

Environmental Health Risk Management Plan (EHRMP)

Maulana Azad Medical College

Proposal entitled ‘The development of a Health and demographic surveillance site with focus on epidemiological survey of Dengue and Chikungunya in an urban resettlement colony and slum in Delhi: a prospective observational study’

1. Institutional Arrangements

(i) Brief description of the proposed activity					
(ii) List of environments related regulatory clearances required for the activity.					
Institutional Arrangement					
		Yes	No	Details	Proposed Plan
1.	Is there a designated full-time staff for Environment Health and Safety (EHS) issues?		NO	A designated faculty/resident provides EHS training to the staff (doctors and technical)	Based on the Project requirement a Consultant will be hired on need basis.
2.	Does the EHS staff handle the following?				All the recruited staff will be trained through a structured course on Biomedical Waste Management at the institution.
	Occupational Health and Safety	YES			
	Waste Management	YES			
	List of consents and regulatory clearances	YES			
	Record keeping of accidents and procedures	YES			
	EHS trainings for staff	YES			
	Environment Management Framework compliance for Innovate in India Project		NO		
3.	Is there a reporting structure in place regarding EHS issues?		NO	As per institutional norms	Currently, BMW training is being provided every six months. We plan to coordinate with the state EHS cell for provision of necessary training to the recruited staff
4.	Are regular EHS trainings provided to staff?	YES		Frequency: Ongoing training	Will coordinate with the state EHS cell for provision of necessary training to the recruited staff.
5.	Institutional Bio-Safety Committee (IBSC)	YES		As a part of the Institutional Bio waste Management	-

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				committee	
6.	Ethics Committee (EC)	YES		The Institutional Ethics committee is registered. The committee meets every month for assessing the projects and deciding on their ethical approval	Project report submitted every 6 months for review and necessary action. Any adverse reaction will be reported at the earliest
General Occupational Health and Safety					
7.	Are there Standard Operating Procedures for accidents, hazards, and other emergencies (chemical spills, heat hazards, fire hazards, radioactive hazards etc.)?	YES			The field office does not have risk of chemical and radioactive hazards. However, for fire and heat hazards, the area will be upgraded appropriately
8.	Are the following in place?		NO		Fire extinguisher will be replaced, a register of accidents and injuries will be maintained on regular basis, we will operationalize eye wash stations and keep in place chemical spill kits
	Chemical spill kits		NO		
	Eye wash		NO		
	Shower stations	YES			
	First Aid Kit		NO		
	Fire Extinguishers		NO		
	Register of accidents and injuries		NO		
9.	Are proper signage and storage system in place?	YES		Displayed and reviewed periodically by the Public Health Nurse	These would be regularly updated/ replaced.
	Display of Material Safety Data Sheet (MSDS) where relevant		NO		
	Display of emergency numbers and procedures (Person to Contact, Doctor, Ambulance, Fire Emergency, Police) displayed in all critical places	YES			
	Signage across the facility (labs, storage, hazardous areas, etc.)	YES			
	Are flammable materials appropriately stored to prevent fire hazards?		NO		
10.	Are smoke detectors, fire alarms, automatic safety/shut off systems, overflow preventors, etc. in place and regularly maintained?		NO	List:	We will request the institution and the government of NCT, Delhi to provide these fire-control measures.
11.	Are there control measures for VOC, air emissions, high operating temperatures, pathogens/vectors etc. in place?		NO	List:	Not applicable to our primary care settings
12.	Are regular mock drills conducted for emergency preparedness and		NO	Frequency (type wise):	Once the equipment is in place, mock drills will be

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	safety?				conducted as per the training manual provided
13.	Are staff provided with OHS training?	YES		Describe:	Training is provided to MBBS undergraduate and community medicine resident doctors at the Maulana Azad Medical College, during their family health advisory posting
Biomedical Waste (BMW)					
14.	Is there generation of biomedical waste (as described in Bio-Medical Waste Management Rules, 2016) in the grantee?	YES		If Yes, provide a list of biomedical waste produced in the facility 1. Cotton 2. Syringes 3. Needles 4. Gloves 5. ELISA kits for HIV, HBsAg, HCV and Syphilis 6. UPT kits 7. Blood lancet 8. Glass Slides 9. Chemical wastes like Reagents for AFB 10. Sputum collecting containers 11. Gauze	
15.	Is there trained staff to handle biomedical waste in the grantee?	YES		All staff is trained on BMW management	Periodic refresher training will be provided to all the staff at the site
16.	Has the grantee obtained authorization from State Pollution Control Board /Pollution Control Committee?	YES		The site is a registered facility under the aegis of the Govt. Of NCT, Delhi	Registration status will be monitored and updated as required
17.	Is the biomedical waste segregated	YES		Yellow	YES Compliance with the

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	at point of generation in the facility and stored in suitable containers?			Red White Blue	YES YES YES	regulations of the biomedical waste management rules for biomedical waste segregation, storage and disposal will be monitored by the investigators
18.	Is the bar code system for the segregated waste in place?	YES				Will be updated as per the protocol of the outsourcing agency
19.	Is the biomedical waste being sent to an authorized common BMW facility?	YES		Name and address of CBMWF: SMS WATERGRACE BMW PVT LIMITED (Joint Venture with Govt Of NCT Of Delhi) STP Plant, Nilothi, New Delhi 110041 Distance from facility: Frequency and Mode of transport: Alternate day Who transports? SMS WATERGRACE BMW PVT LIMITED (Joint Venture with Govt Of NCT Of Delhi) STP Plant, Nilothi, New Delhi 110041		
20.	Does the grantee have an in-house BMW treatment facility?		NO	Reason: Authorization:		Outsourced as per government of NCT rules and regulations

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			Distance of nearest CBWM from facility:	Types of treatment:	
1.	Is the treatment facility own (individual)?		NO		
2.	Is the treatment facility a shared facility in an industrial park?		NO		
21.	Are lab waste, microbiological waste and chemical liquid waste pre-treated before storing and sending to treatment facilities according to guidelines prescribed in BWM, 2016 regulations?		NO	Currently, liquid infectious waste is not being generated.	Liquid waste will be mixed with 1 % Sodium Hypochlorite and retained for a contact period of 20 minutes before letting it flow into the public drain.
22.	Is the liquid waste checked for active cells before sending to treatment plant?	YES			Blood samples will only be collected at the field office and they will be transported and processed at the outsourced NABL lab.
23.	Are necessary waste pre-treatment equipment in place?	YES		List of equipment (autoclaves, shredders, incinerators, etc.): Details of waste pre- treatment:	Blood samples will only be collected at the field office and they will be transported and processed at the outsourced NABL lab.
	Do the equipment adhere to prescribed norms by State Pollution Control Board (SPCB)?	YES			
24.	Are non-chlorinated plastic gloves and bags phased out in the grantee?	YES			Will be periodically checked for regular compliance
25.	Are grantee's personnel involved in handling BMW provided with regular training?	YES		Frequency: At-least once a year Trainer: Dept. Of Microbiology MAMC	
26.	Are medical examination provided to personnel involved in BMW waste handling and are they provided with relevant immunization like Hepatitis B and Tetanus?	YES		Frequency of medical examination:	Hepatitis B and tetanus vaccine are available and will be administered as per norms.
27.	Is a daily register for biomedical waste maintained including accident reporting record?		NO	A daily register will be maintained	The daily register will be monitored by the public health

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					nurse posted at the field office
28.	Are annual reports on BWM submitted to SPCB as per required form (see Bio-Medical Waste Rules 2016)?	YES			Common authorization certificate of the outsourced lab will be procured.
Hazardous Waste (HW)					
29.	Is there generation of hazardous waste (as per Hazardous Waste Rules, 2016) in the grantee?	YES		If Yes, provide a list of hazardous waste produced in the facility If No, provide a list of all waste produced in the facility.	Blood Sharps Blood samples will be collected, and transported to the outsourced NABL lab for processing under all aseptic precautions Sharps will be transported to the CBMWF
30.	Is there trained staff in the facility to identify and handle hazardous waste?	YES		Ongoing BMW training by the Dept. of Microbiology, MAMC	
31.	Does the grantee have authorization from SPCB for hazardous waste?	YES			The authorization status will be periodically updated monitored
32.	Is there a secure location for storage of HW with proper signage?		NO	Describe how each item is stored – platforms, distances from critical installations/movement areas, spill collectors, gas escape facility, etc.	Hazardous waste is at-most stored in the field office for 24 hours
	Are hazardous waste stored for more than 90 days in the grantee's premises?		NO		
33.	Is the hazardous being send to an authorized disposal facility or user?	YES		Name and address of facility:	SMS WATERGRACE BMW PVT LIMITED (Joint Venture with Govt Of NCT Of Delhi) STP Plant, Nilothi, New Delhi 110041
	Is the disposal facility in house?		NO		
	Is the disposal facility external/outsourced?	YES			
34.	Is a register maintained on production and treatment, and a manifest system followed for transport of hazardous waste from the grantee to treatment		NO		A register will be maintained and periodically updated and monitored by the Public Health Nurse.

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	facility?				
E-Waste and Batteries					
35.	Does the grantee generate e-waste, produce or manufacture electrical and electronic equipment?		NO		
36.	Is there accident reporting and records in place?		NO	A register for accident reporting and records will be maintained	The register will be periodically updated and monitored by the Public Health Nurse posted at the field office
37.	Are PPEs available to staff?		NO	Adequate PPE will be procured	PPE will be provided
38.	Is the grantee involved in manufacture of batteries?		NO		
39.	Does the grantee generate battery waste?		NO		
Community Health and Safety and risk mitigation					
40.	Safety Transportation Management System (for transport Of hazardous material)		NO		Blood samples will be collected, and transported to the outsourced NABL lab for processing under all aseptic precautions Sharps will be transported to the CBMWF
41.	Emergency preparedness and participation of local authorities and potentially affected communities	Yes		Co-ordination meetings with the local community and state health authorities is regularly conducted	Emergency preparedness plan will be followed as and when needed.
Other					
42.	Does the grantee use any radioactive materials (isotopes tracers, radiation equipment, etc)?		NO		No radiowaste generated as it is a primary care facility
43.	Is the lab/room air regularly checked for microbial contamination?		NO		MAMC does not have its own lab. All related activities are outsourced to NABL lab for processing.
44.	Are there any odor control measures in place?		NO		Described above
45.	Are fume hoods and exhausts regularly checked and maintained?		NO		

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46.	Does the grantee use DG set > 15 KVA?		NO		No DG backup is available
	Does the grantee have consent for DG > 15 KVA?		NO		
	Are emissions from boilers and DG sets regularly monitored to be within the prescribed norms?		NO		
47.	Does the grantee have proper disposal process for solid and plastic waste in compliance to Solid Waste Management Rules, 2016 and Plastic Waste Management Rules, 2016?		NO	Describe	Syringes and vaccine caps disposed as per Biomedical Waste Management rules (outsourced)
48.	Is wastewater treated separately by the grantee? (Liquid waste from laboratory, chemicals, fluids, solvents, medium and cultures, coolants, etc.)		NO	Types of wastewater: Treatment of wastewater: Chemical management in wastewater treatment plants:	Samples will be processed at outsourced NABL laboratory having common authorization certificate.
	Are there sludge management and cut off drains in place for wastewater?		NO		
49.	Are necessary provisions for noise cancellation in place?		NO	Describe:	Necessary steps and measures will be taken if there is any noise pollution created by MAMC.
50.	Are there any settlements, water bodies, cultivated land, or any other eco-sensitive areas near the grantee's premises?		NO	Describe: Distance from premises:	
51.	Are there any buffers, fire vehicle routes in the grantee's premises?		NO		Delhi firefighting services are available on-call and their services will be availed as and when needed.

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.