

## Environmental Health Risk Management Plan (EHRMP)

### Andhra Medical College

Proposal entitled: “ **Establishment of DSS/DHS/DDESS for studying the sero-prevalence of Dengue and Chikungunya in Vishakhapatnam among the population of the field Practice area of Andhra Medical College , Vishakhapatnam, Andhra Pradesh.**”

#### 1. Institutional Arrangements

(i) Brief description of the proposed activity: The project involves establishment of Demographic surveillance site to obtain demographic, epidemiological and environmental database of the identified cohort in the first and second years. By beginning of 3 <sup>rd</sup> year, Data on sero-prevalence of Dengue/chikungunya among healthy individuals is obtained. At the end of third of year, the incidence of dengue and chikungunya and age specific attack rates can be calculated.					
List of environments related regulatory clearances required for the activity.: State Pollution Control Board					
<b>Institutional Arrangement</b>					
		Yes	No	Details	Proposed Plan
1.	Is there a designated full-time staff for Environment Health and Safety (EHS) issues?		No	The proposed site is in the field practice area of the Medical College namely the RHC Simhachalam. It is basically a health centre providing preventive, curative and promotive services. The staff nurse/multipurpose health supervisors (male) take up the EHS issues as needed.	The Public Health Engineer at the Institution will be entrusted with the work. Based on the Project requirement a Consultant will be hired on need basis.
2.	Does the EHS staff handle the following?			Any other: None	The EHS staff designated by the Medical officer will look after the issues and the activities will be reviewed by the Medical Officer.
	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	Not applicable		The site is primarily a health centre and	

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				environmental risk is minimal from physical agents	
3.	Is there a reporting structure in place regarding EHS issues?	Yes		Staff nurse/Multipurpose Health Supervisor incharge of receiving EHS issues for onward submission to the Medical Officer	Reporting as per NABH guidelines will be done.
4.	Are regular EHS trainings provided to staff?	Yes		Not very frequently	Will plan as per guidelines
5.	Ethics Committee (EC)	Yes		as per DHR/DCGI guidelines	Project will be commenced only after getting approval from Ethics Committee (EC).
<b>General Occupational Health and Safety</b>					
6.	Are there Standard Operating Procedures for accidents, hazards, and other emergencies (chemical spills, heat hazards, fire hazards, radioactive hazards etc.)?	Yes		Standard operating Procedures in place in the Rural health Centre, which is the project site	Will ensure display of procedures at prominent places in the site.
7.	Are the following in place?			Kits and Registers Available with the Staff nurse	Arrangements are under process for fire extinguishers. Provisions for shower station will be done.
	Chemical spill kits	Yes			
	Eye wash	Yes			
	Shower stations	No			
	First Aid Kit	Yes			
	Fire Extinguishers	No			
	Register of accidents and injuries	Yes			
8.	Are proper signage and storage system in place?	Yes		Displayed and periodically reviewed by Medical Officer (Deputy Civil Surgeon) of the RHC	Additional provisions will be made for the project
	Display of Material Safety Data Sheet (MSDS) where relevant	Yes			
	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,	yes			

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	etc.)				
	Are flammable materials appropriately stored to prevent fire hazards?	yes			
9.	Are smoke detectors, fire alarms, automatic safety/shut off systems, overflow preventors, etc. in place and regularly maintained?		No	The Andhra Medical College is provided with fire alarms but the RHC is yet to be provided at the facility.	Arrangements are in process to initiate fire safety measures at the facility.
10.	Are there control measures for VOC, air emissions, high operating temperatures, pathogens/vectors etc. in place?	Yes		List: Control measures for pathogens: Biomedical waste segregation is done. Rodent control measures are taken. Restricting the patient entry to prevent aerobic bacteria. Disinfection of OT by fumigation every month. Production of VOC, Air emission, High operating temperature is not applicable	The existing framework will be strengthened by periodic supportive supervision by the public Health Engineer.
11.	Are regular mock drills conducted for emergency preparedness and safety?	Yes		once in 6 months	
12.	Are staff provided with OHS training?	Yes		once in a year	Training includes patient safety. Handling of blood, other biological products. Handling and disposal of waste products.
<b>Biomedical Waste (BMW)</b>					

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13.	Is there generation of biomedical waste (as described in Bio-Medical Waste Management Rules, 2016) in the grantee?	Yes		Yes Anatomical waste, microbiological waste, sharps, Soiled waste, discarded medicines, solid, liquid and chemical waste.	The waste generated through project will be handled as per the Bio-Medical Waste Management Rules, 2016)
14.	Is there trained staff to handle biomedical waste in the grantee?	Yes		The Outsourcing Agency provides training	Periodic reinforcement will be done.
15.	Has the grantee obtained authorization from State Pollution Control Board /Pollution Control Committee?	Yes		In the process	Relevant authorization from AP pollution board will be taken.
16.	Is the biomedical waste segregated at point of generation in the facility and stored in suitable containers?	Yes		Color coded bins are in place- Red, Yellow White& Blue	Compliance with the regulations of the biomedical waste management rules for biomedical waste segregation, storage and disposal will be monitored by public Health Engineer
17.	Is the bar code system for the segregated waste in place?		No	Is in the process	Bar coding will be regularly updated as per policy guidelines.
18.	Is the biomedical waste being sent to an <b>authorized</b> common BMW facility?	Yes		Name and address of CBMWF:  Distance from facility:  Frequency and Mode of transport:  Who transports?	MARIDI 50-27-15/4, first floor, TPT colony, Seethammadhara, Visakhapatnam 530013 23 KM Every 48 hrs by Van MARIDI
19.	Does the grantee have an in-house BMW treatment facility?		NO	Reason: state Government Policy is to outsource the	Is taken care by MARIDI 50-27-15/4, first floor, TPT colony, Seethammadhara, Visakhapatnam
	Is the treatment facility own (individual)?		NO		

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	Is the treatment facility a shared facility in an industrial park?		NO	facility  Authorization: MARIDI Distance of nearest CBWM from facility: 22 km Types of treatment: Incineration Sharp pits, Shredding	530013
20.	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?	Yes		Types of treatment: Chemical treatment/ disinfection	Waste generated during this project will be treated as per good lab practices
21.	Is the liquid waste checked for active cells before sending to treatment plant?		No	Although not checked for active cells but Chemical treatment/ disinfection is done before discarding	Waste generated during this project will be treated as per good lab practices.
22.	Are necessary waste pre-treatment equipment in place?	yes		List of equipment: autoclaves, hub cutters.	Waste generated during this project will be treated as per good lab practices
	Do the equipment adhere to prescribed norms by State Pollution Control Board (SPCB)?	Yes		Details of waste pre- treatment: hubcutters used for separating needles before discarding in puncher proof container	
23.	Are chlorinated plastic gloves and bags phased out in the grantee?	Yes		Outsourced agency is providing the bags	

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24.	Are grantee's personnel involved in handling BMW provided with regular training?	Yes		Frequency: once in a year  Trainer: Team members from HICC from the parent institute- (dept of Community Medicine and Microbiology)	The concerned staff of Andhra Medical College will be trained at the start of the project
25.	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: Once in a year.	This practice will be checked periodically
26.	Is a daily register for biomedical waste maintained including accident reporting record?	Yes		Quantum of Waste generated is measured and documented thrice a week. All the spillage/accidents are documented in a register and supervised by the Public Health Engineer	The waste generated under this project will be minimal and will follow the same BMW rules.
27.	Are annual reports on BMW submitted to SPCB as per required form (see Bio-Medical Waste Rules 2016)?	No		As the agreement is recently obtained, it will be done from this year	Regular submission will be done from this year.
<b>Hazardous Waste (HW)</b>					
28.	Is there generation of hazardous waste (as per Hazardous Waste Rules, 2016) in the grantee?	Yes		Bio-hazardous waste such as motor oils etc are handled by the maintenance agency Unused chemicals/drugs are returned to the central drug store	The site is a primary health centre. The collection, treatment and disposal of hazardous waste generated will comply with the rules.
29.	Is there trained staff in the facility to identify and handle hazardous waste?	Yes		Trained every year.	
30.	Does the grantee have authorization from SPCB for hazardous waste?	Yes		In the process	Consent to operate application submitted to

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					AP pollution board for authorization
31.	Is there a secure location for storage of HW with proper signage?	yes		They are disposed immediately as and when generated.	
	Are hazardous wastes stored for more than 90 days in the grantee's premises?		No		
32.	Is the hazardous being send to an <b>authorized</b> disposal facility or user?		No	handled by the external agency: Sigma Diesel 30-15-198, first floor, Suryabagh, near Dolphin Hotel, Visakhapatnam	The collection, treatment and disposal of hazardous waste generated will comply with the rules.
	Is the disposal facility in house?		No		
	Is the disposal facility external/outsourced?	yes			
33.	Is a register maintained on production and treatment, and a manifest system followed for transport of hazardous waste from the grantee to treatment facility?		No	The work is done every 6 months by the dealer (external agency) which maintains its register and handles the waste itself.	The collection, treatment and disposal of hazardous waste generated will comply with the rules.
<b>E-Waste and Batteries</b>					
34.	Does the grantee generate e-waste, produce or manufacture electrical and electronic equipment?	Yes		Generated but in minimal quantity.	The very minimal amount of e-waste generated if required AMC can implement certain process for it in consultation with BIRAC adhering to E-waste management Rules.
35.	Has the grantee obtained SPCB authorization on e-waste?		No	As it is a 10 bedded Health center, no separate SPCB authorization taken.	
36.	Does the grantee channelize the e-waste to <b>authorized</b> recycling or disposal facility?		No	E waste generated has not yet required disposal.	Activities in the project generating e-waste will be handled as per the guidelines.
37.	Does the grantee maintain a record of collection, storage, sale	Yes		Record of collection,	Agency identified for

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	and transport of e-waste?			storage of e waste is available. The Andhra Medical College has identified an agency for e waste.	disposal.M/S Yahowah Nissi, D.no. 22-7-8, kadambarivari street, Chengalraopeta, Visakha patnam. Activities in the requiring sale and transport will be handled as per the guidelines
38.	Does the grantee submit annual reports on e-waste to SPCB?		No	Not submitted as of now.	Annual reports will be submitted to SPCB hence forth.
39.	Is there accident reporting and records in place?	Yes		Registers are maintained to record any such accidents	Activities under the project will also be recorded.
40.	Are PPEs available to staff?	Yes		Available in project site	Ensure regular provision under the project.
41.	Is the grantee involved in manufacture of batteries?		No	The project does not involve manufacturing products.	The project does not involve manufacturing products.
42.	Does the grantee generate battery waste?	Yes		Through inverters	Battery waste guidelines will be followed.
43.	Does the grantee deposit the battery waste to <b>registered</b> recycler/dealer/manufacturer/reconditioner/collection center?	Yes		Guidelines were not very specifically followed earlier	Will be complying with the relevant guidelines and rules governing regulation of e-wates.
<b>Community Health and Safety and risk mitigation</b>					
44.	Safety Transportation Management System (for transport of hazardous material)	yes		Transport and management are done by an outsourced agency	Will follow the same for the project activities.
45.	Emergency preparedness and participation of local authorities and potentially affected communities	Yes		Low hazard facility	Low hazard project Training will be given to handle hazardous waste/ fire accidents as emergency preparedness.
<b>Other</b>					
46.	Is the lab/room air regularly checked for microbial contamination?	Yes		The Infection Control committee does regular checks	Regular monitoring will be done.
47.	Are there any odor control measures in place?		No	RHC has adequate surrounding space for exchange of air and cross ventilation.	Periodic cleaning will be done.



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				Allowing the emitted odorants to be diluted.	
48.	Are fume hoods and exhausts regularly checked and maintained?	Yes		regularly checked and maintained	Preventive maintenance plan will be put in place.
49.	Does the grantee use DG set > 15 KVA?	Yes		Provided through state government supplied by contracting agency.	
	Does the grantee have consent for DG > 15 KVA?				
	Are emissions from boilers and DG sets regularly monitored to be within the prescribed norms?	Yes			
50.	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?	Yes		Segregation of dry and wet waste done, collection by local municipal authorities.	Single use plastic will not be generated in the facility.
51.	Is wastewater treated separately by the grantee? (Liquid waste from laboratory, chemicals, fluids, solvents, medium and cultures, coolants, etc.)	Yes		Types of wastewater: Waste water from lab, wards, theatres.  Treatment of wastewater: None  Chemical management in wastewater treatment plants: None	Minimal waste water is expected to be generated at the facility under this project.  It will be treated as per the BMW2016 rules.
	Are there sludge management and cut off drains in place for wastewater?	Yes		Drainage facilities and Conventional type of septic tank is present.	
52.	Are necessary provisions for noise cancellation in place?		No	Describe: there is no scope for production of high intensity noise.	There is no scope for production of high intensity noise.
53.	Are there any settlements, water bodies, cultivated land, or any other eco-sensitive areas near the grantee's premises?	Yes		Only Residential settlement nearby  Distance from premises: settlement is present surrounding the health facility. RHC is located amidst residential	As there are no disturbance from the proposed project no specific plan is identified.

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				areas. Water bodies / cultivated lands/ eco sensitive areas are at least 3 km far. No disturbance from the proposed project.	
54.	Are there any buffers, fire vehicle routes in the grantee's premises?	yes		Adequate space is available for fire vehicle to enter.	Ensure the same in future.

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.