"Augmentation of existing EMC test facility at SAMEER Navi Mumbai campus & setting up of Safety test facility for Medical devices"
Society for Applied Microwave Electronics Engineering and Research.

Environmental and Health Risk Management Plan

1. Institutional Arrangements

Requirements	Current Status	Mitigation Steps
Institutional Bio-Safety Committee (IBSC)	Not Applicable as this is a testing facility.	Not Applicable as this is a testing facility.
EHS Team	An EHS team is not formed / available in the organisation as we do not deal with any process that may lead to any substantial environmental or health risk	We shall follow guidelines issued in this regard
Documentation and Record Keeping in reference to the risks mentioned below and quantifiable records of generated waste and compliance measures.	No documentation and records are maintained as testing work does not involve any of the environmental risk	The documentation is not required as the testing work does not involve any risk to the environment
SOPs related to Environment Compliance e.g Chemical spillage handling, waste segregation etc.	Being an Electronic Test laboratory, we are not required to handle any hazardous chemicals/ waste. Hence no SOPs related to environmental compliance have been prepared	The SOPs will be prepared if required in future as per requirement
General Safety and Storage	The fire / electrical hazard related and general safety norms recommended by the local bodies are being followed	The fire safety material / equipment are monitored periodically and replenished serviced.

2. Environmental Impact and risk mitigation:

Risks	Project Specific Risk	Potential Impact	Mitigation Steps
Air Pollution	Minimal Risk. There is no particular air pollution associated with the equipment needed for the testing facility.	There is very little potential impact in the air quality due to the usage of the equipment to be used in the facility.	Not Applicable. The facility will not produce any specific air pollution.

Water Pollution and Waste water treatment	Minimal Risk. Routine use of water as in any facility (cleaning, washrooms etc.).	The facility will not emit any water pollutant as a process byproduct, as this will be a testing facility for medical devices and other equipment.	The sewage water line is connected to local municipal sewage line which is being handled / treated by local Municipal authorities
Chemical waste	Minimal Risk. No chemicals will be used in this facility as it is primarily an electrical testing facility.	Not Applicable. The facility will not produce any chemical waste.	Not Applicable. The facility will not produce any chemical waste.
Biological Waste	Minimal Risk. The facility will not undertake handling of any biological material for testing.	Not Applicable. The facility will not undertake handling of any biological material for testing.	Not Applicable. The facility will not undertake handling of any biological material for testing.
Heavy metals	Minimal Risk. No heavy metals will be used in this facility as it is primarily an electrical testing facility.	Not Applicable. The facility will not use any heavy metals. Any and all metallic objects in the facility will be commercial equipment.	Metal waste will be generated in case of breakdown of test equipment or periodic repairs. Such waste will be disposed according to existing laws.
Electronic Waste	Minimal risk. Only electronic waste generated will be due to breakdown of equipment such as accessories, spares, metallic wires etc.	Environmental destruction due to improper waste disposal.	Regular AMC of equipment will be undertaken to prevent breakdown. Waste generated will be disposed according to existing laws.
Radiation Waste	Minimal Risk. There is no radiation or radioactive waste expected from the facility.	Use of ionising radiation in this project is nil or very minimal (involves if X-Ray machines are being tested)	The radiation generating equipment would be tested in Shielded room. Applicable guidelines, if any would be followed. Radiation emitting equipment (that may or may not contain radioactive isotopes) will be tested at the facility. However, equipment handling,

			including any spillage, will be the responsibility of the customer.
Destruction/ alteration of surrounding ecosystem	Minimal Risk. There will be no specific waste created that will damage the ecosystem.	Destruction or alteration of the ecosystem may cause risks to animals and trees and the surrounding environment.	Transport of material in and out of the facility will be done using existing roads. No specific alteration will be needed. No specific type of waste will be generated that will damage the ecosystem.
Construction and Demolition waste	Minimal Risk. The proposed facility will be built by minimal modification of an existing structure.	Damage to surrounding environment and area of dumping.	Interior refurbishment will be done in existing building to upgrade the facility. No large-scale civil work will be undertaken.

3. Occupational Health and Safety and risk mitigation:

Risks	**Project Specific Risk**	**Potential Impact**	**Mitigation Steps**
Heat Hazards	Moderate Risk. Heavy usage of some particular equipment for longer duration may generate some amount of heating. Primary source is environmental chamber oven.	No specific impact due to use of EMI/EMC equipment. However, minor physical injuries might occur due to sparks generated during certain testing.	Centralized air conditioning will be installed. Personal protective equipment will be provided to users as required.
Chemical hazards, including fire and explosions	Minimal Risk. No chemicals will be used in the EMI/EMC testing facility. Possibility of fire is due to faulty electrical wiring, short circuit, equipment breakdown etc.	Destruction of material and property, health deterioration, loss of life and limb.	No chemicals will be used in the EMI/EMC testing facility. ABC/ ABE fire extinguishers will be available in the facility to handle electric fires. Personal protective equipment will be provided to users as required.

Pathogenic and biological hazards	Not applicable as the facility will not handle any biological material.	Not applicable as the facility will not handle any biological material.	Not applicable as the facility will not handle any biological material.
Radiological hazards	High Risk. Radiation-emitting medical equipment will be tested at the facility. These include X-rays, gamma rays etc. Lasers-emitting equipment will be tested. Electromagnetic radiation (non-ionizing) of low power will be present throughout the facility.	Exposure to ionising radiation damages cells in the body. Long term exposure may result in health problems such as cancers. Direct exposure to focused lasers may cause eye and skin damage. Prolonged exposure to high power RF radiation can lead to heating of body tissue.	No open sources of radiation will be used in the facility. Ionizing radiation exposure will occur only on operation of machine, and this will be done remotely from outside the semi-anechoic chamber. All RF Radiation test will be done in the semi-anechoic chamber (shielded environment) without any human intervention. All safety measures will be taken, including use of personal protective equipment (such as lead-lined clothes) as required.
Noise	Minimal Risk. Test equipment will not generate high noise. Higher probability of noise will be from equipment received for testing.	Continuous high decibel noise can lead to hearing impairment and deterioration of health.	Noise levels will be contained when equipment will be tested remotely in the closed semi-anechoic chamber. When tested in open, appropriate personal protective equipment will be used by test personnel.
Process safety	Moderate Risk. Following proper protocols and SOPs are essential to avoid any accidents or injuries.	Strictly not following the proper protocol and SOPs during usage of the facility may affect the health of the persons engaged in or connected therewith.	We have process risk assessment and engineering controls. Engineering and equipment maintenance shall be undertaken as per SOP's.

4. Community Health and Safety and risk mitigation

Risks	Project Specific Risk	Potential Impact	Mitigation Steps
Safety Transportation Management System (for transport of hazardous material)	Minimal Risk. Safe transport of equipment for testing is the responsibility of the manufacturer.	Not applicable as there will be no hazardous material produced in the facility or needed to be transported.	Not applicable as there will be no hazardous material produced in the facility or needed to be transported.
Emergency preparedness and participation of local authorities and potentially affected community	Minimal Risk. The hazards to which a community is exposed and the vulnerabilities are least for this project.	Since the facility is primarily for testing of equipment and does not utilize any highly flammable material or manufacturing processes, potential impact of any accident or calamity is very limited.	Emergency contact numbers will be listed in the facility. Emergency exit signs will be displayed appropriately in the facility. Fire extinguishers will be placed.
In case your organization already has **EHS guideline**, please summarise the same. If not, please describe the impact because of hazardous material, release of chemicals, biologicals, management of catastrophic events like fire/explosion**.**			

Notwithstanding the above other risk (relevant to the project activities) that will be identified in the course shall be addressed as per standard mitigation monitoring parameters and manner of records keeping shall be in accordance to the recommendations of the project monitoring committee on subject experts engaged by BIRAC.