APPENDIX B:

ACTIVITIES SHEETS

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ACTIVITY 1: OFFICES

1.1 Per "Under the name "Offices" are meant the buildings and rooms with prevalent use of VDT (Computer) and instruments used for such activities like telephones, forniture, printers, copying machines, etc.

1.2 The typical risks in this area are:

a) Fire due to the presence of papers, forniture, curtains and paddings (ie.g. carpet) - **Fire R.**

b) Stumbling due to the presence, in few cases, of extension cables or supply connections for office machines -**Stumbling R.**

c) Crash against obstacles: forniture and office machines **- Crash R.**

1.3 There are not risks of explosive atmosphere formation (ATEX) because there are not inflammable substances like powders, gases, vapours, fogs.

1.4 "Offices" include the meeting/conference rooms. They are reserved by each applicant at request; they are in any case provided with proper security exit signes.

1.5 The risk identified for these working places are:

a) Fire risk due to presence of furniture - Fire R.

ACTIVITY 2: BIOLOGICAL LABORATORIES

2.1 The research activities that involve use - deliberated or not - of biological agents can generate the potential accidental exposure to biological agents classified according to the D.Lgs 81/08 Title X and following modifications and integrations. The activities can require the execution of test and cell culture, implying in some cases organisms genetically modified (OGM).

2.2 During activities, the following chemical reagents may be used: solvents – inflammable as well-, reagents –also toxic (formamide, phenol, formaldehyde), carcinogenic and mutagenic substances, tracer or radioactive isotope (Phosphorus 32), acid and basic reagents that could cause burn or fire risks. Essentially, activities consist in sampling, transport, weight and handling operations.

2.3 During experiments, technical gases may be used as well for different purposes and supplied as follows:

a) Cooled liquids, e.g. liquid nitrogen;

b) lines system connected to the cylinder box (e.g. oxygen, nitrogen, hydrogen, argon, methane)

c) cylinders of various capacity (e.g. ammonia).

2.4 Typical equipments of a biological laboratory are: autoclave (pressurized high temperature) for sterilization, compressed air vessels, culture reactors for the micro-organism development, centrifuges, shakers, UV lamps, bio extractor hood with UV lamps, laser instruments, IR instruments, gas chromatographs, HPLC analyses instruments, chemical extractor hoods, biological extractor hoods, glove box, incubators, ovens and muffles, reagents and solvents storage cabinets. Open flame (Bunsen flame) and equipments, that can cause burn risk due to hot surfaces, can be utilized too.

2.5 A typical biologic laboratory consists of the following working area, besides ones dedicated to experiments and/or analysis: offices where responsible and researchers generally stay, archives, toilet facilities, access rooms, reagents and solvents storage rooms. The storage room containing chemical substances may be also located at the underground floor of laboratories. Some laboratory's areas are used as temporary storage for biological and chemicals wastes.

2.6 Alcune zone di laboratorio sono adibite a stoccaggio temporaneo dei rifiuti biologici, e dei rifiuti chimici.

2.7 No area with explosion risk (under ATEX regulation) can be normally identified in biological laboratories, anyway the following must be taken in high consideration as potential source of risk:

a) space under fume hood;

b) rooms and cabinet for reagents/solvents storage;

c) areas interested by handling of solvents and products inflammable or that can generate explosive atmosphere;

d) cylinders box, to be classified prudently as Zone 2 (except when only inert gas are stored) either inside and close surrounding area;

e) gas emission sources from supply lines system: valves, gate valves, pressure reducers, safety valves.

2.8 The risks identified for this working place are:

a) Accidental exposure to biological agent – **Biological R.**

b) Exposure to the chemical agents (toxic agents, under oxygenate atmosphere) - **Chemical R.**

c) Fire/explosion (solvents, inflammable gases) – **Fire/Explosion Risk**

d) Stumbling due to the presence, in few cases, of extension cables or supply connections for office machines - **Stumbling R.**

e) Crash against obstacles (furniture, counter) **-Crash R.**

f) Exposure to non ionizing radiations: UV, laser **– Non Ionizing radiations R.**

g) Exposure to ionizing radiations (radioisotope)**– Ionizing radiations R.**

h) Pressure equipments, e.g. autoclaves**- Pressure equipment R.**

i) Chemical Burn/Scald **- Chemical Burn R.**

ACTIVITY 3: CHEMICAL/PHYSICAL LABORATORIES

3.1 "Chemical/physical laboratories" means the laboratories where chemical research activities are performed or equipment and machineries are utilized for physical research purposes.

3.2 Not always this separation is so clear, because, for example, for the experiments or analysis classified as "Physical" may be implied chemical reagents or vice versa.

3.3 Per In the definition of "Physical Laboratory" will be considered the working places where are conducted the activities implying laser equipments, plasma, radio isotope, radiogenic machineries, particles accelerators (e.g. corrosion analysis building 50 "Ciclotrone"), pressure equipments of big dimensions as well (e.g. building 47), experiences in anechoic rooms with EMC sources, experiments about propagations of vibrations on materials. A NMR analysis laboratory is included in the physical laboratory definition.

3.4 The risks identified for this working place are:

a) agenti chemical agents (gases, under oxygenate atmosphere) - **Chemical R.**

b) Fire/explosion (gases , solvents) – **Fire/Explosion Risk**

c) Stumbling - **Stumbling R.**

d) Non ionizing radiations: laser, radiations EMC **– Non Ionizing radiations R.**

e) Ionizing radiations**– Ionizing radiations R.**

f) Pressure equipments, e.g. autoclaves**- Pressure equipment R.**

g) Noise **– Noise R.**

h) Way out intricate or tortuous – **Hexode R.**

i) Chemical Burn/Scald **- Chemical Burn R.**

3.5 Anyway, the activities conducted in a chemical laboratory imply generally: reagents (organic and inorganic), equipments as various glass instruments for chemical reactions, autoclaves (pressure and high temperature vessel), heating baths, pressure equipments, ovens and muffles, analysis instruments (gas chromatograph, HPLC, GC MS, SEM) with laser sources, UV or IR, chemical caps, technical gas.

3.6 In the chemical/physical laboratories technical gases may be used as well for different purposes and supplied as follows:

a) Cooled liquids, e.g. liquid nitrogen;

b) lines system connected to the cylinder box (e.g. oxygen, nitrogen, hydrogen, argon, methane etc.);

c) cylinders of various capacity.

3.7 A typical laboratory consists of the following working area, besides ones dedicated to experiments and/or analysis: offices where responsible and researchers generally stay, archives, toilet facilities, access rooms, reagents and solvents storage rooms. The storage room containing chemical substances may be also located at the underground floor of laboratories.

3.8 Some laboratory's areas are used as temporary waste storage.

3.9 No area with explosion risk (under ATEX regulation) can be normally identified in chemical laboratories, anyway the following must be taken in high consideration as potential source of risk:

a) le space under fume hood;

b) rooms and cabinet for reagents/solvents storage;

c) areas interested by handling of solvents and products inflammable or that can generate explosive atmosphere;

d) cylinders box, to be classified prudently as Zone 2 (except when only inert gas are stored) either inside and close surrounding area;

e) gas emission sources from supply lines system: valves, gate valves, pressure reducers, safety valves.

3.10 The typical risks in a chemical laboratory are:

a) Esposizione Exposure to chemical agents (hazardous reagents or solvents, hazardous gases, under oxygenate atmosphere) - **Chemical R.**

b) Fire/explosion (solvents, gases) – **Fire/Explosion Risk**

c) Exposure to non ionizing radiations: laser, high intensity electromagnetic field**– Non Ionizing radiations R.**

d) Exposure to ionizing radiations **– Ionizing radiations R.**

e) Noise – **Noise R.**

f) Chemical Burn/Scald **- Chemical Burn R.**

3.11 In some laboratories it is possible to find: motor cranes, winch, tackles, for those please refer to the next section.

ACTIVITY 4: WAREHOUSES AND STORES

4.1 Warehouses and stores mean the buildings or part of them used mainly to stock materials, e.g.: garages, closets, factory buildings.

4.2 Most common risks of these working places are determined by the rare presence of personnel or the use of equipments for materials handling (drums, containers, plants or structure parts): lift trucks, motor cranes, winches and tackles.

4.3 There are also fixed structures for high access such as: fixed ladders, single ladder, foot bridge at hight.

4.4 The typical risks of these working areas refer to the lay-out, to the presence of blind corners with regards to vehicles and people visibility, to the visibility of the material handling operators, to the high accessibility, bulky materials on the ground:

a) Stumbling, fall- **Stumbling R;**

b) Run over - **Collision R;**

c) Crash against fixed or mobile obstacles (e.g. block of overhead travelling crane or suspending load) - **Crash risk;**

d) Accidental object falling, stability's loss for handled/stored object - **Object falling R;**

e) Fall from height – **Fall from top R.**

4.5 These areas can be rarely frequented; in these cases to the risks above are added the ones listed in section below.

ACTIVITY 5: SERVICE TECHNICAL SPACE

5.1 Under this name are meant the premises, the rooms, the areas that are not considered as "work places", thus there is no ordinary activities and the constant presence of people. However it is sometimes necessary to access to those areas for controls, surveillance, inspection, periodic verification or maintenance.

5.2 In this definition are included:

a) Cabin MV – LV cabins

b) Power supply units

c) Distribution switchboard cabins

d) Transformer rooms

e) Underground tunnels

f) Buildings underground rooms, generally containing UTA, compressors, air tanks, archives and closets.

g) Elevator rooms, hoists

h) Distribution/reduction gas (methane) cabins

i) Cylinders box

j) Heating plants

k) Underground larder.

5.3 Most common risks of these working places are determined by the rare presence of personnel or their layout (confined places, narrow conduction places) and therefore it is necessary to adopt special safety measures to face possible emergencies.

5.4 Many of those areas are characterized by difficult evacuation exit or inadequate lighting (e.g. underground tunnels).

5.5 Generally are spaces defined as High Risk in Case of Fire (Italian acronym "MARCI") except for methane decompression cabins for which the following considerations.

5.6 Mostly the interior of reduction cabins is zone 1 or zone 2 with reference to ventilation characteristics. In particular the external areas may create hazardous places that can be represented by follows:

a) Safety valves vents, visible because normally are overhead pipes behind decompression box or in close proximity. They create hazardous areas in upside down funnel shaped, Z1 area surrounded by Z2 one.

b) Flange and interception gate valve of the gas inlet pipe (Z2).

5.7 In short the risks which can be considered are:

a) Chi Chemical (gases, under oxygenate atmosphere) - **Chemical R.**

b) Electrocution – **Electrocution R.**

c) Lighting inadequate – **Lighting R.**

d) Fire and/or Explosion (e.g. cylinders box, archives, heating plants, electrical cabins) – **Fire/explosion R.**

e) Works in isolated sites – **Isolated works R.**

f) Way out intricate or tortuous – **Hexode R.**

ACTIVITY 6: CANTEEN AND REFRESHMENT AREAS

6.1 It is referred to kitchen and meals giving areas (buildings 8, 8a, 8b) and to the cafeteria (building 8g).

6.2 The sources of risk for the kitchen, consist of the natural gas supply and warm materials or surfaces (e.g. oil and liquids hot atc.). During the cleaning, the floor surfaces of the kitchen and of the laundry may be very slippery. In fixed hours, the cooks and personnel activities are intense requiring frequent and quick foods displacements and transferences from a room/area to the other.

6.3 The risks in the areas of consumption/giving of meals, sandwiches, and foods, including services (toilets, changing rooms) are referring to the presence of wet floors during the cleaning activities.

6.4 The risks in the area are:

a) Fire/explosion (methane gas , cooking zone only) – **Fire /Explosion R.**

b) Burn (cooking zone only) – **Burn R.**

c) Stumbling/sliding - **Stumbling/sliding R.**

ACTIVITY 7: NURSERY SCHOOLS AND GARDERIE, CLUB HOUSE

7.1 The activities carried out in the nursery schools and in the garderie conist of educational and recreational activities and distribution of ready meals in dedicated areas..

7.2 At the Club House temporary crowding situations can occur for particular events with adults and/or children attendance. Also in the Club house a gas cooker is installed, that can be assimilate for characteristics and dimensions, to a domestic one.

7.3 The risks in the area are:

a) Fire/explosion (methane gas , cooking zone only) – **Fire /Explosion R.**

b) Stumbling/sliding - **Stumbling/sliding R.**

ACTIVITY 8: AREAS OPEN TO THE PUBLIC

8.1 Some buildings can be open to external personnel that can be assimilate to "the public" such as: porter's lodge, guest quarters, bank, postal office and so on.

8.2 In general, bank and postal office buildings are owned by the Commission but the use is allowed to third party.

8.3 The risks in the area refer to performed activities, therefore in addition to the ordinary slipping and stumbling risks during working hours, it must be considered the presence of external personnel:

a) Fire/explosion (methane gas , cooking zone only) – **Fire /Explosion R.**

b) Stumbling/sliding - **Stumbling/sliding R.**

ACTIVITY 9: WORKSHOPS

9.1 Inside the Centre, in some buildings there are rooms and areas used as machine shops, e.g. main workshop, Building 59's workshop, Building 15c's workshop, Building 54's workshop.

9.2 Equipments and tools imply can be summarised as follows: lathes, sawing machines, sharpening machines, drills, calenders, nibbler, grinder machines, sandblast machines, benders, punching machines, plasma cutting machines.

9.3 However it has to be taken into consideration that these areas can include chemical/physical laboratories, already described in the section above, for samples preparation or minor maintenance activities on machineries and systems parts.

9.4 Generally in these areas are used lift trucks, motor cranes or tackles, electric or gas welding spaces, thus all tools which are typically handled in a workshop.

9.5 Further areas, even if aren't workshops, can have similar risks due to the experiments therein performed, e.g. experiments that imply robots or manipulators or machineries (e.g. vehicles crash test, robotics tests).

9.6 The risks identified for these areas are related to: machineries functioning, vehicles or equipments for materials handling presence, building lay-out.

a) Fire- **FIre R.**

b) Interference or accidental contact with working machine gears – **Machinery R.**

c) Noise - **Noise R.**

d) Chimical (welding fumes, oil mist) – **Chemical R.**

e) Fire (welding activities, sparks projection) / Explosion (inflammable compressed gas) – **Fire/Explosion R.**

f) Exposure to non ionizing radiations (welding, EMC fields e.g. induction furnace, laser sources)– **Non Ionizing radiations R.**

g) Objects projection (accidental of pieces in the course of manifacture) - **Machinery R**.

h) Pressure Liquids projections (e.e. oil jets) – **Pressure equipments R**.

i) Stumbling, fall - **Stumbling R**.

j) Run over – **Collision R**.

k) Crash against fixed/mobile obstacles (e.g. crane or hanging load block - **Crash risk**

l) Accidental object falling, stability loss for handled/stored object - **Object falling R.**

m) Fall from height– **Fall from top R.**

ACTIVITY 10: TEMPORARY CONSTRUCTION SITE

10.1 As said in the introduction section, activities related to temporary and movable construction sites, subjected to the "construction sites Directive" are already regulated by rules set by that Legislation.

10.2 The aim of this section is to identify the potential risks related to the activities and working fields at the construction site not regulated by the Directive (e.g. activities that cannot be assimilated to "construction works or civil engineering").

10.3 The reaction wall by Building 48 IPSC Institute where earthquakes effects are studied simulating oscillatory and sussultatory movements on a seizable reinforced concrete structure, leads as example.

10.4 The Client's request involve the following activities jacks assembly, oildinamic pipes connection, carpentry assembly, construction activities, disassembly, demolitions, grinding and welding activities. These activities must be performed at height working on the same structure or by using a lifting platform.

The risks identified can be summarised as follows:

a) In Fire / Explosion– **Fire/Explosion R.**

b) Interference or accidental contact with working machine gears – **Machinery R.**

c) Noise - **Noise R.**

d) Crash against fixed/mobile obstacles (e.g. crane or hanging load block) - **Crash risk**

e) Pressure Liquids projections (e.e. oil jets) – **Pressure equipments R.**

f) Stumbling, fall- **Stumbling R.**

g) Run over – **Collision R.**

h) Accidental object falling, stability loss for handled/stored object - **Object falling R.**

i) Fall from height – **Fall from top R.**