	Coefficient
A	First	100% - 91%	100
A	second	90% - 81%	92
A	third	80% - 71%	75
A	fourth	70% - 61%	61
A	fifth	60% - 51%	44
A	sixth	50% - 41%	27
A	seventh	40% - 31%	12
A	eighth	31% - 21%	6
B		20% - 11%	3

The amount obtained is reduced by 25% or 50% if the person had reached their 50th or 60th birthday respectively at the time of the event that caused the harm.

The final approach of the criteria and methods for calculating fair compensation seems to have led to a drastic rescaling of the payouts made to Armed Forces personnel.

1.2. Compensation guaranteed by a mandatory insurance against work-related injuries and occupational diseases.

Following the entry into force of Legislative decree no. 38 of 2000, the primary financial benefits guaranteed for permanent disability or death, caused by work-related injuries and occupational diseases are as follows:

- capital compensation for personal injury, for impairment of between 6 and 15% inclusive
- personal annuity, for impairment of 16% or greater;
- annuity for surviving dependants, in case of death.

The amount in capital is paid in a single amount, in the amount indicated in the specific personal injury compensation table, based on the level of impairment, according to the table of impairments envisaged by Legislative decree 38/2000.

The personal injury compensation table is configured according to the following criteria:

- non-income-related, as the impairment itself causes the same harm to the health of all human beings;
- increasing according to the severity of the impairment;
- variable according to age (decreases with age) and gender (in consideration of greater female longevity).

The personal annuity, paid monthly for the rest of life is made up of two amounts. One non-income-related, which compensates the personal injury and is linked solely to the percentage of impairment; the other amount is for compensating the financial consequences of the injury, and is therefore linked to the salary received by the claimant, as well as the level of impairment.

The salary to be used as a basis for calculating the income-related proportion of the annuity is the amount effectively received in the year prior to the injury, with minimum and maximum limits established by law, amounting to €16,195.20 and €30,076.80 respectively per annum.

Following acknowledgement of the right to a payment, the person insured can claim subsequent aggravated impairments to obtain adjustment of the capital compensation or establish the annuity or increase the annuity, if already established.

In case of death caused by the consequences of the injury or the occupational disease, the annuity is paid to the surviving dependants.

Beneficiaries of the payment:

- the spouse (three years of marriage are required), until death or newly married
- children aged up to 18, without additional conditions, or until 21 if students in high school or working cohabiting dependants and without a paid job, for all of the normal term of the course, no greater than 26 years of age, a cohabiting dependant university student without a paid job, for the entire normal duration of the course, over majority age and as long as the disability persists if unable to work.

In the absence of a spouse or children:

- natural or adoptive parents, dependent, until death
- brothers and sisters, dependent and cohabiting, valid in the same terms as for children.

For fatal events prior to 1 January 2014, the annuity paid to surviving dependants was calculated on the effective annual salary of the deceased employee, within the minimum and maximum annuity limits established by law.

For annuities paid to the surviving dependants of deceased employees with effect from 1 January 2014, the calculation is made according to the legal maximum sum, amounting to € 30,076.80, as illustrated above.

The annuity paid to surviving dependants is paid in addition to the widow/er's pension; the direct annuity can be added to the old-age or retirement pension and to the disability allowance or pension, in the latter case provided that the two benefits are not based on the same disability/illness (Civil Cassation, section VI, no. 5636, 22 March 2016).

Annuities are also exempt from IRPEF [individual income tax] at source.

1.3. Comparison results

The comparison of the two systems demonstrates that the compensation protection provided by mandatory insurance against work-related injuries and occupational diseases is more favourable than that guaranteed by fair compensation, not only because the minimum threshold is lower (6% rather than 11%), but because the capital proportion of the annuity, due above 16% disability, is calculated with reference to the overall effective salary (although with a maximum of € 30,076.80 per annum) rather than just the initial tabled salary. This conclusion has been confirmed by the numerous analyses of actual cases, supported by the significance that certain disabilities set out in table A, category 1 are assessed with a greater level of disability than those in the table of impairments provided in Legislative decree no. 38 of 2000.

The level of impairment formed only one of the variables that contribute to the amount of the benefit due. By following the entire calculation the result is also more favourable, for mandatory insurance, in the above mentioned cases.

An additional effect is that protection against injuries and occupational diseases not only provides a compensation for ensuring continuity of financial support, but is divided into different kinds of benefits with the aim of improving the quality of life of those who are injured or who have occupational illnesses. A good example is the quality prosthetic support provided by the Vigorso prosthetic centre in Budrio and the privileged healthcare, with the consequent provision of health services in excess of the essential levels of care, including the free provision of the band C drugs necessary.

2. Verification of causality and practical application, with particular reference to multifactorial diseases

Repeated judgements of ordinary and civil magistrates continually reinforce the existence of causality between the confirmed exposure to depleted uranium and the diseases reported by the military personnel or their surviving dependants. The pathogenicity of depleted uranium has also been acknowledged scientifically, given that the table of occupational diseases, approved by Ministerial Decree of 9 April 2008, on the proposal of the relevant scientific commission, lists 15 diseases caused by the non-radioactive effects of uranium and its compounds. It is true that the only disease definitively classified is tubular necrosis, but it is equally true that item 15 of the table also contains an openly worded phrase: "other diseases caused by exposure ...". This demonstrates that the pathogenic effects of depleted uranium are many and that at 10 years following the table being issued, progress of medical science and the results of epidemiological investigations would imply that the table might be updated, to include other definitively classified diseases, with particular regard to certain forms of lymphopoietic cancer.

Within the scope of mandatory insurance against work-related injuries and occupational diseases, for occupational diseases, the so-called mixed system applies: alongside diseases indicated in the table, with an indication of the processes and the diseases they cause, those that are not tabled can also be compensated provided that an occupational link can be demonstrated.

The difference between the two categories of occupational diseases concerns the distribution of the burden of proof.

In the case of the tabled diseases, the employee is responsible for proving they were employed in the process indicated in the table and of being affected by the disease envisaged in the same table. The causality between the work process and disease is supported by legal presumption, which can only be overturned if INAIL provides certain proof of a cause external to the work process.

For diseases that do not appear in the table, the employee must prove not only that he/she was involved in a process which exposed him/her to a certain agent and being affected by the claimed disease, but also the causality between the agent and the illness.

It should be noted that multifactorial diseases, for the majority of which it is not possible to express in certain scientific terms, are assessed and defined fully according to the principles of law provided in the case law on legitimacy. Proof of causality between the pathogenic agent and the disease is deemed to have been reached when there is a qualified probability, based on the results of accredited epidemiological investigations and studies shared by the scientific community. If work-related causes compete with non-work factors, according to the principle of causal equivalents set out in article 41, criminal code, the disease will be considered occupational. For the correct application of the rule contained in article 41, criminal code, on the causality between the work process and the occupational disease, the existence of the historical cause required by the law must therefore be excluded only where the intervention of a factor external to the working process can be recognised, which is in itself sufficient to produce the impairment such as to reduce other eventualities to simple circumstances.

As regards Armed Forces personnel, the administrative process that leads to acknowledgement of the so-called "cause by service" involves:

the opinion of the CMO (Hospital medical commission) made up of military doctors, which pronounces on the severity of the disease and the corresponding percentage of disability deriving from it, but not on the disease cause and history;

the opinion of the CVCS (Cause by service verification commission), a body of MEF, where a majority of military doctors form an opinion on the existence of causality, pronounce solely on documentary evidence and in the absence of a material cross examination of the person concerned.

In the process described thus far, the impartiality of judgement does not appear to be sufficiently guaranteed and, especially negative opinions expressed by the Cause by service verification commission, following the described process are drafted "with stylistic, stereotypical, merely apparent, apodictic or generic justification" (TAR [Regional Administrative Court] of Friuli Venezia Giulia, sec. I, 10 dicembre 2015) and "aprioristically contrary to what is supported by the scientific community and even acknowledged by political institutions, which the state law recognised as being a specific risk" (TAR Lazio, sec. I; ref. also, ex multis, Cons. St. no. 837 of 29 February 2016; TAR Tuscany Sec. I no. 462 of 15 March 2016; TAR Lazio sec. I-bis, no. 7363 of 16 August 2012).

Very often, especially in the cases of the more serious diseases, resulting in the death of the military person affected, the CVCS pronounced in negative terms for the asserted absence of absolute scientific certainty of the causality, without any evaluation of probability/statistical

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criteria which, through continual development of legitimacy judgements, must be applied in these cases, including with regard to cause by service (Civil Cassation, sec. one, 17/06/2004, no. 11353, and lastly, Civil Cassation, emp. sec. no. 12 of 02/01/2018).

The practice adopted by the CVCS was banned by the judges which annulled rejection rulings by demonstrating that the finding in relation to the causality was negative most of the time, because it was made according to principles of absolute certainty, rather than based on consolidated probabilities/statistical criteria, and confirmed by consolidated case law, precisely through the "impossibility of establishing a direct cause-effect based on current scientific knowledge" (TAR Lazio, sec. I-bis, no. 7777 of 21 July 2014).

The sentences are particularly significant, some of which are provided below as examples, by which the judges criticised the negative attitude of the CVCS regarding the effects of exposure to depleted uranium.

"The probable connection between exposure to depleted uranium and the onset of severe diseases, including cancerous, led the UN to ban the use of weapons containing this element (resolution no. 1996/16) and various countries adopted protection and precaution measures to protect military personnel engaged in NATO operations. The responsibility of the Ministry of Defence should therefore be acknowledged, according to the case drawn from art. 2087, civil code, in the case of the contraction by military staff engaged in missions at a high risk of the blood cancer disease classified as Hodgkin's lymphoma, because of the absence of personal protection equipment and information on the use of weapons and projectiles containing depleted uranium." (TAR Aosta, (Valle d'Aosta), sec. I, 20/09/2017, no. 56).

"The medical-legal opinions of the Commission for the verification of causes by service which exclude attribution of the illness of the person concerned – personnel previously on peace missions in Kosovo and Libya – to military service based on stylistic, stereotypical, merely apparent, apodictic or generic justification precisely because they are not capable of allowing reconstruction of the legal-logical process which led to excluding the causality between the activity performed and the disease. In the specific case, the Verification commission neither mentioned the complex set of risk factors attributable to exposure to pollutants in a work environment (the person concerned, a tracked vehicle mechanic, was particularly exposed to pollutant and carcinogenic agents), nor even provided relevant reasons for excluding that the specific deployment conditions of the person could have influenced the onset of the diseased subject to the claim. The opinions in question do not moreover take any account of the potential pathogenic effect of the risk factors, now acknowledged as hazardous, mentioned by the claimant, in particular the exposure to toxic contaminants caused in addition to the atmospheric pollution, by the impact and explosion of munitions, including containing depleted uranium, inhalation of the exhaust gases of military vehicles and chemical solvents for cleaning weapons and massive electromagnetic bombardment, together with being submitted to an elevated level of stress and the mass administration of vaccines, elements which led the national legislator to acknowledge the existence of appropriate financial benefits for the person concerned (art. 1079(1) of DPR no. 90/2010 and previously with the repealed art. 2 of DPR no. 37/2009, amended in implementation of art. 2(78 and 79) of law 244 of 2007)." (TAR Bolzano, (Trentino-Alto Adige), sec. I, 08/02/2017, no. 55).

"On the issue of verification of cause by service, the impossibility of establishing, according to current scientific knowledge, a direct cause between the deployment in highly polluted theatres of operation (in the specific case the applicant was deployed in 2002 in Kosovo and in areas affected by the use of depleted uranium devices) and the effect of neoplastic disease means that there is no requirement to demonstrate the existence of causality with a level of absolute certainty, demonstration in probability-statistical terms instead being sufficient, as indicated in the course of the Parliamentary commission for enquiry appointed. In this scenario, verification of the event forms in itself sufficient information, according to the so-called "criterion of probability", to ensure that victims of the disease are entitled to the benefits prescribed by current legislation whenever, having verified exposure of the military person to the pollutant, the administration is not able to demonstrate that it did not cause the onset of the disease and that this depends on external factors of autonomous and exclusive aetiological weighting." (TAR Genoa, (Liguria), sec. I, 29/09/2016, no. 956).

"In the case of sickness contracted by military personnel because of exposure to particulate matter deriving from depleted uranium, the confirmation of the event itself forms information sufficient to entitle the victims of the disease and their relatives to compensation unless the public authority is able to demonstrate that it did not cause the onset of the disease which instead depends on external factors, with autonomous and exclusive aetiological and weighting." (TAR Turin, (Piedmont), sec. I, 06/03/2015, no. 429).

The judgements of the TAR and the State Council did not however lead to a solution to these controversial questions because the administrative judge was only able to provide the remedy of overturning the decision, i.e. cancelling the ruling changed, and could not decide on the question itself.

The consequence was the establishment of a vicious circle – the TAR annulled, the CVCS re-examined and restated its rejection, although with small changes of justification, the person concerned appealed again, the TAR annulled ... and so on – which caused multiplication of the dispute with subsequent costs to the public finances and, especially detrimental to the persons concerned – or, too often, the beneficiaries – which saw themselves denied (or deferred indefinitely) the right to the protection which the state is responsible for.

This vicious circle was at least partly neutralised by the joint sections of the Supreme Court, stating that the jurisdiction should be attributed to the administrative judge only in relation to the harms suffered in life by the soldier, who died and then suffered by the beneficiaries, while the jurisdiction of the ordinary judge remains when the beneficiaries claimed the damages as a consequence of the death of the co-claimant (Civil Cassation, sec. one, 05/05/2014, no. 9573).

The surviving beneficiaries of military personnel who died because of the diseases contracted during service saw themselves constrained, given the inappropriate obstacles opposed to accessing welfare protection which should have been guaranteed by the state, to resort to compensation, for which the ordinary courts were competent. This led to an increase of public spending, specifically disclosed by the Court of accounts which, in its final report for 2016, showed how:

"Cases pending for compensation of damages through exposure to depleted uranium, excluding those pending before this Court of accounts, for acknowledgement of privileged military pensions, increased from 57 in 2015 to 71 in 2016, for a total value of 60.15 million to 80.81 billion, before both civil (in 2015, 31 cases for a total value of 27.5 million, in 2016, 37 cases for a total value of 35.6 million) and administrative courts (in 2015, 26 cases for a total value of 2.3 million, in 2016, 34 cases for a value of 45.1 million)".

We have therefore arrived at a situation where the rights that the legislation acknowledges to armed forces personnel are in fact annulled by practical application and those who wish to be protected by the state as they are entitled to by law, find themselves forced, in order not to become silent and acquiescent victims, to open the process, with charges of liability, as in the case of civil actions for damages compensation.

In conclusion, the welfare protection of armed forces personnel has been shown to be entirely inadequate, not only for the requirement of measures guaranteed by the legislation for such persons, but also for the lack of the effectiveness of the protection, due to critical procedural issues and a practice which essentially impedes its correct application.

3. The proposed A.C. [Act of the Chamber] law 3925

The verified inadequacy of the welfare protection guaranteed to Armed Forces personnel, which are reserved an inferior treatment than general workers appears unacceptable, given the specificity and the significance of the function performed, and is clearly contrary to the principle of equality, as provided for by article 3 of the Constitution. In the specific matter the Constitutional court has restated numerous times that there must be a corresponding level of protection for a given risk (Const. court, no. 55, 7 April 1981, Const. court, no. 476, 10 December 1987, Const. court, no. 221, 16 October 1986, Const. court, no. 137, 21 March 1989, Const. court, no. 160, 4 April 1990, Const. court, no. 98, 2 March 1990, Const. court, no. 332, 15 July 1992, Const. court, no. 171, 10 May 2002). Neither should it be forgotten that the Constitutional court, called to pronounce on the legitimacy of the exclusion of those belonging to the Fire service from the protection provided by DPR no. 1124 of 30 June 1965, with judgement no. 157/1987, declared the question was inadmissible because the legislative rules for referring it did not allow for verifying whether the specific regulations applicable to the service provided measures that were no less valid than those by the consolidating act of 1965.

Pronouncing this, the legal judges clearly indicated the guiding principle to be followed: if the measures prescribed in favour of individuals excluded from general insurance against work-related injuries and occupational diseases are inferior than those guaranteed by mandatory insurance, there is a violation of the constitutional precept.

There being no circumstances where the armed forces are exposed, in providing their high functions, to inferior risks than those faced by any other worker, the Commission deemed it urgent to propose a legislative intervention to remedy the demonstrated and clearly visible disparity of treatment, according to a fundamental principle of equity.

In particular, the Commission deemed it necessary that the entire matter of welfare protection of armed forces personnel be reorganised, bringing it within the scope of mandatory insurance against work-related injuries and occupational diseases guaranteed to all other workers.

The solution proposed, to be extended also to personnel in the security segment, fully implements the rule of interpretation of article 12-bis of decree law no. 11 of 23 February 2009, converted, with amendments, by law no. 38 of 23 April 2009, according to which the armed forces must be deemed excluded from the aforesaid system of protection only "until overall reorganisation of the issue".

It was therefore prescribed that the provisions of Presidential Decree no. 1124 of 30 June 1965 apply to the personnel of the armed forces, including the Carabinieri

In accordance with what is prescribed for all state employees, the insurance of such staff will be implemented by the National Institute for insurance against work-related injuries (INAIL) with the automatic administration system.

Via this system, state administrations do not pay INAIL the insurance premium envisaged for the ordinary regime, according to heading I of Consolidating Act no. 1124/1965 (industry segment), but reimburse the Institute amounts of benefits paid to state employees who are injured and or have occupational diseases, the expenses due for the medical-legal evaluations and for supplementary payments, as well as a single amount for general administration costs relating to managing claimed injuries and the state annuities in force, as prescribed by article 2 of the ministerial decree of 10 October 1985

State employees are entitled to all benefits envisaged by Presidential Decree. 1124 of 30 June 1965, with the sole exception of the daily payment for temporary absolute disability. The aforesaid payment is a financial benefit for compensating loss of earnings due to being absent from work as a consequence of an injury or an occupational disease and, therefore, in the case of the automatic administration system, it is not acknowledged through the lack of the requirement, given that the state continues to pay the salary including during the period of temporary leave from work.

Under the automatic administration system the worker also has the option to challenge the INAIL definition of his/her case. If the challenge relates to medical-legal questions, it is usually dealt with in a panel hearing, with the presence of the employee's appointed medical expert, thereby protecting the cross-examination phase which, as stated above, is entirely absent in the CVCS process.

In relation to the above and for a coherent and effective application of the principles governing the issue, the tables of occupational diseases should be promptly updated, according to the methods provided by current regulations, including the specific diseases relating to armed forces personnel, according to the scientific findings and what has been asserted by this Commission for enquiry and by the one which preceded it, and also in line with the indications provided by the cited Legislative decree no. 66/2010 (article 2185) and by Presidential Decree no. 90/2010 (article 1079).

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The provision of article 12 of the draft legislation does not cover insurance charges for the state precisely through the indicated non-applicability of the application for payment of the premiums deriving from the choice of the automatic administration system.

Acknowledgement of the right of armed forces personnel to the compensation benefits envisaged by Presidential Decree no. 1124 of 30 June 1965 does not provide for greater public expenditure, as reimbursement of the payouts made to armed forces personnel to INAIL is offset by the repeal of the fair compensation for the aforesaid personnel.

In order not to bring about a reduction of the level of protection guaranteed to armed forces personnel and in consideration of the specifics of the nature and function performed, the special measures should be accumulative – as previously envisaged by the regulations – with the compensation payouts guaranteed by INAIL.

In addition, to avoid any possible duplication of the compensation, in line with the principles of compatibility of welfare payments, there can be no accumulation of payments that originate from the same injury and carry out the same function.

To ensure there is a connection between the various establishments and to rule out any possibility of contradictory assessments, the submission of a work injury or occupational disease claim must be a condition of being able to proceed with an application for acknowledgement of the right to the specific measures envisaged for the armed forces. Therefore it is required that verification of the causality between the working activity and the harmful event by INAIL is also binding for the purposes of acknowledgement of the right to such measures and that the associated process remains suspended until the outcome of the aforesaid verification.

The reconstructed regulatory system has brought about an impetus for greater efficiency of administrative action as part of procedures for recognising caused by service, avoiding duplications of appeals to the CMO and to CVCS and therefore the critical issues highlighted in the above paragraph.

The proposed law also contains provisions on the transition phase for proceedings in progress on one hand and injuries occurred and occupational diseases appear before the entry into force of the new regime and for which the associated process has not started at that date.

For the first situation a suspension is required with an obligation on the defence administration to send INAIL the injury at work or occupational disease report within 180 days, with an appropriate penalty for non-compliance.

For the second situation there is a expiry term (12 months) by which the person concerned must report the injury or occupational disease.

Again in order to guarantee ordered transition between the two regimes it is also a requirement that previous legal rejection of a fair compensation application, through a lack of causality between the service activity and the disease, prevents proposing an application for recognition of the work injury or occupational disease for the disease subject to the ruling.

As a concluding proposal, it seemed inappropriate to anticipate the non-application of the proposed regulation with reference to diseases for which, as at the date of entry into force, the right to fair compensation or pension through cause by service is definitively acknowledged.

Chapter 4

FIRING RANGES

1. Introduction

Article 1(1) of the resolution of the Chamber of deputies of 30 June 2015, which established the Commission for enquiry into the effects of use of depleted uranium, defined the issues subject to the investigation, indicating in letter a), the "cases of death and severe disease that affected Italian personnel deployed in military missions overseas, in firing ranges and in munitions storage sites, also based on available epidemiological data relating to civilian populations in conflict zones and areas adjacent to military bases within Italy, in relation to exposure to particular chemical, toxic or radiological agents with possible pathogenic effects, with particular consideration for the effects of using depleted uranium projectiles and the dispersal into the environment of nanoparticles of heavy minerals produced by military explosions and potential interactions."

The resolution of the Chamber of deputies recreated almost to the letter the same provisions in the acts by which the Senate established, in the XV and XVI Legislature, the Commissions for enquiry also dedicated to the question of depleted uranium, with the resolutions dated 11 October 2006 and 16 March 2010 respectively. By these acts and the 2006 resolution in particular the scope of the enquiry was expanded and better articulated than the resolution of the Senate of 17 November 2004, in which the same Parliamentary body making the enquiry established in the XIV Legislature was granted the mandate to investigate "cases of death and severe disease which affected Italian personnel deployed in international peace missions and their causes, as well as the storage conditions and any use of depleted uranium in military exercises in the national territory". By extending the scope of the investigation to firing ranges and the surrounding environmental conditions, and to the medical conditions of the civilian population residing in areas adjacent to military installations, the above acts also intended to cover a highly significant political issue. There was a need to include in the investigation the causes of death and severely debilitating diseases contracted by personnel deployed on missions overseas, as well as the broad range of environmental harm and risks to persons deriving from the activities of various national defence entities. This requirement was also confirmed for military personnel by the epidemiological data reported to the Commission for the enquiry chaired by Senator Costa (XVI Legislature) by the epidemiological military registry. It recorded 3761 cases of neoplastic diseases occurring in military personnel between 1991 and 21 February 2012 (i.e. the date on which the information was made available to the Commission). Of these, 3063 related to people who had never left the national territory and 698 to military personnel on foreign missions.

Regardless of any question over the completeness of the data provided, there is however a significant discrepancy between cases of illness reported as "on mission" and "not on mission". This discrepancy helped impose a rather uniform strategy for Parliamentary enquiries over the course of the various Legislatures, given that the attention is paid not to a single pathogen, however relevant, but a multitude of pathogenic, chemical, physical and radiological agents and

the associated risks, relating to the entire military world and, for certain aspects, all have repercussions on the civilian population and the state of the environment. The enquiry also addressed these issues based on the idea that verifying the specifics of the military condition can generate legislative and administrative measures intended to reinforce the protection of constitutionally protected rights such as the health of citizens and employees in uniform and the integrity of the environment and not, as the Commission unfortunately found, rules and conduct for reducing levels of protection, to the detriment of the people who work at the aforesaid institutions or who live in the adjacent areas.

The particular type of connection established between this Parliamentary Commission and those that preceded it and that were established in 2006 and 2010 must also be emphasised. The second section of art. 1 of the resolution provides: "The Commission bases its activities on the conclusions and promotes implementation of the proposals of the final reports submitted at the end of its study" by the cited Senate's Commissions for enquiry.

Therefore there is no general continuation of the enquiry on the same issue and with the same aims. At that point the resolution implicitly acknowledged the importance of the conclusions and proposals of the two previous Commissions, which explicitly indicated them not only as historic information but as consolidated experience that came to form part of the knowledge that the present Commission can draw from in making its conclusions.

It was precisely on the complex issues of health and environment in firing ranges that the Senate Commission established in the XVI Legislature conducted intense activity, holding numerous hearings with military personnel and experts, as well as the State Magistrate at the Court of Lanusei who, at the end of the enquiry made into the environmental status of the Inter-forces Range at Salto di Quirra (PISQ), had requested that twenty individuals be charged of having omitted to carry out the precautions necessary to prevent accidents and calamities. The aforesaid Commission also conducted surveys at PISQ, as well as at the firing ranges in Perdasdefogu, Capo Teulada and Capo Frasca in Sardinia and Torre Veneri in Apulia, delegated inspections and promoted an epidemiological study of the Salto di Quirra site in particular, acquiring the conclusions of the results of the previous environmental monitoring programme.

On conclusion of the activity summarised above, which found the presence of polluted sites within and in the area around certain of the firing ranges visited, the concluding report of the Commission approved on 9 January 2013, while acknowledging the announced ministerial environmental restoration programme, highlighted that such operation "must form the basis of structural change, both as regards the conditions for carrying out military activities and as regards management of the territory". It also expressed the hope that a system could be created that was capable of allowing "prompt identification of activity that is seriously harmful to health and for the environment and consequently to ban it in firing ranges". Such operations were deemed necessary as they "form the basis for a discussion about effective and lasting environmental restoration and a premise for the modernisation and rationalisation of equipment and exercises".

Lastly, on the issues of health and socio-economic conditions of the inhabitants of municipalities bordering firing ranges, the report concludes: "it is first of all necessary to assure those living within or around them that the operations are carried out safely and without risks

to health and the environment, by removing the uncertainty that continues for years and only results in harm for the residents and local economies".

By fulfilling the role assigned to it by the Chamber of deputies, during the present Legislature, the Commission carried out a series of hearings and surveys, attending in particular the facilities in Sardinia, Sicily, Apulia and northern Italy. With reference to the firing ranges in Sardinia, where moreover the majority of facilities of this type is focused, the Commission also took account of the results of the enquiry made in 2011 by the state magistrate of the Court of Lanusei on the Salto di Quirra firing range and the investigations conducted by the Cagliari magistrate into the Capo Teulada range.

Unlike the previous legislatures the Commission made multiple uses of legal powers, as provided for by article 82 of the Constitution, hearing as witnesses – with the associated obligation to make statements and to respond truthfully to the questions asked – those individuals deemed to be informed of facts that are significant for the purposes of the enquiry within the scope of the findings intended to evaluate the existence and scope of occupational risk affecting civilian and military personnel employed in military firing ranges. This process was adopted in particular for service personnel deployed by the military administration in roles specifically concerning the safety of workplaces.

During the investigations, critical issues emerged regarding the issues of the health of employees and citizens living in areas adjacent to military establishments, as well as the health of the environment, but also relating to the governance of the territory, considering that the areas around ranges, belonging to the military estate and subject to specific easements, are removed from the jurisdiction of the elected administrations, which only a few years ago began to claim more active control over such areas, in a relationship of continual dialogue (and, in some cases, active collaboration) with the military authorities. The issue essentially regards joint use of the land around military facilities and the various forms that that can take and in part has already taken.

2. Safety at work and risk assessment.

As regards the policies for safety prevention and protection of personnel working at firing ranges, significant critical issues arose regarding risk assessment. According to current regulations, this role falls to the employer, the facility commander in this specific case (article 246 of Presidential Decree no. 90 of 15 March 2010, providing the consolidating act of military regulatory provisions), and may not be delegated to other individuals. As regards the object of the assessment, article 28 of Legislative decree no. 81 of 2008 specifies that it should cover all risks to the health and safety of employees, including those regarding groups of employees exposed to a particular type of risk, therefore setting an obligation which does not permit exceptions of any type, as the Court of Cassation case law broadly and consistently recalls, references also amply cited by the Report on the enquiry into safety at work and environmental protection of the Armed Forces: critical issues and proposals (Doc. XXII-bis, no. 11) approved by the Commission at the meeting of 19 July 2017 (subsequently, the second interim report).

In light of these premises specifically, the Commission acknowledged a general critical issue attributable to an objective condition in which work safety risk assessment performed at firing ranges by the competent bodies was absent, in some cases, and incomplete in the majority of situations investigated. Subjectively, this was attributable to the heads of the armed forces continuing to interpret current regulations (both Legislative decree no. 81 of 2008 and Heading IV, Chapter I, Safety in places of work, of Presidential Decree no. 90 of 15 March 2010, a consolidating act of the military regulatory provisions) by tending to undervalue and subject the significance of the requirement for risk assessment to conditions and repeal, claiming the specifics of the activity carried out to justify the reason for absent or partial fulfilment. This was even demonstrated in some cases by documents and official statements.

It is worth recalling on this issue that during the enquiry carried out in the previous legislature, only the risk assessment document of the inter-forces firing range at Salto di Quirra was acquired. Evaluated by certain consultants and forming part of an assessment report by the Department of employment medicine (formerly ISPESL) of INAIL [National insurance for accidents at work], was found to be incomplete, not least by being too broad-ranging, incomplete in terms of assessment of individual risks, with particular reference to exposure to carcinogenic agents, lacking indications regarding the methods of carrying out medical surveillance and not suitably updated.

In the current legislature, this study has taken on the character of being more systematic and the reading of the DVRs [Risk assessment documents] acquired not only confirmed but expanded the findings already expressed for the PISQ risk assessment. It brought to light various critical issues regarding the incompleteness of the assessment, in terms of exposure to specific pathogenic agents, the lack of updating, the over evaluation of certain types of risk and the under evaluation of others. Also, the unnecessarily excessive coverage of certain cases could render using the risk assessment as an operating tool problematic, which also applies to the incompleteness or absence of assessment of interference-related risks, i.e. risks due to interference between working activities carried out by organisations of different employers. This is particularly significant for facilities that continually host training or exercising units, whose problems, in terms of safety and prevention, may be significantly different from those for the personnel working at the individual sites.

As regards this latter problem, note that art. 26 of Legislative decree no. 81 of 2008 prescribes that an employer who assigns works, services or supplies to a contractor firm or to independent employees within the organisation must fulfil certain obligations. They must assess the technical occupational suitability of the contractor firm, inform them on the specific risks in the environment they will be operating in and the associated prevention measures. They must cooperate, coordinate and draft the DUVRI [Single Document on Interference-Related Risk Assessment], containing indication of the measures to be adopted to eliminate or at least minimise the risks of operational interference.

In the second interim report the Commission deemed that the activities carried out by the Armed Forces at their own firing ranges fall within the scope of application of article 26 of Legislative decree no. 81. In actual fact, even if this provision makes reference to "the works, services and supplies to be assigned as a contract or via a works contract or term services contract" it is worth

referring, as the report highlighted, to the indications deriving from the case law of the Court of Cassation. It specifically states that for the purposes of the fulfilment of the obligations set out in article 26 of legislative decree no. 81, "it is necessary to consider not the civil qualification attributed to the relationship between the cooperating businesses – which means via contract for works or terms services contract – but the effect that this relationship gives rise to, i.e. the material interference between the organisations working under it, which may be a source of additional risks of employee accidents (Cass. no. 31410 of 23 June 2017).

The poor level of attention paid to this issue arose frequently at hearings with the commanders of military firing ranges, or the safety appointee. This was accompanied by a tendency to justify the absence or partial interference-related risk assessment by excluding the applicability of a provision relating to the contract, which clearly is not attributable to the training and operation activity. This exception, as was stated, was overcome in light of the cited Court of Cassation case law, and also recently the competent bodies of the Armed Forces alerted the need to improve on a merely formal approach to this issue. It seems appropriate therefore to report what was stated in the second interim report in its entirety:

"The Commission, at the various hearings held, referred the Commanders/employers interviewed to the issue many times. In particular it explicitly highlighted the need for specific and prompt assessment of all risks of operational and training activities, including as regards the interference associated with the prior, simultaneous and subsequent activities that would be carried out in the firing ranges by the armed units and units operating such areas. And it therefore emphasised the need to draft the risk assessment document (DVR) and the Single Interference-related Risk Assessment Document (DUVRI). The re-educational function provided by the Commission was again prominent in this area. It is worth recalling that the Chief of the Defence Staff – Administration for Central Coordination of the Monitoring and Prevention and Protection Service (DICOPREVA) issued Directive 7027 in January 2017 providing "Measures for the protection of health and safety of personnel to be adopted in firing ranges and training areas". First and foremost, this new Directive supported the previous Army Staff Office Unit III memo no. 42843 of 23 March 2015 and therefore replaced it. The new Directive prescribed precisely that "coordination between the commander/director of the works of the firing range/training area (host) and the commander/director of works of the operating unit (visitor), forms a primary obligation for the purposes of the protection of health and safety of all personnel". It then distanced itself from the memos previously issued by the Army Chief of Staff, and established that "preventative acknowledgement is essential, as is coordination between the Prevention and Protection Service of the Unit in training and that of the Entity operating the range" and that "in this scenario, it is necessary to produce a joint and documented assessment of the risks by the Commander/Director of the works (Firing range/Training areas and Training units)". Furthermore, the new Directive observes that, "where the Interference-related risk assessment highlights the need to make changes to the DVR of the Training unit and/or the Entity operating the firing range/training area, they must update it accordingly". According to the indications of Directive 7027/2017, the assessment activity carried out by the "host and visitor" employers, which are in turn subject to the "DVR [Risk assessment document] of the firing range/training area operating entity" must also allow verification of compatibility both "with the risk assessment" and with "the consequent measures/means/provisions contained in the training unit

DVR, and with those approved by the host Commander/director of the works and which are subject to the DVR of the firing range/training area operating entity". The same Directive provides that "downstream of the joint interference-related risk assessment" the process must conclude with "the drafting of a Certificate of cooperation and coordination which, by going back to the principles of article 26 (Obligations associated with contracts for works or term services contracts) of Legislative decree no. 81/2008, must be signed jointly and archived with the documents of both entities". In spite of the name adopted for the interference-related risk assessment – Certificate of cooperation and coordination – it does not conform to the language of the Italian legislator, however there is a similar Certificate that is complete in terms of its content. One consideration: the facsimile of the Certificate of cooperation and coordination annexed to Directive 7027/2017 is rather too schematic. The hope is that the entities concerned will not merely formally fill out the Certificate, but will make sure they provide a material and contextualised definition of the principles of the directive in application of article 26 of Legislative decree no. 81/2008. It is also important that the initiative undertaken by the Army Chief of Staff by Directive no. 7027/2017 finds material application in the firing ranges of the Armed Forces and is replicated or extended by the other Armed Forces, not least by the air force for the Capo Frasca firing range and the inter-forces firing range at Salto di Quirra (PISQ)."

Another aspect highlighted in the cited interim report falls fully within the scope of the critical issues indicated and regards certain sites, whose operating characteristics were adopted to justify the lack of the risk assessment (DVR). The aforesaid report had previously indicated the Cellina Meduna firing range as an emblematic example. The former commander of 132 Ariete Brigade, Brigadier Antonio Vespaziani, in his statement made to the Commission during the hearing of 21 December 2016, reported the lack of provision of the risk assessment document for this facility, given that the intermittent use of the facility made a risk assessment necessary only when carrying out exercises. It was not moreover an isolated decision adopted by a single commander, but a consequence of the tendency to consider that the specifics of certain of the activities of the Armed Forces formed in themselves justification for failing to apply current legislation. In actual fact, shortly before the hearing of general Vespaziani, the Chief of the Defence Staff, Logistics and Infrastructure Unit IV, in a memo dated 14 November 2016, confirmed that no specific risk assessment document was drafted for the firing ranges of Casalborsetti (Foce Reno), Cellina Meduna and Torre Veneri, as the "operational activities were not continuous" and the risk assessment was therefore included within the documents of units engaged in the exercises. Within this issue, the memo resumed with what was already claimed in the memo of the Army Staff Office Unit III of 23 March 2015, ref. 42843, relating to "Legislative decree 81/08 – Consolidating act on work safety – Operation/accident protection documents" in which, according to a poorly described "effect of the development of the regulations on the matter" clarify precisely that the risk assessment documents did not need to be drafted for the performance of operational activities, as the safety measures were already set out "in the operating documents and related manuals, rules and publications". It should be noted, by repeating the words of the Commission, that this statement in no way complies with the letter or the spirit of the accident protection legislation. According to the Court of Cassation, article 28 of Legislative decree no. 81, in setting out all-inclusivity of the risk assessment, does not provide for any exception in relation to the discontinuity of operations, as the requirement

for assessment "extends to all persons in hazardous situations associated with the activity carried out, regardless of frequency" (Cass. no. 51947 of 06 December 2016).

As can already be drawn from the broad references made to the second interim report, it seems that the entire issue of risk assessment has begun to form a subject of major reconsideration by the competent bodies of the Armed Forces. This is also a consequence of the critical findings and considerations made by the Commission in relation to the deficits and failures found in the firing ranges visited. There can therefore be greater awareness of the fact that a more stringent application of the injury protection regulations would itself form a significant factor in overcoming approaches and conduct that have been found not to meet the requirement to protect as far as possible the mental and physical integrity of uniformed personnel and, in the case of firing ranges, also the populations residing in the areas surrounding military facilities. This new approach can be found in the cited Directive 7027, providing "Measures for the protection of health and safety of personnel to be adopted in firing ranges and in training areas", and in the adoption of the consequent conduct by the commanders/employers, adopted in the recent draft of the risk assessment document of the firing range at Foce Reno (15 November 2016) and that of Scuola di Cavalleria [Cavalry Academy], which is responsible for the firing range at Torre Veneri (28 February 2017).

The Commission moreover carried out its investigation with the assumption that identifying critical issues and deficits must be submitted to the institutional entities concerned, not only to verify any kind of responsibility, but also to conform to the constitutional principle of faithful collaboration. This has the aim of developing a dialogue for mutually seeking the most appropriate measures to increase the efficacy of prevention and protection of health and the environment in areas where, through the specifics of the designated activities, risks of varying nature exist. Clearly, these risks are greater than those found in other and different working and living environments, and which therefore require the creation of suitable protective intervention.

In this spirit, during the hearings held at the various sites visited, and especially via the statements of witnesses, the Chairman had an opportunity to make numerous recommendations both to employers, and to the heads of the prevention and protection services and to the competent doctors of the various facilities. All recommendations had the single aim of ensuring that assessments of risk and interference-related risk carried out at the facilities visited in accordance with the cited regulations, do not creatively interpret current legislation, which was found in some cases did not always correlate with the claimed specificity of the functions and roles of the military facilities. As the Commission stated many times, and as the case law also widely states, these peculiarities may not be claimed to justify reducing the levels of protection guaranteed by the law.

It would also seem appropriate to remind the senior ranks of the individual facilities of the significance of the responsibilities associated with their position as employers. Furthermore it is correct to restate what has already been emphasised in other documents, regarding increased sensitivity invested in problems of military work safety, both by the senior ranks and by those who have responsibility for the prevention and protection services and the competent doctor, which are not insignificant. This greater application translates into a uniformly widespread

culture of prevention and the appropriate conduct for full, uniform and strict implementation of the provisions in force, starting from the provisions of Legislative decree no. 81 of 9 April 2008. The persistence of areas of uncertainty, incomplete assessment, partial or inadequate updating of risks, leads to incomplete prevention which involves in the first place the responsibility of the commander/employer and the individuals in charge of the associated functions.

It can therefore be observed that the requirement to evolve from an attitude of greater knowledge to a practice of full and continual application of the safety regulations in the military sphere can no longer be assigned to partial measures and even less to the good intention of individuals. Instead, structural interventions are necessary, first and foremost for ensuring that overseeing the application of injury protection regulations are implemented fully according to the principles of tertiaryity, independence and professionalism, as indicated in the Report on safety at work and welfare protection in the Armed Forces (Doc. XXII-bis, no. 7, below, first interim report) approved by the Commission at the meeting of 26 May 2016, whose content is broadly enacted in the draft law no. 3295 (Scanu et al: Amendments to Legislative decree no. 81 of 9 April 2008, and other provisions on safety at work and insurance protection against injuries and work-related illnesses of Armed Forces personnel) whose process for approval, impeded by various forms of resistance, was discontinued through the early dissolution of the Parliament Chambers.

It is in fact necessary that all levels of the military organisation involved in ensuring compliance with the safety regulations are put in a situation where they can comply with this sensitive task, and have the appropriate resources and tools, including regulatory, and interlocutors that can guide their actions, where necessary. Given the above, the Commission does not find it acceptable that, as it was told at certain hearings, the adoption of prevention and safety measures, and in particular the availability of personal protection equipment, in firing ranges and industrial defence facilities, can be affected by the lack of availability of the appropriate financial resources.

Overall, it can be stated that the meetings of the heads of the defence staff offices responsible for the roles of prevention and monitoring – the heads of the prevention and protection services (RSPP) and competent doctors – highlighted the problems extensively already noted by the Commission and that refer directly to the proposals made in the first interim report and the proposed law referred to above. It should be added that, where these hearings are compared with the statements of certain heads of the administrative offices responsible for prevention and safety and reporting to the General secretary and the Chief of the Defence staff, there is a degree of evidence that, if you look beyond what can be asserted as professionalism and personal correctness of the individual witnesses, as in the total self-referencing of the military's protection and prevention system, especially as regards surveillance you have a system which, in its implementation, operation and inspection, features artificial complexity, comprising duplications, overlaps and fragmentation of competences, which may then translate into poor transparency as regards specific identification of the functions and responsibilities. Without simplification and redistribution of roles – which moreover, on the advice of the Commission may arise only from reconfiguration of the oversight functions in the terms illustrated previously, will there be the risk that, beyond individual will, is rooted in a mechanism where

the weight of fulfilment and the associated responsibility is distributed to an extent and with methods such as to steer the hierarchy in the reverse direction.

3. Environmental safety: critical issues

If we look at the impact of the activities carried out by the weapons testing ranges on the surrounding environment, and consequently on relevant profiles that affect the quality of life not only of the workers employed there, but also of the residents in the neighbouring areas, we must also note that in this case there is a persisting difficulty in moving from declarations of intentions to consequent behaviours despite an increased attention in recent years to environmental problems by military authorities.

The data emerging from surveys on weapons testing ranges relating to the health of citizens living in areas adjacent to these ranges are particularly significant in this regard, especially in Sardinia, a reality already known for some time and subject to careful evaluation by various bodies, whose conclusions have been taken up both by the current parliamentary inquiry and those carried out in the past Legislatures.

As for the Joint Forces of Salto di Quirra, already in the last Legislature, the Scientific Board established by the Higher Institute of Health with the collaboration of the Regional Government of Sardinia, following the approval by the Senate of motion no. 366, in the session of 23 February 2011, in its Final Report, delivered to the Commission during the hearing of prof. Gualtiero Ricciardi, president of the Higher Institute of Health and of the Director General of the same Institute, Dr. Angelo Del Favero (21 April 2016), stated that the analysis of the hospitalization of the area considered had found, for men, excesses in relation to tumours of the lymphohaematopoietic system and for women with thyroid, "and, for both, excesses associated with cardiovascular diseases, diseases of the digestive system and those of the urinary system". Regarding the area of Quirra of the municipality of Villaputzu, located near the military site, the Report, while specifying that the number of subjects is very small, that the follow-up period is short (5 years) and that therefore the system of observation has a low sensitivity, reported three cases of rare oncological diseases, two of which were in excess of what is expected based on the hospitalization rates of the reference population, in terms of statistical significance.

Consequently, in the concluding considerations on the situation in the Quirra area, the same Report recommends "the continuation of the epidemiological surveillance plan to be able to capture any signs to support the hypothesis of an excess of the number of subjects living in Quirra affected by neoplasms in different locations. It is also considered appropriate that the issue of high natural radioactivity found on the site be further examined".

Prof. Annibale Biggeri, professor of medical statistics at the University of Florence, already a member of the aforementioned group, expressed himself during the hearings (20 July and 3 August 2016) on the situation of that weapons test range and on the comparison with that found at Capo Teulada. Scientific Board and technical consultant of the Procura di Cagliari in the ongoing investigation concerning the Teulada weapons testing range.

"As for Quirra, the excesses for these particular tumours could also be coherent (implied by military activities), especially if we consider that the overall area of all the tumours on which

and with the two weapons testing ranges are located, both on and off land, is interested by an excess of diseases of the lymphopoietic system in males. This would suggest toxic substances specific to possible occupational exposure. Let's think about the shepherds who enter the weapons testing range or the women who live nearby". Professor Biggeri also continues saying: "The epidemiological suspicion is towards radioactive substances, but they must be documented in technical reports on environmental matrices".

Further hearings carried out at the Commission have also highlighted how, up until a recent past, the management of the PISQ has been characterized by a significant underestimation of the impact of the activities carried out on the surrounding environment. A first important aspect concerns the use of anti-tank missiles MILAN, whose targeting system includes a radioactive component, consisting of a lunette of thorium, a radioactive substance, which, after launch, falls back onto the ground. On June 7, 2017, responding to a request from the Commission, the commander of the PISQ, General Giorgio Francesco Russo, announced that "the number of MILAN missiles launched at the PISQ in the period 1986 to 2000 is 463 active and 50 to inert head": a number that is lower than the one reported for the weapons test range of Capo Teulada, by General Roberto Nordio, Deputy Chief of Staff of the Defence, who, heard on June 21, 2017, announced that at that settlement they were used 1242 MILAN missiles. Regarding the PISQ, the fact that no recovery of thorium residues has been provided is documented by the statements made by the Public Prosecutor at the Court of Lanusei, Dr. Biagio Mazzeo, at the hearing on 7 June 2017: "We had the problem of MILAN missiles. Unfortunately, these missiles were designed with an aiming system that used thorium, which is a fairly well known radioactive element. The investigations carried out revealed the presence of thorium both in livestock and in some people, and in particular an exhumation of corpses of shepherds who had perished due to oncological diseases or lymphomas was performed, finding that there was a thorium component in their bones ". During the hearing the magistrate provided further information on the aforementioned investigations carried out on behalf of the Public Prosecutor's Office by prof. Lodi Rizzini, director of the Department of Chemistry and Physics of the University of Brescia and member of CERN in Geneva, specifying that the presence of thorium 232 has been ascertained in the bodies of shepherds who died of cancer. Dr. Mazzeo also provided documentation on the use of MILAN missiles, including a judicial police report stating that between 1986 and 2000 1,184 MILAN missiles were launched (the prosecutor had spoken of 1,187 missiles launched, a however, a figure considerably higher than that communicated by the commander of the PISQ).

As already noted. the second interim report provided contradictory versions were for the obsolete ammunition blasts (so-called "stoves"), particularly at the PISQ. In particular during the hearing on 5 October 2016 before the Commission, Gen. Giorgio Russo, Commander of the PISQ, stated that the blasting activity, carried out for training purposes, had been interrupted at the end of the 80s of the last century, and added:

"For what concerns the period from 2013 onwards, I'm sure of what I say: a weapon has never been destroyed. What has been destroyed is ammunition - I repeat - for training purposes. "

With regard to the effects of the glare on the health of people and animals and the environment, useful information was provided by the Public Prosecutor at the Court of Lanusei who, in the

forementioned hearing, pointed out that the investigations made clear that "the animals, whose organs were found to be contaminated by foreign substances, essentially from heavy metals, grazed in the area of the weapons testing range and in areas adjacent to it in which various dangerous activities took place, such as blasting".

As for the destination of the Perdasdefogu area to the blasts, the Prosecutor specified:

"The weapons testing range would theoretically be a place where training activities or experimental activities should take place, but at some point in its history (for the will that I can not identify, but certainly these are decisions taken at higher levels than those of the weapons testing range directorate) the Perdasdefogu area was used for the destruction of arsenals of obsolete materials. We are talking above all, if not exclusively, about materials belonging to the Italian Air Force, that is air bombs, ammunition of anti-aircraft artillery and also light ammunition, small calibres for portable weapons".

Even from the investigations carried out in the past Legislature, what emerges is Dr. Mazzeo, about the origin of obsolete materials to be destroyed coming not only from the weapons testing range area, but from all around Italy; the disposal, as specified by the magistrate, took place "through sessions that lasted even months and took place daily for long periods, we proceeded to excavate holes 20 meters deep, using mechanical means in the availability of the weapons testing range, we placed the material to be eliminated, a charge of TNT was positioned (a cubic meter of 700-800 kilos was mentioned, but these are still rather large quantities) and we proceeded to blast".

"These holes were dug and then the area was cleared, the military personnel were cleared to a safe area, then blasting commenced, which consisted of the explosion of TNT that also caused the explosion of the other material.

There was a projection of combusted and unburnt material, earth, and everything else one could imagine, which formed columns several tens of meters high, after which there was a long period of relapse of these materials to the ground and into the surrounding territory.

The most serious issue is that the military personnel who intervened immediately after each blast to verify that there were no unexploded bombs, that could constitute a danger to the safety of people, intervened without adequate protection, some personnel told us that they did not carry anything, others said that they used masks like those used by nurses or painters while working; they used military leather gloves and wore their work uniforms, without any particular protection".

"On the other hand, as regards the non-employees of the weapons testing range, i.e. the shepherds, these were allowed to return to the area of the weapons testing range once the blast chief warranted that there was no danger of further explosions or things of this nature. Therefore, taking into account that the livestock was left inside the weapons testing range, obviously these individuals were in a hurry to return to check if the animals were missing. Findings show that the animals that were in that area have revealed a strong presence of metals and foreign materials in their bodies: the organs of animals that are not particularly young were examined, four or five years of age, so it was possible to verify the existence of an accumulation of these substances. As for military personnel, we have had numerous cases of ill people. Let's

say that they are clusters that are not particularly alarming, if viewed in proportion to the generality of military personnel; however, if we go to consider the specific tasks performed by this personnel, we see that those who were most exposed, i.e. those who went immediately after the explosion in the place, are those who suffered the greatest damage. This is what occurred among the shepherds, so we had, within the same family, one or more cases of lymphoma or oncological diseases related to the groups of shepherds who worked in the area close to this of the famous blasts of which I spoke of".

Indirect confirmations of the environmental damage caused by the practice of blinding came also from the hearing on 27 September 2017 of General Francesco Piras, the chief operating office of the PISQ between 1982 and 1988. According to the testimony given to the Commission, in areas specifically identified by the weapons testing range, large-scale blasting operations were carried out at that time, for the disposal of obsolete military material, coming from all over Italy. Confirming what was declared during the investigation carried out by the Public Prosecutor of the Court of Lanusei, General Piras also recalled that "at the end of the blasting the area was checked to verify the presence of the unexploded material and then covered with the ground, leaving inside the remaining metal parts of the destroyed armaments. " In fact, while keeping in mind the data of a different measure of environmental sensitivity in the 80s, not only within the Armed Forces, the aforementioned hearing revealed that blasting activities were conducted taking into little consideration the safety conditions of operators (as is also clear from the testimony given in the same hearing of 27 September 2017, by the Marshall of the Air Force Francesco Palombo) and the populations living in areas near blast zones.

In turn, the competent physician of the Salto di Quirra weapons testing range, Prof. Marcello Campagna, sent a "Report on the Salto di Quirra Interforces Test and Training weapons testing range: evaluation of the exposure to airborne nanoparticulate during the blasting activities of obsolete ammunition "of 4 July 2015. The report, aimed at "evaluating the exposure to airborne nanoparticulate during several blasting campaigns carried out at the Perdasdefogu base of the Salto di Quirra Interforces Test and Training weapons testing range "shows, in particular, that the tests carried out by prof. Campaign during the blasting operations date back to April and May 2015, a period in which, according to the commander of the weapons testing range, such activities should have been ceased for some time. Furthermore, the aforementioned Report observes:

"As reported by the company's prevention and protection service, during the periods of campaigning, the blinding activities are carried out from Monday to Friday in pre-established periods. Generally two to four blasts were carried out during a work day. In particular, from Monday to Thursday two blasts are carried out in the morning and two/one in the evening, on Friday two in the morning ".

It is clear that the activities carried out at the weapons testing ranges are potentially dangerous, not only because of the intrinsic nature of the operations carried out, but also because of the characteristics of the weapons systems and ammunition used. Risks associated with fumes, powders, nanopowders, containing, among other things, heavy metals, are now acquired elements, since the blasts, even if of non-polluting substances per se, are however such as to

determine the defined phenomenon of resuspension, since they are able to lift and return to the atmosphere pollutants both of artificial origin, produced by the same military activities even years before, and of mineral-natural origin, i.e. arsenic, lead and potentially natural uranium. In addition, there are risks associated with ionizing (e.g. radon) and non-ionizing radiations, in particular electromagnetic fields and artificial optical radiation. Some documents requested and received by the Commission highlight risks of exposure to chemical and carcinogenic agents related to substances used in the various activities, from fuels to paints, from solvents to smoke bombs.

Furthermore, the competent military authority did not receive satisfactory answers to the question, put forward on several occasions by the Deputy Pili, concerning the landfill of napalm in the area of the Salto di Quirra weapons testing range; in this regard, in fact, among the documentation that Dr. Mazzeo has sent in relation to the MILAN missiles, is included a note from the Research Centre for Studies and Research of the Air Force, August 1984, concerning "NAPALM material control" that indicates the landfill as the most reasonable solution. Moreover, the burial of materials of various kinds is not a practice unrelated to the PISQ: in the investigation carried out in the past Legislature, the Prosecutor of the Republic at the Court of Lanusei pro tempore, Dr. Domenico Fiordalisi, reported the news of the discovery, in ' of the investigations carried out, of a real landfill in the Is Pibiris area, within the PISQ area, where they were buried, on a surface of about one hectare, and for a depth of three to five meters, relevant quantities of hazardous waste (including asbestos, electronic systems, truck tires, batteries and igniters for missiles, copper wire spools of guided missiles and parts of anti-tank missiles). In addition, the landfill was located above the "header" of a river that feeds the river Flumendosa, no more than a mile from the town of Perdasdefogu.

As has been pointed out in the acts previously adopted, both in the context of the current parliamentary inquiry and in the documents concerning the parliamentary inquiries carried out in the past Legislatures, the deterioration in the physico-chemical state of some sites of the mentioned military weapons testing ranges and the relationship between the activities carried out there and the sanitary conditions both of the personnel in service and of the populations resident near the settlements, have been object of eloquent considerations from subjects called to carry out their evaluations on a scientific basis and in a position of impartiality. Numerous critical issues also regard the weapons testing range of Capo Teulada, a subject of particular attention also during the course of the investigation carried out in the past Legislature, due to an environmental situation that is strongly compromised. The settlement, which covers an area of 7,200 hectares, also includes the weapons testing range delta, better known as Penisola Interdetta, an area that has always been used as an area of arrival of blows (bullets, rockets, bombs) and that, unlike all the others of the weapons testing range, it has never been subject of reclamation operations, nor for the recovery of unexploded ordnance or for the removal of materials (also inert) used for individual exercises. The same regulation prescribes the permanent ban on the movement of personnel and vehicles. The analysis conducted on satellite images highlighted the presence of significant land alterations. Predominate those in the shape of a crater with dimensions that reach 19-20 meters in diameter. It turns out that from 2009 to 2013 in the weapons testing range around 24,000 shots were fired that consisted of artillery, missiles and rockets, most of which were fired at the peninsula. On the basis of these data and

considering only the ammunition of a higher calibre, bearing in mind that in the last 50 years the activity has been constant, it is estimated that on the surface there could be residuals for a total weight ranging between 1,750 and 2,950 tons. These residues contain significant amounts of polluting materials and are potentially able to contaminate the environment. The continuous training activity could cause dispersion of dust and sediments on the ground, triggering pollution processes of the main environmental matrices (soil, water, air) and of plant and animal components.

The environmental situation of Capo Teulada, analytically described by Dr. Cappai (technical manager of Arpa Sardinia) in his hearings (20 July and 3 August 2016) and in the acts that accompanied them, is well summarised in the hearing of the Deputy Prosecutor of the Republic at the Court of Cagliari, Dr. Emanuele Secci (October 5, 2016), in charge of the preliminary investigation created by some exhibits of people suffering from tumour diseases, attributed the cause to the military exercises carried out within the weapons testing range. Dr. Secci, referring also to the technical consultancy and activity carried out by Arpa Sardinia and ISPRA to reconstruct the times and methods of the exercises and their impact on the environment, dedicated part of his hearing to the so-called "off-limits peninsula", saying: "(...) from the objective point of view, the investigations that we have carried out reveal that the area is highly compromised (...) Our data, which are quite empirical, indicate that 566 tons of armaments are present in the peninsula and that eight (...) have been eliminated in two years. In fact, the problem arises from the fact that the area of the so-called off-limits Peninsula is still the subject of military activity. Certainly this does not happen when they are operating to open the gates (...) but from 2008 onwards, despite the entry into force of the ministerial decree of 2009 that required the reclamation of the places involved in the exercises, this area continued to be the target of the exercises ". Continuing in his exposition, the Prosecutor reminded that the explosions involve the spread of any contaminants, even of radioactive nature present in situ: "The radioactive material is put back into motion and therefore dangerous substances are introduced into the environment once anew. Of course, cleaning up the area completely is not easy. In other situations, when an area was deemed contaminated as a result of exercises, all activity would be abandoned in order to no longer expose personnel to further risks ".

Apart from the traces of radioactivity in places that have been the target of the launch of MILAN missiles and the alteration of areas (there are about 30,000 craters in the Delta Peninsula alone) due to the impact of bombs with the ground, a vast contribution to the potential disaster was the failure to promptly recover the material generated by the exercises, which, if officially admitted for the off-limits peninsula, was not negligible even in other areas that were hit targets. From the ARPAS documents acquired by the Commission (Environmental Survey at the weapons testing range of Capo Teulada, of 27 July 2016, accompanied by the draft preliminary Environmental Survey on the presence of radioactive materials in the area of the Military weapons testing range of Capo Teulada, also dated July 2016) it can be deduced that in some areas there is a significant number of artificial bodies, including the residues of the MILAN missile tracer (according to data reported by the weapons test range command from 1991 to 2004, 4,242 missiles were used) which are potential sources of danger due to the radioactive emission of thorium potentially able to contaminate the surrounding soil, so that some areas of the settlement could be classified as uncontrolled landfills. These and other documents acquired

during the course of the investigation, also led to the conclusion that, in addition to the extreme case of the Delta Peninsula, other parts of the weapons testing range territory are subject to use that threatens the state of these areas, and could irreversibly compromise its land and marine ecosystem unless important reclamation activities are undertaken in the short term and a new model of use launched.

As for reclamation, it should be noted that there are many difficulties in its implementation, mainly linked to the management of the territory entrusted exclusively to the military Authority, without providing for any exchanges with environmental administration, with the Region and the local governing bodies: it is desirable, in this regard, that the recently adopted provisions of the budget plan for the three-year period 2018-2020, which will be discussed later, may contribute to modify this situation and mark a decisive turnaround of a reality that is seriously compromising the environment while the institutions remain idle. To date, the reclamation has been started with resources such as to make it consider absolutely inadequate compared to the needs; it also becomes even more complicated for the reasons set out by the engineer, Mr. Sanna, manager of Arpa [regional environmental protection agency] Sardinia (hearing of October 4, 2016): "(...) when the reclamation of a disused industrial site is carried out, we know the industrial process and all the types of processing carried out, so it becomes easier to understand which elements are to be investigated within the site. Therefore, also the preparation of the characterization plan, of any piezometers, of deposimeters, and sampling of soil specimen can be done with a logic strictly related to the industrial activity carried out in the context of the sites subject to reclamation. This does not happen in military areas. The ministerial decree of 2009 provides that the military authority is the proceeding one, so it becomes difficult to monitor the area, not knowing the processes of training activities that take place within the weapons testing range, making it impossible to establish the matrices to be investigated".

And again: "For monitoring activities it would be important to have safety measures implemented across the territory (...) It would also be advisable to also monitor the boundaries or in the perimetral bands to verify the effects on the anthropized ones located near the weapons testing ranges".

Finally, the lack of controls on the territory inside the weapons testing ranges functional to monitoring the environmental situation is all the more important considering that most of the areas of military weapons test ranges in Sardinia constitute a SCI area, i.e.

"Sites of Community Importance (...) - the Regional Councillor for the Environment of Sardinia Donatella Spano declared to the Commission (hearing of 6 October 2016) - it is said that they must be kept, even, be raised, i.e. brought to status of areas of special preservation, and then start management plans, which must undergo a procedure by legislation, i.e. they must be assessed in environmental terms and their impact must be understood. It is clear (...) that this evaluation cannot be made if data are missing". The commissioner then added: "The VINCA (environmental impact assessment) requires, monitoring and information, therefore an evaluation of the state of conservation of the sites. It is therefore impossible for us to carry out this procedure, this assessment of incidence for sites that are in these off-limit zones (...) ". In this regard, in the rest of the hearing, the commissioner Spano then read a prescription included in the management plans of the SCI, which states, among other things: "The management plan

reveals that military activity is potentially a source of significant impact on the habitat and on species of Community interest, and therefore it is considered appropriate that the same be subject to appropriate planning". He then made the following conclusion: "I would once again reflect on a difference. There is a principle that applies to everyone: the polluter pays. This is also true with regard to military sites. On the other sites, the polluters are obliged to carry out remediation activities, which however are controlled, monitored for health guarantees, of the correct implementation of the activities of reclamation and characterization by a third party.

This third can be, depending on the case, the ministry, the region with its environmental agencies and so on. In the case specified, this third party control bodies are missing. So, for the benefit of all - this is still a solicitation - this third party must be guaranteed ".

The Commission has been able to acquire sufficiently large and up-to-date data on the state of health of residents in the municipalities located near the weapons testing range of Capo Teulada. Of particular interest are the conclusions of the recommendations made to the Cagliari Public Prosecutor by prof. Annibale Biggeri: the situation in Foxi, an area of the municipality of Sant'Anna Arresi, prompts worry and is located near the military exercise site. In fact, the inspections carried out by the Commission made it possible to ascertain the considerable frequency in the years from 1995 to 2014 of military exercises using armoured vehicles and fire activities including long-range missiles. In the Foxi area, for the period considered, 2000-2013, mortality doubled due to all causes with a risk of at least three times greater than mortality and morbidity for heart disease. In this regard, at the hearing on 6 August 2016, prof. Biggeri specified that "there are various hypotheses for which the cardiovascular pathologies, for that small population that resides in the area of Foxi, can increase (...). We have several very consistent hypotheses related to military activities. The simplest one concerns the noise of the drills, the impulsive noise related to shots and to low frequencies. In this case, exposure from the population is documented in people's homes during the exercises. The other item not documented but clearly deducible is exposure to fine dust (...). Fine dust and noise are very solid elements in literature as causes of cardiovascular disease ". An equally compromised situation was reported by Professor Biggeri also for other surrounding areas, as stated in the conclusions of the epidemiological survey on health impacts in the resident population near the military weapons testing range of Teulada prepared in the field of technical advice for the Prosecutor's Office of Cagliari, lodged on 20 May 2016 and presented by Professor Biggeri to the Commission's documents. Among other issues, this document states: "Comparisons between the sub-municipal areas, classified by proximity to the military activities of the weapons testing range, have shown for residents in the Foxi area a doubling of mortality from all causes and a three times greater risk of mortality and morbidity from heart disease." The critical issues encountered are not limited to Foxi. The document continues: "This does not exhaust the problems related to the impact of the weapons testing range. The analysis of residents in the areas of Sa Portedda, Gutturu Saidu and in the areas of the Municipality of S. Anna Arresi adjacent to the weapons test range shows excesses for respiratory, digestive and urinary system diseases and for several tumoral pathologies that could also be reflected in the profile of toxic substances issued, where such information becomes available ".

These, in short, are the conclusions of the technical assessments on the health of some populations living in areas close to the two main military weapons testing ranges of the Armed Forces.

The case of Sardinian weapons testing ranges, also considering the the extension of the settlements, is emblematic of a situation that however also affects other realities, and that is to a certain extent similar to what has already been said about the shortcomings recorded in order to evaluate risks. Both of these problems are due to a more general underestimation by the Military Authority of the effects on people and the environment deriving from military activities of particular intensity. In this regard, however, it should be noted that during the inspections carried out in different situations, the Commission took note of a significant change in pace, in the sense of greater sensitivity towards health and environmental issues, both by the commanders and by part of the hierarchically superordinate authorities, relevant from a cultural point of view, but still lacking in its operational profiles, precisely because it is still limited, from an ordinal point of view, by a structure that up to now has benefited from a privileged dimension of separateness and self-referentiality of the military world in regards to the civil sphere. This also holds true for management of the areas entrusted to the Armed Forces and the consequent initiatives for the protection of the environment. In this regard, the story, which will be referred to later, of the weapons test range of Torre Nebbia is emblematic, where the command of the structure's managing body, the Pinerolo Brigade, is committed to defining forms of collaboration with the civil authority - in this case, the presidency of the Park Authority of Alta Murgia, in whose territory the weapons testing range is located - as regards the planning and management of the exercises and the impact of these on a particularly complex environmental reality, whose effectiveness is but limited by the lack, to date, of a regulatory framework that better defines the tasks and responsibilities of the institutional subjects involved. A step forward, in this sense, is constituted by the approval of the aforementioned rules, which introduce principles of greater transparency and institutional collaboration in the management of areas destined to weapons testing ranges and which have incorporated the guidelines already indicated by the Commission. in the second interim report.

4. Regulatory changes

Coming to the profiles relating to the updating and adaptation of the legislation, it is first of all necessary to consider that the Environmental Code (Legislative Decree 4 April 2006, No. 152, concerning environmental protection) in its original draft did not contain specific provisions on the military areas, which therefore had to be considered subject to the general discipline.

With the legislative decree 16 January 2008, n. 4, on "Further corrective and supplementary provisions of Legislative Decree 3 April 2006, n. 152 ", a standard was inserted, paragraph 5-bis of art. 184, which attributes to the Minister of Defence, together with the Minister of the Environment, the power to regulate with a specific decree the whole matter of the treatment of waste produced by weapons and infrastructures destined for military defence and national security, and of the reclamation of contaminated sites.

In implementation of the aforementioned provision, the Minister of Defence, with the Decree of October 22, 2009, has set specific environmental regulations by providing for a separate

discipline that includes: the entire reformulation of the waste matter, starting from the definition of waste up to the special procedures for their management, as well as the prevention of contamination and the remediation of polluted sites. But, for this subject, the regulatory framework of Article 6 intervenes only starting from the assumption "of an event potentially capable of contaminating a site". In this case, the entire ascertainment is entrusted exclusively to the military authorities and only when the preliminary investigation shows that the contamination threshold concentrations have been exceeded for any parameter, the military authority must involve the civil authorities.

Subsequently, the Environmental Code has undergone further changes. With the art. 13, paragraph 5) of the Decree-Law of 24 June 2014, n. 91 (Urgent provisions for the agricultural sector, environmental protection and energy efficiency [SCI] in school and university buildings, the re-launching and development of businesses, the containment of costs on electricity tariffs, as well as for the immediate definition of obligations deriving from European legislation) the aforementioned paragraph 5-bis of art. 184 of the Environmental Code, which also introduced the art. 241-bis, specifically concerning military areas.

The new formulation in terms of waste does not innovate as regards the definition of waste and management procedures, but limits itself to prescribing that the regulations of the ministerial decree "respect" those of the European Union and the environmental code.

Article. 241-bis also states that, in the areas of the state property reserved for the exclusive use of the Armed Forces for activities related to national defence, the contamination threshold concentrations envisaged in the tab. 1, columns A and B, of annex 5 to the title V of the fourth part of the legislative decree n. 152, depending on the different destinations and activities actually conducted within the military areas. Basically in the residential areas the threshold concentrations of column A) are applied, in the others, or in those for the exercises or experiments the parameters of column B) are applied, with parameters much higher than those foreseen for the sites to residential use.

In fact, the regulatory framework proved insufficient as art. 6 of the aforementioned ministerial decree of 2009, although introducing the objective criterion of contamination threshold concentrations to be verified at the end of the preliminary survey on the parameters object of the pollution of the area concerned, to be carried out by the Commander or the Director of the body, it did not specify the maximum concentration levels which were in relation to the various inorganic compounds, if those in column A) or in column B). It must also be added that for substances not included in tab. 1 (see depleted uranium, thorium and others) the art. 241-bis assigns to the National Institute of Health (Istituto Superiore di Sanità) the task of determining the threshold concentrations "on the basis of the technical information provided by the Ministry of Defence".

The recent intervention of the legislator therefore was limited to providing a remedy for the lack of system, stating higher threshold levels of concentration of contamination for military sites thanks to the equivalence between military areas and industrial sites. The legislation on the environment remains however that of a regulatory nature, that is to say the rules contained in the Decree of the Minister of Defence of 22 October 2009, also with regard to the prevention and reclamation of military areas and in particular weapons testing ranges.

Starting from the objective data collected during the current investigation and in those carried out in previous legislatures, which was reported in the previous paragraphs, regarding the military activity carried out in the main national weapons testing ranges for the exclusive use of the Armed Forces, together to the analysis of the consequences, certain, on the alteration of places and those likely on the health of those who, although residing outside the weapons test ranges, live for long periods in its vicinity the Commission, since the second interim report, provided several indications that have now merged into a series of regulatory changes introduced by Article 1, paragraph 304, of the Law of 27 December 2017, n. 205 (Forecast balance sheet for the 2018 financial year and the multi-year budget for the three-year period 2018-2020).

The first criticality unveiled concerns the dispersion of residues from blasts exploded during the military exercises into the surrounding area of the weapons testing range.

Several statements made by representatives of the competent military Authorities seem to point at, even if implicitly, the fact that the explosions were controlled only when exercises were carried out by the Italian Armed Forces. This is not the case when armed forces from other countries participate in the exercises.

A rapid and generalized recovery activity is called for in order to avoid the potential contamination of the area surrounding the blast arrival site. And it is equally clear that the recovery activity must entail the detailed knowledge of all the blasts when fired, regardless of the Armed Force that carries out military exercises.

The need for specific regulatory measures, set by the Commission with the approval of the second interim report, was incorporated into the parliamentary discussion of the bill containing the State Budget for the 2018 financial year and the multi-annual budget for the three-year period 2018-2020, and translated into a series of amendments, discussed and enacted at first reading in the Senate and now definitively dismissed by the Chambers. In particular, Article 184 (on the classification of waste) of Legislative Decree 3 April 2006, n. 152, "Rules on environmental matters", with the introduction at each weapons testing range and under the responsibility of the master, of the register of activities in focus, in which the weapon or the system of the activities are noted immediately after the conclusion of each activity. weapon used, ammunition used and date of weapons testing and places of departure and arrival of blasts (paragraph 5-bis.1). The register is kept for at least ten years from the date of the last annotation and is shown, according to the indication provided by the aforementioned Commission report, to the environmental monitoring and control bodies (ISPRA and ARPA) as well as the bodies governing work safety and hygiene, at its request, for the assessments of their respective competence (paragraph 5-bis.2). This is an important innovation, in terms of transparency of procedures and controls, since it is expected that the supervisory activity on the application of environmental legislation, even in areas under military domain, may be carried out by the administrations holding these functions, different from the Armed Forces (which have so far performed these activities through their structures in this as in other areas), and thus acting as third and independent party that plays a crucial role in effectively monitoring the application of current regulations.

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The establishment of the register is also functional to the orderly and effective performance of the activities aimed at recovering the residuals of the ammunition used. According to the new regulations, the latter must be initiated within thirty days of the end of the exercise period and completed within one hundred and eighty days, in order to ensure the fulfilment of the Minister of Defence Decree of 22 October 2009 regarding the procedures for the management of materials and waste and the reclamation of sites and infrastructures directly destined for military defence and national security (paragraph 5-bis.3).

Another item that has undergone radical innovation concerns the introduction - with the integration of article 241-bis (remediation of contaminated military areas) of the aforementioned legislative decree n. 152 - of the permanent monitoring plan on the components of all environmental matrices in relation to the activities carried out in the weapons testing range, adopted by the commander of each range, and integrated with the indication of the initiatives to be taken to extend the monitoring, by the competent bodies, also to the areas adjacent to the military establishment. Finally, it specifies that for temporary or semi-permanent weapons testing ranges, the plan is limited to the period of use by the Armed Forces (paragraph 4-bis).

Another important fulfilment is added to the monitoring plan: the preparation, by the weapons testing range commander, for each type of exercise or test to be carried out in the area of the weapons testing range, of a document indicating, on a six-monthly basis, the planned activities, the operating methods of time and place as well as the other elements relevant to the protection of the environment and health (paragraph 4-ter). The document is also sent to the regional government in which the range is located and is made available to ARPA and the municipalities responsible for the territory (paragraph 4-quater).

With a further provision, it is possible to establish, in the regions where military weapons testing ranges of the Armed Forces are based, a Regional Environmental Observatory on military weapons testing ranges, within the regional environmental information systems related to the national environmental information network (SINANET) of in Article 11 of the law of 28 June 2016, n. 132. The commander of the military weapons testing range, within thirty days of the end of the exercise period, sends the results of the environmental monitoring plan to the Observatory, and the forms of collaboration between the Regional Environmental Observatories and the Ministry of Defence are governed by specific protocols.

The adoption of these rules responds directly to a survey of the aforementioned second interim report, which reported "the absence or mere episodicity of the control activity on the environment of military exercises", also observing that the aforementioned decree of the Minister of Defence October 22, 2009 does not mention environmental controls, providing only, as already mentioned above, the adoption of specific measures to investigate and safeguard the environment only ex post that is, as stated in the incipit of the paragraph 1 of article 6, "when an event potentially contaminating a site occurs". With reference to the adoption, also for military settlements, of the contamination threshold concentrations envisaged in Table 1, columns A (for residential use) and B (sites for commercial and industrial use) of Annex 5 to Title V of the fourth part of legislative decree n. 152 of 2006, the second interim report also noted that "the formal equalization of military areas to industrial sites in terms of

contamination threshold concentrations does not however state the fundamental difference between the site that houses an industrial plant and one that hosts a weapons testing range.

This is the control that environmental authorities (state and / or regional) have the task of carrying out in the authorization phase on industrial initiatives": in fact the procedures provided for by legislative decree n. 152 for the various environmental impact assessments was not applied to weapons testing ranges; this led to a lack of controls having technical and third-party characteristics guaranteed by the Environmental Code regarding the compatibility of the exercise or test activities, with the safeguard of the environment and with the health of range personnel and of populations residing in areas in the vicinity of military settlements.

The set of provisions introduced by the budget law, includes the Armed Forces in the circuit of institutions responsible for overseeing compliance with environmental legislation, interrupting a self-referentiality of the military world, which has also produced diseconomies in the past, inefficiencies and unequal allocations of responsibility, with negative repercussions on the territory, and on the well-being of the people employed in the ranges and of the population residing in the areas in their vicinity. Overcoming the critical issues that have characterized the monitoring of these areas, also due to regulations that move in this perspective, can favour the achievement a non-prerogative management of the territory by a single body, whose burdensome management duties are surreptitiously compensated by an implicit circumvention of the corresponding responsibilities, but shared among all parties involved, according to principles of loyal collaboration between the institutions.

The other provisions introduced in the Environmental Code also point towards this perspective. The first of these ((paragraph 4-sexies) refers to a decree of the Minister of Defence, in agreement with the Minister of the Environment and Protection of Land and Sea, with the Minister of Health, with the Minister of Infrastructure and Transport and with the Minister of Economy and Finance, the definition of the procedures applicable to the occurrence, in the weapons testing ranges, of an event in relation to which there is an imminent danger of environmental damage, following the model adopted with paragraph 5-bis of the Article 184 of Legislative Decree No. 152 of 2006, concerning the definition of procedures for the management of waste produced by weapon systems and the means, materials and infrastructures directly destined for defence and national security. A further provision (paragraph 4-septies) delegates to a decree by the Minister of Defence, in agreement with the Minister of the Environment and protection of land and sea and with the Minister of Health, the establishment of the maximum period of annual use of the military weapons testing ranges of the Armed Forces for exercises and tests. Lastly, an important new aspect has been introduced regarding the supervision of compliance with waste legislation (4-octies): within the administration of defence, the latter is attributed, pursuant to Article 9 of the Ministerial Decree of the defence 22 October 2009 to the Carabinieri Command for the protection of the environment and to the Corps of the port authorities; with the new provisions, again with regard to waste, it is expected that these bodies, without prejudice to their competences, will also be supported by ISPRA, with the possible collaboration of ARPA, according to the procedures defined by the Minister of Defence decree, in agreement with the Minister of the Environment and the Protection of the Land and Sea. Further provisions specify the penalties for failure to comply with the obligations contemplated by the new legislation.

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On the whole, therefore, with the changes introduced to the Environmental Code, a series of provisions have been adopted by the legal system that crown the activity of inquiry carried out by the Commission and gather its basic direction, aimed at creating a more transparent management of training activities and areas where weapons testing ranges are established, guaranteeing the promptness and completeness of remediation activities and the strengthening of the supervisory and control functions in compliance with environmental legislation, through the creation of collaboration channels for administration of defence with other institutional parties, to achieve greater protection of workers in uniform and of the populations residing in the territories surrounding military settlements.

The dual conversion of weapons testing ranges and the relationship with local authorities. - The investigation has also highlighted another problem, which is part of the more general issue of an overall remodulation and rationalization of the presence of military bodies deployed in the territory and its sustainable use, based also on a different and more balanced relationship between military and civil authorities. This is the possibility of creating forms of territorial reuse, understood as dual management, both civil and military, of the areas of establishment of the weapons testing range, already mentioned in the Interim Report on weapons testing ranges (30 May 2012) prepared by Senator Scanu in the 'Inquiry carried out in the past Legislature by the single-chamber Commission established in the Senate, in which, among other things, the hypothesis was formulated, relative to the weapons testing range of Salto di Quirra,' to reclaim the entire area currently subject to military servitude, also downsizing it and allocating areas no longer subject to military restrictions for civil or dual use, with particular reference to the development of activities related to civil protection, to scientific and technological research in innovative sectors, including electronics, to testing of UAV aircraft, to seeking improvement of the safety conditions of the military engaged in the international missions, to the protection of entrepreneurial initiatives and technical and professional skills developed in the territories concerned".

A partial realization of this hypothesis, even in the absence of a territorial downsizing of the PISO, is constituted by the experience of the aerospace consortium, which is giving life to forms of interaction with the military authorities susceptible of further and positive developments. This topic was specifically addressed in the hearing (October 4, 2016) of Mr. Giacomo Cao, president of the Distretto aerospaziale della Sardegna (Dass), a consortium company with 51 percent of public capital (in which the University of Cagliari participates, the CNR, the National Institute of Astrophysics and two regional institutes, Sardinia research and CRS4) and 49 percent of private capital (among the private partners, three leading companies in the aerospace sector were mentioned, Avio SpA, which manages the Vega launcher of satellites, the Italian aerospace research centre in Caserta and Vitrociset): consulted on the collaboration with the Salto di Quirra weapons testing range, which currently includes 150 of the 200 employees of the Consortium assigned to the Capo San Lorenzo area (the coastal area of the range), Mr. Cao has in advance specified that the projects carried out by the aerospace district are exclusively linked to the civilian sphere; however, such projects, require at least two military infrastructures in Sardinia for their development.

Mr. Cao firstly cited testing of liquid propellant engines and solid propellant engines of the Vega rocket: this project, to which the production of a carbon-carbon composite is added, can

make use of structures in Capo San Lorenzo for its realization. Another project concerns the testing and certification of unmanned aircraft. The Sardinia region with its three military airport infrastructures (Decimomannu, Fenosu, Tortoli) could play a unique role in Italy as these infrastructures make it possible to test unmanned aircraft of any type and size.

In his presentation, Mr. Cao also talked about the projects related to monitoring of so-called "space junk" (SSA, Space Situation Awareness) and satellite routes (Space surveillance and tracking), which could nominate Sardinia as a national reference point as regards the control room that monitors space junk and satellite routes, and which could be carried out in concert with the radar infrastructures located at the PISQ, as well as other projects, whose realization could involve the involvement of other military structures, such as the Decimomannu airport. Responding to the questions of the parliament members present, the President of Dass also focused on employment prospects, and on the possibility, also through collaboration with the Region (a framework agreement was signed on 4 August 2016) of implementing various projects, leading to an increase of employees, which currently is rather modest (200 people employed in the consortium).

Prof. Francesco Pigliaru, president of the regional council of Sardinia also spoke about the need for a "dual conversion" of weapons testing ranges (hearing of October 7, 2016), who insisted on the need for a commitment by the Government and in particular the administration of defence, to mobilize resources suitable for promoting research and development activities that also leverage the fabric of local entrepreneurship: at the same time, president Pigliaru - who during his exposure hinted at the hypothesis of giving life to a school of civil protection always near the PISQ, also with the involvement of the School of non-commissioned officers of Maddalena - did not fail to underline the need, however, to rebalance the military presence in Sardinia, so that sites of great landscape and environmental importance are restored to civil use, which for sixty years have been included in the 30 thousand hectares occupied by military settlements on the island.

Activities such as those developed by the Aerospace Consortium Dass also show that it is possible to adopt a more dynamic perspective regarding the contribution of weapons testing ranges and other similar settlements to the economic and social development of the surrounding areas. In the course of the investigation carried out in the last legislature, the military authorities insisted on the virtuous circle that the presence of these structures can activate, giving rise to significant inducements, also in terms of employment impact, linked to the need for services for resident military personnel. This is a circumstance that must be carefully assessed, even in the context of a project to rationalize and downsize the territorial extension of several settlements.

At the same time, the representatives of several local administrations have also highlighted the diseconomies related to environmental degradation due to some of the training and training activities (mentioned above) should not be neglected, and to the prejudice that can derive from the economic point of view, in particular for tourism and agriculture. Quite a different matter is that concerning the growth potential, in qualitative and quantitative terms, due to a dual conversion of the weapons testing ranges, which could lead to the creation of a more stable and much more qualified and dynamic employment, rather than that induced by modest growth in demand for services generated by the presence of military personnel in the weapons testing ranges.

cerns the dual conversion and territorial reduction of the weapons testing ranges are therefore not in contradiction, but they are, on the contrary, two elements that can be the architrave of a more general project of reorganization and rationalization of the military presence in Italy.

In this context, with a view to greater sustainability in the use of the territory, the SIAT project (Sistema Integrato per l'Addestramento Terrestre (Integrated System for Earth Training)), in an experimental phase from June 2014 at the Tactical Training Centers (CAT) distributed in 5 areas of the national territory, including the weapons testing range of Capo Teulada, and whose essential features were illustrated to the Commission during the inspection carried out at that site (6 October 2016). On this occasion the considerable advantages that the adoption of this simulated war system could entail include: among them, the reduction of the time needed for the logistic organisation of the units, the saving of tools and resources (for example, the simulators of driving reduce fuel costs and wear and tear of the vehicles used), greater personnel safety and an extremely reduced environmental impact, with a consequent reduction in post-weapons testing reclamation. On the whole, it is a measure of modernisation that goes in the direction that has been repeatedly sought in the course of parliamentary inquiries carried out on these issues, even in the past Legislatures.

In acknowledging this innovation, however, we need to underline the need that the SIAT system is also functional to the more general project of rationalisation of the military presence on the national territory, and that it is also used in relation to its potential to generate dual research, as has also been highlighted during the presentation held at the weapons testing range of Capo Teulada, thus achieving a dual objective of giving rise to military activities that not only lighten the environmental impact, but that open up opportunities for advanced and innovative research, to be carried out mainly on site, using the scientific structures already present in the area, without excluding the possibility of creating networks of international collaboration.

The search for simulated war systems that reduce the impact of the activities carried out in the weapons testing ranges on the territory recalls another highly critical profile that emerged during the hearings and inspections, concerning the conditions of the protected areas and the sites of the Natura 2000 Network (the main instrument of the European Union policy for the conservation of biodiversity, consisting of the network of Sites of Community Interest - SCI) in which some military settlements are either fully or partially located. In fact, Sites of Community interest include the area of the military weapons testing range of Torre Veneri in the province of Lecce, and the area of Isola Rossa and Capo Teulada, in the province of Cagliari, both subject to specific inspections by the Commission. In these same areas there are activities of training and training, also in focus, by the Italian Armed Forces and NATO. To date, with a few exceptions, most of these activities have been executed without informing the managing bodies of protected areas and without any environmental impact assessments being carried out, even though required by current legislation: these omissions were often motivated by invoking military secrecy, but this justification did not always appear based on a solid factual foundation. Pursuant to the amendments to the Environmental Code introduced by the Budget Law 2018-2020, which have been mentioned previously, it will be possible to ascertain, on the basis of the documentation made available to the authorities responsible for environmental protection by the commanding bodies of the weapons testing ranges, that the conduct of weapons testing training and exercise activities is not in contrast with the needs of safeguarding the habitat of

the above areas, and with the provisions contained in the law of December 6, 1991, n. 394 (Framework Law on protected areas) and in Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora, which establishes the Natura 2000 network.

The hearing (March 21st 2017) of the President of the Park Authority Alta Murgia, Cesare Veronico, was emblematic. He explained that the military activities of the weapons testing range of Torre Nebbia for four years carried out in the area of Park were jointly concurred with the command of the Pinerolo Brigade (which manages the weapons testing range) and other commands involved, and the agreement is preliminary to the presentation of the project to the Joint Commission. As construed from the hearing of the Commander of the Pinerolo Brigade (March 21, 2017), the relationships that were positively established in the individual case between the military authorities and the managing body, nevertheless constituted an isolated event that stemmed from the joint will to collaborate. This relationship proved useful in containing the risk of serious injury that the conduct of military weapons testing exercises can entail for the protected natural habitat: approval of the amendments to the Environmental Code allows, from this point of view, would do away with informal and non-codified relationships between civil and military authorities as regards land management to give room for a incisive role of the Joint Commissions, whose role has progressively tarnished over the last few years. This would also serve to establish the conditions for the exercise and training programs to be subjected to an environmental impact assessment (VINCA) conducted jointly by the Ministry of Defence, ARPA and the managing bodies of the protected areas involved.

The issue is presented in various ways, which allow a reflection on the past and on the future prospects of environmental protection in the areas of settlement of weapons testing ranges and in the surrounding areas.

In general, the fact that the management of portions of territory, in some cases of noteworthy landscape and environmental interest, has been completely subtracted from the jurisdiction of the local governing bodies, as well as from the supervision of the institutions responsible for the protection of environment, gave rise to a situation not entirely in line with the principle stated in Article 5 of the Constitution, by virtue of which the Republic "adapts the principles and methods of its legislation to the needs of autonomy and decentralization"; while taking into account the specific needs, including secrecy, connected with the execution of military activities, it does not seem possible to support the admissibility of a permanent derogation from a fundamental principle of democratic order. Looking then at the concrete development of the events, we can not fail to note that the absence of controls regarding the management of land, in particular by the local government bodies, has allowed cases such as those of the so-called "off-limits peninsula of Capo Teulada" to occur; it may be appropriate to report in this regard what the president of the Sardinian regional government said in the aforementioned hearing while addressing the Commission: "It is unacceptable - as I also stated two months ago - that the Teulada Delta weapons testing range be declared permanently off-limits. I know that you have seen the peninsula and that you have illustrated the current characterisation activities, but I also want to mention here that they were established under the impulse of the magistrate. Without that investigation of the magistrate, we still might be speaking of an area that is forever off-limits as it would not - from a certain incorrect point of view - be economically convenient

1991, n. 39 to reclaim it. Obviously, the defence could deem it as being not convenient to reclaim, while
May 1992 of this same situation changes if seem from a more general point of view; this is what we must
e the Natur pursue with force because it is useful, important, necessary and essential to continue with
systematic reclamation."

rgia, Cesar in this regard, therefore, the changes made to the Environmental Code outline a series of
pons testing measures that can be defined as the adaptation of ordinary legislation to constitutional
occurred with principles, where the management of a portion of the national territory is expected to respond
) and other to principles of pluralism, democratic participation and collaboration among the different
ject to the constitutional levels, according to criteria that up to now has been disregarded, with negative
olo-Brigade consequences on the health of the environment and inhabitants. Given these premises, the
vidual case Commission believes that it is necessary to establish and implement, in the immediate future,
an isolated numerous of tools and initiatives aimed at ensuring that the presence of weapons testing ranges
d useful in the territory is harmonized with the needs of social and economic development, protection
ercises care of health and safety of workers and citizens and environmental protection in areas of settlement.
ental Code To this end, it is necessary to reflect on the inescapable need to reorganise and rationalise the
lationships network of military settlements in Italy, especially for those in areas such as Sardinia, where
a incisive this presence is characterised by its pervasiveness; this is an issue that must be tackled with the
few years aim of avoiding drastic alternatives, which can be resolved in abstract petitions of principle that
rams to be are difficult to implement. It is necessary to start from the current situation and bear in mind
e Ministry the progress made in recent years as regards it concerns mutual listening of reasons put forward
by different subjects with distinct and potentially conflicting interests, whose composition
constitutes difficulties that must not be underestimated.

the future The starting point for such a reflection, however, must without doubt be that indicated by the
anges and Commission of Inquiry established in the previous Legislature and also resumed during several
of the hearings carried out in recent surveys (see the hearings of President Pigiariu and those of
oteworthy the President of the Regional Council of Sardinia, Gianfranco Ganau in particular), i.e. the need
diction of to consider this problem in the light of the changes that have taken place, especially since the
nsible for end of the 1980s in the geopolitical framework. In fact, the current weapons testing range
principle network, was vastly implemented during a period that dates back to the 1950s and early 1960s
principles to cope with the training needs of a much larger army that the current Armed Forces),
aking into characterised by an extremely different international scenario.

tion from In this regard, the statements made in the aforementioned Interim Report on the situation of the
ent of the weapons testing ranges must be confirmed: "The dissolution of bipolarity, the threat of
of land, terrorism, not rooted in a specific state framework, and a geopolitical structure characterised by
so-called multipolarism are all factors that require reconsideration of structures planned in a historical
is regard period that has now come to an end."

hearing Furthermore, this preliminary consideration must also account for a political and cultural
go - that context in which a policy of containing public spending oriented towards the downsizing of
that you plethoric apparatuses rather than the reduction of benefits to citizens appears to be a node that
ties, but can no longer be avoided. It therefore comes to pass that a reconsideration of the network of
gistrate. weapons testing ranges appears necessary, both in light of the new geo-political contexts, and
forever also in relation to organisational and technological innovations that today make it possible to
venient

implement a rationalization that primarily involves prior reclamation when necessary, and also, wherever possible, the disposal of areas whose use is no longer necessary for military purposes with restitution to civilian sphere.

The data emerging from the current investigation and the conclusions contained in the Final Reports of the two previous Parliamentary Commissions reveals the complexity of the problems and the plurality of issues to be solved, which concern: in particular, in the previous Legislature, the Interim Report on the situation of weapons testing ranges (rapporteur: Scanu), approved on May 30, 2012, had exposed a need that still maintains all of its relevance, and that the Commission has taken up as its own: that is, a complete redistribution and relocation of the military settlements in Italy, in sight of a rationalization and adaptation to the new geopolitical structures, also through the downsizing of the areas of the military state, a sustainable use of the territory where the aforementioned structures are located, with the involvement of local administrations and other bodies involved in various ways, for all matters pertaining to the health of the environment and the protection of public health, in particular as regards the planning of reclamation activities, the constant verification of the adequacy of the legislation in force in ensuring that military activities likely to have a significant impact on the surrounding environment are subject to the same assessment and control measures that are laid down by EU and internal regulations for civil activities with similar characteristics.

The progress made with the modifications of the Environmental Code illustrated above, however, if also considered in light of the investigations conducted by the Commission during several inspections, not only have not failed, but confirm and corroborate the Commission's conviction about the fact that it is necessary and undeferrable to initiate a process of streamlining, rationalization and modernisation of military settlements nationwide. In particular, the inspections carried out in Sardinia made it possible to ascertain not only the possibility, but also the desirability of a reorganization based on a decisive downsizing of the areas destined for military use. This is essential in order to reduce the impact of the activities carried out there on health of workers and residents, as well as on the environment. These activities must be more consistent with the innovation processes in training and drill techniques of the Armed Forces, as well as the commitment to the promotion of forms of dual use of weapons testing ranges. Therefore, the Commission, at the conclusion of its assessments on the situation of weapons testing ranges, and once again resuming the debate already launched in the past legislature on this matter, reaffirms the need to reconsider the military presence in Sardinia as a whole, which in turn makes it necessary to adopt measures that lead to a gradual downsizing of settlements given the difference of the current geopolitical scenario for which the defensive measures currently in place are outdated. Therefore, the Commission deems it necessary to proceed in the direction of a radical reclamation and the gradual disposal of the weapons testing ranges of Capo Frasca and Capo Teulada, ensuring the maintenance of employment levels, and the concentration of all sustainable activities in the inter-force weapons testing range of Salto di Quirra, whose territorial extension must in any case be reorganised, always following the necessary reclamation measures, and without prejudice to the prospect of dual management of the area and of the structures located within its boundaries, according to the modalities that the Commission has come to know and appreciate during its work.

Chapter 5.

EFFECTS OF THE METHODS OF MILITARY PERSONNEL VACCINATION

1. Premise.

Pursuant to art. 1 of the governing resolution dated 30 June 2015, among others, the Commission has the task of investigating: **d)** the components of the vaccines administered to military personnel, regardless of the tasks assigned to said personnel; **e)** the methods of administering vaccines to military personnel as well as on monitoring the immune status of the subjects observed, taking into account in particular the results of the project known as “Studio sull’impatto genotossico nelle unità militari (Study of genotoxic impact on military units)” (SIGNUM).

A specific working group has been set up to further investigate the aforementioned issues. Their findings have been analytically illustrated in the Interim Report approved by this Commission on 19 July 2017, to which reference is made.

In light of the investigations carried out, the final observations below can be made.

2. Work of the Commission on the topic.

Among the topics discussed by the Commission, monitoring of health and vaccine prophylaxis for Defence Administration personnel take a centre role.

As regards prophylactic vaccinations, as part of the legislative decree containing supplementary and corrective provisions of Italian Legislative Decrees 28 January 2014, n. 7 and n. 8, the new text of art. 206-bis, entitled “Profilassi vaccinale del personale militare (Prophylactic vaccination of military personnel)” was introduced into the body of Italian Legislative Decree n. 66/2010, which is reported below:

- 1. Military health may deem indispensable the administration, according to specific protocols, of specific prophylactic vaccination to military personnel to assigned to particular and identified operating or service conditions, in order to guarantee the health of individuals and of the community.*
- 2. The health protocols referred to in paragraph 1 are approved through the decree of the Italian Minister of Defence adopted in agreement with the Ministry of Health. These also bear the analytical indication of the obligations related to the administration of vaccines, such as those of composing the patient's anamnestic picture before initiating the prophylactic vaccination and to record the entire vaccine prophylaxis administered to each military person on appropriate documentation, even electronic.*
- 3. If the serviceman to receive prophylactic vaccination submits documented medical reasons to refrain from the procedure, this evaluation will be tasked to the military medical board competent for the specific area.*

This new legislation, unlike the proposals of the Ministry of Defence, does not provide that the motivated refusal to undergo vaccinations constitutes a disciplinary violation.

Therefore, the Commission recommends to carefully verify the timely application of the provisions of the new legislation to limit all forms of risk associated with prophylactic vaccination, including those relating to personnel scheduled for deployment outside of national boundaries, specifying that if the serviceman scheduled to receive prophylactic vaccination represents and produces a copy of the health certifications related to previous vaccine activities performed and any serodiagnostic tests, the evaluation will be left to the military medical board competent for the specific area.

3. Investigation of the components of the vaccines administered to military personnel, regardless of the tasks assigned to said personnel

In November 2017, the Commission received the documentation requested from AIFA in spring 2016, concerning technical specifications, safety studies and vaccine composition, including sub-threshold elements.

The documentation concerns the vaccines included in the military prophylactic vaccination referred to in the Italian Ministerial Decree March 31, 2003 of the Ministry of Defence and, that is, vaccines that are given to ADULT subjects, selected by means of a medical visit that establishes fitness and good state of health. Specifically it concerns:

- meningococcal vaccine;
- measles, mumps and rubella vaccine;
- tetanus, diphtheria and polio vaccine;
- hepatitis A + B vaccine
- varicella and chickenpox vaccine;
- flu vaccine;
- vaccine against critical biological agents;*
- tuberculin cutireation; *
- yellow fever vaccine;
- Japanese encephalitis vaccine;
- rabies vaccines;
- typhoid fever vaccine;
- cholera vaccine;
- malaria chemoprophylaxis. *

* data not included in the documentation

The documentation seems incomplete, in several respects: some vaccines do not contain all the required documentation and for some diseases the corresponding vaccine is missing. However, the data received is of enormous interest for the Commission's activity.

This data was requested to determine whether military prophylactic vaccination could lead to health hazards, such as to cause unnecessary risks to the persons subjected to treatment. The single vaccines administered to the military, which are the same ones authorised by AIFA for the civil sector, contain adjuvants, preservatives and contaminants, within the limits of the

single marketing authorisations. An authorised drug is taken into account individually and the parameters, as well as the criteria, to determine the threshold beyond which a component becomes toxic, are determined by the fact that the drug is taken alone. However, in this case the issue regards the administration of a vaccination schedule for mandatory prophylaxis, and not of a single vaccination, so the drugs and their components add up. The verification that this sum still respects the thresholds of the individual vaccine is essential. If this were not the case, the soldier would be exposed to unnecessary risks of immunosuppression and adverse reactions (caused by the foreign components to the active ingredients and by the active ingredient itself).

Although the Commission is aware of the fact that adverse reactions differ between adults and children, it is important not to underestimate the overall amount of aluminium administered to military personnel during the entire prophylaxis, as in adults the greatest degree of development of the immune and nervous systems at the time of vaccination, and the possible forms of physiological autoimmunity, they can favour the induction of lymphoproliferative reactions and autoimmune diseases, as shown by the list of undesirable effects, adverse reactions and **contraindications**, contained in the technical data sheets prepared by pharmaceutical companies.

4. Checks required on risks related to problems of immunosuppression, hyperimmunization, autoimmunity and hypersensitivity

As already highlighted in the July interim report, vaccination involves risks in terms of immunosuppression, hyperimmunization, autoimmunity and hypersensitivity issues. This statement was confirmed by the analysis of public vaccine documents, such as leaflets and datasheets (see section 4.4 of the SPCs provided by AIFA), as summarized in the following table. In particular, pharmaceutical companies request the application of appropriate precautions for the use of the vaccine and, among other things, the verification of the state of health of the vaccine and the absence of the diseases listed below at the time of vaccination.

<i>Disease verification requested by the pharmaceutical company to ensure its absence before vaccinating</i>	<i>Number of vaccines included in the military prophylaxis that requires it</i>
Endogenous or iatrogenic immunosuppression	7
Congenital immunosuppression	3
Idiopathic immunodepression	2
Immunosuppressive therapy	10
Immunodeficiency	6
HIV positive subject	1

humoral or cellular immunodeficiency	3
congenital or hereditary immunodeficiency	1
autoimmune disease	1
thrombocytopenia	2
malignant solid tumors	2
malignant neoplasms of the haematopoietic and lymphatic system	1
lymphomas of any kind	1
leukemia	1
antimitotic drugs	1
radiotherapy	2
thymoma	1
qualitative test for antibodies	2
antibody production effectively	1
weakened immune system	2
Serological tests	2
acute gastrointestinal diseases	1
acute febrile diseases.	8
low sodium diet	1
coagulation disorders	1
neurological disorders	1
epilepsy	1
haemophilia	1
abnormalities of coagulation	1
coagulation disorders	2

3	brain disease	1
1	acute severe febrile illness	3
1	Other forms of Hepatitis	1
2	Incubation Hepatitis A	2
2	hemodialysis	2
1	kidney failure	1
1	cytotoxic drugs	2
1	thymectomy	1
1	thymic dysfunction	1
2	acute gastrointestinal infections	1
1	treatment with antibiotics or sulphonamides	1
2	febrile affections	5
1	acute infection	5
2	pathologies affecting the Central Nervous system	1
2	susceptibility to febrile convulsions	1
1	Neurological complications following vaccination	1
8	serious chronic diseases	1
1	blood dyscrasias	1
1	Active untreated tuberculosis	1

There are 22 indications to carry out pre-vaccination tests aimed at excluding the existence of any immunosuppression, 7 those involving the preventive assessment of the efficiency or inefficiency of the immune system, 3 those referring to the need to exclude autoimmune diseases, 9 are the oncological diseases and, for various reasons, as many as 11 that require an analysis of potential immunodeficiency.

In light of this list, the Commission considers that Annex F to the DIFESAN Directive of 14 February 2008, concerning the medical history and informed consent to be completed by

military personnel during vaccine administration, appears to be insufficient and that the mere completion of the form may not be considered a substitute for the health checks required by the companies producing the vaccines. The conclusion is that the form must be integrated with the corresponding diagnostic tests.

5. Hypersensitivity and allergies

There are **81** elements for which a sensitivity or allergy assessment is required for all vaccines analysed and included in the military prophylactic vaccination, in addition to the active ingredients of the vaccine,

<i>Hypersensitivity to be tested before administration of the vaccine indicated by the pharmaceutical company</i>	Number of vaccines that require it
Sodium Chloride	15
formaldehyde	10
Active principle	8
neomycin sulphate	8
monobasic potassium phosphate	6
chicken protein	5
Sucrose	5
neomycin	4
polysorbate 80	4
<i>Chicken eggs cells *</i>	4
<i>hen embryos *</i>	4
ovalbumin	4

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Sodium phosphate dibasic dihydrate	4
aluminium hydroxide	4
amino acids for injections	4
kanamycin	3
cetyltrimethylammonium bromide (CTAB)	3
barium sulphate	3
dibasic sodium phosphate	3
yeast	3
Potassium chloride	3
potassium chloride	3
Lactose	3
Sorbitol E420	3
hemagglutinin	3
eightxinol 10	2
Human albumin	2
<i>Human diploid cells (MRC-5) *</i>	2
sodium phosphate dibasic dodecahydrate	2
Sodium phosphate monobasic dihydrate	2
magnesium chloride hexahydrate	2
sodium deoxycholate	2



α -tocopherol succinate acid	2
Sodium borate	2
Potassium dihydrogen phosphate	2
gentamicin sulfate	2
Mannitol	2
<i>Trometamol*</i>	2
gentamicin	1
<i>chlortetracycline *</i>	1
amphotericin B	1
polysorbate 20	1
Sodium glutamate	1
Sodium dihydric phosphate anhydrous	1
Sodium bicarbonate	1
Sodium citrate	1
sodium dihydrogen phosphate	1
Sodium carbonate, anhydrous	1
Disodium hydrogen phosphate	1
Sodium chloride	1
Sodium	1
aluminium phosphate	1

2	monophosphoryl lipid A	1
2	potassium thiocyanate	1
2	Citric acid	1
2	Sodium saccharin	1
2	Magnesium sulphate	1
2	Calcium chloride	1
1	<i>E171 (titanium dioxide)*</i>	1
1	<i>E172 (yellow iron oxide and red iron oxide)*</i>	1
1	<i>E127 (Erythrosine)*</i>	1
1	gelatin	1
1	Hydrolyzed gelatin	1
1	<i>hydroxypropylmethylcellulosephthalate (HP-MCP) -50*</i>	1
1	<i>dibutyl phthalate*</i>	1
1	<i>diethyl phthalate*</i>	1
1	ethylene glycol	1
1	L-alanine	1
1	L-histidine hydrochlorite	1
1	phenol	1
1	2-phenoxyethanol	1
1	<i>sodium hydroxide*</i>	1

<i>Hydrochloric acid*</i>	1
Urea	1
<i>protamine sulphate*</i>	1
<i>latex</i>	1
Edible bisodic	1
<i>Potassium-L-glutamate*</i>	1
<i>Polygelina*</i>	1
<i>Octoxynol-9*</i>	1
<i>streptomycin*</i>	1
<i>polymyxin B*</i>	1

**components that have not been quantified*

As can be seen from the above table, rather than an evaluation on tolerability for each individual element, the choice to carry out an overall tolerability assessment for the vaccine to be administered can be practicable. This would also highlight the possible intolerance or hypersensitivity to the combined allergens.

6. Undesirable effects, adverse reactions and contraindications

Important information has come to light from the analysis of side effects, adverse events and contraindications. In total, the reactions counted as high as 240, with a frequency varying from 10% to "unknown frequency". The table below shows the frequency of occurrence of adverse reactions and unwanted events and the number of times it is referred to in the vaccine leaflets.

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	VC	≥ 1/10				
	C	≥ 1/100, <1/10				
	UC	≥ 1/1,000, <1/100				
	R	≥ 1/10,000, <1/1,000				
	VR	≥ 1/10,000				
	ND	no data				
<i>Adverse reaction or unwanted event</i>	<i>Number of times it is quoted with the same frequency²¹</i>					
	V C	C	N C	R	V R	N D
pain at injection site	13	1	0	1	0	0
Fatigue	8	2	4	0	2	1
headache	5	8	3	0	2	0
Myalgia	5	5	5	1	2	1
pain at injection site	4	11	1	2	0	0
pain at injection site	4	7	0	1	0	0
Irritability	4	2	2	0	0	0
fever	3	16	1	1	1	1
pain	3	2	1	0	0	1

²¹ MC = Very Common, C = Common, NC = Uncommon, R = Rare, MR = Very Rare and NN = No data (1 in 1 million) Frequency unknown

pain at injection site	2	5	1	0	0	0
headache	2	4	0	0	0	0
Pain and sensitivity at injection site	2	2	0	0	0	0
malaise	1	7	4	3	2	1
pain at injection site	1	3	2	0	0	0
asthenia	1	2	3	2	1	3
Haematoma at injection site	1	0	4	0	0	0
Erythema and swelling	1	0	1	4	0	0
Heat at injection site	1	0	1	2	0	0
Nodule at injection site	1	0	0	2	0	0
Oedema at injection site	1	0	0	0	0	0
swelling at injection site	1	0	0	0	0	0
nausea	0	15	3	2	2	0
Swelling at injection site	0	13	0	2	1	1
vomiting	0	11	6	1	2	0
diarrhoea	0	10	6	2	2	1
abdominal pain	0	7	4	3	2	1
Arthralgia	0	7	3	3	3	3
shivers	0	7	1	2	2	2
Loss or decreased appetite	0	6	0	1	0	1
Drowsiness	0	5	2	3	1	0

0	Sweating	0	5	0	2	1	0
0	Hives	0	3	1	0	2	0
0	Pyrexia	0	3	0	0	0	0
1	Itching at injection site	0	2	3	1	1	0
0	Flu-like syndrome	0	2	2	5	3	3
3	Upper respiratory tract infection	0	2	2	0	0	0
0	Fatigue	0	2	0	0	1	1
0	Dizziness	0	1	7	2	1	2
0	Lymphadenopathy	0	1	5	4	4	2
0	Rash	0	1	5	1	6	3
0	Dizziness	0	1	2	1	1	0
0	Rash similar to varicella	0	1	1	0	0	0
0	Irritation at injection site	0	1	1	0	0	0
1	Musculoskeletal pains	0	1	0	1	0	0
0	Exanthem	0	1	0	0	0	1
1	Measles-like syndrome	0	1	0	0	0	1
1	Rubella-like syndrome	0	1	0	0	0	0
3	Itchiness	0	0	5	5	2	3
2	Urticaria	0	0	4	5	6	6
1	Cough	0	0	3	1	0	0
0	Musculoskeletal stiffness	0	0	2	1	1	0

Anorexia	0	0	2	1	0	0
Conjunctivitis	0	0	2	1	0	0
Rhinitis	0	0	2	1	0	0
Insomnia	0	0	2	0	1	0
pharyngitis	0	0	2	0	0	0
otitis media	0	0	2	0	0	0
Unusual crying	0	0	2	0	0	0
Nervousness	0	0	1	3	0	0
Heat flash	0	0	1	3	0	0
Arm pain (in the limb where the injection was made)	0	0	1	1	0	1
Stiffness	0	0	1	1	0	1
Nasal congestion	0	0	1	1	0	0
Viral infection	0	0	1	1	0	0
hyperhidrosis	0	0	1	1	0	0
Influenza-like illness	0	0	1	1	0	0
rhinorrhoea	0	0	1	1	0	0
increase in liver enzymes	0	0	1	0	1	0
gastroenteritis	0	0	1	0	0	1
arthralgia	0	0	1	0	0	0
bronchitis	0	0	1	0	0	0
respiratory congestion	0	0	1	0	0	0

0	abdominal cramps	0	0	1	0	0	0	
0	Contact dermatitis	0	0	1	0	0	0	
0	sleep disorders	0	0	1	0	0	0	
0	migraine	0	0	1	0	0	0	
0	viral exanthema	0	0	1	0	0	0	
0	abdominal discomfort	0	0	1	0	0	0	
0	Swollen lymph nodes	0	0	1	0	0	0	
0	swelling of the parotid glands	0	0	1	0	0	0	
0	Gastric/abdominal gurgle (gas)	0	0	1	0	0	0	
0	1	miliaria rubra	0	0	1	0	0	0
0	1	Ear infection	0	0	1	0	0	0
0	0	chickenpox	0	0	1	0	0	0
0	0	<i>paraesthesia*</i>	0	0	0	6	4	3
0	0	Allergic reactions	0	0	0	5	7	4
0	0	<i>Guillain Barré syndrome / paralysis *</i>	0	0	0	3	7	6
0	0	Convulsions	0	0	0	3	6	5
1	0	angioedema	0	0	0	3	4	3
0	1	<i>neuritis*</i>	0	0	0	3	4	2
0	0	<i>encephalomyelitis*</i>	0	0	0	3	4	0
0	0	Dermatitis	0	0	0	3	0	1
0	0	<i>Thrombocytopenia*</i>	0	0	0	2	4	5

pain in the extremities	0	0	0	2	2	0
dyspnea	0	0	0	2	0	2
eyelid oedema	0	0	0	2	0	0
peripheral oedema	0	0	0	2	0	0
Circulatory reactions (such as palpitations or hot flashes)	0	0	0	2	0	0
<i>paralysis*</i>	0	0	0	1	2	1
<i>Multiple sclerosis*</i>	0	0	0	1	2	1
<i>transverse myelitis*</i>	0	0	0	1	1	2
muscle weakness	0	0	0	1	1	1
<i>Facial paralysis/Bell's Paralysis*</i>	0	0	0	1	1	1
eczema	0	0	0	1	1	0
myelitis	0	0	0	1	1	0
flatulence	0	0	0	1	0	2
Hypersensitivity	0	0	0	1	0	1
<i>hypoesthesia*</i>	0	0	0	1	0	1
backache	0	0	0	1	0	1
acne	0	0	0	1	0	0
agitation	0	0	0	1	0	0
Disorders of dreams	0	0	0	1	0	0
Apathy	0	0	0	1	0	0
increase in transaminases (mild and reversible)	0	0	0	1	0	0

0	bronchitis	0	0	0	1	0	0
2	candidiasis	0	0	0	1	0	0
0	Motion sickness	0	0	0	1	0	0
0	Vision impairment / disorders	0	0	0	1	0	0
0	pulmonary congestion	0	0	0	1	0	0
1	Acute conjunctivitis	0	0	0	1	0	0
1	contusion	0	0	0	1	0	0
2	Atopic dermatitis	0	0	0	1	0	0
1	<i>dysgeusia</i> *	0	0	0	1	0	0
1	walking disorders	0	0	0	1	0	0
0	Vision disturbances	0	0	0	1	0	0
0	Eye pain	0	0	0	1	0	0
2	Chest pain	0	0	0	1	0	0
1	Earache	0	0	0	1	0	0
1	Backache	0	0	0	1	0	0
1	pulsating or stabbing pain to one or more nerves	0	0	0	1	0	0
0	Eczema at the injection site	0	0	0	1	0	0
0	haematochezia	0	0	0	1	0	0
0	epistaxis	0	0	0	1	0	0
0	Injection site annoyance	0	0	0	1	0	0
0	Formation of a crust at the injection site	0	0	0	1	0	0

Tingling at the injection site	0	0	0	1	0	0
tingling or numbness	0	0	0	1	0	0
St. Anthony's fire	0	0	0	1	0	0
herpes simplex	0	0	0	1	0	0
respiratory infections	0	0	0	1	0	0
Inflammation to the brain	0	0	0	1	0	0
Inflammation at the injection site	0	0	0	1	0	0
Nerve inflammation	0	0	0	1	0	0
Optic nerve inflammation	0	0	0	1	0	0
Skin inflammation	0	0	0	1	0	0
inflammation of the meninges	0	0	0	1	0	0
hypersomnia	0	0	0	1	0	0
eye irritation	0	0	0	1	0	0
meningeal irritation	0	0	0	1	0	0
lachrymation	0	0	0	1	0	0
lymphadenitis	0	0	0	1	0	0
Measles	0	0	0	1	0	0
Otalgia	0	0	0	1	0	0
<i>Autoimmune disorders *</i>	0	0	0	1	0	0
Pneumonia	0	0	0	1	0	0
Rapid heart beat	0	0	0	1	0	0

0	reaction similar to that of a non-venomous bite/sting	0	0	0	1	0	0
0	Shortness of breath	0	0	0	1	0	0
0	Shortness of breath	0	0	0	1	0	0
0	Stiffness / contracture and stinging sensation	0	0	0	1	0	0
0	Skin reddening	0	0	0	1	0	0
0	Mood swings	0	0	0	1	0	0
0	Feeling of heat	0	0	0	1	0	0
0	Sensation of ringing in the ears	0	0	0	1	0	0
0	sensitivity to light	0	0	0	1	0	0
0	thirst	0	0	0	1	0	0
0	respiratory symptoms	0	0	0	1	0	0
0	Sinusitis	0	0	0	1	0	0
0	sneezing	0	0	0	1	0	0
0	tachycardia	0	0	0	1	0	0
0	tendinitis	0	0	0	1	0	0
0	Blood flow	0	0	0	1	0	0
0	tremor	0	0	0	1	0	0
0	ulcer of the oral cavity	0	0	0	1	0	0
0	vesicles	0	0	0	1	0	0
0	<i>Vasculitis</i> *	0	0	0	0	5	4
0	Syncope	0	0	0	0	5	0

Neuralgia	0	0	0	0	4	0
Anaphylaxis	0	0	0	0	3	5
presyncope	0	0	0	0	3	0
serum sickness symptoms	0	0	0	0	3	0
<i>Encephalitis*</i>	0	0	0	0	2	5
Erythema multiforme	0	0	0	0	2	5
<i>optic neuritis*</i>	0	0	0	0	2	1
anaphylactic shock	0	0	0	0	2	1
neuritis	0	0	0	0	2	0
Angioneurotic edema	0	0	0	0	1	3
Meningitis	0	0	0	0	1	3
<i>Arthritis*</i>	0	0	0	0	1	2
<i>encephalopathy*</i>	0	0	0	0	1	2
hypotension	0	0	0	0	1	2
Vasovagal syncope in response to injection	0	0	0	0	1	2
<i>neuropathy*</i>	0	0	0	0	1	1
<i>alopecia*</i>	0	0	0	0	1	0
Asthma	0	0	0	0	1	0
dehydration	0	0	0	0	1	0
dyspepsia	0	0	0	0	1	0
joint pain	0	0	0	0	1	0

4	0	Swelling at the extremities, hands, ankles and feet	0	0	0	0	1	0
3	5	swelling of the mouth	0	0	0	0	1	0
3	0	swelling of the throat	0	0	0	0	1	0
3	0	swelling of the lips	0	0	0	0	1	0
2	5	lipotimia	0	0	0	0	1	0
2	5	sore throat	0	0	0	0	1	0
2	1	<i>central demyelinating of the nervous system disease *</i>	0	0	0	0	1	0
2	1	dulling of taste	0	0	0	0	1	0
2	0	<i>polyarteritis nodosa*</i>	0	0	0	0	1	0
3	3	<i>polyradiculoneuritis*</i>	0	0	0	0	1	0
3	3	Bronchospasm-type symptoms	0	0	0	0	1	0
2	2	<i>Uveitis*</i>	0	0	0	0	1	0
2	2	<i>cerebellitis *</i>	0	0	0	0	0	2
2	2	facial oedema	0	0	0	0	0	2
2	2	Aseptic meningitis	0	0	0	0	0	2
1	1	<i>Cerebellitis-like* symptoms</i>	0	0	0	0	0	2
0	0	metabolic acidosis	0	0	0	0	0	1
0	0	Aplastic anaemia	0	0	0	0	0	1
0	0	cerebrovascular attack	0	0	0	0	0	1
0	0	Sputum increase	0	0	0	0	0	1
0	0	cytolysis of muscle and liver	0	0	0	0	0	1

Cerebrovascular crisis	0	0	0	0	0	1
focal neurological deficits	0	0	0	0	0	1
abdominal distension	0	0	0	0	0	1
maculopapular rash	0	0	0	0	0	1
herpes zoster	0	0	0	0	0	1
hypertension	0	0	0	0	0	1
hypoesthesia of the limb in which the vaccine was administered	0	0	0	0	0	1
lethargy	0	0	0	0	0	1
<i>lichen planus</i> *	0	0	0	0	0	1
linfocitopenia	0	0	0	0	0	1
<i>Brachial neuritis</i> *	0	0	0	0	0	1
Pallor	0	0	0	0	0	1
<i>Transient paraesthesia</i> *	0	0	0	0	0	1
<i>Schönlein-Henoch purpura</i> *	0	0	0	0	0	1
<i>thrombocytopenic purpura</i> *	0	0	0	0	0	1
cold	0	0	0	0	0	1
renal failure	0	0	0	0	0	1
respiratory failure.	0	0	0	0	0	1
<i>Stevens-Johnson syndrome</i> *	0	0	0	0	0	1
mumps-like syndrome	0	0	0	0	0	1
State of confusion	0	0	0	0	0	1

1) 1 ***autoimmune disease**

1) 1 The analysis of the table shows that vaccines that have a high content of components in quantitative terms, but also of varieties of foreign components, determine a greater number of adverse reactions.

1) 1 Furthermore, it should be noted that the data sent by the pharmaceutical company show the indication of a series of autoimmune diseases (indicated in bold and with an asterisk in the table) as undesirable effects or adverse reactions to vaccination.

1) 1 It should be emphasized that monitoring of adverse reactions is carried out in a very short time after vaccination, which is why immediate adverse reactions are much more frequent, while rare reactions are related to longer-term pathologies requiring a population sample very large, often not achieved during the marketing authorization phase. For this reason, non-acute adverse reactions are significantly underestimated.

1) 1 The confirmation of the need to adopt precautions for adverse reactions is sustained by the fact that pharmaceutical companies require a greater number of examinations and checks in proportion to the increased number of active ingredients that they contain.

1) 1 **7. Monitoring of the immune conditions of the observed subjects. Data analysis on the follow-up of the project called Study of genotoxic impact on military units (*Studio sull'impatto genotossico nelle unità militari* - SIGNUM)**

1) 1 The second phase of the SIGNUM Project foresees the longitudinal observation of the military cohort under examination for at least ten years, with checks carried out annually, aimed at evaluating the exposure to environmental genotoxic and the possible presence of markers of a damaged load. of DNA.

1) 1 In relation to this second phase, the Commission carried out investigative activities in order to determine whether the annual observation on the cohort had actually taken place and the associated outcomes.

1) 1 On this point the statement was made by the then Colonel DE ANGELIS given at the hearing of March 1, 2017, for which the *follow-up* was supposedly carried out, and that the reprocessing of data would be agreed in collaboration with the National Institute of Health (Istituto Superiore di Sanità (ISS)) on 24 February 2017.

1) 1 With the CATALANO interrogation No. 5/12290, the costs related to the first phase of the project were ascertained amounting to € 1,810,696.31. For the second phase, Gen. TOMAO communicated via letter that the expenditure allocated to the ISS stood at € 40,700.00.

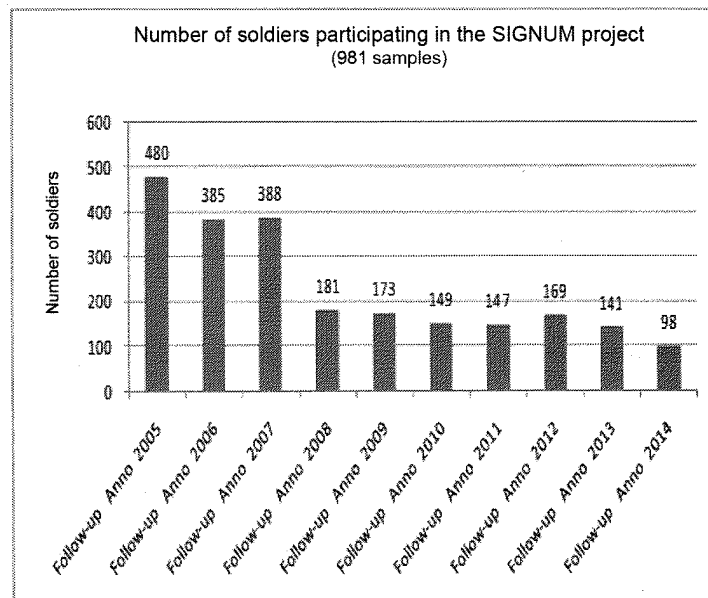
1) 1 ISS is called to analyse the data matrix of the *follow-up* of the SIGNUM project.

1) 1 On 10 May 2017, the Commission requested access to said database, in order to verify date content and integrity. The requested data was relayed with a note dated June 16th, 2017.

1) 1 In response to the data transmitted, the Commission processed statistical data that revealed that 981 soldiers were recruited in the Armed Forces in the SIGNUM Project: 14 belonging to the

Italian Air Force; 150 to the Navy, 187 to the Arma dei Carabinieri, 630 to the Army and 94 dismissed.

Of these, only 644 in all, or 65.6%, consented to *follow-up*, and specifically 480 out of 981 in 2005; 385 in 2006; 388 in 2007; 181 in 2008 and gradually less and less until the number of 98 in 2014, according to the graph below.



Given this data, the Commission found it impossible to reach precise conclusions due to its inadequacy. In addition, all data relating to the discharged subjects and the personal data of the military of the study cohort were missing, as well as data on multiple vaccinations for each militia and the related effects on DNA for each ill soldier.

Therefore, the Commission issued a new request with a note prot. n°854 dated 21/11/2017, through which it sought to determine whether the matrix received in June was identical to that given to the ISS or if additions were made. With the note of reply dated December 14, 2017, the Epidemiological Defence Observatory, in the name of the Director Brigadier General Claudio DE ANGELIS sent the complete matrix of the SIGNUM project "as transmitted to the Italian National Institute of Health" to the Commission, which seems to be the same already received in June 2017.

However, contrary to what was intended, Attachment No. 2 of the aforementioned note of reply contains the statements of the Brigadier General DE ANGELIS, released in the minutes of the meeting held at IGESAN on 26 October 2017 between representatives of the Ministry of Defence, the Italian National Institute of Health and researchers responsible for the follow-up study, according to which "Information [of June 2017] these were also supplemented by data held by the OED for the institutional activity that is carried out and integrated with information about the staff members of the study and in the meantime went on leave, already obtained by the Directorate General for Military Personnel. The data [as updated] has already been delivered to Dr. De Angelis of the ISS. Furthermore, a decision was made to enhance the data

with that contained in the Hospital Discharge Forms (SDO) to be acquired at the Ministry of Health after authorisation by the Ethics Commission of the Italian National Institute of Health. Finally, the ISS will further integrate with ISTAT data on population deaths".

In light of the above, the Commission notes the serious incompleteness of the data received compared to those that are available from the Ministry of Defence and that the latter has delivered to the Italian National Institute of Health. It notes in particular that the Epidemiologic Observatory of the Ministry of Defence, the competent structure of the Ministry, failed to transmit these additions to the Parliamentary Commission, although it was available.

Finally, it notes that the group of representatives of the institutions that took charge of the SIGNUM follow-up, in the same meeting of 26 October 2017 at IGESAN, referred to above, agreed to filter the answers to be provided to institutional subjects, such as the present Commission, aims to gain knowledge of the follow-up study data: "[...] it is necessary to previously concur with the General Inspectorate any information requested external bodies" (quoted by C.A. CROCIATA).

The Commission wished that, before the end of the legislature, the requested data had been sent in its complete version, but this did not happen.

Without prejudice to the foregoing, the Commission reiterates that in order to have complete data on the SIGNUM follow-up it is necessary to cross expository information (i.e. to know the places they have attended in missions abroad, as well as the barracks and shooting ranges and tasks performed in Italy) with health information and personal data. Therefore it will evaluate the data sent to the ISS also on the selection criteria adopted in their collection. It notes that the report does not show that data was collected from the national registry of cancer, Italian Ministry of Finance (survival status and residence) and the nature of the military data collected remains unclear (for example, enlistment records - military curriculum are required).

As mentioned, the results achieved by the research project called Project SIGNUM (Study of Genotoxic Impact in Military Units), started in 2004, with the aim of determining whether the risk of contracting cancer or chronic degenerative diseases found in the military, could be in relationship with the variation of several biomarkers showing damage to DNA or chromosomes.

In view of the data collected and the results of the Project, as of 9 January 2013, the Costa Commission had concluded that the pathologies and deaths observed among the military could be determined by "a concomitant and interacting action of the potentially harmful factors" summarized in concept of "multifactoriality".

Therefore, it had established the need to adopt a "precautionary principle" in the activity of drug administration and, in particular, of vaccines, so "every activity of administration of drugs, vaccines, antidotes and any medical-surgical intervention susceptible to determine iatrogenic effects [must] be carried out taking into account the particular individual situation, in relation to specific clinical indications and [must be] practised:

- subject to timely collection and registration of a specific and specific medical history for the type of intervention to be performed,

- *prior to the acquisition of informed consent to the execution of the intervention with a detailed illustration of the effects and risks related to the intervention and to its non-execution according to the provisions of law,*
- *with strict observance of the protocols and the schedules".*

Moreover, also the results of the research carried out on 600 soldiers of the 186th "Folgore" Regiment, returning from international missions in theatre of war showed that "the possibility that particular vaccination practices were likely to result in *"disorganisation of the immune system"* that could in turn be the basis of autoimmune diseases such as autoimmune thyroiditis, multiple sclerosis, nodular erythema, lupus, rheumatoid arthritis, diabetes, optic neuritis and according to some researchers, leukemia and lymphomas"²².

A series of elements contribute to undermining the health of selected military *ab origin* on the basis of an assessment of physical fitness that qualifies them for the a certainly good state of health and in any case higher than the national average, as an essential requirement to assume service and that can the oncological disease in their mutual causal interrelation.

This may stem from contact with radioactive weapons or with fine powders originating from heavy metals in the absence of protection, or the massive administration of drugs aimed at the prevention of infectious diseases of various kinds or of other diseases in violation of principles of prudence peacefully recognized by the scientific world.

Lastly, it is noted that the Commission, during its investigation, also took steps to interview several soldiers suffering from pathologies contracted in service, in order to acquire useful information as well as the parents of several of the deceased: particular focus goes to the recount of Corporal Major F.R. (died four years after enrolment due to Hodgkin's lymphoma without having been sent on mission); that of the former Caporal Major G.T., enlisted in 1999 and on leave from 25.11.2000 declared "permanently unfit for unconditional military service "due to Hodgkin's lymphoma (Nodular sclerosis type in clinical stage II A) and that of the simple soldier D.G., discharged after just a bit over six months from enrolment, which took place on February 8, 2007, following severe asthenia and physical deterioration that began the same day of multiple vaccination, which took place on June 19, 2006.

Their testimonials have yielded numerous elements confirming that the pre-vaccination analysis of the soldier receiving the vaccinations was not always been requested, analysed or otherwise investigated by the vaccinating doctor, also revealing, with worrying recurrence, that several vaccinating doctors do not comply with the precautionary rules indicated by the Guidelines of February 14, 2008 in administering the vaccines.

²²Prof. Franco Nobile, oncologist director of the Prevention Centre of the League against Tumors of Siena, hearing on 7 December 2010. Cfr. "La prevenzione oncologica nei reduci dei Balcani"; (Oncological prevention in the Balkans veterans <http://www.legatumori.siena.it/pdf/uranio-it.pdf>).

8. The methods of administration of vaccines. Article 1, lett. e) of the Commission decision.

The choice of vaccines to be administered to military personnel and the methods of administration are regulated by Italian Ministerial Decree March 31, 2003 and subsequent Implementation Guidelines, contained in the Technical Directive for the application of the same, issued by the Directorate General of Military Health (DIGESAN, today IGESAN), entitled "*Aggiornamento delle schedule vaccinali e delle altre misure di profilassi per il personale militare (Updating of vaccination forms and other measures of prophylaxis for military personnel)*" dated 14 February 2008.

The adoption of practices such as multiple combination vaccines can, in itself, represent a health risk in relation to at least three aspects:

- the cumulative amount of the various components of the vaccines exceeds the permitted limit for the marketing authorisation of the single vaccine;
- the hypersensitivity indicated in the registration files and technical attachments to vaccines, even if only individually considered, confirm the need for prevaccinal analyses;
- the adverse reactions reported in the registration files and technical attachments to vaccines, even if only individually considered, confirm the need for a personalized risk assessment on prophylactic vaccination and the need for long-term periodic monitoring of each individual vaccine.

Without prejudice to the above, the Commission confirms once again the conclusions already highlighted by the SIGNUM Project, as well as the work of Prof. Nobile on the Folgore Brigade - regarding the need to refrain from simultaneously administering more than 5 monovalent single-dose vaccines on military personnel: this method of inoculation appears, therefore, the most correct to avoid adverse reactions.

In fact, as part of its investigative activity, the Commission has unearthed cases in which adverse reactions have occurred following vaccination, with the occurrence of autoimmune or neoplastic diseases occurred, in a part of the military population not subjected to risk factors other than vaccine.

In this specific case, the case of Caporalmaggiore Francesco Rinaldelli who died of Hodgkin's lymphoma was studied in detail, while other cases such as Francesco Finessi, Giuseppe Tripoli, Davide Gomiero and Umberto Gambino were analysed just prior to the conclusion of the Commission's work. See the Commission's interim report published in July 2017 for the analyses of several of these individuals. It should also be noted that the case of Daniela Sinibaldi of the women's company in Ascoli Piceno came to the attention of the Commission, with evidence of severely disabling autoimmune pathology.

However the introduction of the new art. 206-bis, reported above, can effectively contribute to the elimination of such adverse reactions, establishing a virtuous path both in the administration of vaccines and in the anamnesis of the subjective health conditions of the military to be submitted to inoculation.

It is therefore advisable to once again urge the punctual application of the new legislation with a rigorous control of compliance, especially when concerning military personnel to be engaged in missions abroad.

9. Conclusions on the methods of administering vaccines.

The Commission has investigated the issue of vaccine components, assigned to the study by the resolution to art. 1, paragraph 1, lett. d). As regards further studies on the methods of administration of vaccines, the following is observed:

the Commission, in order to ensure effective and efficient protection of the health (and safety) of the soldiers engaged in Italy and abroad, as well as to pursue safe administration of vaccines aimed at eliminating or at least reducing the maximum risk of negative effects resulting from the use of multiple-dose vaccines, recommends the use of single-dose vaccines. This is due to the fact that soldiers, given their adult age, may already be immunized against several antigens contained in multiple-dose vaccines.

Recommendations are made that no more than five vaccines be inoculated in a single solution, this being the threshold beyond which adverse events may occur.

Special attention is still given to the prevaccinal history and to the medical examinations necessary in doubtful cases or to any previous immunization.

The Commission notes that, on 14 January 2018, Vice President Ivan Catalano received comments *"on the analysis of the components of the vaccines authorized for compulsory military vaccine prophylaxis, on the analysis of the signum follow-up data and on the data on the neoplastic diseases suffered by the Italian military"*.

Given the importance of the issues addressed in these observations, the Commission invites the scientific community as a whole, of which the ISS is part, to become acquainted them in order to best protect the health of military personnel. The Commission will relay the aforementioned document to the Italian National Institute of Health for an indispensable scientific evaluation of its contents. The document containing the aforementioned observations is fully annexed to this report. (*see attachment 1*)

Chapter 6.**PARLIAMENT, GOVERNMENT AND ARMED FORCES**

An important new item that gradually emerged during a parliamentary inquiry lasting several legislatures consisted in gaining knowledge that the topic of depleted uranium and its harmfulness, with reference to the specific Italian scenario, could be placed in its right relevance only if taken into consideration as an aspect of a more general issue, which concerns the exposure of military personnel to all the risk factors in the civil society, in addition to those specific to their function. The lack of or partial application of occupational general provisions to the Armed Forces as per Italian legislative decree n. 81 of 2008 and subsequent amendments and additions is also another issue of consideration.

This is the framework required to face the risk deriving from exposure to depleted uranium and the effects produced by its military use. It is necessary to go beyond a specific and circumscribed episode of lack of protection compared to a well-defined toxic agent from chemical and radiological point of view, as for one of the many cases in which, faced with a multitude of known risk situations, both in the peace missions and on the national territory, military personnel were forced to deal with conditions of non-protection or in any case reduced protection compared to that experienced by a civilian worker in the same position and with the same tasks. So that the exclusive allocation to a single risk factor or a limited number of them in the cause of fatal or seriously disabling diseases found in the military appears to be reductive compared to what was ascertained during the overwhelming majority of the hearings, which were of a general nature and as testimonies during the investigation carried out in the present legislature. In other words, a series of work-related risks amplified by an institutional structure unsuitable to evaluate and to prevent them correctly were identified.

It is therefore necessary to determine the reason, and this is what the Commission has done during its work, behind the root of this criticality, which affects issues not only concerning the psycho-physical integrity of military workers, but also the health of the populations that live in areas surrounding military establishments and the integrity of the environment. As regards specifically the issue of occupational safety and prevention in the military world, it is necessary to refer firstly to Article 3 of Italian Legislative Decree of 9 April 2008, n. 81, concerning the protection of health and safety in the workplace: this article (which also reproduces the substance of the previous article 1, paragraph 2 of Italian Legislative Decree No. 626 of 1994) after having stated in paragraph 1 that the decree applies to all sectors of activity, both public and private, and to all types of risk, paragraph 2 specifies that for some administrations, including the Armed Forces, "the provisions of this legislative decree are applied taking into account the actual needs related to the service performed or organisational peculiarities. These include provisions for the protection of health and safety of personnel during operations and activities conducted by the Armed Forces, including the Carabinieri, and by the police forces fire brigade and Department of Civil Protection outside of Italy". These peculiarities, according to the aforementioned provision, should have been identified through the adoption of decrees issued by the competent Ministers in consultation with the Italian Ministers of Labour and Social Security, Health and Reforms and Innovations in Public Administration, after acquiring the opinion of the Permanent Conference for relations between the State, Regions and

autonomous provinces of Trento and Bolzano, having heard the comparatively most representative trade unions in Italy as well as, regarding the decrees of interest of the Armed Forces, including the Carabinieri and the Italian Tax Police, the national bodies representing military personnel. The Presidential Decree dated March 15, 2010, n. 90 provided the consolidated laws regarding the military (hereinafter TUOM “testo unico delle disposizioni regolamentari in materia di ordinamento militare”).

As can be gathered from the acts of the Commission concerning the military, the interpretation prevailing in the aforementioned provision referred to in paragraph 2 of article 3 of Italian Legislative Decree n. 81 tended to emphasise, in the interpretation of the "reference to the actual needs related to the service performed or to the organisational peculiarities", a derogatory profile, which concerned both the formulation of several provisions of the TUOM (for example those concerning the identification of the employer and the autonomy of the person responsible for prevention and protection services, topics for which reference should be made to the Report on Occupational Safety and Social Security in the Armed Forces, approved by the Commission at the meeting of 26 May 2016, hereinafter “first interim report”) and, above all, the concrete application practice of the provisions of legislative decree n. 81. In regard to this last item, it must be recalled that several official documents (for example, the note of the Army General Staff III Department No. 42843 of March 23, 2015, the content of which is referred to in this report), as well as various statements made by several senior officials that spoke to the Commission, have theorised the possibility of dis-applying, for specific situations, the provisions of the Italian legislative decree n. 81 related to risk assessment, as if the specific nature of the functions could be adopted to justify the degradation of a mandatory legal obligation to optional fulfilment, subject to the discretion of the administration.

On this specific profile, it is useful to recall the considerations made in the first interim report: this, referring to a consolidated jurisprudence of merit and legitimacy (see, in particular: Penal court, Sect. I - Judgement n. 6694 of 18 February 2010) clarified that the specificities referred to in Article 3, paragraph 2, of Italian Legislative Decree no. 81 cannot be invoked to circumscribe “free zones”, impermeable to compliance with the law; and that instead in the workplaces indicated by the aforementioned Article 3, the absolute observance of the laws must be pursued and guaranteed, with focus on accident-prevention regulations and safety on the workplace, whose precise observance, demanded by the private entrepreneur, must be expected from all parties holding a role of responsibility in public administration, as if a private entrepreneur, which must be protected by a series of assurances. According to the aforementioned law, it can be concluded that the particular needs related to the service performed obviously concern problems of organisation and internal safety of the structures which cannot entail the substantial repeal of specific legal regulations and nullification, or even only compression, of the guarantees recognized by the law to all workers, without differences of any kind, and with regard to all workplaces, none excluded; and that the reference to the need to adapt the general legislation to the special needs of the service is seriously misleading compared to the letter and the spirit of the provision when it ends up attributing to the management of the administration concerned the power to identify, on a time to time basis, which preventive obligations must be respected and which are not, going to such lengths as to even discriminate between which workers are called to comply with said provisions.

In short, this leads to a crucial principle that the Commission is obliged to reiterate at the end of its work, i.e. that the specific nature of the functions, as indicated by the legislator in the "actual specific needs related to the service performed or organizational peculiarities" cannot be invoked to legitimize a reduction of the protections that the legislator has granted to all workers, regardless of the type of contract of employment or if belonging to the public or private sector, in order to ensure their safety and prevention of incidents on workplaces.

As for the Armed Forces, it should instead be noted that the prevailing reading in derogatory terms of the provision contained in paragraph 2 of Article 3 of Italian Legislative Decree n. 81 implied a qualitative and quantitative expansion of the concept of specificity, which has been shaped, both in the subjective perception and in the operational practice of the defence administration, above all in terms of separateness and self-reference.

This is a crucial question, on which we must not give rise to misunderstandings. It would be mistaken to disregard the specificity that characterises the tasks and operative modalities of the Armed Forces, as it would be erroneous to deny that the technical complexity of the defence sector requires a particularly high degree of discretion on the part of the subjects called to perform command functions at the various levels. At the same time, if the consideration of the specificity of the "military profession" can in some cases undoubtedly motivate for the adoption of special disciplines, it cannot be translated, as in fact it seems to have occurred for the matters dealt with by the Commission, in the theorisation and above all in the practice of a separate operating space without external controls and in the delimitation of a very broad perimeter in which the Armed Forces independently manage (therefore with an internal organisation only) their activities and functions. In the civilian sphere these are instead institutionally distributed among different subjects and in a position of mutual independence, implementing the principles of good performance and impartiality that the Constitution prescribes for administrative action (Article 97, second paragraph).

This refers in particular to the profiles that are widely dealt with in the context of the investigation: the findings made led the Commission to believe that military personnel must also be brought under the general framework of compulsory insurance against accidents and the occupational diseases referred to in the Presidential Decree June 30, 1965, n. 1124, in order to overcome inadequacies that originate, as was the case in the first interim report, "not in the extent of the provisions foreseen by the current legislation, but in the inconsistencies and critical aspects of the procedure for allocating such provisions". Likewise, the exclusive assignment of the functions relating to the supervision of the application of the legislation on the subject of occupational safety to the internal bodies of the Ministry of Defence has given rise, as has been repeatedly stated and in great detail in the documents of the Commission, to a cumbersome and ineffective system, in which charges and responsibilities are distributed in an inverse order to hierarchy, and that, regardless of any assessment of the competence and correctness of the people who are part of it, lacks the requirements of impartiality and independence (and in some aspects also of professionalism) which constitute the legal and factual basis for the effectiveness of each inspection and control activity. Moreover, on these issues, also taken up in specific legislative initiatives unfortunately which failed to achieve success, the preliminary ruling by authoritative figures of the Armed Forces of the recalled position of separateness, even where it was ultimately penalizing and burdensome for the good performance of the military system

as a whole, means that the Commission has found itself walking among shadows projected onto several relevant critical issues that, once highlighted, were deemed symptomatic of a dysfunctional system in its entirety. The extent of this problem remains misunderstood sometimes with a tenacity worthy of a better cause, by those who could have remedied it. Often when faced with the consistent findings of the Commission on the inadequacies of the internal supervisory system, most of the representatives of the Armed Forces questioned by the Commission by virtue of their specific competence have taken a merely and bureaucratically defensive position. They prejudicially vouch the correctness of the work of the individual inspectors (never questioned, however, by the investigating parliamentary body) and the effectiveness of the results of the inspection, which, however, could not offer any evidence beyond verbal assurances. Yet, said assurances are denied regularly by the investigations conducted by the Commission, which were able to verify the episodic and limited nature, as well as the ineffectiveness, of the aforementioned activity.

In addressing the problem of the implementation of legislation on social security and occupational safety in the military, the Commission has also sought to banish a situation grounded on fact and in law that burdens the Armed Forces and on its top officials with responsibilities, that are distributed in a more balanced and coherent manner - as previously stated - with the constitutional principles on which the public administration system is based. Therefore, there is no basis to the suspicions and fears of those who, more or less secretly, believed that approving the law by which INAIL (National Insurance Institute for Accidents at Work) would be granted management of the compulsory insurance against accidents and professional illnesses of military personnel and to overcome the "domestic" organisation of vigilance in regard to work safety might prove detrimental to the functional independence of the Armed Forces. On the contrary, the redistribution of charges and responsibilities between different administrations resulting from reforms could have improved the safety of personnel and at the same time freed up human and material resources that could have been more appropriately allocated for the fulfilment of the institutional tasks in the field of defence and security. Given that the conclusion of legislation coincided with the decision of the Government to send an Italian military contingent in Niger, the Commission, on the basis of the documentation acquired, recommends that the next Parliament scrutinize the modalities of implementation of the mission, also as regards it concerns the risk assessment, the health and environmental suitability of the places where the quota is established, the suitability of the vaccination practices adopted and the health surveillance practices. The data acquired in relation to these profiles and referred to previous experiences of missions abroad, as can be seen from the reading of the Commission's acts, have shed light on limits and inefficiencies could have been overcome or mitigated without a shadow of a doubt with the reforms envisaged by the legislative proposal n. 3925, "Amendments to the Legislative Decree of April 9, 2008, No. 81, and other provisions concerning occupational safety and insurance protection against accidents and occupational diseases of the Armed Forces personnel".

The Commission believes that the adoption, also on the regulatory level, of a non-separatist view of the special characteristics of the military system would have achieved a more effective and timely system of military personnel protection and welfare. Therefore, a brief reflection with further consideration of the effects and consequences of a position of separateness is in

order: the latter, when it tends to extend beyond the objective reasons that justify, for certain profiles, the adoption of special disciplines, is likely to degenerate into a corporate upheaval, which, in a public administration characterised by extremely complex profiles, can in turn encourage self-representation as a parallel structure, legitimized to directly contract its status with the top governing bodies of the State, both positively and negatively; this would lead to decreased awareness of the limits within which the needs and demands of a serving apparatus, placed at the disposal of the community by the democratic system, to meet the fundamental need for peace and security of the citizens can be represented.

Moreover, during the course of the investigation, the Commission ascertained that the findings and proposals put forward managed to gain the attention of several members of the Armed Forces, who over the years have matured a greater sensitivity towards the issues of health and safety protection. This new awareness, moreover, has also been translated into appreciable initiatives, even if still all too limited and episodic to fill in the gaps detected by the Commission. Given this reason, and to spur the changes in the military world, it is essential that, even in the next Italian Parliament, the room for contemplation remain available. Reflection must revolve around the need on maintaining the balance between the prerogatives of discretion, which the Armed Forces enjoy and must continue to do so as public administration, and the unequivocal assertion of the centrality of Parliament and Government in the exercise of the function of political direction, which must remain shielded against sectoral tensions and claims. Political direction must be implemented through the required dialogue with the recipients of political decisions in such a manner as to avoid casting doubt on the exclusivity of decisional power, which is only for the democratically legitimized bodies.

Once this crux has been resolved, several of the topics dealt with during the course of the investigation, which has been concluded, can likely be resumed in the next one, on the assumption that separateness, which this document has tried to explain, can be overcome in concert with all parties involved, in the interest of the community and of the Armed Forces. This aims to render the national defence and security system more transparent, participatory and efficient in the European context, thus providing a fuller and concrete implementation of the principle enshrined in paragraph 3 of article 52 of the Constitution: "The order of the Armed Forces is inspired by the democratic spirit of the Republic".

FINAL REMARKS

The Commission sets out on an ambitious goal: that of being, not only the fourth, but above all the last commission of inquiry into depleted uranium.

Why a fourth commission of inquiry? The three previous Commissions had the merit of identifying the critical issues and proposing a wide range of indications and proposals aimed at eliminating these problems. Despite this, these issues have not been resolved and in some cases have become even worse.

With the proposed law A.C. 3925, great hopes have arisen, especially among the "military workers" and close relatives of the numerous individuals who have died on duty or contracted occupational illnesses.

Salvatore RULLO, *president of the Assodipro association*. This is the fourth commission that deals with a fundamental theme and very important topics for the military, for their families, for the country and for the environment. These are topics and themes that we believe should be priorities in a large country like Italy, which is one of the founders of the European Community and signatory of fundamental international treaties on the rights and protection of all citizens and workers without distinction. We record, however, and we strongly fear that important, profound, accurate and documented work of this Parliamentary Commission can be concluded without results and, even more serious, without the Parliament adopting and approving the proposed law A.C. 3925, which is a direct result of the work of this Commission. We strongly denounce the risk that the legislature can be concluded without at least one law being passed in five years, that could improve the rights and protections of the military.

Has the fourth commission of inquiry succeeded in its intent? Its balance sheet is highly positive, in particular regarding three respects.

A first profile concerns the environmental protection in the national shooting ranges, prompted by the specific regulatory changes introduced under the budget law for the three-year period 2018-2020 following a specific legislative proposal prepared by the Commission.

Secondly, thanks to a multiplicity of targeted investigations (both testimonial tests and requests for documentation), we have objectively obtained a result that has not been pursued, but very welcome: that is, in many cases the disappearance of behaviours or situations that conflict with the current regulations on safety at work.

There are people who speak about substitution, or strategy of deterrence, or pedagogical role. Of course, this is not the task institutionally entrusted to the Commission. Ultimately, a more widespread fulfilment of the risk assessment obligation or the extension of oversight to operating theatres abroad (in addition to the "addenda") are outcomes that can be deemed as outstanding and never before achieved by any institution, and they denote, on the other hand, a positive reaction by the debtors of military security faced with ardent and prompt disputes.

But it is above all the third profile to be ascribed to the merit of the fourth commission. This is the first time that all facets of military security have been delved into like never before, even those most aloof. This time the investigation did not merely focus on the occasional or episodic

shortcoming, taking a step further towards the tangled knot of baseline strategies. From now on, it seems practically mandatory to start all analyses regarding the military world from the **discovery of the eight procedural and organizational mechanisms that objectively converge in producing the double effect of obfuscating the impending risks concerning military personnel and civilians, while limiting the responsibilities of the true keeps of power:** employers without autonomous decision-making and spending powers, "domestic" inspectors, omitted or inadequate RAD or single document on the assessment of risk from interference; Health and Safety Officer and competent doctors dealing with problems over their levels of autonomy and preparation, Military Personnel Safety Officer appointed by the employer; structural crisis of the technical and operational bodies of the Defence Administration, at the head of CISAM (Centro Interforze Studi Applicazioni Militari (Italian: Centere for Military Applications Studies)) and CETLI (Centro Tecnico Logistico Interforze (Italian: Interforce Technical and Logistic Centre)); a scientifically unacceptable Epidemiological Defence Observatory; sanctions for breaches of the security rules directly paid by the State, subject to revenge against the completely hypothetical offenders.

It will be up to the next Parliament to approve two fundamental chapters such as those relating to occupational safety and social security. Especially since the principles underlying the proposals developed by the Commission in this regard - and, in particular, the overcoming of domestic jurisdiction in the field of occupational safety and a new welfare and social security plan for military personnel - have also received the consent of other sectors dealing with security, such as the police, coast guard and prison police. In addition, the Italian Ministries of Defence, Internal Affairs, Justice, Infrastructure and Transport, as well as the Ministry of Lobar, were favourable to training new inspectors and assisting the various ministries in raising the levels of work safety within these administrations. This is an acknowledgement of the importance of the work carried out and the results achieved by the Commission, and, in particular, of the solutions envisaged in the legislative proposal resulting from the inquiry in order to effectively guarantee the safety and health of all employees of the security sector. So much so that, in a letter sent to the Commission on 11 January 2018, the Minister of Defence expressed "full satisfaction with the fact that the encounters held in recent months, between the representatives of this Sector and the Commission, evidently contributed to the definition of the amendments proposed in the budget measures", with particular reference" to the approved modifications regarding the activities carried out in military shooting ranges and to the in-depth analyses carried out to identify potential measures for the best protection of Defence Administration personnel".

In this framework, in order to concretely follow up the proposals for improving the levels of health and safety and social security of the Armed Forces and the security sector, the Commission asks the Government to launch a consultation table between the Ministry of Defence, the Ministry of the Interior, the other ministries concerned, and INAIL to define the most effective modalities of transition from the current regime to the one that will come into force after the approval of the proposed new law A.C. 3925 by the next Parliament.

The stakes are clear: should the military world be protected at all costs against prying eyes? Or at all costs must the safety and health of "military workers" be protected? And is it right to

surrender to the supposed unavailability of financial resources to guarantee adequate compensation for military personnel who have died due to their duty?

The severity of the current situation is confirmed by the cases in which the Commission has dutifully reported specific facts to the Public Prosecutor at the Court of Rome (on 2 August 2017 and 27 November 2017), or to the Public Prosecutor at the Military Court of Rome (on March 23, 2017), to allow the competent authorities to assess the configurability of offences committed.

Attention also goes to the report dated 20 September 2017 to the President and to the Procurator General of the Court of Auditors, as far as it is concerned, on the findings of the Commission's investigations and represented in the *Report on the investigation activity concerning work safety and environmental protection in the armed forces: critical issues and proposals*, approved on 19 July 2017, "with the request to also provide any information, news, document, in relation to the many serious critical issues represented by the aforementioned report". Not surprisingly, the Attorney General at the Court of Auditors, having read the report, with a letter dated 28 December 2017, underlined "the importance of the critical issues raised and the reflections contained in the Report", and "deemed its transmission to the Control Office for the Ministry of Defence necessary, in order to take them into account in the assessments of competence".

This is why the Commission of Inquiry has fully fulfilled its mandate. In fact, it has put forward a wide range of normative, organisational and procedural proposals to complete the work of protecting military workers, even from the point of view of occupational safety and social security.

ANNEX 1

COMMENTS FROM VICE PRESIDENT CATALANO *about the analysis of the components of the vaccines authorised for compulsory military prophylactic vaccination, the analysis of the SIGNUM follow-up data and the data on the neoplastic diseases suffered by the Italian military*

CONTENT

- ❖ **ABSTRACT - Summary of the content of the report**
- ❖ **Investigation of the components of the vaccines administered to military personnel, regardless of the tasks assigned to said personnel**
 - **Components: adjuvants, excipients and contaminants**
 - **Checks required on risks related to problems of immunosuppression, hyperimmunization, autoimmunity and hypersensitivity**
 - **Hypersensitivity and allergies**
 - **Undesirable effects, adverse reactions and contraindications**
 - **Preliminary conclusions**
- ❖ **Monitoring of the immune conditions of the observed subjects. Data analysis on the follow-up of the project called Genotoxic impact study in military units (Italian: *Studio sull'impatto genotossico nelle unità militari*(SIGNUM))**
- ❖ **Analysis of data on cases of malignancies and serious illnesses that have affected Italian personnel also employed in military missions abroad**
- ❖ **Cross-examination of the study commissioned by the Ministry of Defence on multiple vaccinations in young adults**
- ❖ **CONCLUSIONS**

ABSTRACT

Brief summary of the content of the report

In the fulfilment of the objective referred to in Article 1, paragraph 1, letter d) of its resolution of 30 June 2015 of the Chamber of Deputies²³ - analysis of the "*components of the vaccines administered to military personnel, regardless of the subsequent deployment of personnel*" - the Commission has preliminarily acknowledged the absence of any scientific study in the literature aimed at assessing the tolerability of the total quantity of the components of the vaccines with reference to adjuvants, preservatives, antigens and allergens, excipients and contaminants, also in relation to the consequences in terms of hypersensitivity and adverse reactions already reported by the individual vaccine producing industries. Therefore, with note No. 327 of 19/10/2016, he applied to AIFA for the technical documentation of the individual vaccines administered to the military.

With a reply to STDG/P/122005 dated 14/11/2017, AIFA sent the dossiers related to vaccines administered in Italy, provided for by the prophylactic vaccination as per Italian Ministerial Decree March 31, 2003 of the Ministry of Defence and, that is, vaccines that are given to ADULT subjects, selected by means of a medical visit that establishes fitness and good state of health. The documentation is divided into: *data relative to the quantity of the components hypersensitivity evaluations to the components and list of adverse reactions*.

The investigation revealed that:

- the cumulative amount of the various components of the vaccines exceeds the permitted limit for the marketing authorisation of the single vaccine;
- the hypersensitivity indicated in the registration files and technical attachments to vaccines even if only individually considered, confirm the need for prevaccinal analyses;
- the adverse reactions reported in the registration files and technical attachments to vaccines even if only individually considered, confirm the need for a personalized risk assessment on prophylactic vaccination and the need for long-term periodic monitoring of each individual vaccine.

Without prejudice to the above, the Commission confirms once again the conclusions already highlighted by the SIGNUM Project, as well as the work of Prof. Nobile on the Folgore Brigade - i.e. the need to refrain from simultaneously administering more than 5 monovalent single-dose vaccines on military personnel:

Also on the basis of the data received by AIFA above, and a fortiori, disputes the statements of the Minister of Health contained in the communication to the President of the Commission note prot. 6628-P-15/12/17, which express themselves critically on the validity of the results of SIGNUM. In fact, these statements are based on general assessments and statistical data that do

²³ <http://www.gazzettaufficiale.it/eli/id/2015/07/13/15A05399/sg>

not take into account the cumulative administration of the vaccine components and the immunization status of the vaccine. Moreover, they do not take into account the progress of the investigation carried out by this Commission in the military field and do not consider as reference literature the scientific documentary work elaborated within the work of the Parliamentary Commission.

The Commission began its investigation of adverse reactions to vaccinations following the detection of a large number of cases with autoimmune or neoplastic diseases, in a part of the military population not subject to risk factors other than vaccination.

In this specific case, the case of Caporal maggiore Francesco Rinaldelli who died of Hodgkin's lymphoma was studied in detail, while other cases such as Francesco Finessi, Giuseppe Tripoli, Davide Gomiero and Umberto Gambino were analysed just prior to the conclusion of the Commission's work. See the Commission's interim report published in July 2017 for the analyses of several of these individuals. It should also be noted that the case of Daniela Sinibaldi and the female military unit of Ascoli Piceno, suffering from severely disabling autoimmune diseases, which have opened a separate chapter, came to the attention of the Commission.

In the light of the findings, the Commission finds the need to use more purified vaccines, so that the limit of components in cumulative quantities falls within the permitted limit for the individual component of each vaccine, in terms individual AICs have recognized them as non-hazardous to health.

Secondly, the Commission insists on the need to reduce the risk due to the administration procedure, by providing for it to be entrusted to the National Health Facility and that at the time of enrolment the military who do not pass the pre-vaccination tests are excluded. These tests must detect any changes in the immune system and hypersensitivity. It also suggests that the results of the exams are included in the military history file as an element of inability to enrol or suitability for the continuation of the service or particular tasks.

The Commission considers the study entitled "*Lack of evidence for post-vaccine onset of autoimmune/lymphoproliferative disorders, during a nine month follow-up in multiply vaccinated Italian military personnel*", published in the month of August 2017, signing, inter alia, some members of military health, and financed by the Italian Ministry of Defence with project grant application no. D85D10000250001, as drawn up in a situation of conflict of interest, devoid of any scientific basis in the method and in the contradictory outcomes. It observes that, in spite of the entitlement that leads to erroneous conclusions, the same authors declare the study not conclusive. Moreover, the study was carried out with exclusion from the cohort of those soldiers with immunosuppression problems, thus confirming the danger of vaccination to these categories of subjects. There are doubts about the correct use of public funding for this study and for these reasons the Commission transmits this report to the territorial jurisdiction of the Court of Auditors.

The Commission has acquired the data on the *follow-up* to the SIGNUM project.

An initial examination showed that the collection of information for *follow-up* was performed using ineffective markers to evaluate the onset of lymphoproliferative diseases. the Commission also found that there are large gaps in the data matrix that make a statistical assessment impossible, with

consequent doubts on the feasibility of the study assignment of such data attributed by the Military Health Research Commission to the Higher Institute of Health, financed with the sum of € 40.700,00, as communicated with note prot. 819/COMM.URANIO of 10/10/2017. Subsequently, during the course of the preliminary investigation, the Commission had to acknowledge that the Italian Ministry of Defence is in possession of further data, useful for integrating the seriously deficient picture, with respect to those made available to the Commission, as seen from the minutes of the first meeting of setting up a study group on follow-up data²⁴.

It censures, therefore, said behaviour and orders to complete the transmission and reserves the right to make a complaint to the competent judicial authorities in case of persistent omission.

CONCLUSIONS

In light of the evidence collected, the Commission confirms that there is a statistically significant association between neoplastic and lymphoproliferative diseases, and other diseases (e.g. autoimmune diseases), and the administration of vaccines according to military prophylactic vaccination. The Commission considers that it can not rule out the link of the case.

²⁴The meeting took place on October 26, 2017. The report shows that the Epidemiological Defence Observatory sent the data relating to the follow-up in full and complete form to ISS only, omitting to send them to the Commission as requested by the latter. The following is the extract from the minutes: ***"The Brigadier General DE ANGELIS (Director of the Epidemiological Observatory-OED), announces that he is in possession of the data of the ten-year follow-up of the staff who took part in the study, highlighting, in this regard, the progressive decrease of voluntary adhesion over the years. The information was also supplemented by data held by the OED for the institutional activity that it carries out and integrated with information about the staff members of the study and in the meantime went on leave, already obtained by the Directorate General for Military Personnel. The data have already been delivered to Dr. De Angelis of the ISS. Furthermore, a decision was made to enhance the data with that contained in the Hospital Discharge Forms (SDO) to be acquired at the Ministry of Health after authorisation by the Ethics Commission of the Italian National Institute of Health. Finally, the ISS will further integrate with ISTAT data on population deaths."***

Investigation of the components of the vaccines administered to military personnel, regardless of the tasks assigned to said personnel

In November 2017, the Commission received the documentation requested from AIFA in spring 2016, concerning technical specifications, safety studies and vaccine composition, including sub-threshold elements.

The documentation concerns the vaccines included in the military prophylactic vaccination referred to in the Italian Ministerial Decree March 31, 2003 of the Ministry of Defence and, that is, vaccines that are given to ADULT subjects, selected by means of a medical visit that establishes fitness and good state of health. Specifically it concerns:

- meningococcal vaccine;
- measles, mumps and rubella vaccine;
- tetanus, diphtheria and polio vaccine;
- Hepatitis A + B vaccine.
- varicella vaccine;
- flu vaccine;
- vaccination against critical biological agents; *
- tuberculin cutireation; *
- yellow fever vaccine;
- Japanese anti-encephalitis vaccine;
- rabies vaccine;
- typhoid fever vaccine;
- anti-cholera vaccine;
- malaria chemoprophylaxis. *

** data not included in the documentation*

The documentation seems incomplete, in several respects: some vaccines do not contain all the required documentation and for some diseases the corresponding vaccine is missing. However, the data received is of enormous interest for the Commission's activity.

This data was requested to determine whether military prophylactic vaccination could lead to health hazards, such as to cause unnecessary risks to the persons subjected to treatment. The single vaccines administered to the military, which are the same ones authorised by AIFA for the civil sector, contain adjuvants, preservatives and contaminants, within the limits of the single marketing authorisations. An authorised drug is taken into account individually and the parameters, as well as the criteria, to determine the threshold beyond which a component

becomes toxic, are determined by the fact that the drug is taken alone. However, in this case the issue regards the administration of a vaccination schedule for mandatory prophylaxis, and not of a single vaccination, so the drugs and their components add up. The verification that this sum still respects the thresholds of the individual vaccine is essential. If this were not the case the soldier would be exposed to unnecessary risks of immunosuppression and adverse reactions *(caused by the foreign components to the active ingredients and by the active ingredient itself)*.

Document confidentiality imposes non-disclosure of any description of the individual vaccine that allows it to be fully replicated. Therefore, the data will be treated in an aggregate manner. The specific technical documentation relating to individual vaccines is stored in the Commission's archive.

The Commission has chosen to carry out a documentary analysis on vaccines that are currently authorized in Italy, developing 4 research categories:

1. quantification of vaccine components;
2. determination of all hypersensitivity declared by the producers;
3. determinations of all pre-vaccination checks indicated as necessary by the producers;
4. listing all undesirable effects and / or adverse reactions declared, with relative probability.

Components: adjuvants, excipients and contaminants.

The Commission has taken note of the maximum quantity of each individual component registered by the AIFA documents and to check the permitted tolerances in the available literature²⁵.

The following table summarizes the total quantity of the aluminium-based adjuvant that the military receives at the end of the mandatory vaccination prophylaxis.

²⁵ The Commission has developed complete prophylactic vaccination including vaccines that are administered in the event of a mission. In case of alternative vaccine possibility, the maximum quantity of each single component (theoretical maximum quantity) was considered.

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ADJUVANTS ²⁶				
<i>Ingredient name</i>		theoretical maximum quantity	minimum quantity relative to the basic module	<i>Min and Maximum range of the presence of the component with complete prophylaxis</i>
Aluminium	[mg]	2.57	0	Between 2.07 and 2.57
Aluminium hydroxide	[mg]	5.1	0.35	Between 0.85 and 5.1
aluminium hydrated hydroxide	[mg]	1.05	0	Between 0 and 1.05
Amorphous Aluminium hydroxyphosphate	[mg]	1.5	0	0

It is interesting to note that the overall quantities of aluminium injected into military personnel are considerable.

Scientific studies have shown the neurotoxic effects of aluminium²⁷ in quantities much lower than those reported above. In this regard, the following study is published in the Journal of Toxicol 2014;2014:491316. doi: 10.1155/2014/491316. Epub 2014 Oct 2, entitled "*Aluminium-induced entropy in biological systems: implications for neurological disease*" of Shaw CA to others. The study highlights among other things that: "*Aluminium forms toxic complexes with other elements, such as fluorine, and interacts negatively with mercury, lead and glyphosate. Al has a negative impact on the central nervous system in all species that have been studied, including humans. Al has a negative impact on the central nervous system in all species that have been studied, including humans.*" In addition, in accordance with the findings of the commission in reading the dossiers provided by pharmaceutical companies clarifies that humans are increasingly exposed to aluminium from various sources including vaccines.

The study published in the Journal of Trace Elements in Medicine and Biology is also referred to in Volume 46, March 2018, on pages 76-82, entitled: "*Aluminium in brain tissue in autism*" by Matthew Molda, Dorcas Umar, Andrew Kingc, Christopher Exley²⁸, concerning the presence of aluminium in brain tissue of children with neurological diseases. The study found that "... *The aluminium content in brain tissue in autistic subjects was consistently high. The average aluminium content (standard deviation) on all 5 individuals for each lobe was 3.82*

²⁶ In immunology, it is a substance that joins the antigen to amplify the antibody and cell response following immune stimulation. In general, the antigens of vaccines used alone are not efficient stimulators of the immune response and the help of substances that facilitate this task is needed.

²⁷ <https://www.ncbi.nlm.nih.gov/pubmed/25349607>

²⁸ The study is filed in the Commission documents and can be found at: <http://www.sciencedirect.com/science/article/pii/S0946672X17308763?via%3Dihub>

(5.42), 2.30 (2.00), 2.79 (4.05) and 3.82 (5.17), ug/g of dry weight for the occipital lobe, frontal temporal and parietal lobe respectively. These are some of the highest values for aluminium in human brain tissue [so far] and one wonders why, for example, the aluminium content of the occipital lobe of a 15-year-old child would be 8.74 (11.59), ug/g of dry weight ”.

Although the Commission is aware of the fact that adverse reactions differ between adults and children, it is important not to underestimate the overall amount of aluminium administered to military personnel during the entire prophylaxis, as in adults the greatest degree of development of the immune and nervous systems at the time of vaccination, and the possible forms of physiological autoimmunity, they can favour the induction of lymphoproliferative reactions and autoimmune diseases, as shown by the list of undesirable effects, adverse reactions and contraindications, contained in the technical data sheets prepared by pharmaceutical companies. In this regard, see the appropriate section **Undesirable effects, adverse reactions and contraindications** of this report.

Below is the complete table divided between EXCIPIENTS and CONTAMINANTS (including preservatives) introduced into the body following prophylactic vaccination. The table is divided into five columns: the first contains the name of the component, the second the unit of measure, the third the theoretical maximum quantity²⁹, the fourth the quantity relative to the basic module of prophylactic vaccination³⁰, the fifth the minimum quantity and maximum relative to the whole prophylactic vaccination³¹.

In the event that the component is the cause of an allergic reaction, this will be indicated with an asterisk. In case the component is toxic or potentially toxic, it will be indicated with two asterisks.

²⁹ The vaccines were examined in their decomposition into the distinct ingredients. The latter were subsequently added when present in multiple vaccines. In the event that vaccines of different manufacturers are available, concerning the prophylaxis of the same disease, and therefore to be administered as an alternative to each other, the component present in each different amount has been counted in its maximum quantity.

³⁰ For the basic simple lever form, there are no vaccines in the AIFA documentation that can be used alternatively. In this case, therefore, the sum is made for quantities actually administered in the whole basic prophylaxis.

³¹ As for the previous note, also in this case the values refer to the quantity actually administered, choosing between the brands of alternative vaccines, the most recent ones and with greater or lesser total quantity of components.

EXCIPIENTS³²				
<i>Ingredient name</i>		<i>Theoretical maximum quantity</i>	<i>Base module quantity</i>	<i>Min and Max range of the presence of the ingredient with complete prophylaxis</i>
2-phenoxyethanol**	[mg]	5	0	0
Amino acids for injection*	[mg]	21	6	Between 9 and 18
Calcium chloride dihydrate CaCl ₂ *2H ₂ O	[mg]	0.09956	0.03356	Between 0.09356 and 0.09956
Citric Acid	[mg]	0.04	0	Between 0 and 0.04
Disodium phosphate dodecahydrate	[mg]	2.45	0	Between 0 and 1.15
Ethanol	[mg]	1.632001	0	Between 0 and 0.632001
Hydrolyzed Porcine Gelatin*	[mg]	17.8	0	Between 0 and 17.8
L-Arginine	[mg]	4	0	Between 0 and 4
Lactose*	[mg]	96	32	Between 32 and 96
Magnesium chloride hexahydrate MgCl ₂ •6H ₂ O	[mg]	0.05545	0.00545	0.05545
Magnesium sulfate heptahydrate MgSO ₄ .7H ₂ O	[mg]	0.03655	0.02855	Between 0.02855 and 0.03655
Mannitol	[mg]	24	8	Between 8 and 24
Potassium dihydrogen phosphate KH ₂ PO ₄	[mg]	0.65589	0.00789	Between 0.32589 and 0.56589
Phenylalanine	[mg]	0.990001	0.33	Between 0.330001 and 0.99
Polyethylene 400 (PEG 400)*	[mg]	0.000004	0	0.000004
Polysorbate 20*	[mg]	0.04005	0	Between 0.04 and 0.04005

³² In the pharmaceutical technique, a pharmacologically inert substance with little chemical reactivity, which gives a medicinal preparation the shape, consistency, dilution and other physical and chemical-physical characteristics necessary for its formulation, mainly acting as a vehicle for active substances.

Polysorbate 80 + Octoxynol 10 (Triton X- 100)*	[mg]	1.175003	0	Between 0.000001 and 1.175
Potassium chloride KCl	[mg]	0.512	0.068	Between 0.256 and 0.512
RRR-alpha-Tocopheryl hydrogen succinate	[mg]	0.1	0	0
Sodium borate	[mg]	0.21	0	0
Sodium Borate Decahydrate	[mg]	0.14	0	Between 0 and 0.14
Sodium chloride NaCl	[mg]	129.44	5.84	Between 84.44 and 128.04
Sodium citrate	[mg]	12.66	0	Between 12 and 12.66
Sodium deoxycholate	[mg]	0.005	0	0
Sodium dihydrogen phosphate Na ₂ HPO ₄	[mg]	0.415395	0.0126	Between 0.013395 and 0.415395
Sodium dihydrogen phosphate dihydrate	[mg]	2.84	0	Between 0 and 2.84
Sodium phosphate dibasic dihydrate	[mg]	24.05	0	Between 20.12 and 23.39
Sodium phosphate monobasic dihydrate	[mg]	4	0	4
sorbitan trioleate	[mg]	1.175	0	Between 0 and 1.175
Sorbitol	[mg]	21	9	Between 9 and 21
Squalene**	[mg]	9.75	0	Between 0 and 9.75
Sucrose	[mg]	36.5	0	Between 0.000001 and 36.000001
Urea	[mg]	7.2	0	Between 0 and 7.2
L-Cysteine hydrochloride - H ₂ O	[mg]	0.000436	0.000436	0.000436
L-Arginine	[mg]	3	3	3
L-Glutamine	[mg]	0.01455	0.01455	0.01455
L-Tyrosine	[mg]	0.000602	0.000602	0.000602

and	Solution N°4 (Amino Acids)	[µL]	0.363	0.363	0.363
id	Solution N°6 (vitamins)	[µL]	0.145	0.145	0.145
	Sodium hydrogen carbonate (NaHCO ₃)	[mg]	7200.17	0.17	7200.17
	Sodium carbonate anhydrous	[mg]	800	0	800
	D-Bactogalactose	[mg]	0.02909	0.02909	0.02909
14	Saccharin	[mg]	60	0	60
id	Dextrose	[mg]	0.02909	0.02909	0.02909
66	CONTAMINANTS³³				
and	Acetaldehyde*	[mg]	0.00065	0	Between 0 and 0.00065
84	Acetone**	[mg]	0.000375	0	Between 0 and 0.000375
nd	Amberlite™ XAD4*	[mg]	0.000001	0	0.000001
	ANTIBIOTICS*	[mg]	0.00006	0	0.00006
	Gentamicin sulfate*	[mg]	0.00015	0	0
175	Kanamycin acid sulphate*	[mg]	0.000001	0	0.000001
21	Neomycin*	[mg]	0.00168	0	Between 0.0004 and 0.00128
75	Neomycin sulphate*	[mg]	0.075021	0.025	Between 0.025021 and 0.075001
and	Antifoaming agent*	[mg]	0.00028	0	Between 0 and 0.00028
2	Arsenic**	[mg]	0.00000975	0	Between 0 and 0.00000975

³³ Toxic or potentially toxic substance present in the drug due to the manufacturing process, or in the raw materials from which it is derived.

Bacterially-derived DNA*	[mg]	0.000201	0	Between 0 and 0.000201
Barium sulphate**	[mg]	0.000001	0	0.000001
BOVINE SERUM ALBUMIN (BSA)*	[mg]	0.00035	0.00005	Between 0.00030002 and 0.0003345
CaCl ₂	[mg]	0.000004	0	0.000004
Caesium chloride (CsCl ₂)	[mg]	0.004	0	0.004
Cetyrlmethylammonium bromide (CTAB)	[mg]	0.200001	0	Between 0.000001 and 0.200001
Chloroform**	[mg]	1.157	0	Between 0.001 and 1.156
EDTA and phenylmethyl sulfonyl fluoride and PMSF**	[mg]	0.072004	0	Between 0.000004 and 0.072004
Endotoxin**	[mg]	0.000001	0	Between 0 and 0.000001
Ethylene glycol.	[mg]	0.000004	0	0.000004
Formaldehyde*	[mg]	0.120003	0	Between 0.015025 and 0.115001
Free Fatty Acids	[mg]	0.0052	0	Between 0 and 0.0052
Haemagglutinin (HA) and Neuraminidase (NA)*	[mg]	0.015	0	0.015
Heavy metals	[mg]	0.000121	0	Between 0 and 0.000121
Heptaacyl MPL	[mg]	0.001	0	Between 0 and 0.001
HUMAN SERUM ALBUMIN (HSA)*	[mg]	2.45	0	Between 0.45 and 2.45
Hydrocortisone	[mg]	0.0000016	0	0
Isopropanol	[mg]	0.000004	0	0.000004
KDO 2-keto-3-deoxyoctonate (Sialic acid)	[mg]	0.00048	0	Between 0 and 0.00048
L-cystine	[mg]	0.0858	0.0678	Between 0.0678 and 0.0858

Methanol	[mg]	0.628	0	Between 0 and 0.628
Monosodium L-Glutamate**	[mg]	0.72	0	Between 0 and 0.72
Ovalbumin*	[mg]	0.01685	0	0.0168
PCB/Dioxin**	[mg]	0.00000000 644	0	Between 0 and 0.00000000644
Phenol red**	[mg]	0.02111	0.00511	Between 0.00511 and 0.02111
Phospholipid	[mg]	0.00076	0	Between 0 and 0.00076
SILICIUM (SILICON)	[mg]	0.000001	0	Between 0 and 0.000001
* thiocyanate**	[mg]	0.000003	0	0
Thiomersal or sodio- etilmercurio- tiosalicilato (C9H9HgNaO2S)**	[mg]	0.2	0	0
Yeast DNA*	[mg]	0.00000000 4	0	Between 0 and 0.000000004
Yeast-derived polysaccharides*	[mg]	0.008	0	0.008
Yeast-derived proteins (HBsAg etc.)*	[mg]	0.000801	0	Between 0.0008 and 0.000801
B-propiolactone	[mg]	0.0006	0	0.0006
phenol**	[mg]	1.25	1.25	1.25
Medium 199	[mg]	1.33	1.33	1.33
Adenine	[mg]	0.0000618	0.0000618	0.0000618
Thymidine	[mg]	0.00000728	0.00000728	0.00000728

From the calculations made by the Commission it emerged that at the end of prophylactic the amount of contaminants taken (*calculated as Adjuvants + contaminants + excipients*) is **between about 8.32 and 8.42 g**. However, this value is underestimated because biological contaminants have not been tested - *i.e. viruses, bacteria, mycoplasmas and mycobacteria, as well as fetal human DNA and animal DNA* - that come from the biological tissues of vaccine culture³⁴.

In this regard, in the article already in the Commission's Acts (*New Quality-Control Investigations on Vaccines: Micro and Nanocontamination*³⁵) shows a picture (photo # 7 on page 11) of the contamination of a human/animal vaccine from the culture tissue.

³⁴ Biologicals. 2010 May;38(3):332-4. Human and animal vaccine contaminations. Pastoret PP; EVM reflection paper on the Safety Assessment of Residuals and Contaminants in Vaccines; Minimum requirements for biological products; Guidance for Industry – Characterization and Qualification of Cell Substrates and Other Biological Materials Used in the production of Viral Vaccines for Infectious Disease – Indications; Guidelines on the nonclinical evaluation of vaccine adjuvants and adjuvanted vaccines; Cancer Res. 2005 Nov 15;65(22):10273-9. Some oral poliovirus vaccines were contaminated with infectious SV40 after 1961. Cutrone R¹, Lednicky J, Dunn G, Rizzo P, Bocchetta M, Chumakov K, Minor P, Carbone M; Pharmacoepidemiol Drug Saf. 2010 Mar;19(3):306-10. Safety assessment of recalled Haemophilus influenzae type b (Hib) conjugate vaccines—United States, 2007–2008. Huang WT¹, Chang S, Miller ER, Woo EJ, Hoffmaster AR, Gee JE, Clark TA, Iskander JK, Ball R, Broder KR; Bovine Derived Materials Used in Vaccine Manufacturing Questions and Answers; Hum Vaccin Immunother. 2013 Aug 28;9(11). Investigation of a regulatory agency enquiry into potential porcine circovirus type 1 contamination of the human rotavirus vaccine, Rotarix™: Approach and outcome. Dubin G¹, Toussaint JF, Cassart JP, Howe B, Boyce D, Friedland L, Abulyazeed R, Poncelet S, Han HH, Debrus S.; Recall of FLUVIRIN (Influenza Virus Vaccine) 2010/2011 Formula Multidose Via. Jpn J Infect Dis. 2004 Apr;57(2):58-9. Endotoxin content in Haemophilus influenzae type b vaccine. Ochiai M¹, Kataoka M, Toyozumi H, Yamamoto A, Kamachi K, Arakawa Y, Kurata T, Horiuchi Y.; Vaccine. 2015 Jan 1;33(1):252-9. Detecting and preventing reversion to toxicity for a formaldehyde-treated C. difficile toxin B mutant. Wang B¹, Wang S¹, Rustandi RR¹, Wang F¹, Mensch CD¹, Hong L¹, Kristopeit A¹, Secore S¹, Dornadula G¹, Kanavage A¹, Heinrichs JH¹, Mach H¹, Blue JT¹, Thiriout DS¹; Vaccine. 2008 Jul 23;26(31):3835-41. Residual enzymatic activity of the tetanus toxin light chain present in tetanus toxin batches used for vaccine production. Behrendorf-Nicol HA¹, Kegel B, Bonifas U, Silberbach K, Klimek J, Weiber K, Krämer B. Med Hypotheses. 2005;65(3):509-20. Multiple sclerosis and hepatitis B vaccination: could minute contamination of the vaccine by partial hepatitis B virus polymerase play a role through molecular mimicry? Faure E¹; Issues Law Med. 2015 Spring;30(1):47-70. Epidemiologic and Molecular Relationship Between Vaccine Manufacture and Autism Spectrum Disorder Prevalence. Deisher TA, Doan NV, Koyama K, Bwabye S.; Computational Detection of Homologous Recombination Hotspots on X-Chromosome Autism-Associated Genes A. Arda, S. Bwabye, K. Koyama, N. Doanb, M. A. LaMadridc, T. A. Deisher. Immunotoxicol. 2011 Jan-Mar;8(1):68-79. Theoretical aspects of autism: causes—a review. Ratajczak HV; Cytotechnology. 2002 Jul;39(2):91-116. Virus contaminations of cell cultures - A biotechnological view. Merten OW¹; J Virol. 2011 Jun;84(12):6033-40. Viral nucleic acids in live-attenuated vaccines: detection of minority variants and an adventitious virus. Victoria JG¹, Wang C, Jones MS, Jaing C, McLoughlin K, Gardner S, Delwart EL

³⁵ Gatti AM, Montanari S (2016) New Quality-Control Investigations on Vaccines: Micro- and Nanocontamination. Int Vaccines 4(1) (photo #7 on p. 11).

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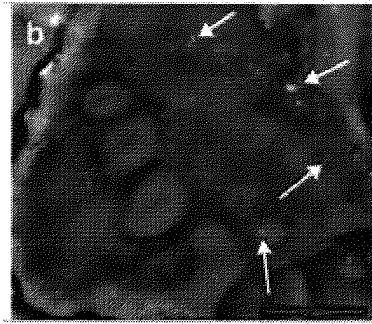


Figure 7: Image of an area in a drop of Repevax (anti-diarrhoea vaccine, tetanus, pertussis, polio) where the morphology of red blood cells (red arrows) has been identified. It is impossible to establish whether they are of human or animal origin.

Since many of the vaccines used are produced with cultures of animal cells and tissues (chicken embryos) or humans (foetal tissues, cell lines), such contamination poses serious risks to human health, because it may be responsible for autoimmune reactions against DNA human. In particular, it is the case to recall the study entitled "*Epidemiologic and Molecular Relationship Between Vaccine Manufacture and Autism Spectrum Disorder Prevalence*" by Deisher TA, et al. Issues Law Med. 2015, whose conclusions read: "*Vaccines produced in human foetal cell lines contain unacceptable levels of foetal DNA fragment contaminants. The human genome naturally contains regions susceptible to double-stranded rupture formation and insertional DNA mutagenesis. The "Wakefield Shock" has created a natural experiment that can demonstrate a causal relationship between vaccines manufactured from foetal cell lines and the prevalence of ASD.*"³⁶ The Commission notes that the study is the result of a laboratory analysis carried out on a vaccine on the list of documentation submitted by AIFA, but which does not mention this component.

In relation to autoimmune reactions, reference is made to the treatment in the appropriate section entitled **Hypersensitivity and allergies**, in this report, in which the manufacturers involved suggest to ascertain hypersensitivity, among other things, to chicken and egg cells and to cells human diploid, before providing the vaccine to avoid unwanted reactions.

Required checks on risks related to problems of immunosuppression, hyperimmunization, autoimmunity and hypersensitivity

As already highlighted in the July interim report, vaccination involves risks in terms of immunosuppression, hyperimmunization, autoimmunity and hypersensitivity issues. This statement was confirmed by the analysis of public vaccine documents, such as leaflets and datasheets (see section 4.4 of the SPCs provided by AIFA), as summarized in the following

³⁶ <https://www.ncbi.nlm.nih.gov/m/pubmed/26103708/>

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table. In particular, pharmaceutical companies request the application of appropriate precautions for the use of the vaccine and, among other things, the verification of the state of health of the vaccine and the absence of the diseases listed below at the time of vaccination.

<i>Disease verification requested by the pharmaceutical company to ensure its absence before vaccinating</i>	<i>Number of vaccines included in the military prophylaxis that requires it</i>
endogenous or iatrogenic immunosuppression	7
Congenital immunosuppression	3
Idiopathic immunodepression	2
immunosuppressive therapy	10
immunodeficiency	6
HIV positive subject	1
humoral or cellular immunodeficiency	3
congenital or hereditary immunodeficiency	1
autoimmune disease	1
thrombocytopenia	2
malignant solid tumors	2
malignant neoplasms of the haematopoietic and lymphatic system	1
lymphomas of any kind	1
leukemia	1
antimitotic drugs	1
radiotherapy	2

thymoma	1
qualitative test for antibodies	2
antibody production effectively	1
weakened immune system	2
Serological tests	2
acute gastrointestinal diseases	1
acute febrile diseases.	8
low sodium diet	1
coagulation disorders	1
neurological disorders	1
epilepsy	1
haemophilia	1
abnormalities of coagulation	1
coagulation disorders	2
brain disease	1
acute severe febrile illness	3
Other forms of Hepatitis	1
Hepatitis A Incubation	
hemodialysis	
kidney failure	
cytotoxic drugs	
thymectomy	

thymic dysfunction	
acute gastrointestinal injections	1
treatment with antibiotics or sulphonamides	1
febrile affections	5
acute infection	5
pathologies affecting the Central Nervous system	1
susceptibility to febrile convulsions	1
Neurological complications following vaccination	1
serious chronic diseases	1
blood dyscrasias	1
Active untreated tuberculosis	1

There are 22 indications to carry out pre-vaccination tests aimed at excluding the existence of any immunosuppression, 7 those involving the preventive assessment of the efficiency or inefficiency of the immune system, 3 those referring to the need to exclude autoimmune diseases, 9 are the oncological diseases and, for various reasons, as many as 11 that require an analysis of potential immunodeficiency.

In light of this list, the Commission considers that Annex F to the DIFESAN Directive of 14 February 2008, concerning the medical history and informed consent to be completed by military personnel during vaccine administration, appears to be insufficient and that the mere completion of the form may not be considered a substitute for the health checks required by the companies producing the vaccines. The conclusion is that the form must be integrated with the corresponding diagnostic tests.

Hypersensitivity and allergies

There are 81 elements for which a sensitivity or allergy assessment is required for all vaccines analysed and included in the military prophylactic vaccination, in addition to the active ingredients of the vaccine,

<i>Hypersensitivity to be tested before administration of the vaccine indicated by the pharmaceutical company</i>	<i>Number of vaccines that require it</i>
Sodium Chloride	15
formaldehyde	10
Active principle	8
neomycin sulphate	8
monobasic potassium phosphate	6
chicken protein	5
Sucrose	5
neomycin	4
polysorbate 80	4
<i>Chicken eggs cells *</i>	4
<i>hen embryos *</i>	4
ovalbumin	4
Sodium phosphate dibasic dihydrate	4
aluminium hydroxide	4
amino acids for injections	4
kanamycin	3
cetyltrimethylammonium bromide (CTAB)	3
barium sulphate	3
dibasic sodium phosphate	3
yeast	3
Potassium chloride	3

potassium chloride	3
Lactose	3
Sorbitol E420	3
hemagglutinin	3
eightxinol 10	2
Human albumin	2
<i>Human diploid cells (MRC-5) *</i>	2
sodium phosphate dibasic dodecahydrate	2
Sodium phosphate monobasic dihydrate	2
magnesium chloride hexahydrate	2
sodium deoxycholate	2
α -tocopherol succinate acid	2
Sodium borate	2
Potassium dihydrogen phosphate	2
gentamicin sulfate	2
Mannitol	2
<i>Trometamol*</i>	2
gentamicin	1
<i>chlortetracycline *</i>	1
amphotericin B	1
polysorbate 20	1
Sodium glutamate	1
Sodium dihydric phosphate anhydrous	1
Sodium bicarbonate	1

Sodium citrate	1
sodium dihydrogen phosphate	1
Sodium carbonate, anhydrous	1
Disodium hydrogen phosphate	1
Sodium chloride	1
Sodium	1
aluminium phosphate	1
monophosphoryl lipid A	1
potassium thiocyanate	1
Citric acid	1
Sodium saccharin	1
Magnesium sulphate	1
Calcium chloride	1
<i>E171 (titanium dioxide)*</i>	1
<i>E172 (yellow iron oxide and red iron oxide)*</i>	1
<i>E127 (Erythrosine)*</i>	1
gelatin	1
Hydrolyzed gelatin	1
<i>hydroxypropylmethylcellulosephthalate (HP-MCP) -50*</i>	1
<i>dibutyl phthalate*</i>	1
<i>diethyl phthalate*</i>	1
ethylene glycol	1
L-alanine	1

L-histidine hydrochlorite	1
phenol	1
2-phenoxyethanol	1
<i>sodium hydroxide*</i>	1
<i>Hydrochloric acid*</i>	1
Urea	1
<i>protamine sulphate*</i>	1
<i>latex</i>	1
Edible bisodic	1
<i>Potassium-L-glutamate*</i>	1
<i>Polygelina*</i>	1
<i>Octoxynol-9*</i>	1
<i>streptomycin*</i>	1
<i>polymyxin B*</i>	1

****components that have not been quantified***

As can be seen from the above table, rather than an evaluation on tolerability for each individual element, the choice to carry out an overall tolerability assessment for the vaccine to be administered can be practicable. This would also highlight the possible intolerance or hypersensitivity to the combined allergens.

Effetti indesiderati, reazioni avverse e controindicazioni

Important information has come to light from the analysis of side effects, adverse events and contraindications. In total, the reactions counted as high as 240, with a frequency varying from 10% to "unknown frequency". The table below shows the frequency of occurrence of adverse reactions and unwanted events and the number of times it is referred to in the vaccine leaflets.

	VC	≥ 1/10				
	C	≥ 1/100, <1/10				
	UC	≥ 1/1,000, <1/100				
	R	≥ 1/10,000, <1/1,000				
	VR	≥ 1/10,000				
	ND	no data				
	<i>Adverse reaction or unwanted event</i>		<i>Number of times it is quoted with the same frequency³⁷</i>			
	V C	C	N C	R	V R	N D
pain at injection site	13	1	0	1	0	0
Fatigue	8	2	4	0	2	1
headache	5	8	3	0	2	0
Myalgia	5	5	5	1	2	1
pain at injection site	4	11	1	2	0	0
pain at injection site	4	7	0	1	0	0
Irritability	4	2	2	0	0	0
fever	3	16	1	1	1	1
pain	3	2	1	0	0	1
pain at injection site	2	5	1	0	0	0
headache	2	4	0	0	0	0
Pain and sensitivity at injection site	2	2	0	0	0	0

³⁷ MC = Very Common, C = Common, NC = Uncommon, R = Rare, MR = Very Rare and NN = No data (1 in 1 million) Frequency unknown

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malaise	1	7	4	3	2	1
pain at injection site	1	3	2	0	0	0
asthenia	1	2	3	2	1	3
Haematoma at injection site	1	0	4	0	0	0
Erythema and swelling	1	0	1	4	0	0
Heat at injection site	1	0	1	2	0	0
Nodule at injection site	1	0	0	2	0	0
Oedema at injection site	1	0	0	0	0	0
swelling at injection site	1	0	0	0	0	0
nausea	0	15	3	2	2	0
Swelling at injection site	0	13	0	2	1	1
vomiting	0	11	6	1	2	0
diarrhoea	0	10	6	2	2	1
abdominal pain	0	7	4	3	2	1
Arthralgia	0	7	3	3	3	3
shivers	0	7	1	2	2	2
Loss or decreased appetite	0	6	0	1	0	1
Drowsiness	0	5	2	3	1	0
Sweating	0	5	0	2	1	0
hives	0	3	1	0	2	0
pyrexia	0	3	0	0	0	0
Itching at injection site	0	2	3	1	1	0
flu-like syndrome	0	2	2	5	3	3
upper respiratory tract infection	0	2	2	0	0	0

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1	fatigue	0	2	0	0	1	1
0	Dizziness	0	1	7	2	1	2
3	lymphadenopathy	0	1	5	4	4	2
0	Rash	0	1	5	1	6	3
0	dizziness	0	1	2	1	1	0
0	rash similar to varicella	0	1	1	0	0	0
0	Irritation at injection site	0	1	1	0	0	0
0	Musculoskeletal pains	0	1	0	1	0	0
0	Exanthem	0	1	0	0	0	1
0	measles-like syndrome	0	1	0	0	0	1
1	rubella-like syndrome	0	1	0	0	0	0
0	itchiness	0	0	5	5	2	3
1	urticaria	0	0	4	5	6	6
1	Cough	0	0	3	1	0	0
3	musculoskeletal stiffness	0	0	2	1	1	0
2	Anorexia	0	0	2	1	0	0
1	Conjunctivitis	0	0	2	1	0	0
0	Rhinitis	0	0	2	1	0	0
0	Insomnia	0	0	2	0	1	0
0	pharyngitis	0	0	2	0	0	0
0	otitis media	0	0	2	0	0	0
0	Unusual crying	0	0	2	0	0	0
3	Nervousness	0	0	1	3	0	0
0	Heat flash	0	0	1	3	0	0

Arm pain (in the limb where the injection was made)	0	0	1	1	0	1
Stiffness	0	0	1	1	0	1
Nasal congestion	0	0	1	1	0	0
Viral infection	0	0	1	1	0	0
hyperhidrosis	0	0	1	1	0	0
Influenza-like illness	0	0	1	1	0	0
rhinorrhoea	0	0	1	1	0	0
increase in liver enzymes	0	0	1	0	1	0
gastroenteritis	0	0	1	0	0	1
arthralgia	0	0	1	0	0	0
bronchitis	0	0	1	0	0	0
respiratory congestion	0	0	1	0	0	0
abdominal cramps	0	0	1	0	0	0
Contact dermatitis	0	0	1	0	0	0
sleep disorders	0	0	1	0	0	0
migraine	0	0	1	0	0	0
viral exanthema	0	0	1	0	0	0
abdominal discomfort	0	0	1	0	0	0
Swollen lymph nodes	0	0	1	0	0	0
swelling of the parotid glands	0	0	1	0	0	0
Gastric/abdominal gurgle (gas)	0	0	1	0	0	0
miliaria rubra	0	0	1	0	0	0
Ear infection	0	0	1	0	0	0
chickenpox	0	0	1	0	0	0

1	<i>paraesthesia*</i>	0	0	0	6	4	3
1	Allergic reactions	0	0	0	5	7	4
0	<i>Guillain Barré syndrome / paralysis *</i>	0	0	0	3	7	6
0	Convulsions	0	0	0	3	6	5
0	angioedema	0	0	0	3	4	3
0	<i>neuritis*</i>	0	0	0	3	4	2
0	<i>encephalomyelitis*</i>	0	0	0	3	4	0
0	Dermatitis	0	0	0	3	0	1
1	<i>thrombocytopenia</i>	0	0	0	2	4	5
0	pain in the extremities	0	0	0	2	2	0
0	dyspnea	0	0	0	2	0	2
0	eyelid oedema	0	0	0	2	0	0
0	peripheral oedema	0	0	0	2	0	0
0	Circulatory reactions (such as palpitations or hot flashes)	0	0	0	2	0	0
0	<i>paralysis*</i>	0	0	0	1	2	1
0	<i>Multiple sclerosis*</i>	0	0	0	1	2	1
0	<i>transverse myelitis*</i>	0	0	0	1	1	2
0	muscle weakness	0	0	0	1	1	1
0	<i>Facial paralysis/Bell's Paralysis*</i>	0	0	0	1	1	1
0	eczema	0	0	0	1	1	0
0	myelitis	0	0	0	1	1	0
0	flatulence	0	0	0	1	0	2
0	Hypersensitivity	0	0	0	1	0	1
0	<i>hypoesthesia *</i>	0	0	0	1	0	1

backache	0	0	0	1	0	1
acne	0	0	0	1	0	0
agitation	0	0	0	1	0	0
Disorders of dreams	0	0	0	1	0	0
Apathy	0	0	0	1	0	0
increase in transaminases (mild and reversible)	0	0	0	1	0	0
bronchitis	0	0	0	1	0	0
candidiasis	0	0	0	1	0	0
Motion sickness	0	0	0	1	0	0
Vision impairment / disorders	0	0	0	1	0	0
pulmonary congestion	0	0	0	1	0	0
Acute conjunctivitis	0	0	0	1	0	0
contusion	0	0	0	1	0	0
Atopic dermatitis	0	0	0	1	0	0
<i>dysgeusia*</i>	0	0	0	1	0	0
walking disorders	0	0	0	1	0	0
Vision disturbances	0	0	0	1	0	0
Eye pain	0	0	0	1	0	0
Chest pain	0	0	0	1	0	0
Earache	0	0	0	1	0	0
Backache	0	0	0	1	0	0
pulsating or stabbing pain to one or more nerves	0	0	0	1	0	0
Eczema at the injection site	0	0	0	1	0	0
haematochezia	0	0	0	1	0	0

1	epistaxis	0	0	0	1	0	0
0	Injection site annoyance	0	0	0	1	0	0
0	Formation of a crust at the injection site	0	0	0	1	0	0
0	Tingling at the injection site	0	0	0	1	0	0
0	tingling or numbness	0	0	0	1	0	0
0	St. Anthony's fire	0	0	0	1	0	0
0	herpes simplex	0	0	0	1	0	0
0	respiratory infections	0	0	0	1	0	0
0	Inflammation to the brain	0	0	0	1	0	0
0	Inflammation at the injection site	0	0	0	1	0	0
0	Nerve inflammation	0	0	0	1	0	0
0	Optic nerve inflammation	0	0	0	1	0	0
0	Skin inflammation	0	0	0	1	0	0
0	inflammation of the meninges	0	0	0	1	0	0
0	hypersomnia	0	0	0	1	0	0
0	eye irritation	0	0	0	1	0	0
0	meningeal irritation	0	0	0	1	0	0
0	lachrymation	0	0	0	1	0	0
0	lymphadenitis	0	0	0	1	0	0
0	Measles	0	0	0	1	0	0
0	Otalgia	0	0	0	1	0	0
0	<i>Autoimmune disorders *</i>	0	0	0	1	0	0
0	Pneumonia	0	0	0	1	0	0
0	Rapid heart beat	0	0	0	1	0	0

reaction similar to that of a non venomous -						
bite/sting	0	0	0	1	0	0
Shortness of breath	0	0	0	1	0	0
Shortness of breath	0	0	0	1	0	0
Stiffness / contracture and stinging sensation	0	0	0	1	0	0
Skin reddening	0	0	0	1	0	0
Mood swings	0	0	0	1	0	0
Feeling of heat	0	0	0	1	0	0
Sensation of ringing in the ears	0	0	0	1	0	0
sensitivity to light	0	0	0	1	0	0
thirst	0	0	0	1	0	0
respiratory symptoms	0	0	0	1	0	0
Sinusitis	0	0	0	1	0	0
sneezing	0	0	0	1	0	0
tachycardia	0	0	0	1	0	0
tendinitis	0	0	0	1	0	0
Blood flow	0	0	0	1	0	0
tremor	0	0	0	1	0	0
ulcer of the oral cavity	0	0	0	1	0	0
vesicles	0	0	0	1	0	0
Vasculitis *	0	0	0	0	5	4
Syncope	0	0	0	0	5	0
Neuralgia	0	0	0	0	4	0
Anaphylaxis	0	0	0	0	3	5

	presyncope	0	0	0	0	3	0
0	serum sickness symptoms	0	0	0	0	3	0
0	Encephalitis*	0	0	0	0	2	5
0	Erythema multiforme	0	0	0	0	2	5
0	optic neuritis*	0	0	0	0	2	1
0	anaphylactic shock	0	0	0	0	2	1
0	neuritis	0	0	0	0	2	0
0	Angioneurotic edema	0	0	0	0	1	3
0	Meningitis	0	0	0	0	1	3
0	Arthritis*	0	0	0	0	1	2
0	encephalopathy *	0	0	0	0	1	2
0	hypotension	0	0	0	0	1	2
0	Vasovagal syncope in response to injection	0	0	0	0	1	2
0	neuropathy*	0	0	0	0	1	1
0	alopecia*	0	0	0	0	1	0
0	Asthma	0	0	0	0	1	0
0	dehydration	0	0	0	0	1	0
0	dyspepsia	0	0	0	0	1	0
0	joint pain	0	0	0	0	1	0
0	Swelling at the extremities, hands, ankles and feet	0	0	0	0	1	0
4	swelling of the mouth	0	0	0	0	1	0
0	swelling of the throat	0	0	0	0	1	0
0	swelling of the lips	0	0	0	0	1	0
5	lipotimia	0	0	0	0	1	0

sore throat	0	0	0	0	1	0
<i>demyelinating disease of the central nervous system*</i>	0	0	0	0	1	0
dulling of taste	0	0	0	0	1	0
<i>polyarteritis nodosa*</i>	0	0	0	0	1	0
<i>polyradiculoneuritis*</i>	0	0	0	0	1	0
Bronchospasm-type symptoms	0	0	0	0	1	0
<i>Uveitis*</i>	0	0	0	0	1	0
<i>cerebellitis *</i>	0	0	0	0	0	2
facial oedema	0	0	0	0	0	2
Aseptic meningitis	0	0	0	0	0	2
<i>Cerebellitis-like* symptoms</i>	0	0	0	0	0	2
metabolic acidosis	0	0	0	0	0	1
Aplastic anaemia	0	0	0	0	0	1
cerebrovascular attack	0	0	0	0	0	1
Sputum increase	0	0	0	0	0	1
cytolysis of muscle and liver	0	0	0	0	0	1
Cerebrovascular crisis	0	0	0	0	0	1
focal neurological deficits	0	0	0	0	0	1
abdominal distension	0	0	0	0	0	1
maculopapular rash	0	0	0	0	0	1
herpes zoster	0	0	0	0	0	1
hypertension	0	0	0	0	0	1
hypoesthesia of the limb in which the vaccine was administered	0	0	0	0	0	1

0	lethargy	0	0	0	0	0	1
0	lichen planus*	0	0	0	0	0	1
0	linfocitopenia	0	0	0	0	0	1
0	Brachial neuritis*	0	0	0	0	0	1
0	Pallor	0	0	0	0	0	1
0	Transient paraesthesia*	0	0	0	0	0	1
0	Schönlein-Henoch purpura*	0	0	0	0	0	1
2	thrombocytopenic purpura*	0	0	0	0	0	1
2	cold	0	0	0	0	0	1
2	renal failure	0	0	0	0	0	1
2	respiratory failure.	0	0	0	0	0	1
1	Stevens-Johnson syndrome *	0	0	0	0	0	1
1	mumps-like syndrome	0	0	0	0	0	1
1	State of confusion	0	0	0	0	0	1

***autoimmune disease**

The analysis of the table shows that vaccines that have a high content of components in quantitative terms, but also of varieties of foreign components, determine a greater number of adverse reactions.

Furthermore, it should be noted that the data sent by the pharmaceutical company show the indication of a series of autoimmune diseases (indicated in bold and with an asterisk in the table) as undesirable effects or adverse reactions to vaccination.

It should be emphasized that monitoring of adverse reactions is carried out in a very short time after vaccination, which is why immediate adverse reactions are much more frequent, while rare reactions are related to longer-term pathologies requiring a population sample very large, often not achieved during the marketing authorization phase. For this reason, non-acute adverse reactions are significantly underestimated.

The confirmation of the need to adopt precautions for adverse reactions is sustained by the fact that pharmaceutical companies require a greater number of examinations and checks in proportion to the increased number of active ingredients that they contain.

Preliminary conclusions

In conclusion, for the mandatory military vaccine prophylaxis, the evaluation of the toxicity and tolerability of the components (active ingredient, adjuvants, excipients and contaminants) contained in the drug must be carried out in relation to the entire administration cycle prescribed by the vaccination schedule. Consequently, the degree of purity of the individual vaccine must be greater than that guaranteed for the drugs considered individually and currently on the market for civil purposes.

The selection of military personnel should be improved by submitting them to the immune system assessment test, as well as to that for all hypersensitivity.

To this end, the Commission suggests that the hypersensitivity assessment methodology should account for the entire vaccine in place of the individual ingredient in order to verify the effects of the administration of the drug considered in its entirety. The evaluation of hypersensitivity to the entire drug could be carried out in analogy to that relating to food intolerances, studying the lymphocyte reaction on the vaccine's blood, and the results included in the military history report as an element of eligibility for enrolment or eligibility continuation of the service or particular tasks.

The Commission found that the prescription of monovalent and single dose vaccines, apart for the two trivalent MMR and DTP, appears to be compliant. The Commission, for the reasons already expressed in the interim report, and reiterated in the paragraphs above, also considers the monovalent single-dose supply of the latter two to be in conformity with the precautionary principle.

The completion of the documental analysis on the registration dossiers carried out so far requires the experimental verification of vaccines to be taken as a sample, as part of an inspection to be carried out in the premises where military personnel are vaccinated. Only in this way is it possible to check compliance with the technical data sheet as well as the presence of components not measured, and which has not been accounted for. This objective, already set by the Commission's founding law, has not been implemented due to the limited financial resources available to the Commission. Regarding the anti-influenza and antitethical prophylaxis, the Commission notes that, in the risk/benefit calculation, the percentage of vaccination coverage is often taken into account for the efficacy of the vaccine. On the contrary, this evaluation must also take into account the actual effectiveness calculated, taking into account the number of subjects that incur in the disease despite the vaccination³⁸.

³⁸ We here mention the two studies from which we started to draw this conclusion: "Vaccines to prevent influenza in healthy adults" e "Influenza Vaccination of Healthcare Workers: Critical Analysis of the Evidence for Patient Benefit Underpinning Policies of Enforcement".

Monitoring of the immune conditions of the observed subjects. Data analysis on the follow-up of the project called Genotoxic impact study in military units (Italian: *Studio sull'impatto genotossico nelle unità militari*(SIGNUM))

The second phase of the SIGNUM Project foresees the longitudinal observation of the military cohort under examination for at least ten years, with checks carried out annually, aimed at evaluating the exposure to environmental genotoxic and the possible presence of markers of a damaged load. of DNA.

In relation to this second phase, the Commission carried out investigative activities in order to determine whether the annual observation on the cohort had actually taken place and the associated outcomes.

On this point the statement was made by the then Colonel DE ANGELIS given at the hearing of March 1, 2017, for which the *follow-up* was supposedly carried out, and that the reprocessing of data would be agreed in collaboration with the Italian National Institute of Health (Istituto Superiore di Sanità (ISS)) on 24 February 2017.

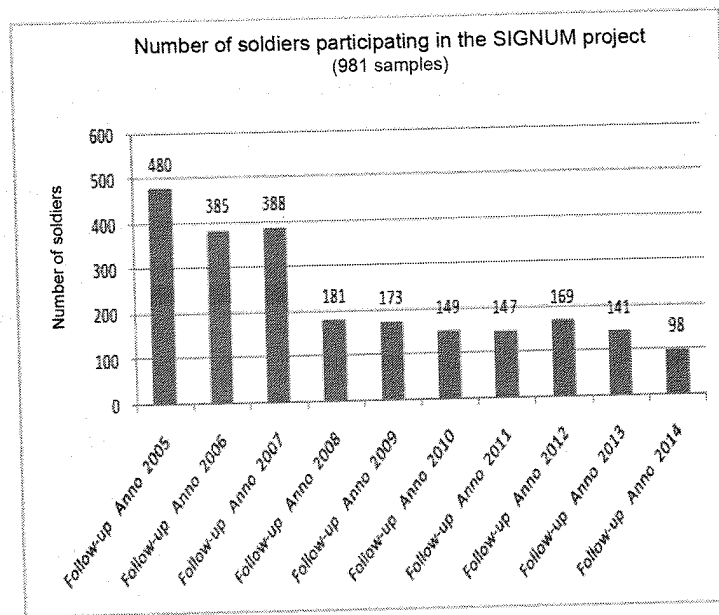
With the CATALANO interrogation No. 5/12290, the costs related to the first phase of the project were ascertained amounting to € 1,810,696.31. For the second phase, Gen. TOMAO communicated via letter that the expenditure allocated to the ISS stood at € 40,700.00.

ISS is called to analyse the data matrix of the *follow-up* of the SIGNUM project.

On 10 May 2017, the Commission requested access to said database, in order to verify date content and integrity. The requested data was relayed with a note dated June 16th, 2017.

In response to the data transmitted, the Commission processed statistical data that revealed that 981 soldiers were recruited in the Armed Forces in the SIGNUM Project: 14 belonging to the Italian Air Force; 150 to the Navy, 187 to the Arma dei Carabinieri, 630 to the Army and 94 dismissed.

Of these, only 644 in all, or 65.6%, consented to *follow-up*, and specifically 480 out of 981 in 2005; 385 in 2006; 388 in 2007; 181 in 2008 and gradually less and less until the number of 98 in 2014, according to the graph below.



Given this data, the Commission found it impossible to reach precise conclusions due to its inadequacy. In addition, all data relating to the discharged subjects and the personal data of the military of the study cohort were missing, as well as data on multiple vaccinations for each militia and the related effects on DNA for each ill soldier.

Therefore, the Commission issued a new request with a note prot. n°854 dated 21/11/2017 through which it sought to determine whether the matrix received in June was identical to that given to the ISS or if additions were made. With the note of reply dated December 14, 2017, the Epidemiological Defence Observatory, in the name of the Director Brigadier General Claudio DE ANGELIS sent the complete matrix of the SIGNUM project "as transmitted to the Italian National Institute of Health" to the Commission, which seems to be the same already received in June 2017.

However, contrary to what was intended, Attachment No. 2 of the aforementioned note of reply contains the statements of the Brigadier General DE ANGELIS, released in the minutes of the meeting held at IGESAN on 26 October 2017 between representatives of the Ministry of Defence, the Italian National Institute of Health and researchers responsible for the follow-up study, according to which "Information [of June 2017] these were also supplemented by data held by the OED for the institutional activity that is carried out and integrated with information about the staff members of the study and in the meantime went on leave, already obtained by the Directorate General for Military Personnel. The data [as updated] has already been delivered to Dr. De Angelis of the ISS. Furthermore, a decision was made to enhance the data with that contained in the Hospital Discharge Forms (SDO) to be acquired at the Ministry of Health after authorisation by the Ethics Commission of the Italian National Institute of Health. Finally, the ISS will further integrate with ISTAT data on population deaths".

In light of the above, the Commission notes the serious incompleteness of the data received compared to those that are available from the Ministry of Defence and that the latter has delivered to the Italian National Institute of Health. It notes in particular that the Epidemiology

Observatory of the Ministry of Defence, the competent structure of the Ministry, failed to transmit these additions to the Parliamentary Commission, although it was available.

Finally, it notes that the group of representatives of the institutions that took charge of the SIGNUM *follow-up*, in the same meeting of 26 October 2017 at IGESAN, referred to above, agreed to filter the answers to be provided to institutional subjects, such as the present Commission, aims to gain knowledge of the *follow-up* study data: "[...] *it is necessary to previously concur with the General Inspectorate any information requested external bodies*" (quoted by C.A. CROCIATA).

The Commission requests that the requested data be transmitted in their full version before the end of the legislative term. The Commission reserves the right to undertake any appropriate reporting in the competent judicial offices in case of further omission.

Without prejudice to the foregoing, the Commission reiterates that in order to have complete data on the SIGNUM *follow-up* it is necessary to cross expository information (*i.e. to know the places they have attended in missions abroad, as well as the barracks and shooting ranges and tasks performed in Italy*) with health information and personal data. Therefore it will evaluate the data sent to the ISS also on the selection criteria adopted in their collection. It notes that the report does not show that data was collected from the national registry of cancer, Italian Ministry of Finance (*survival status and residence*) and the nature of the military data collected remains unclear (for example, enlistment records - *military curriculum* are required).

Analysis of data on cases of malignancies and serious illnesses that have affected Italian personnel also employed in military missions abroad

During its work, the Commission has acquired a database prepared by the Public Prosecutor of Padua, in the context of investigations into the pathologies of the military. Inside this database are contained all the data of the soldiers sick and / or died due to lymphoproliferative diseases, contracted in the course of military activity, divided between soldiers deployed in missions and not, gender and unit of belonging. The database was created by unifying the information contained in the archives of the Epidemiological Defence Observatory and the information gathered in the investigation opened by the Public Prosecutor of Padua, which was surveyed until April 2015. In the comparison of the unified data, the Public Prosecutor of Padua revealed a misalignment: 45% of the cases of diseases resulting from the service provided and known to the Public Prosecutor's Office were not registered in the Observatory database. The Commission therefore considered it appropriate to update the DB by acquiring the most recent data further collected by the Observatory.

With note of prot. n °854 of 21/11/2017 of the Chamber of Deputies, the Commission requested that the Epidemiological Observatory update the aforementioned data matrices, as well as the number of new soldiers recruited and discharged annually for Venda mount, in order to further clear data of potential *bias*³⁹. The data were received by the Commission on 14 December 2017, with a note dated 11/12/2017 and, as regards the matrix with the personal and health data of the

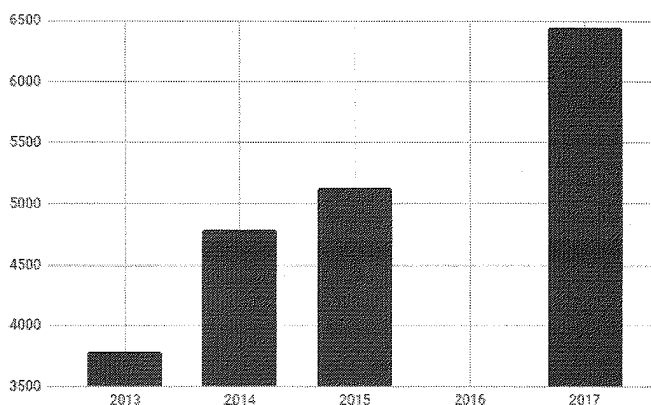
³⁹ Term of the scientific language that indicates tendency, inclination, distortion.

sick soldiers, secreted by the commission. On the other hand, the data on the health status of the dismissed military are not given, as the Observatory has declared that it is not available, which would instead be in charge of the Directorate for the Employment of Military Personnel of the Air Force (DIPMA). It also stated that it had sent a formal request to this directorate.

In any case, the data provided have been processed in compliance with the confidentiality classification, distinguishing by gender, status (missionary and non-missionary⁴⁰) and relative armed force.

In relation to the onset of neoplasms found among military personnel in the period from 1995 to December 2017, the following came to light:

1. the number of malignant tumours reported to the Observatory by soldiers belonging to all the Armed Forces, was 3,788 in 2013; of 4,791 in 2014; of 5,135 in 2015 and the latest data updated in December 2017 is 6446 (*data refer only to soldiers who became ill when they were still in service*⁴¹);



2. dividing the soldiers between "deployed for mission" and "not deployed for missions", for statistical purposes only, the soldiers who were not deployed on missions have developed cancer pathologies in greater number than those who were sent on peacekeeping missions outside from the national territory (*in 2013 2,976 non-missionary soldiers were killed as opposed to 812 missionary soldiers, in 2014 3,866 not missionaries as opposed to 925 missionaries, in 2017, 4,291 non-missionaries as opposed to 1,158 missionaries*);

⁴⁰ A missionary is defined as military personnel who have participated in missions abroad and then subjected to the consequent additional prophylactic vaccination.

⁴¹ The data do not count for the deceased and those who are discharged from the monitoring of the Epidemiological Defense Observatory.

Please note that the data have not yet been processed in relative terms, but only in absolute ones. Therefore, in relation to the two categories, the percentage calculation that expresses the relationship between the number of patients and the total number of soldiers in the respective category is missing. As a consequence, the absolute figure of the 1,158 sick soldiers and went on a mission to 2017, should not be understood as a result of their exposure to lower risks of morbidity, compared to the 4,291 sick soldiers not sent on mission, but must simply highlight the multifactoriality of the causes of lymphoproliferative diseases subject to the Commission's investigation already asserted by the SIGNUM Project.

In fact, even the soldiers not sent on mission and who, therefore, are subjected to a lower number of risk factors, contracted illnesses, as they too are subjected to risk factors related to the places of service (firing ranges). or notoriously polluted national sites) and those related to the baseline module of prophylactic vaccination, whose criticalities have already been highlighted. Soldiers sent on missions, as well as being subject to the same risks as non-missionaries, are exposed to those related to the mission location (contaminated water, air and food, unhealthy land, dangerous armaments, etc.) and those related to additional modules of prophylactic vaccination planned for the related mission abroad, involving an intake of major components, toxic and allergens, as reported in the previous chapters.

Without prejudice to the need to continue processing data with the elimination of bias and to calculate data in relative terms, below is a complete representation of data relative to sick soldiers, indicating the values by gender and by status (sick or deceased) divided by force of belonging.

<i>status</i>	<i>Italian armed forces</i>	<i>gender</i>	<i>missionaries</i>	<i>non-missionaries</i>
sick	<i>other</i>	<i>M</i>		3
	<i>Air Force</i>	<i>F</i>	1	11
		<i>M</i>	170	722
	<i>Carabinieri</i>	<i>F</i>	3	8
		<i>M</i>	257	1885
	<i>Italian army</i>	<i>F</i>	15	10
		<i>M</i>	574	1241
	<i>Navy</i>	<i>F</i>		6
<i>M</i>		138	405	
deceased	<i>Air</i>	<i>M</i>	29	226
	<i>Carabinieri</i>	<i>M</i>	38	331
	<i>Italian army</i>	<i>F</i>		2
		<i>M</i>	123	94
	<i>Navy</i>	<i>M</i>	21	133
Partial Total			1369	5077
Complete Total				6446

The following tables, on the other hand, report data on the number of sick soldiers, relating to individual neoplasms, divided by gender, status (sick or deceased), if they are missionaries or non-missionaries and single armed forces.

MALES									
Apparatus-Systems-Organs of the Human Body	Air		Carabinieri		Italian army		Navy		other
	Sick	Dead	Sick	Dead	Sick	Dead	Sick	Dead	Sick
OTHER AND ILL DEFINED LOCATION	1		4	3	4	1			
RESPIRATORY AND DIGESTIVE (SECONDARY)			1	1					
OTHER AND ILL DEFINED LOCATION			1						

CARDIOVASCULAR AND PLEURE	4	2	8	5	8	4	1	1	
CONNECTIVE AND OTHER SOFT TISSUE					1				
CONNECTIVE TISSUE					3	1			
DIGESTIVE	205	70	508	109	327	51	100	18	
DIGESTIVE AND HEARING APPARATUS	2		2		2				
E04							1		
E05	1		1						
EMANGITION OF ANY REGION			1		2		1		
ENDOCRINE	92	4	262	2	145	1	52	1	
GAMMOPATHY					9		1		
IMMUNE	6	1	9	3	2		1	1	
LEUKEMIA	63	21	111	35	132	32	29	8	
LYMPHATIC	5	1	14	2	7				
LYMPHOMA	6	1	5		9		3		
LYMPHOMA	128	21	246	31	352	30	90	8	
LOCOMOTOR	16		25	8	25	3	13	1	
MYELOMA	6	2	35	5	23	1	10	1	
NERVOUS	57	25	102	38	85	11	28	6	
NOT AVAILABLE	12	5	1		2				
EYE	1		1				1		
RESPIRATORY	117	57	223	68	168	46	147	100	
RESPIRATORY AND DIGESTIVE (SECONDARY)	5	1	6	3	2		1		
REPRODUCTIVE	127	3	308	6	329	8	81	1	2
BLOOD	4	1	7	2	6		4		
SECONDARY OF OTHER SPECIFICATIONS			2		1		1		
REGION NOT SPECIFIED	11	6	24	6	13	4			
INTEGUMENTARY	113	7	244	8	134	10	65	4	
CONNECTIVE AND SOFT TISSUE	8	2	51	11	47	8	12		
BENIGNI TUMORS OF THE CONNECTIVE TISSUE AND OTHER SOFT TISSUES	1		1						
BENIGN TUMORS OF OTHER AND UNSPECIFIED REGIONS			2				1		

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TUMORS WITH UNCERTAIN OR UNKNOWN UNSPECIFIED BEHAVIOUR	4		6	2	24	1	5		
URO-GENITAL	152	25	300	21	170	5	49	4	1

FEMALES					
Apparatus-Systems-Organs of the Human Body	Air	Carabinieri	Italian army		Navy
	Sick	Sick	Sick	Dead	Sick
OTHER AND ILL DEFINED LOCATION					
RESPIRATORY AND DIGESTIVE (SECONDARY)					
OTHER AND ILL DEFINED LOCATION					
CARDIOVASCULAR AND PLEURE					
CONNECTIVE AND OTHER SOFT TISSUE					
CONNECTIVE TISSUE					
DIGESTIVE	1		1		
DIGESTIVE AND HEARING APPARATUS					
E04					
E05					
EMANGITION OF ANY REGION					
ENDOCRINE	8	7	11	1	1
GAMMOPATHY					
IMMUNE					
LEUKEMIA			1	1	
LYMPHATIC			1		
LYMPHOMA					
LYMPHOMA	1		4		2
LOCOMOTOR					

MYELOMA					
NERVOUS					1
NOT AVAILABLE					
EYE					
RESPIRATORY		1			
RESPIRATORY AND DIGESTIVE (SECONDARY)					
REPRODUCTIVE		2	2		1
BLOOD			1		
SECONDARY OF OTHER SPECIFICATIONS	1				
REGION NOT SPECIFIED					
INTEGUMENTARY		1	4		1
CONNECTIVE AND SOFT TISSUE					
BENIGN TUMORS OF THE CONNECTIVE TISSUE AND OTHER SOFT TISSUES					
BENIGN TUMORS OF OTHER AND UNSPECIFIED					
REGIONS					
TUMORS WITH UNCERTAIN OR UNKNOWN UNSPECIFIED BEHAVIOUR					
URO-GENITAL	1		2		

MISSIONARIES deceased

Apparatus-Systems-Organs of the Human Body	Air	Carabinieri	Italian army	Navy	total
OTHER AND ILL DEFINED LOCATION			1		
CARDIOVASCULAR AND PLEURE	0		1		
CONNECTIVE TISSUE			1		
DIGESTIVE	7	10	35	6	

EMANGITION OF ANY REGION			0	0	
ENDOCRINE	0	0	1	1	
GAMMOPATHY			0	0	
IMMUNE	0	0			
LEUKEMIA	3	5	15	2	
LYMPHATIC	1	0	0		
LYMPHOMA	0	0	0	0	
LYMPHOMA	2	6	15	3	
LOCOMOTOR	0	1	2	0	
MYELOMA	0	0	1	0	
NERVOUS	5	3	5	1	
NOT AVAILABLE		0			
RESPIRATORY	4	8	20	3	
REPRODUCTIVE	0	1	5	1	
BLOOD			0	0	
REGION NOT SPECIFIED	3	1	2		
INTEGUMENTARY	2	1	8	4	
CONNECTIVE AND SOFT TISSUE		0	8	0	
BENIGNI TUMORS OF THE CONNECTIVE TISSUE AND OTHER SOFT TISSUES		0			
TUMORS WITH UNCERTAIN OR UNKNOWN UNSPECIFIED BEHAVIOUR	0	1	0	0	
URO-GENITAL	2	1	3	0	
total	29	38	123	21	211

NON-MISSIONARIES deceased						
Apparatus-Systems-Organs of the Human Body	other	Air	Carabinieri	Italian army	Navy	total

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OTHER AND ILL DEFINED LOCATION		0	3	0		
RESPIRATORY AND DIGESTIVE (SECONDARY)			1			
OTHER AND ILL DEFINED LOCATION			0			
CARDIOVASCULAR AND PLEURE		2	5	3	1	
CONNECTIVE AND OTHER SOFT TISSUE				0		
DIGESTIVE		63	99	16	12	
DIGESTIVE AND HEARING APPARATUS		0	0	0		
E04					0	
E05		0	0			
EMANGITION OF ANY REGION			0	0		
ENDOCRINE		4	2	1	0	
GAMMOPATHY				0		
IMMUNE		1	3	0	1	
LEUKEMIA		18	30	18	6	
LYMPHATIC		0	2	0		
LYMPHOMA		1	0	0	0	
LYMPHOMA		19	25	15	5	
LOCOMOTOR		0	7	1	1	
MYELOMA		2	5	0	1	
NERVOUS		20	35	6	5	
NOT AVAILABLE		5		0		
EYE		0	0		0	
RESPIRATORY		53	60	26	97	
RESPIRATORY AND DIGESTIVE (SECONDARY)		1	3	0	0	
REPRODUCTIVE	0	3	5	3	0	
BLOOD		1	2	0	0	

SECONDARY OF OTHER SPECIFICATIONS		0	0	0	0	
REGION NOT SPECIFIED		3	5	2		
INTEGUMENTARY		5	7	2	0	
CONNECTIVE AND SOFT TISSUE		2	11	0	0	
BENIGN TUMORS OF THE CONNECTIVE TISSUE AND OTHER SOFT TISSUES		0				
BENIGN TUMORS OF OTHER AND UNSPECIFIED REGIONS			0		0	
TUMORS WITH UNCERTAIN OR UNKNOWN UNSPECIFIED BEHAVIOUR		0	1	1	0	
URO-GENITAL	0	23	20	2	4	
total	0	226	331	96	133	786

From a first reading of the data it is considered necessary to highlight the tumour pathologies concerning the lymphopoietic system and the soft tissues, which are affected by interactions with the vaccination immunization process. These appear to be in a very high number compared to the tumoral pathologies that have affected other organs. In particular, 236 soldiers are ill due to leukaemia; deceased: 97; for neoplastic diseases of the lymphatic system the number ill are: 27, deceased: 3; for lymphoma / lymphoma the number ill are 846, deaths 91; for neoplasms of the blood the number ill are 22, deceased: 3; for neoplastic pathologies of the soft tissues 118 soldiers are ill, 21 deceased.

In order to fill the gaps due to missing data, and to align the data of the Padua Observatory and the Public Prosecutor's Office, the Commission considers it useful, that the subsequent investigation should address further requests for integration to the following bodies:

❖ Revenue Agency:

➤ Personal data of the tax payer, including:

- Tax Code,
- Place and date of birth,
- Date of death,
- Last declared fiscal domicile.

❖ ISTAT

➤ Data contained in the Nominal Archive of Causes of Death.

❖ MINISTRY OF HEALTH:

➤ Data relating to Hospitalization and Hospital Discharge Forms showing the results of all the assessments made during the hospitalization period.

Cross-examination of the study commissioned by the Ministry of Defence on multiple vaccinations in young adults

The Commission has acquired the scientific paper entitled: "*Lack of evidence for post-vaccine onset of autoimmune/lymphoproliferative disorders, during a nine month follow-up in multiply vaccinated Italian military personnel*", published in the month of August 2017, signed by, among other things, some members of military health, and financed by the Italian Ministry of Defence with project grant application no. D85D10000250001.

It considers this study unacceptable in the method and on the merit from the title, which is not consistent with the conclusions.

The study seems to challenge the validity of the activity carried out by the Commission since it states that "*multiple vaccinations in young adults [would] be safe and not associated with the development of autoimmunity and lymphoproliferation*", based on a nine month monitoring on a group of soldiers:

- selected after performing a series of prevaccinal tests aimed at excluding hypersensitive or immunosuppressed subjects from the cohort;
- subjected to a number of vaccinations of less than five and therefore below the hazard threshold indicated the results of the SIGNUM project.

In this manner, however, the operation ends up confirming what has been ascertained by SIGNUM, with regard to the need to carry out prevaccinal examinations and not to carry out a number of vaccinations exceeding 5.

This is confirmed by the answer given to the CATALANO N ° 5/12635, discussed during the question time, in the Defence Commission on 15/11/2017 at the point in which the Government reiterated that the results of the study in question are not in contradiction with those of the SIGNUM project.

Moreover, the study is carried out by authors who are in a situation of conflict of interest. In fact, at least 5 of the subjects who participated in the project as authors belong to the military health, which - as stated by Gen. TOMAO audited several times before the Commission - does not intend to carry out pre- or post-vaccination checks on military personnel. Among them appears the name of the same Gen. TOMAO.

There is also a conflict of interest with respect to the financing body, the Ministry of Defence, for the same profile highlighted.

The study does not have any authors who are experts in autoimmune diseases and lymphoproliferative diseases, essential for the assessment of the cause and the biological plausibility between multiple vaccinations and these diseases.

With the same CATALANO interrogation No. 5/12635, clarifications were also requested on the motivations of the study, bearing in mind that in the text we declare that we wish to deny some cases reports defined as "anecdotal" and "the result of excessive media attention". The article refers to the specific case of Mr. Francesco Finessi, who died of Hodgking's lymphoma

(as noted [5] at the foot of page 61 of the study), of which the Commission has acquired the documentation related to the trial and evolution of the pathology. This case is one of those studied by the Commission for its investigations, as highlighted in the Abstract. The Government in response fails to provide clarification, leaving the legitimate doubt about the stated reasons and the correctness of public spending incurred for its implementation. Moreover, the CATALANO 5/12590 interrogation remained unanswered in the attempt to determine *"what are the reasons that led the Ministry of Defence to finance this study, who took the initiative, how much the study cost in detail and what are the purpose of the study itself"*.

The study also presents critical issues from the monitoring of adverse reactions, given that their detection has not been referred to specific cadenced medical examinations to be carried out under the responsibility of the referring physicians, but to the completion of a questionnaire by the subjects recruited, without of scientific skills. The choice of parameters used for the study of lymphoproliferative and autoimmune disorders is also critical, since they are limited to the evaluation of the blood count, protein electrophoresis and serum immunoglobulins (Ig), aimed at monitoring the possible onset of signs suggestive of lymphoproliferative disorder. In this regard, suffice it to note that these three parameters are not sufficient to identify an imbalance of the immune system while the typification of lymphocyte subpopulations with immunogram and analysis of inflammatory cytokines would be more significant (see study design by Dr. Nobile of the Folgore Brigade).

Moreover, two points of analysis are too few to evaluate the modification of the immune system, it would have been interesting to evaluate the state of the immune system even in the initial months and certainly for a period of more than nine months.

As for the method of administration of the vaccines, for the purposes of the study it is appropriate to observe that:

1. the groups are too narrow to detect the appearance of relatively rare diseases in susceptible subjects (among others discarded initially) in a rather narrow time frame;
2. the vaccines in the two groups are personalized and therefore it is not possible to make a comparison based on the type of vaccine administered, making the result less accurate;
3. the number of soldiers who received more than three vaccines is statistically insignificant in order to assess the onset of alterations of the immune system (2 subjects in group 1 and 3 subjects in group 2 received 5 vaccines). It is therefore impossible to evaluate a statistically significant incidence of the diseases to be observed on 5 subjects who were administered different vaccines;

In this last regard and in relation to the aims of the study already highlighted above, the Commission intends to condemn that the so-called "anecdotal" cases, which the authors would like to diminish, such as that of Francesco Finessi, have normally received more than 5 vaccines, with further exchange concerning the doubts already noted on the usefulness of the study.

As regards the adverse reactions recorded, which are objectively minimal, the Commission observes that the clinical manifestation of the diseases highlighted in SIGNUM requires much

longer studies and *follow-up* compared to the 9-month deadline, to be identified in the as adverse reactions, as also highlighted in the conclusions of the same study.

In relation to the interpretation of the results obtained, and in the light of the same statements made by the researchers, the Commission considers that it can not be shared:

- ❖ the denial of the possibility of a pathogenetic link between vaccines and lymphoproliferative disorders;
- ❖ the interpretation of the relationship between significant increase in circulating lymphocytes, whole serum and IgG isotype proteins observed as a mere consequence of physiological immune stimulation, induced by the vaccines / adjuvants administered, given that:
 1. the development of an autoimmune pathology, and from this, the development of the neoplastic pathology, requires longer times than those foreseen by the study in question as well as groups of larger and homogeneous subjects;
 2. the lack of evidence of vaccine-related autoimmunity is not evidence of the absence of the causal link but is merely evidence of the lack of data;
 3. the arguments presented with reference to the increase in circulating lymphocytes refer to the examination of the efficacy of the vaccine, and completely neglect the vaccine toxicity test. If on the one hand the increase of lymphocytes is considered a physiological response induced by the vaccine, on the other this stimulation of the immune system can become pathological in susceptible subjects and can promote autoimmunity/lymphoproliferation, and therefore the statement that the response is physiological is speculative in nature as no further study has been done.

Finally, the study is contradictory when it recommends that the administration of vaccines of Italian military personnel be personalized and respects substantial criteria of prudence on the one hand and on the other hand asserts their absolute safety.

The Commission suggests the continuation of the studies carried out by the late Prof. Nobile in order to confirm the very serious preliminary results obtained by the study of the immune system of the military of the Folgore Brigade, expanding the number of soldiers to be observed.

CONCLUSIONS

In light of the foregoing chapters and up to this point, the Commission has verified the presence of side effects and adverse reactions resulting from the administration of the vaccines as described by the producers themselves, and in particular those referring to the phenomena of immunosuppression.

It has quantified and qualified the presence of the declared contaminants highlighting those triggering allergenic and toxic phenomena for the organism, as well as those that are scientifically proven cause of neurological damage or that can cause autoimmune diseases. These checks, carried out on documents drawn up by the pharmaceutical companies, must be further verified by means of a sample analysis of the vaccines.

The Commission has also found that these side effects, allergic and neurotoxic can only be exacerbated by the administration of a multiplicity of the aforementioned drugs as evidenced by the results of the SIGNUM project mentioned above. It then initiated an observational study on the military who had contracted neoplastic diseases, finding the proportional increase from year to year.

Lastly, it analysed a study drafted into a conflict of interest, with the stated purpose of challenging particular cases of soldiers who died of neoplastic diseases (*some of which were studied by the commission and of litigation with the Ministry*), called "anethodics", and highlighted unreliability, contradiction and non-conclusiveness.

In light of the evidence collected, the Commission confirms that there is a statistically significant association between neoplastic and lymphoproliferative diseases, and other diseases (e.g. autoimmune diseases), and the administration of vaccines according to military prophylactic vaccination. The Commission considers that it can not rule out the link of the case.

The Commission hopes that other psycho/physical pathologies (work stress/related combat stress) will also be recorded and that those that have arisen to date in the military corps of the armed forces will be made available for analysis. It recommends following up on the research activity undertaken involving IGESAN and all its territorial branches, such as the CMMO (military medical hospital commissions) for a screening and evaluation of all the pathologies (morbidity) that have arisen in various ways in the members of the armed forces.

ANNEX 2

Reports on

MISSIONS CARRIED OUT BY THE COMMITTEE

- Mission to the Taranto naval arsenal (20 May 2016)
- Mission to the Augusta naval arsenal (1 July 2016)
- Mission to the La Spezia naval arsenal (28 July 2016)
- Visit to the Sardinian military firing ranges and the military site of St. Stefano, La Maddalena (4-7 October 2016)
- Mission in Padua and visit to the firing ranges of Cellina Meduna (PN) and Foce Reno (RA) (12-13 January 2017)
- Caltanissetta mission and visit to the MUOS station, the Sigonella base and the Drasy firing range (3-6 April 2017)
- Mission to Bari and Lecce and visit to the firing ranges of Torre Nebbia and Torre Veneri (21-22 March 2017)

MISSION
TO THE TARANTO NAVAL ARSENAL
(20 May 2016)

The mission in Taranto falls within the framework of in-depth investigations on asbestos risk achieved through a targeted series of inspections in the naval arsenals (specifically Taranto, Augusta and La Spezia), aimed at acquiring an updated factual picture of the environmental and working conditions of Defence employees employed therein, in fulfilment of the duties established by Article 1 of the resolution passed on 30 June 2015, and specifically letter *f*).

The visit to the arsenal of Taranto by a delegation of the Commission, led by the Vice-Chairman Donatella Duranti and composed by the honorables Ivan Catalano, Gianluca Rizzo and Federico Massa, took place on 20 May 2016. The cycle of audits of the program included military executives of the Arsenal, responsible for the various skills in the field of occupational safety and health supervisory, representatives of both military and civilian personnel and the INAIL director of the Puglia Region.

Mapping and drainage. Responding to a specific question on the subject posed by Mr Rizzo, Rear Admiral Salvatore Imbriani, Director of the Arsenal of Taranto, made it clear that the relevant plant is not the only one where asbestos drainage is carried out, but there are three, including the Brindisi office. Regarding the mapping management, on the stimulus provided by Mr Catalano, the Commander pointed out that the Logistic Command and the General Staff manage a *database* comprising the mapping of the ships of the entire Navy, currently 58 units, which they continually update on the basis of the information they receive from the arsenals responsible for drainage on behalf of the Logistic Command and the naval units.

The mapping consists of two reference documents: the first is the so-called **reference mapping**, the other is the **complement**; between the two documents the difference is however minimal and limited to some single component. However, the commissioners were informed that the ship mapping operation - carried out by RINA, a national certification body - began between the end of 2007 and the beginning of 2008.

The Rear Admiral specified in this regard that, based on this mapping of the 58 units in charge of the Arsenal, 3 are asbestos *free*, i.e. those were built after 1992, the year in which the law No. 257 entered into force, which banned asbestos from buildings. Another 5 are units in disarmament, for which, among other things, the mapping was largely carried out.

Of the other 50 units, 30 were made safe, with the exception of the widespread elements, considering both the reference mapping and the complement. The other 20 were drained according to the reference mapping (that is, with the exception of the widespread elements: small components - gaskets, bridge or bulkheads or switches - that are distributed in large numbers on the ship and that, according to the Rear Admiral, they are in excellent condition).

Employees work on ships certified by the owner, within the plant, *asbestos free*. Every time there is the slightest doubt about the presence of asbestos on board the works are interrupted and the person in charge is warned, therefore units of competent personnel intervene - classified ESEDI that is exposed occasionally to situations that may involve the presence of asbestos - which performs chemical analyzes and provides the final response. The Rear Admiral also added that

every time the works are suspended, the airborne fibers are surveyed, which have never exceeded the limit set by law of 2 fibers/liter. On the other hand, the representative of the safety workers, Ignazio Barbuto, underlined that, in the first few years after 1992, data on the measurements of the airborne fibers before the drainage operations are missing in a number of cases. In addition, Domenico Bellangino, MSW coordinator, believes that it is necessary to eliminate the *ab origine* standard concentration limit of asbestos fibers per liter, as in his opinion (supported by the scientific literature) just one fiber of asbestos is sufficient to cause related cancer diseases.

Regarding the presence of asbestos in the infrastructures and the so-called PDR (pezzi di rispetto) Regarding the presence of asbestos in the infrastructures and the so-called PDR (pezzi di rispetto), the Head of Maricommi, Giovanni Di Guardo, intervened, informing the commissioners that, starting from 2010, a massive disposal activity began at the Arsenal of all the materials containing asbestos, based on a study started in 2013 at the La Spezia naval management center. For the implementation of this study, it was decided to rationalize the sector by distinguishing three large macro areas: materials certainly containing asbestos, materials of suspected asbestos content, and materials with a certain absence of asbestos. With regard to materials with asbestos, he has made it clear that these materials have been secured and prevented from accessing and handling anyone. The materials with probable presence of asbestos are stopped in the shelving, where they were located when they were bought and are distinguished by a specific IT connotation preventing management. Lastly, recently introduced materials marked with the AF label, i.e. *asbestos free*, are obviously normally managed and administered.

According to statements issued by Domenico Bellagino, MSW Coordinator, the mapping provided by the administration is not updated at all.

Workers in service or retired exposed to asbestos. Regarding the number of exposed to asbestos, Rear Admiral Imbriani pointed out that, in compliance with the **Health Monitoring Protocol** on the *former* exposed personnel approved by the General Staff in 2015, there is currently an overall list of about 350 people. The aforementioned protocol has been elaborated distinguishing between a compulsory health surveillance on the personnel that has received from the INAIL the recognition of a situation of *former* exposition and the possibility, for whoever wants to adhere to this protocol of health supervisory, to undergo a preventive visit, even if through "slightly" different ways and times. With regard to medical checkups throughout the entire working life, they are periodically carried out by the location doctors.

Salvatore Antonio Mirabile, the arsenal location doctor, then spoke about the **DVR** (Risk Assessment Document), in which the occupational health risks are reported, specifying that on the basis of this document is instructed and created for each employee an individual risk sheet, which will be taken into account to accurately process a health surveillance protocol.

To better describe his activity to the commissioners, the location doctor specified that his main task is to evaluate only those who have been defined by the INAIL as *former* exposed, according to a program issued by the Navy General Staff in synergy with the Navy Inspectorate of health care. Furthermore, he stressed that there are two types of individuals: those who are recognized by INAIL as *former* exposed and those who have not received this type of recognition. The Italian Navy draws up a health protocol on the basis of which the surveillance and health checks

are made obligatory towards the *former* exposed, while the possibility to be evaluated by the location doctor is offered to the *former* exposed with a different periodicity.

The *former* exposed are visited every two years, except for any further prescriptions by the location doctor, while the unexposed (those expressly adhering to the **health promotion plan**), are evaluated every three years through analyses such as spirometry and chest x-ray examination in triple projection; if we then verify the presence of further problems, the second instance exam consisting of the Thorax CAT is scheduled.

According to the introductory report by Ignazio Barbuto, representative of workers for safety, in the last two years the arsenal staff not undergone to asbestos *screening* despite repeated requests by the RLS. Only recently the Military Health Inspectorate launched a series of medical examinations, both for *former* asbestos exposed with INAIL certification, and for those who believe were exposed, as part of the program of health promotion under voluntary membership. With regard to those workers who have never been exposed to asbestos (so-called not *former* exposed), Ignazio Barbuto himself, responding to a specific question posed by Mr Catalano, stressed that both in Taranto and in La Spezia, there is no news of any worker - perhaps only one - who has submitted an application to join the specific voluntary program; this, for him, happened because, for example, there are some workers who intend to undergo particularly invasive analyses (data confirmed also by Dr. Fabiola Ficola, INAIL Director of the Puglia Region).

Domenico Bellangino, MSW Coordinator, has also pointed out that the situation of exposure to asbestos does not only concern the arsenal, but also the other Navy organizations operating in the same area.

Dr. Fabiola Ficola, INAIL Director of the Puglia Region, then described the Institute's activities regarding the analysis of the asbestos exposure of the Navy's employees - therefore, in the arsenals and in the Navy's vessels-, as well as in the other bodies of the Defence administration, or in the Army, the Aviation and in all the other sectors in which civilian and military workers have applied. This activity, underlined by Dr. Ficola, ended in 2015 and led to the recognition of asbestos exposure for civilian and military employees of the arsenals until 1992 for some qualifications and for some departments.

Prevention and protection service. Training and information of workers. To a specific question made by President Duranti, Admiral Imbriani replied that, even in the period before the start of the mapping and drainage (2007-2008), the Arsenal workers have always been trained and informed about the work to be done, as well as any risks they might have to face. On the other hand, Domenico Bellangino, MSW coordinator, has argued that information on the risks of asbestos after 1992 has never been provided, until a few years ago.

Pietro Damanti, Head of the prevention and protection office, also spoke on this matter. Urged by Chairman Duranti, he specified that, with regard to the information activity, provided by law No. 626 of 1994, the so called "door to door" operation was promoted from 2000 to 2003, on the basis of which each operator engaged in each workshop was brought to the attention of all the risks he could face, with an annexed description of all the precautions to be taken for individual cases, description then summarized in writing in a specific manual. During the period 2009-2010, Damanti added, during the visit of the Labor Inspectorate, training courses for the

mechanical work called "transitory management" were promoted and, to comment, he mentioned that the workers' representatives for safety is promptly informed of all the activities carried out in this direction by the arsenal management.

According to Ignazio Barbuto, responsible of workers for safety, on the other hand, at least for the cases reported, there was a lack of information about the specific risk of exposure to hazardous dusts and the lack of equipment for personal respiratory protection, as envisaged from the Presidential Decree No. 303 of 1956, which states that "in works that normally give rise to the formation of powders of any kind, the employer is obliged to take measures to prevent or reduce, as far as possible, the development and spreading in the workplace."

MISSION TO THE AUGUSTA NAVAL ARSENAL (1 July 2016)

According to the statements made to the Commission delegation by the captain of vessel Giuseppe Sica, director of the Augusta Arsenal, the "matter on depleted uranium does not concern arsenals, for which the articles containing asbestos are more relevant" while the underground rooms are controlled, to monitor the "potential presence" of radon. The same director specified that, as far as asbestos is concerned, the tasks of the responsible facility concern support for naval units, and that in Augusta six ships (Cigala Fulgosi and the new patrol boats) built after 1992, were delivered to the Navy around the year 2001, and from the certification of the manufacturer are exempt from asbestos (*asbestos free*).

Mapping. The Arsenal Director, therefore, stated that for the infrastructural part of the Arsenal, the mapping of the artifacts containing asbestos took place between 2002 and 2003. The provincial defence secretary FP CGIL Sebastiano Trigilio (also intervened on behalf of CISL, UIL, USB FLP and Federation as well as the MSW of Marinarsen of Augusta) instead places the start of the mapping activity in 2003.

According to reports by the frigate captain Maurizio Fareri, in charge of the Marinarsen Augusta technical support department, at the end of 2012 a first cognitive mapping was carried out, "based on the purely objective aspect" of the relevant material; in 2014, after these mapping surveys of 2013-2013, the arsenal contracted a risk assessment with characterization and also started an environmental analysis with MOCF aerodisperse fibers (phase-contrast optical microscopy) and then SEM (electron microscopy in scanning) for cases in which the 2 fibers/liter MOCF were exceeded. At the end of 2014, an asbestos risk assessment was carried out, with the mapping of all working environments. From that moment on, a series of contracts began.

The chronological trend of the mappings is not clear: as Cap. Fareri, at the beginning of the hearing, pointed out to deal with the arsenal infrastructures, and not also with the ships, it is presumable that he refers only to this part, for which he has summarily described structures and machinery where it was possible to find asbestos. It follows that there is a difference between the mapping of artifacts containing asbestos and cognitive mapping, but there remains the perplexity about the fact that almost ten years separate these activities, and the same period of time still separates the start of the mapping activities (even if Cap. Sica had specified that some drainage activities were carried out before the beginning of the mapping) following the

approval of the law of 27 March 1992, No. 257 laying down the rules concerning the cessation of the use of asbestos.

As regards the vessels, the Director Sica pointed out that between 2007 and 2008 the Italian Naval Registry launched the mapping to identify the areas where the asbestos-containing products were concentrated, completed in 2010. To date, 41 mapping have been performed by the Arsenal, and the activities shall be completed on nine units: one is in progress (Linosa ship) and by the end of the year it is planned to make two or three more, depending on availability. *It would therefore seem that a general mapping carried out by the RNI was followed by a specific mapping carried out by the Arsenal. It is therefore necessary to better clarify the respective functions, especially since, compared to a general mapping that ended in 2010, the Arsenal seems still underway, seven years after the conclusion of the first one: a period of time undoubtedly very diluted against the seriousness of the problem of occupational exposure to asbestos.*

Regarding the start-up and implementation of the mapping and drainage procedures, statements by the planning section of the Augusta Arsenal, frigate captain Marco Merluzzi, stated in his hearing: "In practice, 2007 is a watershed year for Navy because before there were no structured mappings on board ships, so the drainage was carried out on the basis of documentary evidence and on board requests. From 2007 the army forces *policy* has become structured, so asbestos mapping has been commissioned with regard to the naval register. Therefore, on the basis of these asbestos mappings, we compete with the drainage of naval units with the aim of achieving the status of a drained naval unit, unless the elements are widespread." *It can be deduced, in some way, not only the absolute absence of specific interventions for the disposal of asbestos by the Navy, but the sporadic and episodic nature of interventions themselves, which lasted for the fifteen years following the approval of the law of 27 March 1992, No. 257 laying down the rules concerning the cessation of the use of asbestos.*

Drainage. Director Sica stated: "Based on these mappings the drainage activity is carried out, obviously in relation to the financial resources that become available" (during the hearing the matter of the reduced availability of resources was recalled several times); the director has also specified that currently, for the drainage of ships there is a centralized contract with Tecnosit company (representative, because then there is an underlying company) for all three arsenals, prepared by the Naval Armaments Directorate, with budgets allocated for each arsenal. For the airborne fibers, the contracts are made on order funds, while to remove the downpipes, which would seem to be the only asbestos artifacts still present in the Arsenal, it would be required to cover part of the cost with own resources.

The responsibility for disposal is borne by the company that wins the contract and carries out the activities; the arsenal does not proceed with the verification of conformity if it does not receive the form of the effected disposal.

Again with regard to ships, it would seem (the conditional is mandatory given the generality of some answers) that for the coordination of the specifications for the naval drainage activities related to the centralized Navarm contract and for environmental checks performed by external companies, the tasks of checking and verifying the conformity of the activities performed belong to the naval maintenance foreman, vessel captain Salvatore Gianino, who, during his hearing, specified that his department is the recipient of the outcomes of the analyses carried

out and the forms concerning the regularity of disposal. *It is not entirely clear how the conduct of the coordination activities of the specifications for the ship drainage activities is compatible with the control of this activity: even if the aforementioned specifications are centrally indicated by NAVARM, it cannot be said that there is full separation between checked and controller. A further confusing element, regarding this overlapping of competences, derives from the fact that the «return document», which certifies the drainage of the premises and ensures that the premises can be returned to the use of the on-board personnel, previously prepared by the ASL (until 2010) is now produced by the Navy supervisory body (Marivigilanza).*

After drainage completion, the so-called "widespread" elements are not taken into consideration, i.e. the small components widespread on the ship (small seals or switches) for which size and positioning have not been considered useful, which are treated as potentially containing asbestos.

In this regard, RSL Lo Giudice has specified that on board the ships "there are switches, especially those of large amperage, which use asbestos as their own" and added: "To date, the removal of asbestos from the naval units has not yet been completed and we do not have a document in which it is written which vessels we are going to serve in which the asbestos ongoing removal has not yet been completed." *As it turns out that the asbestos present in the switches has not been removed, it should be checked if this information is present inside the DVR and, in any case, if the workers employed on the ships have had adequate information and precise indications regarding the behavior to adopt in case of presence of asbestos. This point, however, has clearly emerged from the interventions of the members of the delegation following the declarations of the RSL.*

In the infrastructural part of the Arsenal, asbestos "has been gradually removed"; remain external downspouts on structures of variable length, which we plan to eliminate as soon as possible.

On workplace drainage, Cap. Fareri specified that the main part of the activities took place between 2005 and 2006, with the replacement of most of the roofing and the monitoring of the remaining ones, including the downpipes. In this regard, it should also be noted that the Head of the naval support department storage Maricommi Augusta, frigate captain Marcello D'Angelo, reported on the three spare parts warehouses; for two of them the mapping of the components containing asbestos is completed and one part has been disposed, while the other one is being disposed as the request for funds has been advanced to the competent authorities (about 1,700 euros)

Workers in service or retired exposed to asbestos; exposure certification. According to the declarations of the Director Sica, the Arsenal personnel does not carry out drainage activities. On board there are *teams* enabled to intervene in the event that what should be called «asbestos event» occurs (for example, a small injury). The *teams* intervene, however, exclusively for safety. They are equipped with *kits* and operate within the ESEDI (sporadic and low intensity exposure).

32 civilian employees and 4 military employees (Cap Sica pointed out that the turnover of military personnel is more frequent, and therefore the data is likely to change) of the Arsenal were recognized by INAIL, and are subject to health supervisory. According to the provincial secretary of the defence FP CGIL, missing documentation on the tasks performed by the individual worker, no defence administration itself has issued an exposure certification to employees.

To the data on the Arsenal employees shall be added the other, provided by the INAIL director headquarters in Syracuse and Ragusa, concerning the exposure to asbestos of the entire civilian defence employees residing in the area of its competence. The audit then reported 164 applications for asbestos exposure certification ("frozen" since 2005), of which 82 were successful. The director has specified that, since INAIL headquarters receives the applications of the people resident in the province, applicants could have carried out the activity attributable to the exposure at other sites, different from the Augusta Arsenal, for which the data supplied are compatible with the number of 32 exhibits indicated by the Arsenal Director.

With reference to the Legislative Decree No. 81, Cap. Gaudioso (except for stating his statements at a later stage of his exposition, concerning health surveillance) has contested that the 32 workers referred by Captain Sica may be considered former-exposed, since they are such considered, pursuant to Article 259, paragraph 2 of the Legislative Decree No. 81, and therefore subject to health surveillance the "workers who during their activity were also registered only once in the register of exposed persons referred to in Article 243, paragraph 1."

Recalling therefore to the combined provisions of Articles 243 and 246 of the Legislative Decree No. 81, which defines exposed workers employed in activities "such as maintenance, disposal of asbestos or materials containing asbestos, disposal and treatment of related waste, as well as drainage of the affected areas", Cap. Gaudioso concluded that there are no professional exposures in the Navy, since this activity has never been carried out by any category of defence employees. Therefore, it would not be required to carry out the health surveillance applying to the professionally exposed persons.

It is noted, also by the Chairman, during the audition, that the pension benefits associated with the exposure certification are also envisaged by law being regulated pursuant to Article 23 of Law No. 257, which establishes the requirements for access to the same benefits, among which there is no registration in the register of exposed persons, which therefore, unlike what the Arsenal location doctor, is not the only requisite required for exposure certification; moreover, while Article 245 of the Legislative Decree No. 81 considers the works used in drainages to be exposed, since it takes into account the legal prohibition of the use of asbestos in force since 1992, the exposure cases prior to that date may also concern workers employed, with other tasks, in processing containing asbestos. This applies even more in the case of Navy, and in particular for the personnel on board, where, according to the statements of the auditors, for a period of at least a decade the provisions of Law No. 257 of 1992 seem to have remained unused.

In the past, therefore, exposure situations have occurred, as it appears to the auditors that INAIL has recognized the social security benefits and the pension 'slide' to electricians and motorists. Moreover, Cap. Fareri, questioned on the asbestos exposure of military and civilian workers before 1992, was not able to provide certain data, but expressed the warning that for some categories (welders) there may have been exposure in the aforementioned period.

In this regard, the provincial secretary defence FP CGIL recalled that in the Pantano Daniela district of the Naval Arsenal of Augusta and within the same plant there were warehouses in which both asbestos products, and sacks containing asbestos powders were deposited used by the boilers for the construction and processing of insulating parts of naval equipment and panels

in asbestos. The warehouse containing asbestos bags would be decommissioned in 1991, while the trade unions do not know whether in the warehouse located in the Pantano Danieli district and in the carpenters' iron workshop the asbestos drainage was completed, also with reference to the rehabilitation works of the carpentry workshop of 2005-06. *Moreover, it would seem that the trade unions do not exclude that there is a risk of exposure still present, as is also clear from the following statement by the provincial secretary of the CGIL reported in the shorthand report: "This workshop was and is still located right in front of the entrance of the company canteen, in front of which all workers passed and still pass when going to lunch, so potentially at risk of asbestos exposure"*.

The trade unions also show that "employees engaged in these jobs have died in service due to lung cancer. The same happened to other employees in service used for processing, warehouses and offices." However, it is not possible to have data on incidence and correlation of mortality due to exposure to asbestos, as the onset of serious tumors the employee is declared unfit for service and permanently incapacitated, placed in advance retirement, losing its traces.

Even on the basis of a similar statement by the location doctor, the profile of relationship between military and civilian health should perhaps be deepened, with the provision of forms of collaboration and the possibility for staff on leave to take advantage of the structures and services of military health.

Lastly, mention should be made of the provincial secretary of the defence FP CGIL about the presence of a problem related to the exposure to asbestos for all institutions operating in the district of the Navy of Augusta (Maricommi, Marigenimil, the former Maribase today Marisicilia, and also Maristanav). Until a few years ago, according to the auditor, Maribase, now Marisicilia, the autoreparto as well as the working team lived for 8 hours a day in the sheds with asbestos roofs, as well as in Marigenimil there was a working team that cut with flex the asbestos tubing carrying the water.

The USB provincial secretary, Francesco Gianini raised the problem of asbestos packaging, and in particular of the VCI card, used as a casing for spare parts and part of a circular of 1994 by Logistics Inspectorate, concerning the disposal of this material, containing a certain amount of asbestos. According to the audit, this circular is disregarded and the VCI is still used, albeit to a very limited extent.

Health Surveillance. Cap. Gaudioso then answered some questions posed by the Chairman and the members of the Commission, concerning the conduct of health surveillance, specifying firstly that, pursuant to Article 41 of the Legislative Decree No. 81 only those workers for whom the DVR recognizes a health risk are subjected to said surveillance. Therefore, he declared not to submit all 336 workers of the Arsenal to periodic medical examinations, and also declared that all those who have applied to INAIL are subjected to health surveillance, regardless of what they replied [INAIL]."

In this regard, it is noted that Article 41, paragraph 2, letter b) states: that health surveillance is carried out by means of a "periodic medical examination to check the health status of workers and express the judgement of eligibility for the specific task. The frequency of such investigations, if not provided by the relevant regulations, is usually established once a year.

This frequency may take on a different frequency, established by the location doctor according to risk assessment. The supervisory body, with motivated provision, may dispose of contents and frequency of health surveillance different from those indicated by the location doctor." *The provision would seem to be directed to the of workers in general (as noted by the Chairman, citing the case of periodic visits at Taranto Arsenal), and not only those for which the DVR indicates the presence of a specific risk. It is hardly required to note, then, that supervision within military system makes it very unlikely the possibility of implementing the last period of the provision*

Cap. Gaudioso has, therefore, specified to carry out the activity of health surveillance taking into account also "an instrument of promotion of protection" prepared by the Navy General Staff that makes it possible for the staff who presumes to have been exposed and who voluntarily adheres to this protocol of being checked, even without INAIL certification. The specification is being issued, but guidelines have been brought forward with flow charts for the employer and the location doctor to guide on how to behave. According to the statements of the location doctor, it would seem that some workers of the Arsenal - although adequately informed - no one has adhered to the aforementioned protocol and asked to be examined.

The same officer, responding to a question from the Chairman, then specified his preliminary declarations, clarifying that the 32 workers who have obtained the certification by INAIL are subjected to health surveillance as they have been exposed to asbestos. He then declared that he did not know the number of those who contracted asbestos-related diseases following exposure, in consideration of the long latency period, so that diseases occur most of the time when the workers are retired, and then outside the jurisdiction of military health. In this regard, some elements of additional information emerged from the RSPP (which confirmed the presence of individuals exposed to asbestos before 1992) and the RSL (which has reference factors for the same period to the metal workers, some of which it turns out died of lung cancer). Finally, for Cap. Gaudioso "the most frequent risk factors are noise, videoterminal and biological risk due to the activity of migrant recovery."

Concentration and asbestos threshold limit values. Replying to some questions asked by Hon. Zardini, Cap. Merluzzi has specified that, as far as the asbestos exposure is concerned, the Navy is subject to the legislation in force and that, from the moment of the engagement, has no evidence of values beyond the threshold established by law: concerns the ships, Captain Merluzzi has declared not to have evidence of workplaces where - as, for example, to the motor apparatus - the values of the fibers/liter detected are decidedly different from other workplaces, or however superior to the defined limits by law.

Prevention and protection service. Training and information of workers. As from the audition of the Head of the Prevention and Protection Service (Vincenzo Scamporlino), since 2004, the RSPP function assignment to external subjects has ceased, the management of asbestos on the ground has been entrusted to the Head of the DSA division (at the time, Mr. Fareri): therefore, after that date "the UPP did not know what was going on because it was personally managed by the Head of Division who was reporting directly to the Arsenal Director." The audit also reported that the latest ground-level asbestos mapping was done jointly with the technical service officer who inherited the previous DSA functions. *Probably, he refers to the analysis*

of asbestos risk assessment, according to Cap. Fareri, at the end of 2014. Since the RSPP has declared of assuming the mandate since February 2015, it shall be stated that the aforementioned valuation has continued even after the end of 2014. Furthermore, since Article 33, paragraph 1, letter a) of Legislative Decree No. 81 provides that the prevention and protection service convenes "identification of risk factors, risk assessment and identification of measures for the safety and health of occupational environments, in compliance with current legislation on the basis of specific knowledge of the corporate organization" the circumstance for which since 2004 the head of the Prevention and Protection Service, as stated, has not been aware of asbestos risk management (it is not clear how long this ignoring condition went on) in contrast to the letter and the spirit of the law, as it raises some perplexities and worthy merits clarification, the fact that between the end of 2014 and 2015 the task of managing the asbestos risk was shared between the RSPP and the employee to the technical service department.

Another point concerns staff training and information: consequently, as previously stated on the absence of an exposure risk to asbestos for the Arsenal employees, the RSPP stated that it had no news of training courses on this matter since from the beginning of 2000 to today; for the rest, he specified that "as far as training is concerned, 90% of Marinarsen Augusta's personnel are trained" and that at the moment "all the personnel have been informed of the risks in general." The RSPP therefore added that, for the Arsenal workers who work on board the ships, there are security procedures according to which the execution of the order to carry out some work is subject to the request of the site safety data sheet where they will have to carry out the activity. On the same matter, the Secretary of the defence FP CGIL provided a less reassuring picture, noting that both the work on board the naval units containing asbestos in each of its apparatus that ground operations, were carried out without adequate protection even many years after 1992, and that the suits worn by workers were also vehicles for spreading asbestos fibers not only in the workplace, including the company canteen, but also in the family, as they were and are still brought home to the usual washing.

It is not clear what happens when there is a risk of exposure from the safety data sheet. Furthermore, from auditions, it appears that there are Arsenal workers who work on ships (also confirmed by the RLS Giovanni Lo Giudice), and that not all ships are reclaimed, it does not seem entirely appropriate affirmation of the RSPP that categorically excludes the existence of a risk of exposure to asbestos. Similar confusion gives rise to the fact that no specific training activity has been carried out on the asbestos risk and no personal protective equipment has been provided.

These perplexities are also supported by the affirmations of the RLS Giovanni Lo Giudice, which are fully reported by the shorthand report: "The categories of work involved in exposure to asbestos were many, because it is true that we have almost completed the training courses, but those are considered as generic training, and asbestos risk is not foreseen. It is also true that in the DVR, as the risk of asbestos is almost zero, on the ground we are not exposed (I am a worker who goes to work on board), but we work on board, and for this honestly, as far as I know, a specific course on asbestos risk has never been done."

Similar concerns were also expressed by the secretary of the defence FP CGIL, who, at the end of his speech, said "that all workers have been and are still today potentially exposed to asbestos

fibers", as well as a strong impulse to environmental remediation (*which, according to the audit, would still be incomplete*) and to health surveillance activities "considering the continuous exposure over time", also the introduction of amendments to the current legislation with the revision of the exposure period coefficient for the whole working life period, and the consequent recognition of the right to early retirement.

Also the RSPP affirmation concerning the fact that "not all workers are endowed with the DP, due to a matter of economic-financial nature" should be better clarified; in fact, this possibility is assuming that levels of protection of a constitutionally protected asset such as the mental and physical integrity of workers may be reduced for reasons of a financial nature.

On the environmental situation of the territory of Augusta, the representative of Legambiente Enzo Parisi was heard in secret session; the latter recalled that the area was declared to be at high risk of an environmental crisis in the 1990s and, in 1995, the reorganization plan was approved by Presidential Decree, which then remained unimplemented; as a result, according to a past ruling by the Environment Commission of the Senate, this is an area today in a clear environmental risk crisis. All environmental matrices were and are strongly deteriorated, from water to soil to the sea, and naturally also the health of people living in the territory that goes from Augusta to Syracuse. In 2000, the area was included among the sites of national interest for the purpose of drainage, and includes about 6,000 hectares of land in the industrial area and about 10,000 hectares of water, from the port of Augusta to that of Syracuse. To date, the first allocation of about 106 million euros has been mainly used for monitoring and characterization of the site, but only some issues have been addressed, including that of the presence of the former Eternit near Syracuse, partially resolved; the fact remains that, due to the presence of companies such as Moncalieri who worked asbestos and which were secured in safety seven or eight years ago, in the area of Augusta and Syracuse the incidence of pleural mesothelioma reaches very high levels, around 3.5 times the national index. Commenting on this percentage, the ASP 8 territorial registry of diseases in Syracuse states that «occupational exposure or occupational or residential exposure to asbestos fibers is the primary cause of pleural tumors. In the province of Syracuse the main sources of professional exposure are the disused factories of Eternit and Priolo and the shipyards of Augusta».

It is therefore worrying that to the already existing risks (largely documented by studies of the Istituto Superiore di Sanità (ISS - National Institute of Health), of the World Health Organization, and of the CNR, referable to the well-known study entitled Sentieri) there are new ones: last year, they arrived from Taranto about 10,000 tons of blast furnace powders that were discharged to Augusta (temporarily, according to the Minister of the Environment), which could have reached 100,000, if the popular protest had not prevented it. In this context, the Arsenal is located, whose backdrops facing the docks are heavily contaminated by heavy metals, hydrocarbons and, according to ISPRA, should be immediately drained. This appeal remained unheard, and the ships continue to move along those seabeds and with the movement they put in suspension the pollutants deposited there. In addition, in the nearby Maxcom marine fuel depot more than 40,000 tons of gas oils and fuel oils are stored, which are used to refuel ships. Apart from the fugitive emissions deriving from tanks, the area around is completely contaminated and shall be drained; a little further there are the basins of both the Navy and the private EBA, where operations have taken place in which the asbestos fibers are released. In

the past, in the Arsenal, there has been exposure to asbestos fibers, even in areas facing the canteen. The Legambiente representative highlighted "an evident disconnection between the control, protection, monitoring and health surveillance bodies", observing that even INAIL representative intervention shows that the Institute's data are not coordinated with the data, for example, of INPS and ASP. He added that twenty years ago the Augusta municipality made a biomonitoring, detecting a presence of non-standard uranium. Replying to Hon. Rizzo, he then mentioned the area of Punta Izzo, used as a firing range by the Navy until the '90s, then decommissioned. Legambiente hopes that, after draining ammunition residues used at the time, and considering that Navy has denied that there is a hypothesis of firing range reactivation, the area is destined to a Park, given its high landscape and historical value.

Vincenzo Scamporlino, R.S.P.P. Marinarsen Augusta, then pointed out that the measurements of magnetic waves made by CISAM did not reveal the threshold of emission prescribed by law, and the provincial secretary of defence FP CGIL spoke of the dock work built in the Arsenal, calling it "a cathedral in a desert": in fact, dredging to make up the depth of the ships", docking for the works, cannot be carried out because in the seabed there are heavy metals such as mercury. The pontoons operators belonging to Maristanav and are employed to sail the anchors of moored military ships, anchors touching the seabed and while going back they are full of mud, and therefore heavy metals, they carry out this work with bare hands. The risk of heavy metals and seabed within the port of Augusta is therefore a real risk.

MISSION TO THE LA SPEZIA NAVAL ARSENAL (28 July 2016)

In fulfilment of the tasks established by Article 1 of the resolution passed on 30 June 2015, and specifically letter *f*), the Commission of Inquiry into the impacts of depleted uranium carried out a series of investigations into the risks associated with the presence of asbestos-containing materials in environments where military and civilian personnel of Ministry of Defence provides service.

The most significant part of these investigations, which also includes the visit to La Spezia, was made possible by carrying out a targeted series of inspections in the Navy's arsenals (in particular those of Taranto, Augusta and La Spezia), for acquiring an updated factual picture of the environmental and working conditions of the employees of the Defence employed therein, also through auditions aimed at establishing a contradiction between the various subjects involved in the issue of the safety of workers in these workplaces.

The visit to the arsenal of La Spezia took place on 28 July 2016 and was carried out by a delegation of the Commission headed by the Vice-Chairman Donatella DURANTI (SI-SEL) and composed of the deputies Gianluca RIZZO (M5S) and Paola BOLDRINI (PD). The free cycle of auditions planned for the program began with an introductory report by the Director of the Arsenal, Rear Admiral Livio CECCOBELLI.

Mapping and drainage. With regard to the mapping activities, the Arsenal Director cited circular No. 45 of 10 July 1986 issued by the then Ministry of Health which, as he himself

reminded, «provided indications on the **location and characterization** of materials containing asbestos, procedures for assessing the level of environmental contamination and technical directives for operations drainage». Following this administrative act, the last contract stipulated by the arsenal still including the purchase of insulating material with asbestos dates back to 16 October 1986; since then, no such materials have been acquired and we have searched for alternative insulating materials.

On 29 June 1988, a temporary service order was issued, No. 25, with which the arsenal has adopted an internal security regulation for drainage operations. The service order established in the chemical laboratory a sector called “Free gas and environmental hygiene checks”, to which the following tasks have been devolved: environmental monitoring in the premises subject to drainage operations, analysis of samples of the monitoring carried out, supervision of the equipment and means of protection used by the workers of the companies or Marinarsen.

In 1989, in order to strengthen the internal equipment of the chemical laboratory, a microscope was purchased to perform the so-called MOCF (phase-contrast optical microscopy). At a later date, a scanning electron microscope (SEM), was also acquired, capable not only of detecting the number of fibers, but also of ascertaining whether they were actually asbestos or not. Currently, as specified by Rear Admiral Ceccobelli, the analysis of the dispersed fibers, whose sampling is carried out by the arsenal, are performed by CSSN (Naval Support and Experimentation Center), while the mass analysis is used by companies and specialized laboratories in this field.

In 1998, the asbestos census was carried out as required by law No. 257 of 1992 and the subsequent Ministerial Decree of 1994 through the detection and characterization of the artefacts containing asbestos inside the buildings in use at Marinarsen. Following the census, a series of drainage works began, as appropriate, by removal or confinement.

A separate mention should be made for the so-called protected works, a series of workshops created after the war with NATO funds and located within a hill on the west side, beyond the wall of the base, designed to continue working with the arsenal in the case of air raids and, unfortunately, insulated with 100 percent asbestos panels. To the concerns expressed by Hon. Paola Boldrini, Admiral Roberto CAMERINI replied that these are areas dug into a mountain and are totally inaccessible.

To Honorable Gianluca Rizzo, who raised the issue relating to iron field dump pertaining to arsenal, Admiral Camerini replied that, having been found funds from SEGREDIFESA, the experimentation for a site phytoremediation is about to start; it will last a year and will be followed by the actual drainage, which will not be completed before three or four years.

In conclusion, for the ground part, Admiral Ceccobelli informed the delegation about the availability of a total sum of 233,000 euros - deriving from loans and counter-charges related to a trade-in contract (the arsenal also carries out activities for the benefit of external companies) - through which asbestos was removed from four of the five technically restrained cranes and seven cranes, in addition to a number of minor land drainages. In any case, Rear Admiral underlined, everything that will not be able to do with this funding will surely come within the endowment of a three-year plan (2016-2018), so-called *Brin*.

Coming now to the discussion of the mapping and drainage of naval units, Admiral Ceccobelli has pointed out that the arsenal carries out an activity of their relevant maintenance in efficiency. Of the naval units in service, which therefore fall within the jurisdiction of the La Spezia base, whose maintenance is entrusted to the arsenal, and which are regarding the problems of asbestos, there is a list of 60 units. This list includes all ships regardless of size, provided they have a fixed crew on board, then from the largest, such as the *Scirocco*, up to the level of port tugs, those who still have a fixed crew on board, the so-called RP.

As regards the management of the asbestos problem, to these naval units are added 14 disembarking ships and 257 so-called minor vehicles.

Urged by Chairman Duranti about the particular situation concerning ships in disarmament, Commander Ceccobelli has specified that the demolition of two naval units is currently planned. In addition to these, there is a list of ships on which a memorandum of understanding was signed between the Ministry of Defence and the Tuscany Region, according to which the Ministry shall make available a certain number of ships to make the naval demolition pole work of Piombino; therefore, if the protocol were actually to be implemented as it was stipulated, the ships would certainly be demolished off the site. All this in full compliance with what Rear Admiral declared to be the *core business* Arsenal which consists in carrying out naval maintenance rather than demolition. By minor vehicles we mean boats, floats and all that is not equipped with a fixed crew, but according to Rear Admiral, everything has been counted, starting from the sailing yachts of the sailing section not only of La Spezia, but also of Livorno: the reference is to the whole northern area falling under the jurisdiction of La Spezia.

For the management of asbestos risk on board, we use a document called *asbestos mapping*. This document, kept and periodically updated by the on-board command with the support of the arsenal, aims to identify the sites and machinery of ships containing asbestos.

The most significant part of this type of activity took place between the end of 2007 and the beginning of 2008; subsequently, a further investigation was required for specific *items*, which resulted in two further documents in 2010. This is the drafting of a compendium and the initial configuration, called *Complement to asbestos mapping*. Also in 2010, a further document, later called *Explanatory note for sealing of different plants*, recalled the so-called “widespread elements.”

Regarding the entire mapping documentation, to the specific question raised by Hon. Rizzo, Commander Ceccobelli replied that to date everything is digitally managed through a specific database.

All the aforementioned 60 naval units in service are equipped with updated mapping documents. As for the 257 minor vehicles, following the assessment and analysis campaign carried out by a specialized company, it emerged that 231 are asbestos-free, of which 25 have become as a result of drainage; 26 still have asbestos, but in a state of conservation that does not create dangers of exposure to personnel, even if they will still be drained in the future.

As regards drainage planning, contracts regarding asbestos, whether they are significant, drained or mapped, have been centralized for several years, or stipulated by central bodies that, in the execution phase, allocate the quotas established for the various sites. NAVARM typically

takes care of it, referring to modernization and renovation, after which the contract thus stipulated is subdivided for the different work plants and each, according to the represented requirement, has a portion to be spent.

Prevention and protection service. Training and information of workers. Staff training and information regarding the management of asbestos related problems are included in the more general context of training and information on the prevention of accidents and the protection of workers' health.

The La Spezia Arsenal can count on 21 employees trained as asbestos site managers, 10 employees trained as asbestos workers and 10 trained as managers of the asbestos problem in facilities, buildings and plants; these three types of training courses were held at the «Durand de la Penne» provincial training school, where a series of activities of a more general nature is carried out and, among the various aspects of prevention, there are also asbestos related matters. In particular, there are 34 employees trained through the chemicals hazardous waste management course, always at the «Durand de La Penne» school; a course for supervisors, held in a very extensive manner, for 246 employees; a basic training course for 120 employees.

As far as concerning information, at the end of last year, information courses for 126 employees were exclusively carried out with internal resources, according to a program including a part dedicated to asbestos problem.

It should be noted that these courses are completely equivalent to training courses, as the teachers who hold those are fully qualified trainers, and the programs are exactly the same as those for training.

The former R.S.P.P. Gaetano Di Tonno stated that as early as 1998, following the enactment of law No. 626 of 1994, a general information activity aimed at all workers was completed through an external body.

Health Surveillance. Coming to discuss the specific issue related to health surveillance, Admiral Ceccobelli wanted to clarify, during its premise, that no worker in the arsenal carries out activities involving the handling of asbestos containing materials, and that all drainage interventions by removal are carried out by staff of specialized and qualified companies.

Specifically, the situation of the employees of the arsenal is as follows. There are 3 employees of the prevention and protection service that fall into the category of so-called ESEDI (subject to sporadic and low intensity exposures). A fourth employee of the prevention and protection service - this is the individual who physically performs all the sea trips for detecting widespread fibers - since it carries out this type of activity for more than 60 hours a year, it is subject to an additional potential risk, then it is subjected to a specific health surveillance, as dealing with a direct type of exposure.

ESEDI is an «attenuated» form of potential exposure; in general, however, all employees are subjected to health surveillance, depending on the job performed and the risk they are exposed during their working activity.

A series of different health protocols has been defined over time with the location doctor. In some cases, these health protocols are instead defined by bodies such as the Navy General Staff.

usually in agreement with the Health Inspectorate. Among other things, for recent provisions, this has also happened for the so-called *former* exposed: the protocol was established by MARISTAT UGECOPREVA in consultation with MARISAN.

As for *former* exposed to asbestos, there are currently 272 civilian and one military employees who belong to this category, with formal INAIL certification. *Former* exposed are included in a special list and are subjected to a health protocol defined by the General Staff integrating, where provided, the health protocol provided for the current work activity.

Upon specific request by Hon. Rizzo, referring to the protection of not exposed workers category, Commander Ceccobelli has informed that in the past an initiative was taken on the matter by Tor Vergata University of Rome through the Archimede project, for people with a certain work history that, on a voluntary basis, could carry out a series of clinical tests. However, not all those who had joined the project then underwent the planned analyses, also because they had to go off-site. The Commander therefore hoped that, if such optional checks were carried out within the Arsenal's own facilities, there will be certainly higher registrations than those received in the past. On this matter, the CGIL secretary and RSU representative Emanuele Bernardini expressed the need for such protection to be indifferently extended to all the Arsenal workers, and should not concern only those who, for the specific tasks performed, are presumed to be more easily in contact with material at risk; the concept was then shared and reiterated also by the RLS representative, Alberto Figoli.

With regard to the presence of asbestos-containing materials within the work site, then in the infrastructures or the plants charged to the arsenal, Rear Admiral Ceccobelli made a preliminary observation that the arsenal is a historical site, with over 150 years of life.

The different plants and infrastructures have been in some way modified and modernized; in particular, the bulk of changes took place between the end of the '40s and the first half of the '50s, when the entire naval base underwent a radical reconstruction work, following the almost total devastation that occurred during the Second World War. MCA materials (materials containing asbestos) are, therefore, to a large extent present, even in those times the harmfulness of asbestos for human health was not yet known.

Starting from the second half of the '90s, a series of drainage interventions carried out through removal or confinement, according to the cases, led to a drastic reduction of the materials containing asbestos. Subsequently, towards the end of 2014, following some discoveries of suspect materials, sampling and analysis campaign began, which then continued throughout 2015, noting the presence of asbestos in three different types of artefacts: floors, lances of the lifting means and pipes of the heating systems under the building workshop No. 53. As for the floors, risk mitigation was carried out by clearing, sealing and encapsulating those elements. For the brake linings, five of the eight cranes were positive, therefore, also incorporating ASL suggestions, the technical shut-down of all these plants was arranged and to date only the crane between basins 3 and 4 remains to be drained. Finally, as regards the under-trussed piping, where it was possible, a drainage intervention was carried out consisting of sealing and placing warning signals.

In the premises and areas where the MCA presence was detected, samples of airborne fibers were also detected, but no asbestos was detected from these investigations.

As required by President Duranti, aimed at having knowledge of the existence of warehouses affected by the presence of asbestos, Commander of Maricommi, Massimo Martucci, has first pointed out that the Directorate of Maritime Military Commissioner has taken charge of the management of warehouses from 1 January 2015, adding that Maricommi is interested in asbestos problems both from an infrastructural point of view and with reference to the so-called PDR (pieces of respect) contained in the warehouses. For the infrastructural part, there are warehouses with asbestos-related problems and others suitable for use because, even in the presence of asbestos, encapsulation interventions have been completed, for which, at the moment, they are not dangerous. On the other hand, with regard to the issue of PDRs, a monitoring and sampling of all the spare parts that could have asbestos contents is under way by the logistic command.

More generally, the Admiral has taken on the task of personally providing the Health Monitoring Plan to the Commission, underlining that there is a program called *Infopress*, which includes all the workers to whom, depending on the job-risk combination, is associated a health protocol and a list of clinical trials to be performed.

As regards the **DVR** (Risk Assessment Document) of the institution, the Commander stated that he believed, though not showing the certainty, that it was also disseminated at centralized level. However, he was available to make it at disposal of commissioners with the addition of all the risk sheets of the naval part, useful to complete the information framework to be provided not only to the workers of the arsenal, but also to those of external companies.

Workers in service or retired exposed to asbestos; exposure certification. On the pathologies deriving from exposure to asbestos, the Admiral has reported 15 disputes currently outstanding, related to non-recognition of compensation for presumed exposure to asbestos.

During the audition of Enrico Lanzone, regional director of INAIL Liguria, the Commission delegation was informed that, based on the data held by INAIL, there were 79 diseases related to asbestos fibers, of which: 24 gave rise to a survivor's pension, one was defined as death without survivors; 7 for direct annuity; 30 were defined as regular without compensation because the degree of disability was lower than that established by law; finally, 17 were defined negatively due to unsuitability of the risk, absence of disease or because the present documentation was not sufficient to determine a medical-legal evaluation. With regard to this latter case, as required by Chairman Duranti, Stella Greco, Health Director of the INAIL office in La Spezia, finally stated that in order to make an application for recognition of an occupational disease, appropriate health documentation shall be submitted - a medical certificate who ascertains a diagnosis and other administrative documents - in the absence of which INAIL, in some cases, can reject the application itself.

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**VISIT TO THE SARDINIAN FIRING RANGES
AND TO THE MILITARY SITE OF ST. STEFANO, LA MADDALENA
(2-7 October 2016)**

From 2 to 7 October 2016, the Commission carried out a mission to visit the military firing range on the territory of the Sardinia region, as well as the military site of Santo Stefano, on the island of La Maddalena, completing inspections with a prolonged session of audits and hearings which took place at the headquarters of the Prefecture of Cagliari and which saw the participation of representatives of military command of individual firing ranges, civilian and military personnel, the regional and local authorities of the territories concerned, civil associations and the prosecutor of the republic competent for judicial proceedings related to the presence of firing ranges on the territory.

The delegation, in addition to Chairman Scanu, included the following deputies: Donatella Duranti (MDP-LU), Ivan Catalano (Misto CI-EPI), Paola Boldrini (PD), Gianluca Rizzo (M5S), Roberto Capelli (DES-CD), Maria Chiara Carrozza (PD), Edmondo Cirielli (FDI-AN), Luigi Lacquaniti (MDP-LU), Mauro Pili (Misto) and Diego Zardini (PD).

In particular, the Non-commissioned School of the Navy of La Maddalena and the Ammunition Depot in Guardia del Moro - Isola di Santo Stefano - La Maddalena (OT) were visited; the Experimental and Interforce Training Firing Range of Salto di Quirra - P.I.S.Q. - in Perdasdefogu (OG) the Firing Range of Capo Frasca (VS) the Firing Range of Capo Teulada (CA).

During the *on-site* visits, and subsequently at the Cagliari Prefecture, the delegation **freely audited**, in some cases also holding informally meetings, the following individuals:

- at the Naval Petty Officers' School of La Maddalena: the Commander of the same School, C.V. Roberto Fazio; a Representation of Co.ba.r. and RSU of civilian personnel and the Mayor of Maddalena Luca Montella;
- at the Firing Range of Perdasdefogu: the Mayors of the municipalities of Perdasdefogu, Mariano Carta, of Ulassai, Gianluigi Serra, of Villagrande Giuseppe Loi and of Villaputzu Sandro Porcu; a Representation of Co.ba.r. and RSU of civilian personnel;
- at the Firing Range of Capo Frasca: the mayors of the municipalities of Arbus Antonio Ecca and Terralba Pietro Paolo Piras; a Representation of Co.ba.r. and RSU of civilian personnel;
- at the Firing Range of Capo Teulada, the mayors of the municipalities of S. Anna Arresi, Teresa Pintus, and Teulada, Daniele Serra; a Representation of Co.ba.r. and RSU of civilian personnel.

At the Prefecture of Cagliari, representatives of families of depleted uranium victims Giuseppina Vacca and Antonio Cancedda were heard; the President of the Aerospace District of Sardinia (Dass), Giacomo Cao; the spokesman for the "Let's lay the ground" commission, Mariella Cao; the civilian components of the joint syndicate commission of the Sardinia Region for military servitude: Giovanni Aramu, Agostino Armeni, Agostino Bifulco, Andrea Diana, Salvatore Mocci, Gianluigi Sechi, Antonello Tanas, Gianuario Fiori; ARPAS Director General, Alessandro Sanna; the officials of the environmental office of the Sardinian Region, Alessandro Murgia and Nicoletta Sannio; a representation of the mayors of the municipalities surrounding the Firing Range of Lake Omodeo: Abbasanta, Stefano Sanna, Bidoni, Ilaria Sedda, Ghilarza, Marco

Defrassu, Soddi Francesco Medde and Sorradile, Pietro Arca; the Deputy Prosecutor of the Republic of Cagliari, Emanuele Secci; the Councilor for the defence of the environment of the Sardinia Region Donatella Emma Ignazia Spano; the Councilor for hygiene and health and social assistance of the Sardinia region Luigi Benedetto Arru; the President of the Regional Council of the Sardinia Region Gianfranco Ganau; the President of the Sardinia Region Francesco Pigliaru.

The following, instead, carried out **hearings of witness** : the Commander of Salto di Quirra, Gen. Giorgio Russo; the Commander of Capo San Lorenzo, col. Giovanni Tonarelli; the Captain of the St. Stefano ammunition depot, C.F. Marcello Pinna; the Location Doctor of Capo San Lorenzo, Salto di Quirra and Capo Frasca, Dr. Marcello Campagna; the RSPP of Salto di Quirra, ten. col. Alessandro Castellet Y Ballarà; the Commander and RSPP of Capo Frasca, ten. col. Mariano Marchetti; the Commander of Capo Teulada, col. Fabrizio Giardini; the Location Doctor of Capo Teulada, ten. col. Alberto Cireddu; the RSPP of Capo San Lorenzo, 1^a M.llo Andrea Sartorello; the RSPP of Capo Teulada, Pier Paolo Silli; the former location doctor of the St. Stefano ammunition depot, C.F. Lorenzo Tucci; the Location Doctor of Naval Petty Officers' School of La Maddalena, C.V. Cosimo Nesca; the RSPP of Naval Petty Officers' School of La Maddalena, C.C. Andrea Pampaloni.

Visit Object and classification.

This mission was part of more than one line of inquiry, among those undertaken by the Commission during its activities, but in particular it was aimed at a specific study of the situation of Sardinian firing ranges, both in terms of verifying the effective implementation of regulations on occupational safety of workers employed therein, that relating to the complex problems of the territory and the environment protection on where Sardinian military installations operate, also in relation to the health of the surrounding populations and the important economic repercussions on the local communities.

In this sense, since the Sardinian firing ranges together make up 60% of the area of national military servitude, the mission in Sardinia represented the keystone of the Commission's inquiry activity carried out through on-site, inspections and checks, as well as verification of the premises set in the first semester of investigative activity with regard to the general framework of the occupational safety of the Armed Forces, as outlined from the beginning of the work of the Fourth Commission of Inquiry. In fact, this was a question of visiting this region, considered the most important problem and the most concrete scenarios, related to the presence of vast territories subject to military servitude for more than sixty years, to arrive at evaluations and conclusions to be extended, where relevant, to the rest of the national territory and to guide the inquiry progress.

To this end, a large *number* of hearings, both in a free and testimonial format, concerned first of all the issue of **occupational safety**, providing systemic listening to the heads of the firing range under their respective competences (commander, RSPP, location doctor, RLS), as well as representatives of workers and all those involved who could provide a discordant or even alternative voice to that of the direct responsible of firing ranges.

At the same time, the Commission delegation identified an audience of the **regional government** and **local communities** as broad and inclusive as possible, so that all interests in

the field were represented without neglecting any instance - economic, political or territorial - affected by a such big territory (even when in some cases this led to a leak from the strict investigative skills outlined by the constitutional resolution.

In this context, for example, the Commission also informally received a delegation of fishermen from Capo Frasca, who asked to represent in the competent parliamentary sittings (and especially, at the 11th Labor Commission) planning requirements for military exercise activities that would allow the use of the fishing waters surrounding the firing ranges.

This includes the auditions of the summits of Sardinia Region, mayors of all the municipalities concerned, civilian representatives of the Joint Commission of the Sardinia Region for military servitude, associations linked to the presence of the bases and families of victims of particular diseases.

On the other hand, environmental audits and possible hypotheses for the conversion of Sardinian military firing ranges belong to the auditions of ARPAS and the President of the Aerospace District of Sardinia, which highlighted not a few critical issues related to the monitoring of environmental quality in the firing range territories, underlining at the same time various options that can be followed in the future to optimize the use of military sites with territorial development needs.

Finally, from the time of the resolution on the mission program, the Commission identified the need to audit the relevant prosecutor for hypotheses of environmental crimes committed in the area of Sardinia firing ranges and related to the failure to carry out drainage interventions on military exercises' sites, with particular regard to the serious case of contamination of the so-called «banned peninsula» of Capo Teulada.

Main fact-findings emerged during auditions and inspections

During visits and inspections carried out within the firing ranges, the Commission first found a lack of implementation of the legislation on occupational safety, mainly due to insufficient or incomplete drafting of the risk assessment documents (particularly for the firing range of Salto di Quirra) or sometimes by the lack of DUVRI (single document for the assessment of interference risks) in areas where military exercises conducted by different individuals overlap, under the responsibility of different employers. Furthermore, workplaces condition (training firing ranges and ammunition storage) visited by the Commission delegation confirmed the need for efficient health surveillance and prevention of health risk, which does not seem to be guaranteed.

In this regard, from the hearing of the location doctor of the firing range of Capo San Lorenzo, Salto di Quirra and Capo Frasca, it emerged that the assessment of the chemical risk within the respective DVR did not take into consideration exposure to chemical and physical agents widespread in the environment during the live-fire exercises or deriving from environmental pollution, while with reference to Capo San Lorenzo, the relative DVR contained a specific assessment of the exposure risk to carcinogens for the staff of the workshop and refuelling of fuels. During the visit to La Maddalena, and in particular to the ammunition storage of St. Stefano, placed in an underground tunnel, the Commission delegation noted an insufficient condition of the suction systems to guarantee an adequately healthy aeration.

The state of the workplaces in the aforementioned «banned peninsula» of Capo Teulada was quite evident, quite inaccessible except for the difficult and insufficient drainage of the contaminating materials present on the ground for decades, in the context of a real condition of environmental disaster.

Hearings of the heads of firing ranges on health surveillance have also highlighted a significant lack of impartiality in the exercise of the supervisory function on compliance with security legislation, already repeatedly detected by the Commission during the inquiry carried out previously in the mission, as well as a certain shortage of staff available.

In particular, see the hearing of the location doctor of Capo Teulada, where the witness laconically confirms the lack of an “exclusive mandate” exercising his functions, which seems to overshadow an insufficient guarantee of independence. The person in charge of performing the functions of competent physician of La Maddalena's storage declared before the Commission to hold the same position also for all the organizations of the Sardinian Navy, confirming a condition of difficulty that could also be extended to other firing ranges. Even the commander of Naval Petty Officers' School of La Maddalena, Roberto FAZIO, has implicitly recognized that he would like a broader organic endowment, especially from the Military Engineers.

From the hearings of the heads of firing ranges at different levels, in general, an inadequate availability of resources has emerged, not only for health surveillance purposes, but also for the prevention of health and environmental risks, given that in some cases firing range commanders have admitted that they do not have appropriate skills and the required equipment to cope with a possible emergency from environmental contamination.

In this regard, see the statement by commander of Capo Frasca: «at the moment the detachment of Capo San Lorenzo does not have the required professional skills and instrumentation to recognize a radiological emergency itself, nor does it have the personal protection and dosimetric surveillance devices that may be necessary to face it». Still on Capo Frasca, the Safety Coordinator for the implementing in a yard the collection and management of waste present on-site and subsequent restoration of the areas, Graziano MURRU, explained to the Commission the complex procedure for the collection of abandoned waste, consisting mainly of war residuals, the verification of a possible presence of unexploded ordnance, the so-called simulacra, with consequent danger of radiation, to then proceed to the collection and accumulation of any material containing asbestos.

Serious shortcomings concerning the **prevention of environmental damage** and subsequent drainage of places contaminated by various agents (above all ammunition deposited on the ground following exercises) were directly ascertained by the Commission delegation, especially regarding the area of the aforementioned «banned peninsula» of Capo Teulada, and of the firing range of Salto di Quirra, where the inspection allowed to visit areas for the disposal of highly dangerous waste and areas affected by an intense activity with consequent important polluting effects on the surrounding territory. The environmental conditions of these places, both where was possible to visit directly, both in the areas where access was banned for reasons of dangerous air pollutants, were particularly - and, in some cases, irredeemably - compromised.

The PISQ (experimental interforces firing range of Salto di Quirra) is the largest military firing range in Europe. Training activities carried out within it, from 1956 to today, range from the

launch of air-to-surface missiles, surface-to-air missiles, from various types of experiments carried out by the armies of allied countries and arms manufacturing companies, activities that can be qualified in other degrees such as dangerous.

Until a recent past, PISQ management was characterized by a considerable underestimation of the impact of the activities carried out on the surrounding environment; in particular, the continuous blasts of obsolete ammunition (the so-called "stove") and the lack of recovery of thorium residues very heavily contributed to this effect. The area of Perdasdefogu, in fact, has been widely used for the destruction of arsenals of obsolete materials, mainly belonging to the Air Force (such as plane bombs, ammunition of anti-aircraft artillery, and also light ammunition).

Also the firing range plant of Capo Teulada, which covers an area of 7,200 hectares, suffers from a highly compromised environmental condition, especially with reference to the presence of the Delta firing range, better known as the «banned peninsula», an area used for decades as the arrival area of bullets, rockets, bombs, which has never been affected by drainage operations, or recovery of unexploded ordnance and removal of materials (including inert) used for individual exercises, including residues of missile tracers MILAN, containing thorium. For this reason, the area was permanently banned to the movement of men and means.

In the light of the on-the-spot verification, the Commission delegation considered supporting the «no longer derogable need for independent monitoring of health and public damage related to the presence of military firing ranges and the establishment of independent permanent observatories for environmental monitoring within them», a requirement that is primarily represented by representatives of the regional and local government, with particular regard to the large area of the experimental interforce firing range of Salto di Quirra.

With the change in the strategic and geopolitical needs of Italy and NATO, the need for constant monitoring of risks and consequences of exercises and of all activities carried out in Sardinian firing ranges has emerged, for which the region of Sardinia has identified ARPAS as the body responsible for carrying out this activity, presenting a formal request to the Government, but not obtaining a formal reply at the date of the hearing, as was reported by the President of the Region to the Commission.

On the issue of land management on which military installations operate, the hearings of regional representatives and local authorities have emphasized the need to revise the model of military servitude management, promoting a rationalization and a progressive modification of the same, taking into account the changes that have taken place in the geopolitical framework since the end of the '80s and which hinders that entire portions of territory, of great landscape and environmental interest, are completely removed from the jurisdiction of the local government, as well as the supervision of the institutional bodies responsible for environmental protection. The meetings with representatives of local authorities also emphasized the opportunity to provide, on a more frequent basis, compensation for municipalities where firing ranges operate (currently provided on a five-year basis and subject to the rules of the Domestic Stability Pact), as well as the need to guarantee the conditions for the exercise of a permanent monitoring activity by local authorities and ARPA of the environmental quality of military sites (currently made impossible or difficult by the presence of military authority), and drainage interventions of the polluted

territories, also in consideration of the significant number of sites of community interest in the areas adjacent to the firing ranges.

In particular, on this last point, the hearing of the Defence Assessor of the environment of the Sardinia region, Donatella Emma Ignazia SPANO, stressed that the 93 sites of Community importance present in Sardinia, 5 fall within military firing ranges, which makes it impossible to monitor the state of conservation and integrity of the sites, required for carrying out the environmental impact assessment (VINCA).

The President of the Region, Francesco PIGLIARU, has simultaneously reiterated the need to comply with the contents of the agenda approved unanimously by the regional council on 17 June 2014, in defining the mandate of the president of the region in the dialogue with the Government for the rebalancing of the presence military in Sardinia, which established «the pre-eminent interest in the protection of health and the environment, as well as the right of populations and workers of firing ranges to be credibly informed about the impacts of training activities».

In this framework, the Commission was able to confirm and reiterate the conclusions reached by the previous commission of inquiry, when it identified as a priority goal of the modernization process in the use of firing ranges, **the redevelopment of areas currently subject to military easement**, earmarking them for civil uses or dual type in the field of civil protection, scientific and technological research in particularly innovative sectors such as aerospace.

See the audition of Ing. Giacomo CAO, aimed at illustrating the monitoring projects of the so-called «Space trash» - SSA, *Space Situation Awareness* - and of satellite routes, towards which a possible conversion of firing ranges could be directed and that could make Sardinia an aerospace research *hub* at least at European level.

To complete the information on environmental impact of the presence of training firing ranges in Sardinia, the Commission delegation audited on October 5, the Deputy Public Prosecutor of the Republic of Cagliari, Emanuele SECCI, who recalled the main findings of the preliminary inquiry to the environmental condition of Capo Teulada, born from some exhibits of people affected by tumour pathologies attributing the cause to the military exercises carried out within the firing range.

In particular, in relation to the «banned peninsula», Dr. Secci spoke of «an extremely significant territory undermining», adding that from the empirical data collected «it would seem that 566 tons of armaments are present in the peninsula and that in two years eight of them have been removed», without mentioning the fact that until today, a ministerial decree of 2009 imposed the drainage of the places involved in the exercise actions, this area continued to be the target of the exercises.

MISSION IN PADUA AND VISIT TO THE FIRING RANGES OF CELLINA MEDUNA (PN) AND FOCE RENO (RA) (12-13 January 2017)

On 12 and 13 January 2017 a Commission delegation went to the Prefecture of Padua, to carry out a series of important auditions in the framework of the investigations concerning radon

pollution at the military site of the former NATO base, called the 1st ROC (*Regional Operation Center*) - Venda mount. The Commission had previously decided to visit, on the same occasion, both the military firing range of Cellina Meduna, in the province of Pordenone, and the one of Foce Reno, in Casal Borsetti, in the province of Ravenna, as part of the series of missions on more relevant military firing ranges in terms of monitoring rules implementation on occupational safety and prevention of environmental pollution.

In this context, the following were audited: the prosecutors of the Republic responsible for the criminal proceedings concerning the hypothesis of multiple culpable homicide related to lung cancer diseases due to the presence of radon gas within the Venda mount base; Defence representatives of the workers affected by the aforementioned pathologies, now in retirement or destined for other sites; subject matter experts.

During the inspections of the firing ranges, then, as usual, the Commission delegation carried out the hearings of the heads of the individual occupational safety profiles, i.e. commanders, RSPPs, location doctors, in order to acquire a complete information framework on the status of places and people, with specific reference to health surveillance on workers and prevention of occupational and environmental risk.

The delegation included, in addition to President Scanu, the deputies Donatella DURANTI and Ivan CATALANO (Vice-Chairmen), Paola BOLDRINI and Gianluca RIZZO (Deputies Secretaries), Diego CRIVELLARI and Diego ZARDINI.

In particular, during the inspections and subsequently at the Prefecture of Padua, the delegation **freely audited** : the Prosecutor of the Republic of Padua, Matteo STUCCILLI, and the Deputy Prosecutor, Francesco TONON; Omero NEGRISOLO environmental prevention technician; representatives of the Commission victims and former workers of the Firing Range of Venda mount; Fernanda FASOLO, widow of an occupational victim; Franco CAROCCI, former Radio 1[^] ROC Venda mount; Giovanni AMATO, already in service at the 1[^] ROC Venda mount.

The **hearing of witnesses** of heads of the firing range, were performed as follows: Ten. Col. Saverio RAMETTA, Commander, Ten. Col. Roberto MARIANI, location doctor, Ten. Col. Renato TAMPIERI, RSPP.

The delegation also **informally met** the mayors of the municipalities of Cordenons, Andrea DELLE VEDOVE, of Vivaro, Mauro CANDIDO, of San Quirino, Gianni GIUGOVAZ, of Zoppola, Francesca PAPAIS, of San Giorgio della Richinvelda, Michele LEON.

On the first day, the Commission delegation visited the area of the military firing range of Cellina Meduna, located in the center of a sparsely populated territory of the province of Pordenone, checking on site the functionality of a site used for training and exercises from all departments of Italian Army, Navy and Air Force, as well as Carabinieri, Guardia di Finanza, Polizia di Stato and units of allied armies, in a context of particular landscape and environmental value.

The firing range, which covers an area of 34.70 square kilometers at the confluence of the Cellina and Meduna streams, operates in the high Friuli plain, and precisely in the sub-zone of the "Magredi", unique in the Italian territory due to the presence of a sub-steppic ecosystem, with limited arboreal vegetation and extensive persistent prairies. The soil, with high permeability and mainly consisting of limestone and dolomitic pebbles, is characterized by

significant karstic phenomena, and is particularly suitable for the practicability of rotated and tracked vehicles, with some limitations due to river banks. The responsibilities of the firing range are entrusted to the “Friuli” Division as the managing body of the shifts of use; at the 132nd Armoured Brigade “Ariete”, as the managing body of the area; at the 32nd wagons Regiment, as a consignee of the same area.

Before proceeding to the inspection of firing range area, the Commission delegation informally met a **representation of the mayors of the municipalities** in whose territories the training area operates. This representation was composed by Andrea DELLE VEDOVE (mayor of Cordenons), Mauro CANDIDO (mayor of Vivaro), Gianni GIUGOVAZ (mayor of San Quirino), Francesca PAPAIS (mayor of Zoppola), Michele LEON (mayor of San Giorgio della Richinvelda). These mayors have agreed, in the historical presence of the firing range, an important identifying element of the area concerned and an economic presence not to be underestimated, if ever to be enhanced and strengthened with an appropriate plan of local investments that can be realized by the Defence.

The heads of occupational safety of the firing range of Cellina Meduna had been audited by the Plenary Commission the month before the mission: in particular, in the witness hearing of the former commander of the 132th Aries Brigade, brigadier general **Antonio VESPAZIANI**, held on 21 December 2016, the failure to prepare the DVR for the Cellina Meduna settlement had been highlighted. In that circumstance, the commander had indicated that this depended on the episodic nature of the facility use, whose operational characteristics made the required risk assessment only when the exercises were carried out.

Moreover, this criticality was subsequently highlighted in the second *Progress Report on the inquiry activity in the field of occupational safety and environmental protection in the Armed Forces*, approved by the Commission on 19 July 2017, in which it is opportunely reiterated that the non-continuity character of the work activities carried out in some firing ranges (among which in particular, Cellina Meduna, Foce Reno and Torre Veneri) does not in itself justify a derogation from current legislation, i.e. it does not allow risk assessment to be limited to that described in "scope of the documents of the departments involved in the exercises, not replacing the DVR, nor exempting from the obligation to write it - which remains the single commander responsible for the firing range (see also in this regard *above*, the chapter concerning firing ranges).

Subsequently, at the Prefecture of Padua, there were the free hearings of the Stuccillo and Tonon prosecutors, as well as the environmental technologist Negrisola, who provided a reconstruction of the historical events related to the I ROC base concurrent with the discovery of radon presence and its danger, however, known since the beginning of the last century and considered by the US Armed Forces already in the early '90s.

The **Prosecutor of the Republic of Padua Matteo STUCCILLI** reported to the Commission delegation on the procedure concerning the hypothesis of multiple culpable homicide in relation to three fatal events and an injurious event, due to lung cancer pathologies for the presence of radon gas within the protected base of Venda mount, a procedure which at mission time was at the trial stage.

The military installation of Venda mount comprised the encircled facilities, in the tunnel, whose construction began in 1952 and whose operation dates back to 1959. Since the first inspections by the relevant prosecution office in 2005, it was immediately clear that the high concentration of radon gas far exceeded those that were considered the most accredited international standards: for these reasons, in fact, the base had already been closed since 1998. The site, considered particularly strategic by the national air defence and NATO, worked in fact in depression, that is with a special feature of backwash from the subsoil, so when its operation was paradoxically at best also increased the concentration of radon sucked from the subsoil.

The **Deputy Prosecutor Francesco TONON** stressed that the values recorded in 2005 within the site vaulted and no longer in operation were on average 9,000 Becquerel per cubic meter, compared to a law, which came into force only in 2000, which provided a limit value of 500 (however, already in 1969 the established limits were about 3,700 Becquerel per cubic meter). Moreover, since the vanguarded site of Venda mount is a gut-like tunnel, in some rooms where the military was serving at the time of the events and where the forced ventilation was lower, the concentration of radon came to touch 40,000 Becquerel per cubic meter.

About the Acts of the Public Prosecutor's Office, there were about 95 neoplasms in the military who had served at Venda mount in 2005-2006: this was a partial fact, since it was completely missing from the military population who had stayed or worked on the site and then had returned to the regions of origin. Of these pathologies, the greatest number referred to pulmonary neoplasia, given that for others (brain, liver, intestine, lymphomas, blood, testicles, thyroid, bladder) there was no proof of a certain causal link between exposure to radon and the onset of the disease.

Moreover, the statements of prosecutors have highlighted the fact, already repeatedly reported by the Commission in other forums, that the military health authorities have not exercised any kind of epidemiological evaluation on the population exposed over the years to radon, which seems to be around 750 units. Even at the request of the Public Prosecutor to have the complete list of the soldiers who had served in Venda mount over the years, the Ministry of Defence - confirmed the Prosecutor Tonon - has not provided any answer, while recognizing instead the professional disease for exposure to radon of the offended individuals, referred in the criminal proceedings.

Following the hearings of prosecutors, the Commission delegation listened to the **representatives of the Commission victims and former workers of Venda mount**, who explained the working conditions of military and civilian defence employees over the years, starting from the beginning of basic activities, and reported on the outcomes of the 64 instances advanced for the recognition of the cause of service.

Of these 64 instances, 20 were concluded with positive results, having been recognized the cause of service and the equalization to victims of duty, 23 with negative result, 20 are still *in itinere* and only one was recognized as a sole cause of service.

During the hearing, which also saw the participation of Mrs. Fernanda FASOLO, widow of Marshal Sergio Proietti (who died of lung cancer following the service given at the base of Venda mount), it emerged that for several years the Ministry of Defence ignored the probable,

if not certain, presence of radon in the base, in a context in which, however, in the same period and even earlier, the US military had been provided with adequate protection from their superiors, which should have led to an obvious consideration and risk prevention also for our military.

The same US military authorities had in fact decided in those years to withdraw their troops from Venda mount to Aviano because of the danger of radon, risk detected and assessed by the Italian Ministry of defence instead, only after the measurements made by the ARPAV between 2005 and 2006. However, even following the ARPAV report attesting to the extent of the risk, workers were left at the base of Venda mount, even in the absence of adequate protection, in addition to the fact that the innermost parts of the cave - as stated by the representatives of the Commission victims and former workers - were not sufficiently ventilated.

On January 13, the Commission delegation visited the **firing range of Foce Reno**, in the Casal Borsetti area, in the province of Ravenna. At the introductory *briefing* of the heads of the firing ranges there were the mayors of Comacchio, Marco FABBRI, and Ravenna, Michele DE PASQUALE, with whom the commissioners had a brief exchange of information on the environmental and economic impact of the military site on local communities.

The training camp of Foce Reno, included between Comacchio (FE) and Ravenna, insists on an area of low lands, originally marshy, sloping down to the coast, in the middle of one of the Adriatic areas most affected by the fishing industry, of notable naturalistic value and with strong tourist intensity. The portions of the beach in the area of the firing range are in fact part of two nature reserves, Sacca di Bellocchio and Pineta di Ravenna. The area dedicated to shooting exercises extends for 12 nautical miles, up to 4 miles offshore, which determines important effects on the fishing industry that is banned in a corresponding manner.

At the end of the inspection, hearings of witnesses were held by the Commission delegation: the heads of the firing ranges on supervision of the implementation of legislation on the safety and health of workers: Commander Ten. Col. Saverio RAMETTA, location doctor Ten. Col. Roberto MARIANI, and the RSPP Ten. Col. Renato TAMPIERI.

Above all, the commander illustrated the type of operation of the firing range, basically providing the availability of training areas to the external departments, guaranteeing a service of clearing at sea that is expressed in the employment of personnel on patrol boats off the coast. The firing range is used by Army departments, military corps of the State, civilian bodies, such as the State Police, and Allied Forces, which use the training areas upon specific request.

As the Commission had already stated with regard to Cellina Meduna on the failure to draft the DVR, it was found that also in Foce Reno the risk assessment is summarized in a document called coordination and inspection report, which is sent by the commander to the exercised department. The employer of the personnel exercised takes note of the risks, and has his staff fill out the so-called pre-access form, which highlights the risks to be faced and the measures to be taken. At the specific request of the Chairman, the captain specified that the assessment of the interference risks becomes part of an annex in which are reported all the measures to be taken to protect environment and the prevention and protection of workers. However, armaments that contain or can release dangerous chemical, physical, radiological or biological agents are not used in the firing range, since ammunition in use at the range is exclusively of

non-exploding inert type, nor has any risk of exposure to mutagenic and teratogenic carcinogens. These statements were subsequently confirmed by the location doctor and the responsible for the prevention and protection service.

The commander Rametta also explained the procedure adopted for the prevention of environmental risk: before the exercise a person in-charge of this risk is indicated, taken from the operating department, who signs a special register and views the environmental protection plan drawn up by the command on the basis of a specific use regulation of 2012. Therefore, the staff exercised is informed by the environmental manager of the operational department. Following the exercise, then the so-called first level drainage takes place, which eliminates any widespread residual in the environment; in the event that this is not sufficient, the competition of the Genio department is requested to carry out a more thorough drainage, called second degree, including an extraordinary cleaning.

In this regard, Hon. Paola BOLDRINI raised the issue concerning the prohibition of navigation at the firing range during exercises, asking for clarification on the fact that anchoring and fishing could be prohibited in any case due to permanent presence on the sea floor of explosive devices, as evidenced by some ordinances of local authorities. The RSPP Renato TAMPIERI has nevertheless ensured that the presence of explosive devices on the ground in front of the Foce Reno firing range is not due to the specific activities carried out, but dates back to the last world conflict, adding *ad adiuvandum* that, for the extraordinary cleaning of the matrix waters, specialized companies have been contacted to recover the ogives eventually lying on the bottom.

CALTANISSETTA MISSION AND VISIT TO THE MUOS STATION, THE SIGONELLA BASE AND THE DRASY FIRING RANGE (3- 6 April 2017)

A Commission delegation, led by Chairman Scanu and composed of deputies Gian Piero SCANU President, Ivan CATALANO (CI) (Vice-Chairman), Paola BOLDRINI (PD) (Deputy Secretary), Gianluca RIZZO (M5S) (Deputy Secretary), Giulia GRILLO (M5S), Diego ZARDINI (PD), went on a mission to Sicily from 3 to 6 April 2017 to visit the MUOS of Niscemi, the Sigonella Airport Command (CT) and the Drasy firing range (AG) and to perform a series of audits and hearings at the Sigonella base (3-4-2017) and at the Prefecture of Caltanissetta (5-4-2017).

M.U.O.S. (*Mobile User Objective System*) is a modern satellite telecommunications system of the US Navy, consisting of five geostationary satellites and four ground stations, one of which is in Niscemi. It will be used for the capillary coordination of all the US military systems located throughout the globe, in particular the drones that will also be allocated to Sigonella. Sicilian citizens and NOMUOS activists express strong concerns about the consequences of the installation of this system on human health, ecosystem, quality of agricultural products, the right to mobility and the development of the territory, the right to peace and the security of the territory and its inhabitants.

The Sigonella Airport Command, hierarchically dependent on the Command Forces of Support and Specials of the Rome Air Force, was established in 2013, but in fact it started operating in

2014, the year in which the staff was transferred from the redimensioned Air Force's 41st Fighter Wing. The Command has the task of providing the technical, logistic, administrative and operational support to the 41st Antisom Wing and to other departments in transit on the homonymous Base Aerea, ensuring - at the same time - the required services for the safe and effective carrying out of the activities flight.

The mission was aimed at deepening in particular the line of inquiry aimed at investigating the potential effects of MUOS on the environment and on human health and on the problems related to the possible non-observance of the rules on safety at work of soldiers employed at the Sigonella base and the Drasy firing range.

In Sigonella, Colonel Federico Fedele, Lieutenant Colonel Alessandro Conti and Lieutenant Colonel Francesco Callegari, respectively Commander, Responsible for the prevention and protection service and location doctor of the Sigonella Airport Command, were heard as witnesses.

During his hearing, the Commander Fedele, who holds this position since October 2015, on the impulse of the numerous questions raised by the Chairman and the commissioners, has provided clarifications on various issues, starting with the preparation of the DVR (Risk Assessment Document) and DUVRI (Single Interference Risk Assessment Document). With reference to the DVR has specified that, based on the Legislative Decree No. 81 of 2008 (Consolidated Law on Occupational Safety), a review was completed through the analysis of all the risks related to the activities carried out within the base, even if it seems that nothing relevant has emerged from the point of view of high and very high level risks. The Commander Fedele made it clear that the operation was possible thanks to the support of the RSPP (Responsible for the prevention and protection service) and the occupational physician, adding however that, after the visits of UCoPRATA (General Office for the prevention of accident prevention and environmental protection) and UCoVA (General Office for the Coordination of Accident Prevention), no specific regulations have been issued.

Regarding the preparation of DUVRI, the commander Fedele has specified that this document is prepared only in cases where contracts are awarded to external companies, while to regulate the relations between the Sigonella Airport Command and the military units from other bases is prepared a "report of cooperation and coordination", as required by Article 26 of Legislative Decree No. 81 of 2008.

The Commander then clarified that he asked for specific advice to CISAM (Joint Task Force for Military Applications) to make measurements about the presence of electromagnetic interference but, even if the final report has not yet been completed, by informal talks it seems nothing alarming has been detected.

After admitting an objective lack of funds for the adoption of measures relating to health and safety of personnel, Commander Fedele said that in his role as an employer, he has decision-making and spending powers, exercised, whenever required, to be able to autonomously take choices - even strategic - on work organization and measures to protect staff health and safety, adding that they have never given up the exercise of these powers for lack of financial type availability.

To repeated solicitations regarding the MUOS (*Mobile user objective system*), in particular by Hon. Giulia Grillo and the Chairman, the Commander Fedele has informed the delegation that the sediment on which this particular system of satellite communications operates has been transferred to exclusive use of the Americans on the basis of a *technical agreement*, which requires them to inform Italian military authorities, every six months, of all the activities carried out.

As the head of the prevention and protection service of the Sigonella Airport Command, Lieutenant Colonel Alessandro Conti was also taken over by the delegation whose work, as he himself explained, was completed thanks to the collaboration of three employees, the location doctor and the RLS (Occupational Safety Managers). After having clarified that the staff of the base carries out continuous and non-occasional activities, Colonel Conti has also illustrated the specific risks to which the personnel could be subjected, such as those related to noise and electromagnetic fields, but nevertheless within the limits allowed by the standards (as demonstrated by scientific measurements carried out by bodies such as the technical laboratory of Fiumicino for noise risk and the CISAM of San Piero a Grado for risks related to electromagnetic fields). Regarding potential risks, never really materialized, the biological risk, the risk of vibrations and the risk linked to the presence of carcinogens, mutagens and teratogens were examined.

Like Commander Fedele, Lieutenant Colonel Conti also reiterated the current lack of funds for the purchase of PPE (Personal Protective Equipment) such as, for example, safety shoes and high visibility vests. On specific question asked by Chairman Scanu, the lieutenant colonel pointed out that, with regard to ammunition, the Air Force certainly uses light portable weapons such as pistols, SC 70 rifles, 9 Parabellum caliber, 5,56, while personally "has no knowledge direct" of eventual ammunition held by the US military.

Lieutenant Colonel Stefano Callegari, a location doctor, has declared to visit the base workplaces - workshops, *hangars* and offices - at least once a year and to have recognized temporary unfitness linked, for example, to altered values relative to the functionality liver. Moreover, of notable importance, he - contrary to the leaders who preceded him - is aware of the arrival of CISAM document relating to electromagnetic fields, even if it seems nothing risky has been found. Finally, contrary to the testimony of the Commander of the base and the RSPP, Lieutenant Colonel Callegari was not aware of the fact that there is a current lack of IPR within the facilities.

At the prefecture of Caltanissetta, the followings were heard: the Commander of the mechanized brigade *Aosta*, user of the Drasy firing range, Roberto Angius, Lieutenant Colonel Antonino Morana RSPP of the *Aosta* Brigade and Major Domenico Garufi, location doctor of the *Aosta* Brigade Command of the Command Department and *Aosta* tactical support. On the other hand, the following were heard: General Alessandro Veltri, Army Military Commander in the Sicily Region, was represented by the representative of the Joint Joint Commission of the Sicily Region, Mr Vincenzo Marinello, Dr. Claudio Lombardo, representative of the *Mare amico* Association of Agrigento, the mayor of Niscemi, Francesco La Rosa, Sebastiano Papandrea, Paola Ottaviano and Marino Miceli from the NOMUOS Coordination Commission, Salvatore Ferlito, a soldier already active at the NRTF base in Niscemi and the Director General of the Arpa Sicilia, Francesco Licata di Baucina.

On the specific request of Chairman Scanu, the Commander Angius specified that in preparing the DVR it provides all the security measures for off-site training activities and in firing ranges, including that of Drasy. After underlining that, according to him, the greatest risks to which the military under his command are exposed are those normally foreseen for all the training activities, the Captain has specified that each user of the relevant firing range predisposes his own DVR on the basis of specific activity carried out and all however must abide by the regulation of the range.

Lieutenant Colonel Morana said that he organized the prevention and protection service through workplaces description for which the risk assessment was carried out, in collaboration with the location doctor and with the participation of the workers' safety representative. Major Domenico Garufi has stated that in the month in which he has played the role of location doctor for the Command Brigade *Aosta* has not completed any health-related activities and has not had the opportunity to set up the DVR in collaboration with the other managers in charge, but it will be activated as soon as possible to fully fulfil its tasks.

General Alessandro Veltri, as military commander in the region of Sicily, was careful to inform the commissioners about the drafting of a firing range employment calendar to which, once issued, the ordinance for conducting the exercises was followed.

The representative of the Joint Commission of the Sicily Region, Vincenzo Marinello, helped to clarify to the delegation the type of relationship that exists between the Joint Joint Commission and the military command of the Army, specifically as regards the activities carried out in the firing ranges. It has been specified that the Commission meets every semester and its activity consists in expressing its opinion on projects presented by the Defence in its various articulations. The State Property Agency or the Revenue Agency, military executives and, of course, all the technical bodies that actually present these projects are also present at the meetings; in addition to this, a six-monthly calendar is prepared where the periods in which exercises are carried out within the firing ranges are indicated.

Dr. Claudio Lombardo, representative of the *Mare amico* Association of Agrigento, stressed that the current situation in the area where the Drasy firing range is located is no longer as critical as some years ago, thanks also to the work of the association that it was substantiated by the issue of the decree of the Sicily region 13 April 2001 "Declaration of considerable public interest of the coastal territory from the mouth of the Vallone di Sumera to the Castle of Montechiaro, falling within the municipalities of Agrigento and Palma di Montechiaro."

For the rest, the association has also hypothesized the presence of depleted uranium in the area, but ARPA has dispelled any doubt considering a physiological share of radioactivity related to the environment exists. However, according to Dr. Lombardo, there remain concerns related to the considerable amount of lead and heavy metals that insists on the territory taken into consideration, for the decrease of which was put forward the proposal to limit the days in which there are exercises.

In moving to the discussion of MUOS, the Commission heard in audition the mayor of Niscemi, Francesco La Rosa, who represented the obvious opposition of the local population to the persistence of the MUOS installations in the territory, and also stated that in five years of

municipal government no institutional representative - Government, region, ARPA - has ever compared with local representatives to deal bilaterally or multilaterally with the MUOS argument.

These theses were supported by the mayor of Niscemi, Sebastiano Papandrea, Paola Ottaviano and Marino Miceli from *NOMUOS*, who made the commissioners aware of the historical, judicial and medical aspects linked to the issue. Salvatore Ferlito, a soldier already active at the NRFF Niscemi base, audited by the Commission as a *former* chronic myeloid leukemia patient, has made available to the president a substantial documentation attesting to his previous, current and physical condition and denounced the fact of never having seen the cause of service.

The Director General of Arpa Sicilia, Francesco LICATA DI BAUCINA, accompanied by his collaborators, was also listened to by the Commission for a detailed description of the monitoring activity of the Niscemi site carried out by the Regional Environmental Protection Agency of the Sicilia Region.

MISSION TO BARI AND LECCE AND VISIT TO THE FIRING RANGES OF TORRE NEBBIA AND TORRE VENERI (21-22 March 2017)

A Commission delegation, led by Chairman Scanu and composed of deputies Donatella Duranti, Ivan Catalano, Gianluca Rizzo and Diego Zardini, went on a mission to Puglia from 21 to 22 March 2017 to visit the Firing Ranges of Torre di Nebbia and Torre Veneri and to carry out a series of testimonials and auditions in Bari (21 March 2017), at the Command of the mechanized Brigade Pinerolo, and in Lecce (22 March 2017) at the local Cavalry school. The purpose of the mission was to deepen in particular the line of inquiry aimed at investigating the potential effects on the environment and human health and on the problems related to the possible non-observance of the rules on safety at work of the military employees at the aforementioned Puglia firing ranges.

In Bari witnesses were heard: General Gian Paolo Mirra, Lieutenant Colonel Giovanbattista Trovato, and Lieutenant Colonel Pierluigi Palumbo, respectively Commander, Responsible for the prevention and protection service and location doctor of the mechanized Pinerolo Brigade. Also in Bari, Cesare Veronico, president of the Ente parco Alta Murgia and Francesco Tarantini, president of Legambiente Puglia, were heard in audition.

During his hearing, General Mirra, commander of the mechanized Brigade Pinerolo from 17 July 2015 and responsible for the firing range of Torre di Nebbia from 12 December 2016, stressed that the personnel under his command carry out non-continuous activities in the range area and that in its role as an employer has assessed the risks associated with the aforementioned activities, identified and indicated in the relevant DVR (Risk Assessment Document).

In relation to the preparation of DUVRI (single document for the assessment of risks from interference), the Captain has specified that upstream of the training activity within the firing range an inspection is carried out within which the coordination procedures and various temperaments that may be necessary for the training activity itself. This activity outcomes is condensed into a document called "coordination and joint inspection report", in which the possible interference risks that may occur in the firing range are listed. However, Chairman

Scanu made it clear that DUVRI as a specific document shall be set up according to specific procedures and the interference risks shall be clarified, highlighted and monitored.

In emphasizing that since taking over the role of Commander of the Pinerolo Brigade he has never received inspections by UCoSeVA (Coordination Unit for Area Supervision), General Mirra has found that together with the location doctor and the RSPP (Responsible of the prevention and protection service) meets periodically to identify any possible risk to which personnel may be exposed, both within the building that houses the Command and within the scope of the various activities that see it engaged; in the Commander's opinion, these potential risks are taken into consideration and the best arrangements to reduce them are agreed.

Since, at times, we could face an inadequate availability of resources in order to guarantee the health and safety of the workers under to his command, the General has pointed out that when such hypotheses are met, alternative solutions are taken, such as example, not to carry out activities that would expose personnel to non-mitigable risks. He then specified that, both for the firing range of Torre di Fog and for the command of the Pinerolo Brigade, no risks have been detected from exposure to carcinogens, mutagens or teratogens, so health surveillance is only exercised against videoterminalists through specific and periodic visits, including eye care. Finally, following a specific question submitted to him by Chairman Scanu, Commander Mirra confirmed that requests for consultancy have been made to CISAM (Interforces Center for Military Applications) and CETLI (NBC Intermediates Logistics Technical Center) for suspected Radon's presence, which proved to be unfounded.

To the Vice-Chairman Donatella Duranti, who asked for clarifications regarding the modalities and timing of firing range exercises, the Commander Mirra replied that the maximum ceiling for fire activities is 90 days and that the compensation to the owners of the farms close to the areas concerned are recognized only in cases where the objective damage is procured by the Defence. Their quantification is the responsibility of the Commission for the liquidation of damages, established at the Army Military Command of Puglia, the territorial body under whose jurisdiction falls the firing range of Torre di Nebbia.

As far as the relations with the Alta Murgia national park authority are concerned, the days of firing range use, formalized by the Joint Commission, are previously agreed in some meetings with representatives of the Park Authority, which once they are careful to provide indications about the right methods of use.

To a specific question raised by Hon. Rizzo, Commander Mirra replied that within the firing range, MILAN missiles were used even without a tracer, an element from which the presence of thorium could be inferred; in this regard, by the same Commander has been requested, following the chain of military hierarchy, to submit the firing range of Torre di Nebbia environmental monitoring.

The RSPP, Lieutenant Colonel Giovanbattista Trovato, informed the commissioners that he holds the position of Head of the prevention and protection service of the Pinerolo Brigade Command, while regarding the firing range of Torre di Nebbia there is no fixed RSPP, since it is a training area whose use is occasional, so much so that on the territory there are also time-share, as previously specified by General Mirra. Therefore, taking into account VINCA

(Environmental Impact Assessment) - the result of collaboration between the region and the Park Authority -, Lieutenant Colonel Founder assessed the negative impact that each of the activities carried out within the firing range could have on the workers (activities appealed, flight, construction of the camp and so on).

Lt. Col. Pierluigi Palumbo informed the Commission that he has been the location doctor of the Pinerolo Brigade Command since December 2015 and as such visits workplaces at least every two years. The specific risks to which the staff is subjected according to the location doctor are basically those related to the activities of amendment and encampment, while risks from exposure to carcinogens are excluded.

Cesare Veronico, President of the Alta Murgia Park Authority, and Francesco Tarantini, President of Legambiente Puglia, have made the commissioners aware of the relationship between the bodies they preside over and the military world.

In particular, Cesare Veronico, President of the Alta Murgia Park Authority, described the start of a concertation phase between the body he presided over and the military commands that are realized through a reshaping of the program of exercises presented to the body by the commands military themselves. The President of Legambiente Puglia then emphasized the absolute necessity of subjecting the military activities to an environmental impact assessment and reducing as much as possible the interferences related to the use of the Alta Murgia park, also because in the last five years in especially the region has focused heavily on sustainable tourism; in fact, he stressed that the park has been awarded by Legambiente several times to be the greenest bike path in Italy.

At the Cavalry School of Lecce the following were heard: General of Brigade Fulvio Poli, Captain Mario Paladini and Lieutenant Colonel Vincenzo Napolitano, respectively Commander, Responsible for the prevention and protection service and location doctor of the Cavalry School of Lecce. On the other hand, were freely audited: General Mauro Prezioso, Territorial Commander of the Army in Puglia, Gabriele Molendini, President of the *Lecce città pubblica* Association, Luca Ruberti, President of the *Lecce bene comune* Association and Francesco Paolo Fanizzi, Professor of general and inorganic chemistry at the University of Salento. General Poli, in confirming that the personnel under his command carry out non-continuous activities consisting of evictions, monitoring, reconnaissance and training, assured the commissioners about the preparation of the DVR (Risk Assessment Document), whose content in line in principle it refers to the use of the firing range means and the use of weapon systems. As regards the DUVRI (Single document for the assessment of risks from interference), the General admitted that he had never drafted it in cases in which departments outside his command carried out training activities within the area of the firing range; stated however that, for the purposes of worker safety, a report of "inspection and coordination" is drawn up by which the risk is minimized.

To a further specific question submitted by Chairman Scanu, Commander Poli also declared that he had never received inspections from UCoSeVA and that he never recorded reports from the location doctor and the RSPP in relation to risks to the health of personnel under his command. Furthermore, he pointed out that the ammunition used inside the firing range consisted of inert training strokes (*Target-Practice Tracer*), declaring (at specific request) that,

since he holds the role of Commander of the Cavalry School of Lecce, at the Firing Range of Torre Veneri has never been made use of Israeli manufacture ammunition of 105 caliber.

General Mauro Prezioso, Territorial Commander of the Army in Puglia, audited by the Commission, gathered the invitation of the Chairman and Vice-Chairman Duranti to commit to the establishment of a permanent consultation table between the Puglia region and the military authority aimed at improving the environmental management criteria.

The Head of the prevention and protection service of the firing range of Torre Veneri, Captain Mario Paladini, described to the commissioners the type of activity he performed, consisting in collaborating in the assessment of the risks connected to the activities carried out by the personnel employed therein. These risks derive mostly from preparatory and logistical activities, in addition to those originating from chemical agents such as, for example, fumes produced by the use of firearms. Confirming the statements made by General Poli, the RSPP Mario Paladini also informed the commissioners about the preparation of a report of 'inspection and coordination' to replace the DUVRI - whose compilation is strongly recommended by Chairman Scanu - while the lieutenant colonel Vincenzo Napolitano, a location doctor, has investigated the issue related to the occasional activities carried out within the firing range, among which he includes the same activities in focus. Contrary to the opinion of the RSPP Mario Paladini, Lieutenant Colonel Napolitano did not consider that the personnel employed within the range can be considered at risk for the inhalation of fumes caused by the rare explosions that occur there. He also described in detail the health surveillance exercised against about 450 people carrying out various job duties, both outside and inside the firing range.

Subsequently, the Commission continued its work with the hearings of Gabriele Molendini, President of the *Lecce città pubblica* Association, Luca Ruberti, President of the *Lecce bene comune* Association and Francesco Paolo Fanizzi, Professor of general and inorganic chemistry at the University of Salento, which focused all their interventions on the issue of environmental risk deriving from military operations carried out within the firing ranges of Puglia, analyzing the issue both from a legal and reconstructive point of view (Molendini and Ruberti), and from a point of view purely scientific (Fanizzi).

In particular, Gabriele Molendini, President of the *Lecce città pubblica* Association, recalled the final report of the Commission of Inquiry on depleted uranium presided over by Rosario Giorgio Costa, according to whom "The inspections carried out both on land and in the marine environment at the Firing Range of Torre Veneri led to the following results: on land, in a number of *post* explosion metal fragments, various ballistic material and a number of petals for metal penetrators were found in the target area. At sea, numerous metal scrap and a number of metal penetrators with unidentified acronyms have been identified in the area facing the firing range. This profile could not be further explored due to the lack of acquisition of the technical and historiographical data sheets of the 105x617 mod. APFSDS-T DM 33 and 105/51 lot IMI 1-1-1985 purchased at IMI (Israel), requests to the Ministry of Defence offices, but only partially received". Precisely with reference to the findings cited in the Costa report, President Molendini reminded the commissioners that the military leaders have not yet taken steps to provide the required technical sheets in their entirety.

ANNEX 3

LIST OF HEARINGS HELD BY THE COMMISSION

17 February 2016

Falco Accame, *Falco Accame, President of the National Assistance Association of military personnel victims and their relatives*

18 February 2016

Raffaele Tartaglia, *Representative of the Permanent Observatory and study centre for the personnel of the Armed Forces and Police*

24 February 2016

Andrea Rinaldelli, *Representative of the National Coordination of Vaccine injured – CONDAV*

25 February 2016

Giorgio Trenta, *President of the Italian Association of Radioprotection*

02 March 2016

Luciano Carleo, *representative of CONTRAMIANTO and other risks - Onlus*

03 March 2016

Carlo Magrassi, *Secretary General of the Ministry of Defence*

09 March 2016

Maura Paolotti, *Director-General for Military Pension System and services - PREVIMIL*

10 March 2016

Massimo De Felice, *President of INAIL*, Giuseppe Lucibello, *Director General of INAIL*, Ester Rotoli, *Director of the Central Management Prevention of INAIL*, Agatino Cariola, *Director of the Central Management Insurance, Prevention and Institutional Services of INAIL*

16 March 2016

Enrico Tomao, *Inspector General of Military Health (IGESAN)*

17 March 2016

Carlo Magrassi, *Secretary General of the Ministry of Defence*

23 March 2016

Giorgio Trenta, *President of the Italian Association of Radioprotection*

30 March 2016

Mario Melazzini, *President of the Italian Medicines Agency (AIFA)*

30 March 2016

Carlo Calcagni, Adamo Ferrara, Lorenzo Motta, Vincenzo Riccio e Giuseppe Tripoli, *soldiers affected by serious diseases* and Luigi Buonincontro, *brother of the deceased soldier Roberto Buonincontro*

31 March 2016

Maura Paolotti, *Director-General for Military Pension System and services - PREVIMIL*

06 April 2016

Enrica Preti, *Director General of the General Directorate of Supply and General Services (COMMISERVIZI) of the Ministry of Defence*

07 April 2016

Col. Claudio De Angelis, *Director of the Epidemiological Observatory of the Ministry of Defence*

13 April 2016

Enrico Tomao, *Inspector General of Military Health (IGESAN)*

20 April 2016

Carlo Magrassi, *Secretary General of the Ministry of Defence*

21 April 2016

Gualtiero Ricciardi, *President of the Higher Institute of Health*, Loredana MUSUMECI, *Director of the Department of Environment and related primary prevention of the Italian Institute of Health*, Angelo Del Favero, *Director General of the Italian Institute of Health*

21 April 2016

Cirino Strano, *scientific advisor of the Movement No M.U.O.S. Sicily*

21 April 2016

Fiorenzo Marinelli, *researcher at the Institute of Molecular Genetics of the CNR in Bologna*

28 April 2016

Claudio Graziano, *Chief of the Italian Defense General Staff*

04 May 2016

Edoardo Andreucci, *former Chairman of the Audit Committee for the Service Cases of the Ministry of Economy and Finance*

11 May 2016

Paolo Gerometta, *chairman of the Steering Committee of the Central Board of Inter-Agency Representation*, Antonio Ciavarelli, *COCER representative for the Navy*, Antonsergio Belfiori, *COCER representative for the Aeronautics*, Giovanni Cutrupi, *COCER representative for the Guardia di Finanza*, Andrea Cardilli, *COCER representative for the Arma dei Carabinieri*, Roberto Congedi, *COCER representative for the Army*

18 May 2016

Bernardo De Bernardinis, *President of the Higher Institute for Environmental Protection and Research (ISPRA)*, Luciano Bologna and Giancarlo Torri, *Senior managers of the Institute for Environmental Protection and Research (ISPRA)*, Claudio Numa, *Engineer of the Institute for Environmental Protection and Research (ISPRA)*





18 May 2016

Antonio Casadeola, Francesco De Angelis, Salvatore Donatiello e Gaetano Luppino, *soldiers affected by serious diseases*, Santa Passaniti, *mother of the deceased soldier Francesco Finessi*, and Salvatrice Pirota, *widow of the constable of the Carabinieri Giuseppe Bongiovanni*

19 May 2016

Paolo Gerometta, *chairman of the Steering Committee of the Central Board of Inter-Agency Representation*, Antonio Ciavarelli, *COCER representative for the Navy*, Antonsergio Belfiori, *COCER representative for the Aeronautics*, Giovanni Cutrupi, *COCER representative for the Guardia di Finanza*, Andrea Cardilli, *COCER representative for the Arma dei Carabinieri*, Roberto Congedi, *COCER representative for the Army*

25 May 2016

Massimo De Felice, *President of INAIL*, Giuseppe Lucibello, *Director General of INAIL*

26 May 2016

Roberta Pinotti, *Minister of Defence*

20 July 2016

Massimo Cappai, *professor of medical statistics at the University of Florence*

20 July 2016

Annibale Biggeri, *manager of Arpas Sardegna*

26 July 2016

Luciano Carleo, *representative of CONTRAMIANTO and other risks - Onlus*

03 August 2016

Francesco Pigliaru, *President of the Sardinia Region*

03 August 2016

Massimo Cappai, *professor of medical statistics at the University of Florence*

03 August 2016

Annibale Biggeri, *manager of Arpas Sardegna*

03 August 2016

Massimo Massella Ducci Teri, *Advocate General of State*

09 November 2016

Paolo Pasquinelli, *former collaborator at CRESAM (Centro ricerche, esperienze e studi per applicazioni militari - (Centre for Military Research and Studies))*

11 January 2017

Paolo Pasquinelli, *former collaborator at CRESAM (Centro ricerche, esperienze e studi per applicazioni militari - (Centre for Military Research and Studies))*

19 January 2017

Fausta Di Grazia, *Chairman of the Audit Committee for the Service Cases of the Ministry of Economy and Finance*

01 February 2017

Omero Negrisolò, *environmental prevention technician at ARPA (Regional Environmental Protection Agency) Veneto Region*

02 February 2017

Fausta Di Grazia, *Chairman of the Audit Committee for the Service Cases of the Ministry of Economy and Finance*

08 February 2017

Adriano Chiò, *associate professor of neurology at the University of Turin*

22 February 2017

Marco Lampis, *Mayor of Escalaplano Municipality*, Giuseppe Caboni and Riccardo Caboni, *lawyers Escalaplano Municipality*

08 March 2017

Enrico Tomao, *Inspector General of Military Health*, Angelo Palmieri *Head of the VI Department of Italian CHOD - C4I Systems and Transformation*, Claudio De Angelis, *Director of the Epidemiological Observatory of the Ministry of Defence*, Alessandro Sgrò, *officer in charge of the information systems support department of the VI Department - C4I Systems and transformation, of the Chiefs of Defence*

15 March 2017

Antonio Attianese, *caporale maggiore scelto (senior major corporal) of the Alpine paratroopers*

17 May 2017

Rosario Crocetta, *President of the Sicilian Region*, and Maria Lo Bello *Vice President of the Sicilian Region*

31 May 2017

Silvana Miotto, *mother of the deceased soldier David Gomiero*, and Teresa Ruocco, *mother of the deceased soldier Fulvio Pazzi*

21 June 2017

Biagio Mazzeo, *Public Prosecutor at the Lanusei Court*

28 June 2017

Emanuele Secci, *Deputy Public Prosecutor at the Court of Cagliari*

13 September 2017

Maria Forino, *widow of the soldier Antonio Attianese*, Carlo Chiariglione, *spokesman of the deceased soldier Antonio Attianese*, Walter Cecchettin, *soldier on sick leave*, Francesco Zito, *father of the deceased soldier Leonardo Zito*, Mercedes Pacileo, *widow of the soldier Enzo*

Liguori, Giuseppina Sana, widow of the soldier Pasquale Cinelli, Gianluca Parisi, former soldier serving in Afghanistan, Silvana Pirota, widow of the constable of the Carabinieri Giuseppe Bongiamanni

11 October 2017

Salvatore Rullo, President of As.so.di.pro, Salvatore Antonaci, father of the deceased soldier Andrea Antonaci, Pier Paolo Cipriani, brother of the deceased soldier Luciano Cipriani, Marisa Marcolini, mother of the deceased soldier Valerio Saviantoni, Aniello Brancaleone, brother of the deceased soldier Alfonso Brancaleone, Fabio Felaco, son of the deceased soldier Giovanni Felaco, Patrizia Sadocco, representative of As.so.di.pro, and Alberto Tuzzi, Vice President of As.so.di.pro

18 October 2017

Stefano Silvestri, work hygienist at the Istituto superiore di prevenzione oncologica (National Institute of Oncology)

19 October 2017

Alessandro Marinaccio, researcher at the Department of medicine, epidemiology, occupational hygiene and environmental of INAIL

26 October 2017

Dario Mirabelli, researcher at the Center of reference for epidemiology and cancer prevention in Piedmont (Piedmont CPO)

15 November 2017

Raffaele Guariniello, former Prosecutor Vicar at the Public Prosecutor's Office of Turin

15 November 2017

Antonietta Morena Gatti, researcher and expert on nanoparticles

06 December 2017

Ezio Bonanni, President of the National Observatory on Asbestos

06 December 2017

Osvaldo Bizzari, Reserve Division General

07 December 2017

Angelo Fiore Tartaglia, legal consultant for the Military Observatory and Center for the personnel of the Armed Forces and Police

20 December 2017

Vincenzo Tombolini, Professor of Radiotherapy at the "La Sapienza" University of Rome

20 December 2017

Fabrizio Ciprani, Chief Medical Officer of the State Police

ANNEX 4

LIST OF TESTIMONIAL EXAMINATIONS HELD BY THE COMMISSION

13 December 2016

Antonino Bonasera, *responsible for UCoCeV - Defence/DNA General Secretariat*

14 December 2016

Col. Giovanni Trivisonno, *Dep. Acting Head of the Supervisory Services Coordination Unit (UCoSeVA) - Air Force*, Lt. Col. Col. Antonio Odore, *Supervisory Services Coordination Unit (UCoSeVA) - Air Force*, Lt. Col. Marcello Bianchi, *Head of the II Dep. of the Supervisory Services Coordination Unit (UCoSeVA) - Air Force*.

21 December 2016

Col. Onofrio Garzone, *Defence Supervision Services Coordination Dep.*

21 December 2016

Lt. Col. Angelo Di Spirito, *Defence Supervision Services Coordination Dep.*

21 December 2016

Gen. B. Antonello Vespaziani, *former Commander of the firing range of Cellina Meduna*

21 December 2016

Lt. Col. Mario Angeli, *location doctor of the firing range of Cellina Meduna*

21 December 2016

Lt. Col. Francesco Battaglini, *Head of the prevention and protection service of the firing range of Cellina Meduna*

18 January 2017

Col. Alessandro Lazzini, *responsible for the Coordination Office of Area Supervision Services of the Army General Staff*

18 January 2017

Col. Francesco Nasca, *Head of the Accident Prevention and Occupational Medicine Office of the Army General Staff*

18 January 2017

Gen. B. Carmelo Covato, *Directorate for the Central Supervisory, Prevention and Protection Service Coordination of the General Staff*

25 January 2017

C.V. Francesco Battaglia, *Head of the Coordination Office of Area Supervision Services of the Navy General Staff*

25 January 2017

C.V. Massimo Castelli, *Head of the North Area Accident Prevention Supervision Services of the Navy General Staff*



25 January 2017

Col. Filippo Agosta, *Chief of the Div. J-MED of the Support Operations Department of the COI*

26 January 2017

Magg. Raffaele Ruocco, *Head of the 3rd Section of Accident Prevention Supervision CC*

26 January 2017

Cap. Antonio Primiani, *Attaché 3rd Section of Accident Prevention Supervision CC*

08 February 2017

C.V. Francesco Battaglia, *Head of the Coordination Office of Area Supervision Services of the Navy General Staff*

15 February 2017

Col. Claudio De Angelis, *Director of the Epidemiological Observatory of the Ministry of Defence*

15 February 2017

Gen. div. Vito Ferrara, *Head of the Health Directorate of the Carabinieri*

16 February 2017

C.V. Francesco Battaglia, *Head of the Coordination Office of Area Supervision Services of the Navy General Staff*

23 February 2017

Amm. Sq. Giuseppe Cavo Dragone, *Commander of the Joint Interforces Operational Command (COI)*

01 March 2017

Col. Claudio De Angelis, *Director of the Epidemiological Observatory of the Ministry of Defence*

02 March 2017

Col. Pietro Lo Giudice, *Head of the J4 Division of the Joint Interforces Command (COI)*

08 March 2017

Lt. Col. Ing. Vinicio Pasquali, *Interim Director of the Inter-technical Logistic Technical Center NBC*

09 March 2017

Col. Pietro Lo Giudice, *Head of the J4 Division of the Joint Interforces Command (COI)*

15 March 2017

Col. Filippo Agosta, *Chief of the Div. J-MED of the Support Operations Department of the COI*

29 March 2017

Gen. Giorgio Russo *Commander of the Interforce Firing Range of Salto di Quirra*

29 March 2017

Gen. D.A. Roberto Comelli, *Head of the Fourth Logistics and Infrastructure Department of the Defence General Staff*

12 April 2017

Col. Ing. Gioacchino Paolucci, *Director of the military ammunition plant in Baiano di Spoleto*

12 April 2017

Silvestro Campana, *Tech. Ass. of the Responsible for the prevention and protection service of the military ammunition plant in Baiano di Spoleto*

12 April 2017

Col. Ing. Giulio Botto, *Director of the Military Ammunition restoring and recovering Plant of Noceto di Parma*

12 April 2017

Lt. Col. Ing. Massimo Piazza, *RSPP of the Military Ammunition restoring and recovering Plant of Noceto di Parma*

27 April 2017

Col. Filippo Agosta, *Chief of the Div. J-MED of the Support Operations Department of the COI*

03 May 2017

Rear Admiral Claudio Boccalatte, *Director of CISAM*

03 May 2017

Alessandro Cavagnaro, *CISAM worker representative for security*

03 May 2017

Lt. Col. Raffaele Zagarella, *Head of qualified expert section of CISAM*

04 May 2017

Lt. Col. Ing. Vinicio Pasquali, *Interim Director of the Inter-technical Logistic Technical Center NBC*

04 May 2017

Col. Pietro Lo Giudice, *Head of the J4 Division of the Joint Interforces Command*

10 May 2017

Gen. D.A. Roberto Comelli, *Head of the Fourth Logistics and Infrastructure Department of the Defence General Staff*

10 May 2017

Gen. Enrico Tomao, *Inspector General of Military Health*

11 May 2017

Col. Antonino Mannino, *Head of Medical Intelligence*



17 May 2017

Col. Sergio Carotta, *Head of COI J3 Division*

18 May 2017

Amun. Sq. Giuseppe Cavo Dragone, *Commander of the Joint Interforces Operational Command (COI)*

24 May 2017

Gen. Enrico Tomao, *Inspector General of Military Health*

24 May 2017

Col. a.ter t.ISSMI Stefano Giribono, *Commander of the 7th NBC Regiment*

07 June 2017

Gen. S.A. Roberto Nordio, *Defence Deputy Chief of Staff*

07 June 2017

Gen. D.A. Roberto Comelli, *Head of the Fourth Logistics and Infrastructure Department of the Defence General Staff*

21 June 2017

Gen. S.A. Roberto Nordio, *Defence Deputy Chief of Staff*

28 June 2017

Mar. Giuseppe Carofiglio, *Retired military of the Guardia di Finanza*

05 July 2017

Lt. Col. Doctor Ennio Lettieri

05 July 2017

Mar. Giuseppe Carofiglio, *Retired military of the Guardia di Finanza*

27 September 2017

Francesco Riccobono, *former professor of geochemistry at the University of Siena*

27 September 2017

Gen. Francesco Piras, *former operations manager of the inter-force firing range of Salto di Quirra*

27 September 2017

Mar. Francesco Palombo, *Air Force military personnel on leave*

12 October 2017

Vittorio Lentini, *former Caporal Major Chief First Class of the Army*

25 October 2017

Mar. Massimo Orrù, *soldier serving at the Ammunition Depository of Serrenti*

16 November 2017

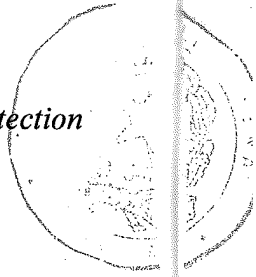
Gen. B. Carmelo Covato, *Directorate for the Central Supervisory, Prevention and Protection Service Coordination of the Army General Staff*

16 November 2017

Gen. B. (ris.) Fernando Termentini

21 December 2017

Vincenzo Tombolini, *Professor of Radiotherapy at the "La Sapienza" University of Rome*



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ANNEX 5

EXTERNAL COLLABORATORS OF THE COMMISSION

Alberto AZZENA

Armando BENEDETTI

Loretta BOLGAN

Loreto BUCCOLA

Chiara CANTALUPPI

Rita CELLI

Pietro COMBA

Domenico DELLA PORTA

Francesco DI MASO

Sergio DINI

Gavino FAA

Antonietta Morena GATTI

Raffaele GUARINIELLO

Riccardo GUIDO

Giovanni Francesco IZZO

Domenico LEGGIERO

Luigi LA PECCERELLA

Giuseppe MASTRANGELO

Paride MINERVINI

Mauro MURA

Omero NEGRISOLO

Franco NOBILE

Marina NUCCIO

Elena PAPA

Francesca PIRRELLI

Giacomo PORCELLANA

Riccardo Carlo ROSSI

Ester ROTOLI

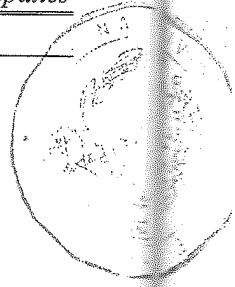
Sandro SANDRI

Valerio Augusto STRINATI

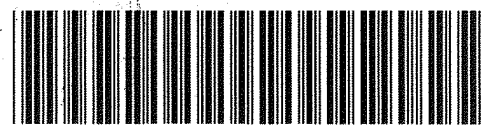
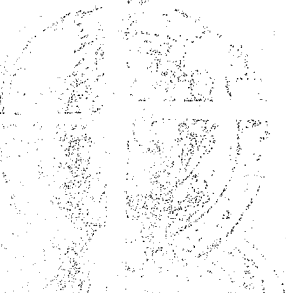
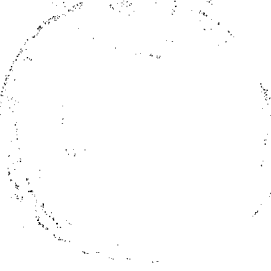
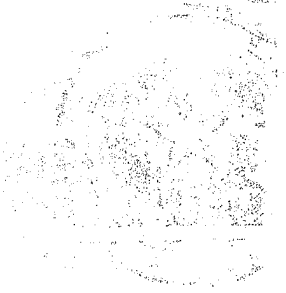
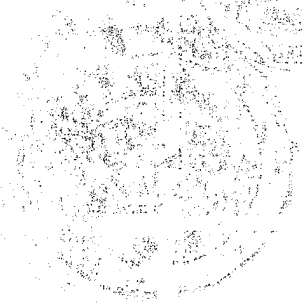
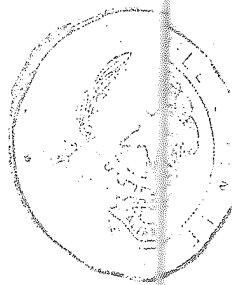
Fernando TERMENTINI

Corrado TINE'

Massimo ZUCCHETTI

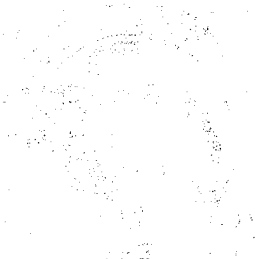
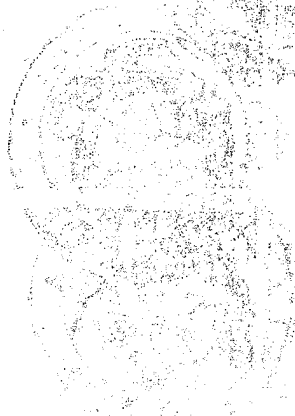
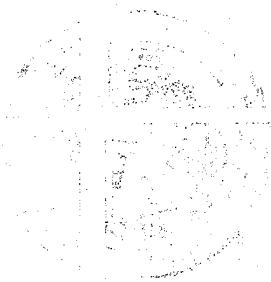
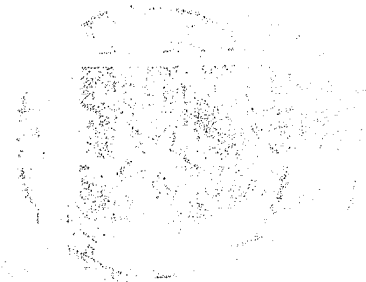


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Ministero dell'Economia e delle Finanze
MARCA DA BOLLO
 €16,00
 SEDICI/00

genzia entrate
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Ministero dell'Economia e delle Finanze
MARCA DA BOLLO
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 SEDICI/00

genzia entrate
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Ministero dell'Economia e delle Finanze
MARCA DA BOLLO
 €16,00
 SEDICI/00

genzia entrate
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TRIBUNALE di GENOVA

UFFICIO DI GEREGAMENTO DI TRADUZIONE STRAGIUDIZIALE

Reg. Cronologico n° 1444

Ad 02/03/2018 davanti al sottoscritto Direttore

Amministrativo è comparso il sig. RA CINDIA GOSTARO

nato a RECCO (GE) il 14/12/1981

Residente a GENOVA

Il quale esibisce la traduzione che precede da lei effettuata e chiede di poterla asseverare con giuramento. Ammonito ai sensi di legge il componente presenta giuramento. Ammonito ai sensi di legge il comparente presenta il giuramento ripetendo le parole. Giuro di aver bene e fedelmente adempiuto le funzioni affidatemi al solo scopo di far conoscere la verità.

Letto confermato e sottoscritto .

IL TRADUTTORE

Carmin. Ciniglio

IL DIRETTORE AMMINISTRATIVO

DIRETTORE AMMINISTRATIVO
Dott.ssa Carmin. CINIGLIO
Comune Ciniglio

