

S.S. 17/bis Km 18+910 67010 Assergi (AQ) Italia Tel. 0862/4371- Telefax 0862/410795



Legal notice:

The courtesy translations provided in the following have been done by best knowledge. Nevertheless it shall be noticed that the translation is not legally binding: The official documents must be in Italian by law.

If you should need any kind of clarification please refer to the Responsabile Unico del Procedimento (RUP) according the procedures provided in the call for tender document.



SINGLE DOCUMENT FOR THE ASSESSMENT OF RISKS FROM INTERFERENCES

IDENTIFICATION OF THE SPECIFIC RISKS OF THE WORKPLACE AND MEASURES TO IMPLEMENT TO ELIMINATE INTERFERENCES DURING THE DESIGN STAGE

(Article 26, paragraph 3 of Legislative Decree no. 81/2008)

PROCEDURE DATE		
RUP Appointment, Prot. 0000172 22/01/2015 – Tit. 9.3	23 / Feb / 2015	
TITLE		
Supply and installation of a single-stage electrostatic accelerator within the framework of the LUNA-MV bonus Project, to be located in the south area of Hall C of L.N.G.S., for an estimated amount equal to € 3,156,000.00. excluding VAT (including interference related charges for € 5,000.00)		

Revision	DATE	Employer Signature
		Customer
		Prof. S. Ragazzi

Revision	Date	RUP Signature/ L.N.G.S. Order Referent
		Dr. Gianluca IMBRIANI
2	23/Feb/2015	
Revision	Date	Company Acknowledgement Signature
2		

Approved by the RSPP of L.N.G.S.	Dr. Eng. Roberto TARTAGLIA
	Signature



Foreword

The safety of the workplace is the result of the synergy of all the measures for the safety of users, the safeguard, and the prevention of damage caused by accidental factors. After implementing all the necessary prevention measures, it is necessary to guarantee the safety of the operators in all the workplaces.

When entertaining collaborations with third parties for the supply of services, or the execution of activities in the workplace, the Employer of the involved working location, together with the individuals in charge of the offices involved in the works, must preliminarily and formally train such third parties on the risks inside the areas where the works will take place, on the precautionary measures to implement, the bans to comply with, and the way to manage any emergency situations that may occur. An assessment will also be required, on the risks that the activities carried out by third parties may entail for the activities carried out at Laboratori Nazionali del Gran Sasso themselves, and the preventive measures to be implemented must be agreed.

This risk assessment document represents the fulfilment of the provisions of art. 26 of Legislative Decree no. 81/08 and subsequent amendments and integrations.

With the object of promoting the cooperation and the coordination activities contemplated in the mentioned article, this document relates the assessment of the risks from interferences between the activities of the Customer and those of the Contractor, together with the corresponding technical and management safety measures implemented, and that can be implemented, to reduce such risks. In accordance with the provisions of art. 26, the document does not deal with the specific own risks of the activity of the Contractor. This document is attached to the tender or works Contract.

By interferences one means the Contracted or subcontracted activities, carried out on behalf of the Employer/Customer, in locations, areas, buildings, systems, etc., where other

activities for which the Employer/Customer is responsible are also carried out at the same time

The assessment object of this document has been produced on the basis of:

- type of work location and Customer activities;
- general and specific characteristics of the Contract works;
- technical documentation made available by the relevant offices;
- operating safety plan, analysis of duties, or similar other document provided by the Contractor;
- indications of the Local Referent.

The document shall be updated in case of significant changes that cannot be foreseen at the moment of the issuing of the original version. It is however deemed appropriate that before the actual start of the activities object of the Contract, a specific cooperation and coordination meeting takes place – the minutes of which shall be recorded - for document validation and agreement purposes.



The details/topics listed in the document are:

- Customer details premises and type of activity carried out.
- Contractor details type of activity carried out.
- Indications of any other Contract works going on (summary of related risks).
- Extent of the interference (time, space, functional).
- Identification of the risks caused by possible interferences due to the carrying out of the activities object of the Contract, and corresponding technical, organisational, or management measures implemented to eliminate or reduce such risks.
- General code of conduct that the Contractor shall comply with in the locations of the Contract work, and collaboration for the management of emergencies.

As far as the extent of the interferences, it is considered of fundamental importance to identify in advance any "cohabitation" of the parties, which means the sharing of the same workplace for the same period of time. The term "functional" interference" highlights the possibility that certain activities may be carried out within the same "production cycle".

In case of activities interfering with the company activities (noise, production of bad smells, production of dusts, etc., and consequential limitation of access to the workplaces), the Local Referent, notified in advance of the works, shall inform their own personnel and follow the specific instructions of this document.

Should the employees of the Customer and/or the Contractor identify problems connected with the carrying out of the works (excessive noise, irritation, bad smells, dust, etc.), the Local Referent shall act immediately, contacting those in charge of the works, warning the Prevention and Protection Service (and if the case the Company Physician), and if necessary intervene by stopping the works and/or activities.

This is a completely dynamic document; BEFORE THE START OF THE CONTRACT, and in any case before the company awarded the Contract (the Contractor) gains access to L.N.G.S. premises, a meeting shall take place, promoted and organised by the Director of L.N.G.S., which shall be attended by the Employer of the company awarded the Contract (the Contractor), or an appointed representative. During this meeting, a joint report shall be issued, in which the agreed technical, operational, and management measures for the reduction of the interference risks shall be outlined. Such agreed measures shall immediately be included in the "DUVRI – EXECUTION STAGE" document, which shall be resubmitted to the approval of the parties and undersigned for acceptance.



Customer details – premises and type of activity carried out

I.N.F.N Laborato	ri Nazionali del Gran Sasso	
Name of the place of work	Laboratori Nazionali del Gran Sasso	
Address	s.s. 17 bis km 18,910	
Post Code and Municipality	67010 Assergi (AQ)	
Telephone and Fax	0862 4371 0862 437218	
Activity carried out	Research. Public research body subject to the control of the M.I.U.R.	
Number of staff	100	
Number of users	800	
Employer (Director)	Prof. Stefano RAGAZZI	
Project Manager	Dr. Gianluca IMBRIANI	
Works Director	DEC Dr. Matthias JUNKER	
Company Physician	Dr. Paolo EVANGELISTA	
RSPP	Dr. Eng. Roberto TARTAGLIA	
Workers' Safety Representative	Eng. Fabrizio TORELLI	
Emergency Team	L.N.G.S. employees on rotation	



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	SERVICES	
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	SUPPLY	
TYPE OF CONTRACT		2
	WORKS	

DURATION OF THE CONTRACT	
(no. of natural and consecutive days, no. of working days,	
expected expiry date)	

Identification of the dangers in the L.N.G.S. workplaces and areas that may generate interference risks for external Contractors.

ISSUED BY THE RUP/REFERENT OF THE L.N.G.S. ORDER WITH THE SUPPORT OF AN ANALYST OF THE L.N.G.S. PROTECTION AND PREVENTION SERVICE

The Contractor will operate, or may operate, inside L.N.G.S. work areas where the risks described and detailed below are present or may occur, during the execution of the works.

INTERFERENCE RISKS IN	UNDERGROUND LABS	ш
	EXTERNAL LABS	2

Use the drop down menu to indicate YES or NO in the corresponding box.

1	Activity carried out in areas classified as at risk of significant accidents pursuant to Legislative Decree no. 334/99 as amended by Legislative Decree no. 238/05, due to the presence of R51/53 classified substances above the limits indicated in Attachment I, Part 2 (Pseudocument 1250 and heavy hydrogenated naphthalene 793 t).	YES
2	Activity carried out in areas subjected to cryogenic risks, such as: hypo-oxygenation, cold burns, formation of cryogenic clouds, embrittlement of material, structural failure of cryogenic containers from <i>Rapid Phase Transition</i>	NO



3	Activities carried out in areas subjected to the risk of formation of gas explosive atmospheres pursuant to the ATEX 94/9/EC Directive and pursuant to Title XI of Legislative Decree no. 81/08 as modified by Legislative Decree no. 106/09.	NO
4	Activities carried out in areas subjected to risk of fire (All C, North side, Hall A, North side).	NO
5	Activities carried out in areas subjected to the risk of materials falling from overhead positions.	YES
6	Activities carried out in areas subjected to the risk of being hit by vehicles (fork lift trucks, basket platforms, cars, vans, trucks, buses).	YES
7	Activity carried out in areas subjected to risks caused by a high degree of confinement (underfloor tanks, raised equipped passageways, inside of cisterns, interferometric gallery niche, etc.).	NO
8	Activity carried out in areas subjected to risks caused by low lighting levels	NO
9	Activity carried out in areas subjected to risks caused by noise (values above the limit exposure and action values indicated in Title VIII of Legislative Decree no. 81/08 as modified by Legislative Decree no. 106/09).	NO
10	Activity carried out in areas to risks caused by the presence of dusts.	NO
11	Activity carried out in areas subjected to increased difficulties of evacuation and/or in the implementation of the L.N.G.S. Internal Emergency Plan.	No
12	Activity carried out in areas subjected to risks of exposure to electromagnetic fields. (values above the limit exposure and action values indicated in Title VIII of Legislative Decree no. 81/08 as modified by Legislative Decree no. 106/09).	NO
13	Activity carried out in areas subjected to risks of exposure to artificial optical radiations (values above the limit exposure and action values indicated in Title VIII of Legislative Decree no. 81/08 as modified by Legislative Decree no. 106/09).	NO
14	Other	NO



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Types of activities and working hours of the Customer, L.N.G.S.

Types of activities carried out inside the workplaces by the Customer

- Mainly office activities
- Chemistry Labs
- Electronics Labs
- Warehouses
- Library
- Porterage and transport
- Canteen
- Vigilance
- ⁻⁻ Dangerous material Deposits/Storages
- The other Research Activities

Working hours: 08:00 - 18:00 Monday to Friday, apart from exceptional cases.







Indicative location of the activity at the underground laboratories

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Indicative location of the activity at the external laboratories

l.N.F.N. - L.N.G.S. - Via G. Acitelli, 22 (Localita Assergi) - 67100 L'Aquila - Italy Tel. 0862 437 1 - Fax 0862 27774 - <u>www.lngs.infn.it</u> - C.F.84001850589 Page **10** of **35**



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Risk matrix

Significance	4	5	6
	3	4	5
	2	3	4
	1	2	3
			Probability

Criticality Level Table

Codo	Caitianlitu	Definition				
Code	Criticality	Definition				
1	Negligible	No mitigating measures required for the identified risks.				
2	Low	Mitigating measures must be assessed during the programming stage. No urgent interventions are envisaged.				
3	Modest	Monitor risks, assessing the possibility of mitigating measures.				
4	Moderate	Constantly monitor risks, assessing the need for mitigating measures in the short/medium term.				
5	Hig h	Act urgently to identify and implement preventions and protection measures to reduce the risks to a lower criticality level.				
6	Very high	Act immediately to eliminate/reduce the danger, and in any case reduce the risk to a lower criticality level.				



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NOTE:

The risk classification shown above is the official reference used in the document L.N.G.S. risk assessment pursuant to Legislative Decree no. 81/08, March 2014 revision.

Therefore, during the stages of identification and definition of the possible interference risks and in the definition of the prevention and protection measures to implement, which will require the following cards to be filled, this document must be taken into account, in order to ensure an effective, comparative, and consistent approach in the assessment of risks.

Preliminary Risk Assessment Summary				
#	Description	Level		
1	Risk of significant incidents	3		
	Γ	1		
5	Risk of materials falling from overhead	3		
6	Risk of being hit by vehicles	2		



Measures Proposed by L.N.G.S. and by the Contractor to reduce interference risks				
#	Description			
L				

all workers that will take part in the contracted activities, pursuant to Ministry Decree dated 16/03/98 (Seveso ter),	1	pursuant to Ministry Decree dated 16/03/98 (Seveso ter), lasting 4 hours and delivered by the L.N.G.S. Prevention and
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5	Delimitation of the interested area using appropriate fencing and signs, prohibition to transit and pass under suspended and moving loads.

Defined vehicle and personnel transit routes, indicated by appropriate signs.



Notes

This document has been issued and forwarded to the companies during the offer stage, in order to ensure compliance with article 26 of Legislative Decree no. 81/2008 and subsequent amendments and integrations, particularly with the objective to guarantee that the companies are in the best possible conditions when formulating estimate offers that take into accounts the costs of safety as far as risks from interferences, not subjected to discount bidding. Therefore, all the information on the assessment of risks due to environmental factors, generated by the Customer, L.N.G.S., in the areas of the underground laboratories, shall be considered neither exhaustive, nor final, as the execution of the Contract, with the installation of the equipment object of the tender, will not take place before 2017.

Documentation to attach

Interferences due to the activities of the Contractor carrying out the works during the working hours of the employees of the Customer:

Whole working day

Morning only

Afternoon only





Extent of the interference (time, space, functional)

As far as SPACE and TIME interferences, or the presence in the same AREAS during the same TIMES of the personnel of both the Customer, L.N.G.S., and the Contractor, below is a chart showing the standard working day and week, and a prospect of the area/structure where the employees of the Customer, L.N.G.S., and the personnel of the Contractor carrying out the works, operate.

For simplification (and completeness) purposes, also the presence of only one worker is included in the chart.

Rules for the update of the DUVRI (art. 26, paragraph 3 of Legislative Decree no. 81/08 as modified by Legislative Decree no. 106/09).

The table of the space and time interferences is generated through the acquisition of the timetables (Gantt diagrams) of the activities of each Contractor by the Customer, L.N.G.S.

Timetables shall be forwarded to the SPP of L.N.G.S. by the RUP (when appointed) or by the order Referents at the moment of issuing of the "DUVRI – EXECUTION STAGE" document, during the meeting of the employers that will take place before the start of the Contract works, and in any case before the Contractor/company executing the works enters L.N.G.S. facilities.

The RUP, or the Referent of the order, are responsible for updating or modifying the timetables of the companies of their responsibility. Therefore, they shall also be responsible for forwarding such updates to the SPP of L.N.G.S.

With the purpose of promoting collaboration among the employers of the contracting companies, and to update the table of the space and time interferences, the SPP shall organise coordination meetings at regular intervals, which shall be attended by the RUP or the order Referents, together with the technical supervisors of the Contractors. The results of the coordination meetings shall be recorded and undersigned for acceptance by those present, and shall be considered valid as update of the current DUVRI.

The updated space and time interference table is available for consultation at all times by the RUP at the following web address: **http://spp.ings.infn.it/**.

	TIME INTERFERENCES			SPACE INTERFERENCES					
	Daily timetable	Week	Duration	Α	В	С	Truck	Саг	Other
Customer	24H	Mon -Sun							
DUVRI object company									
Contractor 1									
Contractor 2									

Outside normal working hours, express authorisation of the Prevention and Protection Service of Laboratori Nazionali del Gran Sasso shall be required.



INTERFERENCE RISK COST ESTIMATE

(art. 26, paragraph 5 of Legislative Decree no. 81/08, as modified by Legislative Decree no. 106/09)

5. The individual subcontracting, contracting and provision contracts, including those in force at the moment of entering into force of this Decree, pursuant to articles 1559 - with the exclusion of contracts for the provision of essential goods and services - 1655, 1656, and 1677 of the Italian Civil Code, must expressly indicate, or else shall be declared null and void pursuant to article 1418 of the Italian Civil Code, the costs and the measures implemented to eliminate, or, when not possible, reduce to the minimum, the health and safety risks in the workplace resulting from interferences of activities. The costs of the first period are not subjected to discount bidding. [...].

These details can be accessed on request by the workers' safety representative and the local bodies of the workers' Unions proportionally more represented at national level.

SUMMARY OF THE CONTRACT COSTS

TOTAL AMOUNT	€	3,156,000.00
OF WHICH, COSTS NOT SUBJECT TO DISCOUNT E	BIDD	ING
INCLUDED SAFETY COSTS (ISC)	€	
ADDITIONAL SAFETY COSTS (ASC) FOR THE MITIGATION OF RISKS FROM INTERFERENCES	€	5,000.00

LIST OF SAFETY COSTS IN THE DUVRI

In order to quantify interference safety costs, in the same way as for works contracts, reference can be made, as far as compatible, to the measures pursuant to art. 7, paragraph 1, of Presidential Decree no. 222/2003, included in the DUVRI, and in particular:

- a) structures (such as scaffolding, trestles, etc.);
- b) protection and prevention measures, and personal protection equipment that may be required to eliminate or reduce to the minimum the risks of interfering activities;
- c) any grounding system and protection equipment against atmospheric discharges, fire equipment, fume evacuation equipment (if not present or if not suitable in view of the works of the Contract in the work locations of the Customer);



- d) collective means and services (safety warnings, acoustic notification systems, etc.);
- e) the procedures required for specific safety reasons;
- *f)* any safety related activities required for the reorganisation of interfering processes in terms of time and space;
- g) The coordination measures relating to the common use of structures, equipment, infrastructures, protection means and services.

The estimate of the costs shall be consistent, detailed for each single item, make reference to standard or specialist price lists, or be based on official price lists in force in the involved area, or on the price list of the safety measures of the Customer; should there be no applicable or available price list, the estimate shall be produced following a detailed cost analysis based on market surveys.

In order to enable the designer or the RUP to quantify safety costs, a proposal of "Price List" is available (in .dcf format at **http://spp.Ings.infn.it**), which takes into account the activities carried out inside L.N.G.S., managed by the SPP of L.N.G.S.

The RUP shall be responsible for the analytical cost estimate completed, which shall be attached to the Contract.



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• General code of conduct that the Contractor shall comply with in the locations of the Contract work, and for the cooperation in the management of emergencies.

For this purpose, below is a non exhaustive list of the main elements to take into account when carrying out activities in the workplaces of Laboratori Nazionali del Gran Sasso.

1) ESCAPE ROUTES AND SAFETY EXITS

Before starting the activities, the Contractor carrying out the works or providing the service shall become familiar with the planimetry of the rooms showing the escape routes and the locations of the emergency assembly points, as well as of the switches for disconnecting the water, electrical, and gas supplies, after notifying the relevant Director and the Prevention and Protection Service of L.N.G.S. of any temporary changes required in order to carry out the activities.

The Contractor must also be aware of the identity of those responsible for the management of the emergencies in the locations of the works, appointed in accordance with art. 18 of Legislative Decree no. 81/2008.

Corridors and escape routes in general shall always be kept in conditions that will ensure easy transit of people in case of emergency; they must be free of combustible or inflammable materials, of groups of people, or obstacles of any kind (coffee or beverage vending machines, etc), including temporary obstacles.

extinguishing The equipment shall easilv alwavs be reached through paths that must alwavs be kept uncluttered and free.

Each process or provision of service must include: planned disposal at authorised disposal sites; correct procedures for the removal of residuals and waste within the strictly technically required times; the delimitation and notification of temporary storage areas; the limitation of the visual impact and of bad smells.

It will also be necessary to define the alarm and information procedures for the office manager in case of accidental emissions in the atmosphere, in the water, in the soil.

2) ARCHITECTURAL BARRIERS / PRESENCE OF OBSTACLES

The completion of the activities and the installation of working equipment shall not create barriers or obstacles that will prevent reaching the places of work not subjected to the activities. The alternative paths, safe for users, shall be indicated.

Site equipment and material must be placed in such a way that will not cause tripping. It may not be stored near accesses, passages, escape routes. Immediate collection and removal shall also be organised at the end of the works.

If the activities require the opening of manholes, ducts, subways, and similar, in the areas under the floors, specific barriers, notifications, and segregations of risk areas shall be put in place. In alternative, someone must always be present on location to guard the area.

In case of lifting equipment, the necessary safety signs shall be affixed, to prevent access to the areas and to the equipment being maintained.



3) ELECTRIC EQUIPMENT, CONNECTION TO THE ELECTRICITY NETWORK, INTERVENTIONS ON ELECTRIC SYSTEMS

The Contractor must: use electric components (cables, plugs, sockets, adapters, etc.) and devices meeting the state of the art (CE mark or other type of certification), and in good working order; use the electric system in accordance with the good technical practice guidelines and the state of the art; not use joined cables, or cables with evident damage or abrasions. The use of domestic sockets and similar shall only be permitted when the working environment and the activities carry no risks in terms of water, dusts, and shocks; otherwise, industrial type sockets and plugs must be used, in compliance with EN 60309 standards.

The company must ascertain, through the relevant technical office (Operation and Maintenance Service of L.N.G.S.) that the power of the equipment used is compatible with the section of the powering conductors, also taking into account any other equipment already connected to the board.

All interventions on the building systems and/or existing structures, shall be notified to the relevant technical offices (Operation and Maintenance Service of L.N.G.S.), and shall be carried out in accordance with the good technical practice rules (and certified as such).

As a rule, Contractors shall use their own independent electrical power supplies, rather than the building networks. Before ordering, acquiring and connecting to the electric systems equipment with important energy absorption values, it will be necessary to ascertain (if not done so at the design stage) the availability of electric power, and obtain the authorisation for connection from the relevant technical offices.

The use of burners, electric heaters, portable thermal radiators and/or air conditioning units, radiating plates, and any other users, is strictly forbidden, unless expressly authorised in advance.

Pursuant to Ministry Decree no. 37 dated January 22nd 2008 – "Rules for the reorganisations of the dispositions concerning the installation of equipment inside buildings", for any activities on electric and safety systems (fire detection, fire extinguishing, etc.) other than simple regular maintenance activities (e.g. replacement of lamps, preservation of the efficiency of systems), appropriate conformity declaration shall be issued.

Repairs shall only be carried out by qualified personnel; no tampering with the active and passive protections of electric equipment shall be permitted.

Whenever possible, cables and extension cables shall be raised from the ground in those locations where they may be subjected to wear, shocks, abrasion, trampling, etc. Failing that, they shall be protected inside appropriate protection conduits and humpbacks capable of preventing tripping.

Appropriate safety warnings shall be affixed.

4) INTERRUPTION OF THE ELECTRICITY, GAS AND WATER SUPPLY

The interruption of the electricity and the gas supply, of the operation of heating/air



conditioning systems, of the water supply for the services, and for the operation of fire extinguishing equipment, shall always be agreed beforehand with the Employer. Connection/interruption activities shall always be carried out after ascertaining that they will not cause danger and/or damage.

5) PURCHASES AND SUPPLIES TO INSTALL WITHIN THE WORKPLACES

The purchase of instruments, machines, equipment, tools, furniture, substances, as well the use of energy, must all take into account the general safeguard measures (art. 3 of Legislative Decree no. 81/08, including the integrations of Legislative Decree no. 106/09), explicitly requesting that the manufacturer/Contractor provides, depending on the type of supply, the CE marking and the declaration of conformity to the current safety and prevention regulations, and to the electromagnetic compatibility Directive (with clear reference to Legislative Decree no. 81/08), as well as the safety data sheets and the documentation relating to the precautions for use. Such documentation must be kept at the disposal of the Prevention and Protection Service of L.N.G.S. The positioning and the characteristics of equipment, materials and substances, must be compatible with the rooms where they will be located. In case of modifications of existing machines, or supply of new machines, the Prevention and Protection Service of L.N.G.S. must be provided with the relevant certificates of conformity and technical folders, appropriately compiled in accordance with Presidential Decree no. 459/96 "Machine Directive".

For all chemical products, their suppliers shall be asked to supply appropriate chemicaltoxicological safety data sheets, which shall be issued in an understandable manner and shall be made available to workers. The purchase and the presence in the premises of chemical substances not accompanied by such safety data sheets shall not be permitted.

6) TECHNICAL GAS DISTRIBUTION SYSTEMS

These systems shall be built following the good technical practice rules (UNI CIG L.46/90 and implementation regulations), and the activities shall be supported by appropriate declaration of conformity. Based on the type and the size of the works, it may be necessary to submit in advance to the Fire Brigade - pursuant to art. 15 of Presidential Decree no. 577/82 -, a project containing the specifications of the gas distribution and storage system, and the alarm systems. In this case, approval of the project by the Fire Brigade shall be received before the start of the works. This requirement shall be assessed by the relevant offices.

7) GAS EMERGENCY

If the presence of gas in the air is detected, the room and the area must be ventilated immediately, evacuating any people present, and avoiding actions that may result in triggering (switch on lighting equipment, rubbing or hitting materials, using matches, lit cigarettes, etc.). If the leak extends to a whole building, the power supply must be disconnected using the general switch. The possibility that a fire may trigger somewhere due to the electric system (use of the lift, switching on of a thermal plant burner, start of an electric pump, etc.) must also be avoided. If the presence of gas persists, seek intervention from the gas company and the emergency rescue services using the



appropriate procedures.

8) FIRE SYSTEMS

Notwithstanding the constant check of fire protection equipment, as far as regular maintenance no modifications shall be allowed, unless authorised in advance by the Operation and Maintenance Service of L.N.G.S.

9) CHANGES IN THE DESTINATION OF USE OF AREAS SUBJECTED TO FIRE PREVENTION CERTIFICATION, AND CHANGES IN GENERAL

Pursuant to Ministry Decree no. 16.2.82, "all changes in destination of use of rooms, including the movement of walls, the change of doors, corridors, and halls, shall be authorised in advance by the relevant offices, and shall therefore meet the safety requirements".

In general, all the changes in destination of use and distribution characteristics of the spaces shall be communicated to the relevant Prevention and Protection Service of L.N.G.S.

10) OVERLOADS

The introduction, even temporary, of loads on ceilings, exceeding the higher permitted limits (not just for rooms used as libraries, archives, depots/warehouses, etc.) shall be subjected to the preliminary approval of an authorised technician.

The technician shall certify in writing to the Prevention and Protection Service of the L.N.G.S. the static suitability of the intervention.

11) EMERGENCY DUE TO SPILLAGE OF CHEMICAL SUBSTANCES

In case of spillage of liquid chemical substances: ventilate the room or the area; following the instructions, use the appropriate mop up kits, which must be available on site when handling such substances, and place the used materials in appropriate containers (compatible waste containers), avoiding the use of electric equipment that may cause triggering of flammable or explosive substances present. Pay the utmost attention to ensure full compliance with the instructions of the appropriate "risk data sheets", which must always accompany the substances and must always be available for consultation by the operators. All such accidents must be notified to the Environmental Service.

12) FLOODING EMERGENCY

In case of flooding of rooms, ensure that the presence of the electric power supply will not pose risks for any people present. If the occurrence could cause electric risks, it will be necessary to:

- Use the general switch to disconnect the power supply, after ensuring a minimum level of visibility for the evacuation of people and the completion of emergency operations;
- seek the intervention of the fire brigade following the site procedures, and



inform anyone concerned;

• ascertain the presence of substances (solid, liquid, or gaseous) that in the presence of water may cause dangerous reaction for the safety of those present. In this case priority must be given to removing such substances.

13) INFORMATION TO L.N.G.S. PERSONNEL

In case of activities that may interfere with the normal working activities, particularly those entailing high levels of noise, bad smells, uncomfortable production of dust, etc., or limitation to the accessibility of the workplaces, during normal working ours of the premises, the Prevention and Protection Service of L.N.G.S. shall be duly informed. Information shall also be provided to employees (also to ascertain the presence of any individuals suffering from asthmatic problems, impaired mobility, etc.) on the procedures of the works, and the substances used.

The Employer, or an appointed Local Referent, informed of the activities in advance, shall inform their own personnel and comply with the specific instructions supplied.

Should the employees suffer discomfort or problems connected with the works (excessive noise, irritation, unpleasant smells, dust, etc.), the Employer shall immediately contact the works manager, notifying the Prevention and Protection Service, in order to stop the works.

14) BEHAVIOUR OF L.N.G.S. PERSONNEL

Employees shall always comply with the limitations set in the areas of the activities, and the instructions provided.

No safety delimitations or signs installed must be removed.

In case of activities on electric systems entailing the interruption of the electric power supply, the Employer, notified in advance, shall inform all personnel to ensure compliance with the agreed indications.

15 EMERGENCY

All companies carrying out activities must comply with these guidelines, and organise their own structures for the management of emergencies in those cases that do not fall within the scope of Title IV of Legislative Decree no. 81/08 and subsequent amendments and integrations. In alternative, they shall put in place the appropriate measures within the framework of the Safety and Coordination Plan (PCS – Piano di Sicurezza e Coordinamento), or the PCS replacement safety plan.

The Employer must ensure that the following is in place:

extinguishing means, safety signs (guards, paths, exits), instructions for evacuations, names and contact details of the members of the emergency team (emergency personnel), procedures for the interruption of the electric supply, gas supply, etc. This requirement is of particular importance in case of technological equipment at risk in the location.

In addition, the following applies to all the workplaces:

₂ Smoking is strictly forbidden;



- Taking to the workplace and using -, equipment and substances not expressly authorised by the SPP is strictly forbidden;
- Any authorised equipment must always comply with current regulations, and any substances must always be accompanied by the relevant updated safety data sheets;
- The own activities must be coordinated in collaboration with the SPP of L.N.G.S.
 - normal activities
 - behaviour in case of emergency and evacuation.

If there is the belief of an imminent danger, immediately inform the emergency team and/or the monitoring personnel, using the general alarm number:



The following prevention, protection, and emergency measures have been implemented in the workplace:

- the evacuation paths have been defined as per the planimetries affixed in the workplaces, with indications of the emergency telephone number: 200;
- extinguishers and hydrants are indicated by appropriate signs; their numbers are appropriate and they are dislocated in appropriate positions;
- the emergency and firefighting team has been appointed; the names of those in charge of emergencies are known by the Employer, or appointed representative;
- there is a First Aid Box, the location of which is indicated by appropriate signs.



INFORMATION ON THE ACTIVITIES CARRYING RISK OF SERIOUS ACCIDENT (Legislative Decree no. 334/99 coordinated with Legislative Decree no. 238/05 – Seveso Ter Directive) (For translation see separate document)





NFORMATION ON THE ACTIVITIES CARRYING RISK OF SERIOUS ACCIDENT (For translation see separate document)



I.N.F.N. - L.N.G.S. - Via G. Acitelli, 22 (Localita Assergi) - 67100 L'Aquila - Italy Tel. 0862 437 1 - Fax 0862 27774 - <u>www.lngs.infn.it</u> - C.F.84001850589 Page **26** of **35**



Details of Laboratori Nazionali del Gran Sasso and people of reference

Address	S.S. 17 bis km 18,910- 67010 Assergi (AQ) -ITALY
Switchboard Telephone	0862 4371
Emergency number	200
Main Fax Number	0862 410795
Website	http://www.lngs.infn.it/

Director of Laboratori Nazionali del Gran Sasso Prof. Stefano Ragazzi

Environmental Management					
Board Representative	Dr. Eng. Raffaele Adinolfi Falcone	Tel. 0862 437221			
Supervisor of the Environmental Management System	Dr. Eng. Raffaele Adinolfi Falcone	Tel. 0862 437221			
Supervisor of Waste Management	Mrs. Antonella Falgiani	Tel. 0862 437262			

Prevention and Protection Service				
Supervisor	Dr. Eng. Roberto Tartaglia	Tel. 0862 437277		
Operator	Eng. Antonio Giampaoli	Tel. 0862 437239		
Operator	Dr. Eng. Marco Tobia	Tel. 0862 437527		
Secretary Office	Dr. Serena Cavalcante	Tel. 0862 437566		

Operation and Maintenance Service				
Supervisor	Dr. Eng. Gabriele Bucciarelli	Tel. 0862 437563		

Project Service				
Supervisor	Dr. Eng. Paolo Martella	Tel. 0862/437225		

Experiment Support Service				
Supervisor	Dr. Eng. Chiara Zarra	Tel. 0862 437338		



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Radio Protection				
Qualified Expert	Dr. Floriana Bartolucci			
Radioisotope Bank Department Supervisor	Eng. Antonio Giampaoli	Tel. 0862 437239		

General Dispositions

L.N.G.S. consist of several units: external laboratories, underground laboratories, Central unit of Casale S. Nicola, Central unit of Assergi.

The underground laboratories of L.N.G.S. are subjected to art. 8 of Legislative Decree no. 334/99 and subsequent amendments and integrations. The area of the underground laboratories is classed as A.R.E. (at high risk of fire) pursuant to Ministry Decree dated 10/03/1998.

All the activities inside Laboratori Nazionali del Gran Sasso must be carried out in compliance with the procedures of the SGS of the SGA and the general requirements listed below.

Pursuant to art. 26 of Legislative Decree no. 81/08, we remind you that the execution of works at the offices of Laboratori Nazionali del Gran Sasso shall be completed under your direction and surveillance, which therefore relieves us from all responsibilities for any damage to people and properties (both ours and of third parties) that may occur during the execution of the works themselves.

Therefore we kindly ask you to:

- Return with the offer the "Supplier Declaration", forwarded together with these dispositions, duly signed.
- Comply with the specific obligations of the current laws in terms of health and safety in the workplace.
- Comply with the current environmental laws applicable to your company.
- Guarantee:
 - an appropriate behaviour of your personnel, replacing anyone not fulfilling their duties;
 - the carrying out the works using appropriate materials, machines and equipment, following the good practice rules.
- Ensure regular compliance with your obligations in terms of social security (INAIL, INPS, ...)
- Comply with the specific dispositions listed in the following sections.
- Inform in advance your point of reference at Laboratori Nazionali del Gran Sasso on the start time, the duration, and the procedures used for carrying



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out the works.

• Immediately notify any abnormal or dangerous situations that may occur.

Specific Norms: Internal Discipline

Your personnel is required to comply with all the internal norms and regulations of our Premises in which you carry out works.

In particular:

- Access to the Underground Laboratories with LPG, Methane, and Hydrogen engine vehicles is strictly forbidden. This includes bifuel petrol/methane or petrol/LPG cars.
- L.N.G.S., through its entrance surveillance service personnel, reserves the right to verify the types of engines of incoming vehicles, should the owner of the authorisation have not previously expressly declared that they are not of the non permitted types indicated above.
- As a rule, the use of L.N.G.S. owned equipment or provisional works is forbidden. Any uses, to be treated as exceptional, must be authorised beforehand following the relevant internal dispositions (e.g. bridge cranes).
- The care of the equipment and the materials required for the execution of the works inside our premises is the sole responsibility and at the sole risk of the Contractor, who shall make the necessary arrangements.
- The stationing of vehicles or company equipment outside the parking areas is only permitted for the time that is strictly necessary for the unloading of working materials and equipment. We kindly ask you to train drivers on any current dispositions on circulation inside L.N.G.S., and to ensure their full compliance.
- The introduction of dangerous materials and/or equipment (for example inflammable gas tanks) shall be authorised in advanced. We kindly ask that you make sure that you are well informed on the current dispositions on the matter.
- The working hours shall comply with the normal working hours of the organisation, and must be agreed with the Supervisor for whom the works are carried out. The normal working hours are 08:00 to 18:00 Monday to Friday. Any activities outside the normal working hours must be authorised in advance in accordance with the internal dispositions.
- On completion of the works, you will be requested to leave the area free from equipment, waste materials and scrap (which shall normally be disposed off at your charge in accordance with current laws, unless otherwise agreed in the Contract), dangerous ground ditches, or depressions, etc.





Regulations and Dispositions on Safety in the workplace

Pursuant to art. 26 of Legislative Decree no. 81/08, compliance with all the regulations on Safety and Hygiene in the workplace, as well as with the dispositions on all the corresponding required activities for the safeguard and implementation of prevention measures, shall be your responsibility, as far as the specific risks of your Company and/or activities are concerned.

Before starting the works, you are requested to provide us with information on any risks resulting from your activities that may interfere with our normal working activity.

In addition to the measures and precautions of the previous section, "Specific Norms: Internal discipline", we kindly invite you to inform your personnel on the following requirements, listed as a way of non exhaustive example, and ensure their strict compliance:

- Obligation to strictly comply with all the signs, particularly as far as prohibitions contained in warning signs, and in visual and/acoustic prohibitions.
- Refrain from accessing areas other than those involved in the works, unless specifically authorised.
- Refrain from staying in the workplaces outside the agreed hours.
- Refrain from introducing flammable substances or substances that are dangerous or harmful in any way.
- Refrain from using, pursuant to Attachment VI, point 6 of Legislative Decree no. 81/08, portable electric equipment powered at a voltage higher than the voltages indicated in the Attachment itself, taking into account the locations of execution of the works.
- Refrain from removing, modifying, or tampering in any way with the safety devices and/or the protections installed on equipment, machinery, or instruments.
- Obligation to fence excavation areas, or any areas underneath works being carried out in overhead positions.
- Refrain from carrying out, of their own initiatives, any manoeuvres and operations that are not within their own competencies, and which therefore may also compromise the safety of other people.
- Refrain from carrying out works using free flames, using fire proof means, or smoking in areas where there is a danger of fire or explosion, and in all the other locations where such activities are prohibited.
- Obligation to use personal protection equipment
- Refrain from using, in the workplace, clothing that, due to the nature of the operations being carried out, may cause danger to the individual.
- Refrain from cluttering safety exits, corridors and passages with materials of any kind.



- Obligation to use machines, equipment and tools complying with current regulations.
- Refrain from carrying out any operations on moving parts (cleaning, lubrication, repair, calibration, etc.).
- Refrain from transiting under suspended loads.
- Obligation to immediately notify any failures of the safety devices or the existence of dangerous conditions (directly intervening, in case of urgency and within the limit of personal competencies, to eliminate such failures or dangers)
- Comply with the internal dispositions of L.N.G.S. as far as the obligations of attendance of <u>Safety and Environmental Management System training courses</u>.

Specific risks and Prevention and Emergency Measures

The underground laboratories have particular work and micro-climate conditions:

- whole area classed, as far as fires, as A.R.E. (at high risk) pursuant to Ministry Decree dated 10/03/1998;
- -average temperature around 7 to 9 °C inside connection ducts and tunnels, with relative humidity around 90%;
- average temperature around 16 to 20 °C inside the experimental rooms, with relative humidity around 70%;
- - no natural light;
- - artificial light.

These notes include some general indications on the specific risks at Laboratori Nazionali del Gran Sasso, and the prevention and emergency measures implemented.

For some types of such activities, the indications may not be sufficient. Should you require further information, you are requested to contact your point of reference for which the works are being carried out, and/or the Prevention and Protection Service.

It must be emphasised how important it is to continue this collaboration during the execution of the works, to ensure the actual implementation of the risk prevention and protection measures. Access to the facilities must solely be limited to the areas affected by the works commissioned to your company.

Should you come across abnormal situations, immediately contact your point of reference of Laboratori Nazionali del Gran Sasso and/or the Prevention and Protection Service, and/or the Environmental Service.

In case of emergency, the emergency service telephone number, **200**, is always in operation.





please call this number immediately every time you come across anything abnormal or dangerous (fire, accident, injury, fault,...), and provide a detailed description of the situation. Detailed information on the Emergency Plan of the laboratories is available in the "L.N.G.S. Emergency Plan", which is included in the mandatory safety training course. Some further useful information can be found in the brochure relating to the information card for the population (Attachment V - Legislative Decree no. 334/99), which will be handed over to you during the training. As far as the environment is concerned, the corresponding information can be found in a specific brochure.

It is pointed out that escape routes and safety exits must always be free of materials and fully usable.

Inside the laboratories, driveways are shared both by pedestrians and vehicles. You are therefore kindly requested to pay the utmost attention and to drive slowly, within the set limits (30 km/hour for the external laboratories, and at walking speed in the underground laboratories). When parking your cars, use the appropriate parking spaces correctly.

Access to mechanical workshops is normally forbidden, unless when carrying out works inside the same. Inside the workshops are some paths that cannot be considered in any way safe. Anyone going near machinery must wear safety goggles or visors. If the works that you have been commissioned entail specific operations on machine tools, compliance of all the provisions on safety and hygiene in the workplace, as well as the provision of, and the compliance with, all the corresponding safeguarding measures, and the implementation of the preventive measures required, are your responsibility, being among the specific risks of your company.

The appropriate black triangle on yellow background sign indicates the presence of radiation sources in some areas and access restriction. For further information, contact the Qualified Expert, Dr. Floriana Bartolucci, or Dr. Antonio Giampaoli (Tel. 0862 437239).

In the laboratories and the offices is also powered electronic equipment, to which we ask you to pay special attention. Contact the relevant Service/Experiment Manager before working on any such equipment in any way, and in general keep at an appropriate distance from the same.

If you need to work on electric systems, safety systems and/or other systems in general, kindly contact in advance the Manager of the Operation and Maintenance Service, Dr. Eng. Gabriele Bucciarelli, who will be available for any information that you may require.

As far as the underground laboratories, the configuration of the same and the experimental and accessory facilities are shown in the planimetry attached to this information folder. This planimetry also provides some general indications on the specific risks of the underground laboratories (storage of flammable liquids, storage of liquefied gases under pressure, such as Nitrogen, Argon, Helium, etc., storage of cryogenic liquids, adjoining areas where cryogenic gases/liquid are being used).

For some types of such activities, the indications may not be sufficient. Should you require further information, you are requested to contact your point of reference for which the works are being carried out, and/or the Prevention and Protection Service.

Inside some facilities are different types of compressed gas cylinders, to which we ask



you to pay the utmost attention. If you need to work inside these facilities, you will be required to fill the "Permit for Work Inside Confined Spaces" form.

If during your activities you need to use free flame, you will be required to fill the permit for the use of free flames ("Hot Work Permit").

All the works and operations carried out on electric systems, or on any equipment entailing electric risks, can only be authorised after the form "Permit for Work on Electric Equipment" has been filled correctly in full, and duly approved.

The above working permits must be filled and duly authorised before the start of each activity.

We need to remind that the access point to the depot of inflammable and combustible materials and compressed gases must always remain free.

In many areas, lifting and transport devices are in operation (bridge cranes). During their operation, you are kindly requested to move away from areas where there may be danger of loads falling.

For any doubts or specific information on the areas where you will be carrying out works, we ask you to directly contact the Manager in charge, for whom the works are being carried out, and/or the Prevention and Protection Service.



Specific environmental dispositions to implement when carrying out the activities

L.N.G.S. have implemented an Environmental Management System (SGA) in compliance with the UNI EN ISO 14001 international standards, as certified by a third party Body. All the activities carried out inside both the external and the underground L.N.G.S. facilities are regulated by an Environmental Management System Manual, and by specific management procedures and operating instructions. Therefore, all Contractors (Suppliers) are requested, as far as their responsibility and in relation to their activities, to comply with the Environmental Policy of L.N.G.S., which they are required to acknowledge beforehand. In particular, should the activities of the Contractor cause significant environmental impact (discharges, gas emissions, storage and handling of dangerous substances for the environment, production of dangerous waste, etc.), such activities, whether taking place in the underground or in the external laboratories, must be communicated to L.N.G.S. in advance.

For any information or for the authorisations relating to the specific environmental requirements, the Contractor is requested to contact in advance the Head of the Environmental Management System, Eng. R. Adinolfi Falcone (0862 43721), and the Head of Waste Management, Mrs. A. Falgiani (0862 437262).

General Environmental Rules

- Discharging any types of liquids in the underground laboratories is strictly forbidden;
- sinks of both the underground and external laboratories are only for hygiene – sanitary use; the discharge of any other substances is strictly forbidden;
- the introduction in the laboratories of any other substance dangerous for the environment must be notified in advance;
- the storage of substances that are dangerous for the environment must be done in safe conditions, containing or delimiting the designated area, and never close to drainage ducts;
- liquid substances (as well as liquid waste) must be stored by placing them on appropriate containment basins, capable of containing the whole quantity that may spill out.

Rules for the use of chemical agents

- Before starting the activities, provide the Laboratory Nazionali del Gran Sasso with the information on the quantities and types of chemical agents, including compressed, dissolved, and liquefied gases that will be used, and make the corresponding safety data sheets available. The use of chemical agents and gases classed as dangerous must be authorised in advance;
- always have available at hand materials suitable for absorbing or neutralising any spilled chemical agents. In case of spillage, immediately



after the first interventions the Contractor must contact the emergency number, 200, and the RGR;

- do not decant, transfer, etc. chemical agents without first putting in place the necessary measures for the containment of any spillages;
- should it be necessary to temporarily store chemical agents or gases at the facilities of Laboratori Nazionali del Gran Sasso, these must be stored at your responsibilities, complying at least with the following requirements: storage in appropriate locations with containment basins, and where there are no incompatible chemical agents, or situations that may cause danger (free flames, heat sources, etc.). Securing of the gas cylinders in position, displaying of appropriate warning signs stating the dangerous nature of the chemical agents stored.

Special rules for the management of waste

- Collect any waste produced during the activity, sorting it by type, and dispose of it in compliance with current regulations and, where applicable, the Contract conditions;
- the temporary storage of waste produced during your activities must comply with the requirements of the current regulations (in particular art. 183 of Legislative Decree no. 152/06).
- do not abandon waste;
- do not store your own waste in the temporary depots of Laboratori Nazionali del Gran Sasso, unless specifically agreed in the Contract;
- pay the utmost attention when decanting liquid waste, which must always be done after putting in place a spillage containment system. All operations for the transport of liquid waste must be carried out using appropriate containers (fitted with: appropriate seals, accessories and devices for safe decanting and filling, appropriate transport handles). In all cases, the procedures for the transport of waste shall always comply with current regulations (art. 193 of Legislative Decree no. 152/2006).
- always comply, as far as your own responsibilities, to L.N.G.S. procedures for the sorting of waste;
- do not place waste near drainage ducts and water drain wells.

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