

## Environmental Health Risk Management Plan (EHRMP)

### 1. Institutional Arrangements

- (i) Vaxfarm life Sciences shall carry out all its proposed work under the proposal will be carried out at the Incubator at the RCB where the company is located. The institutional arrangement that is in place between RCB and the Incubator will follow the existing EHS procedure, a Brief description of the proposed are detailed below
- (ii) Being a company located in the Incubator, all biological waste is to be disposed/processed as per the policy of EHS cell of the Incubator at RCB and the EHS policy of the facility is in place List of environments related regulatory clearances required for the activities are detailed below.

<b>Institutional Arrangement</b>				
Area of Risk	Yes	No	Details	Proposed Plan
1. Is there a designated full-time staff for Environment Health and Safety (EHS) issues?	yes			The concerned staff will be trained on the Environment Health and Safety (EHS) and will comply with the norms and EHS requirements
2. Does the EHS staff handle the following?			Any other:	
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	yes		EHS cell of the Incubator at RCB and EHS policy of the facility is in place along with other required guidelines to monitor research and development activities.	We will comply to Environment Management Framework compliance for Innovate in India Project
3. Is there a reporting structure in place regarding EHS issues?	yes		Describe: EHS committee discusses issues in its periodic meetings and take up specific issues with the stake holders.	SOPs and formats to record any incidents and EHS issues will be structured as a part of EHS policy.

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4.	Are regular EHS trainings provided to staff?	yes		Frequency: quarterly	Training calendars shall be prepared for employees. Training will be provided as and when required to all the existing as well as newly recruited staffs
5.	Institutional Bio-Safety Committee (IBSC)	yes		IBSC of the Incubator of RCB is in place and due approvals will be taken from the Committee.	IBSC meetings are in place regularly for the approvals of the projects. The work will start once the IBSC approval is obtained.
6.	Ethics Committee (EC)	yes		Approval will be obtained from IEC once the project is sanctioned.	IEC meetings will be conducted on project-to-project basis and committee will review the safety and ethical aspects of the project.

**General Occupational Health and Safety**

	Area of Risk	Yes	No	Details	Proposed Plan
7.	Are there Standard Operating Procedures for accidents, hazards, and other emergencies (chemical spills, heat hazards, fire hazards, radioactive hazards etc.)?	yes		SOP's are available with the facility	SOPs and formats to record any accidents, hazards, and other emergencies will be structured
8.	Are the following in place?			All are located at strategic locations of the incubator facility for easy accessibility	Register will be maintained for ensuring provisions of such requisites.
	Chemical spill kits	yes			
	Eye wash	No			
	Shower stations	No			
	First Aid Kit	yes			
	Fire Extinguishers	yes			
	Register of accidents and injuries	No			

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9.	Are proper signage and storage system in place?	Yes	All details are printed on a sheet with visible fonts size and placed located at strategic locations for easy accessibility and readability	Facilities will be upgraded with the activities increased.
	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, etc.)	yes		
	Are flammable materials appropriately stored to prevent fire hazards?	yes		
10.	Are smoke detectors, fire alarms, automatic safety/shut off systems, overflow preventors, etc. in place and regularly maintained?	yes	<ol style="list-style-type: none"> <li>1. Detectors, MCB, Control panel, Hooters etc test on weekly basis</li> <li>2. Automatic Fire Sprinkler system</li> <li>3. Automatic Fire Hydrant system cover all internal and external areas</li> <li>4. Firefighting equipment's such as fire extinguisher cylinders</li> <li>5. Weekly testing of complete fire alarm and fighting system regularly maintained</li> </ol>	Facilities will be maintained and upgraded with the activities increased.
11.	Are there control measures for VOC, air emissions, high operating temperatures, pathogens/vectors etc. in place?	yes	<ol style="list-style-type: none"> <li>1. Regularly maintained temperature <math>24 \pm 2</math> degree centigrade within lab by controlling AHU's</li> <li>2. Regularly executing preventive maintenance of all DG sets through authorized service providers</li> <li>3. Execute air emission test once in a year through CPCB authorized agency</li> <li>4. All laboratories and corridors are regularly sanitized.</li> </ol>	Preventive measures with all precautions will be put in place by the facility as and when required during the project.
12.	Are regular mock drills conducted for emergency preparedness and safety	yes	Frequency (type wise): As per the protocol	Mock drills are conducted will be

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					documented.	
13.	Are staff provided with OHS training?	yes		Facility conducts training programs on regular basis.	All the staff will be provided with trainings including newly joined staff.	
<b>Biomedical Waste (BMW)</b>						
	<b>Area of Risk</b>	<b>Yes</b>	<b>No</b>	<b>Details</b>	<b>Proposed Plan</b>	
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  Sharps Microbiology waste Chemical waste Liquid chemical waste	Biomedical waste will be sent to PCB authorized third party	
15.	Is there trained staff to handle biomedical waste in the grantee?	yes		Biomedical waste handling will be done through the centralized process managed by Incubator through trained staff /outsourced agency	staff will be trained on biomedical waste policies.	
16.	Has the grantee obtained authorization from State Pollution Control Board /Pollution Control Committee?	yes		Authorizations obtained	Necessary Authorizations will be taken if required with timely renewals.	
17.	Is the biomedical waste segregated at point of generation in the facility and stored in suitable containers?	yes		Yellow	yes	Will follow Biomedical waste management rules
				Red	yes	
				White	yes	
				Blue	yes	
18.	Is the bar code system for the segregated waste in place?	yes		System is in place	Will follow bar code system	

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19.	Is the biomedical waste being sent to an <b>authorized</b> common BMW facility?	yes	<p>Name and address of CBMWF:M/s Golden Eagle Waste Management Company, Village Jasana, Tigaon road, Faridabad</p> <p>Distance from facility: 15 kms</p> <p>Frequency and Mode of transport: 48 hrs, &amp; Transport provided by M/s Golden Eagle Waste Management Company</p> <p>Who transports? M/s Golden Eagle Waste Management Company</p>	Biomedical waste will be sent to PCB authorized facility.
20.	Does the grantee have an in-house BMW treatment facility?	No	Reason: outsourced to agency, as mentioned above	Biomedical waste will be sent to PCB authorized facility
	Is the treatment facility own (individual)?	No		
	Is the treatment facility a shared facility in an industrial park?	No	<p>Authorization:</p> <p>Distance of nearest CBWM from facility:</p> <p>Types of treatment:</p>	
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?	yes	<p>Types of treatment: Chemical waste is disposed off by M/s Bharat Oil and Waste Management Ltd. And vendor approved by UPPCB.</p> <p>For microbiological waste 10% bleach, 5%</p>	Compliance calendar shall be maintained.

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			Amphyl (phenolic), 0.5% Wescodyne (iodophor) (or its equivalent) is used. For disinfection, 70% ethanol is used. Autoclaving is done as per BWM, 2016 guideline.	
22.	Is the liquid waste checked for active cells before sending to treatment plant?	yes		Will monitor this during the Project and if needed will propose a plan of treating the same as per BWM Regulations.
23.	Are necessary waste pre-treatment equipment in place?	yes	List of equipment (autoclaves, shredders, incinerators, etc.):	Regular monitoring shall be done adhering to the norms of SPCB
	Do the equipment adhere to prescribed norms by State Pollution Control Board (SPCB)?	yes	Autoclaves, STP Details of waste pre-treatment: Autoclaves are available for disinfecting all biological waste before sending to the waste disposal agency. STP is used to treat liquid effluent.	
24.	Are chlorinated plastic gloves and bags phased out in the grantee?	yes	Non chlorinated bags only in use	Will use only non-chlorinated bags
25.	Are grantee's personnel involved in handling BMW provided with regular training?	yes	Frequency: Quarterly  Trainer: As appointed by the Facility in-charge	Training will be provided to the staff handling biomedical waste as per the existing frequency mentioned.

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26.	Are medical examination provided to personnel involved in BMW handling and are they provided with relevant immunization like Hepatitis B and Tetanus?	No		This is being ensured by the outsources BMW agency for their employees as mandated by law	This practice will be checked periodically and compliance will be ensured.
27.	Is a daily register for biomedical waste maintained including accident reporting record?	yes		Bio medical waste record is maintained	This practice will be followed and updated with constant review.
28.	Are annual reports on BWM submitted to SPCB as per required form (see Bio-Medical Waste Rules 2016)?	yes			Will ensure that this compliance is done regularly within the timelines.
<b>Hazardous Waste (HW)</b>					
	<b>Area of Risk</b>	<b>Yes</b>	<b>No</b>	<b>Details</b>	<b>Proposed Plan</b>
29.	Is there generation of hazardous waste (as per Hazardous Waste Rules, 2016) in the grantee?		No	Hazardous waste is not generated. Only Chemical waste, biological waste is produced in the facility.	Disposed of hazardous waste will be done as an when required according to Hazardous Waste Rules, 2016
30.	Is there trained staff in the facility to identify and handle hazardous waste?		No	Hazardous waste is not generated	
31.	Does the grantee have authorization from SPCB for hazardous waste?		No		Authorizations will be obtained if required ,  Timely proper and relevant renewals will be taken if required
32.	Is there a secure location for storage of HW with proper signage?		No	Hazardous waste is not generated	
	Are hazardous waste stored for more than 90 days in the grantee's premises?		No		
33.	Is the hazardous being send to an <b>authorized</b> disposal facility or user?		No	Hazardous waste is not generated	
	Is the disposal facility in house?		No		
	Is the disposal facility external/outsourced?		No		
34.	Is a register maintained on production and treatment, and a manifest system followed for transport of hazardous		No	Hazardous waste is not generated	

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	waste from the grantee to treatment facility?				
<b>E-Waste and Batteries</b>					
	<b>Area of Risk</b>	<b>Yes</b>	<b>No</b>	<b>Details</b>	<b>Proposed Plan</b>
35.	Does the grantee generate e-waste, produce or manufacture electrical and electronic equipment?		No	E waste is not generated in our activity	The list of authorized centres will be obtained from Govt. and disposal of the e-waste will be done as per E-waste Management Rules.
36.	Has the grantee obtained SPCB authorization on e-waste?		No	E waste is not generated in our activity	Company will obtain the authorization from SPCB as and when the need arises.
37.	Does the grantee channelize the e-waste to <b>authorized</b> recycling or disposal facility?		No	E waste is not generated in our activity	Will select an authorized vendor authorized and listed by the Government to channelize any e-waste generated in future.
38.	Does the manufacturing grantee have Extended Producer Responsibility system and EPR-authorization in place?		No	E waste is not generated in our activity	Appropriate authorization will be obtained before moving to mass production stage.
39.	Does the grantee practice reduction in the usage of hazardous substances in the manufacture of electrical and electronic equipment and its parts?		No	E waste is not generated in our activity	
40.	Does the grantee provide detailed information on the constituents of the equipment and their components/spares and declaration of conformation to Reduction in Hazardous Substances in the product user documentation?		No	E waste is not generated in our activity	
41.	Does the grantee maintain a record of collection, storage, sale and transport of e-waste?		No	E waste is not generated in our activity	
42.	Does the grantee submit annual reports on e-waste to SPCB?		No	E waste is not generated in our activity	
43.	Is there accident reporting and records in place?		No	E waste is not generated in our activity	
44.	Are PPEs available to staff?		No	E waste is not generated in our activity	The stock status of PPE will be regularly

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				activity	monitored and procurement will be done in time to avoid any situation of stock out as and when needed.
45.	Is the grantee involved in manufacture of batteries?		No	E waste is not generated in our activity	
46.	Does the grantee generate battery waste?		No	E waste is not generated in our activity	
47.	Does the grantee deposit the battery waste to <b>registered</b> recycler/dealer/manufacturer/reconditioner/collection center?		No	E waste is not generated in our activity	The list of authorized centres will be obtained from Govt. and disposal of the e-waste will be done as per E-waste Management Rules.
48.	In case of manufacturing, does the grantee comply to Battery Management Rules 2000 and ensure collection of old batteries?		No	E waste is not generated in our activity	
<b>Community Health and Safety and risk mitigation</b>					
		<b>Yes</b>	<b>No</b>	<b>Details</b>	<b>Proposed Plan</b>
49.	Safety Transportation Management System (for transport of hazardous material)	Yes			Will follow the norms of PCB
50.	Emergency preparedness and participation of local authorities and potentially affected communities		No		Will develop the emergency preparedness plan

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Other					
	Area of Risk	Yes	No	Details	Proposed Plan
51.	Does the grantee use any radioactive materials (isotopes tracers, radiation equipment, etc)?		No	Radioactive materials not involved in our activity	Not in a scope of radioactive materials
	Does the grantee have appropriate radioactive material and waste storage and disposal system in place?		No	Radioactive materials not involved in our activity	Not in a scope of radioactive materials
	Are radioactive warning signs in place?		No	Radioactive materials not involved in our activity	Not in a scope of radioactive materials
52.	Is the lab/room air regularly checked for microbial contamination?		No		Proper measures will be put in place and Periodic checks will be done if required
53	Are there any odor control measures in place?		No		Proper measures will be put in place and Periodic checks will be done if required
54.	Are fume hoods and exhausts regularly checked and maintained?		No		Proper instruments will be put in place and Periodic checks will be done if required
55.	Does the grantee use DG set > 15 KVA?	yes		Facility doesn't have boiler but DG set is regularly monitored.	DG set will be regularly monitored.
	Does the grantee have consent for DG > 15 KVA?	yes			
	Are emissions from boilers and DG sets regularly monitored to be within the prescribed norms?	yes			
56.	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		Non- hazardous solid and plastic waste is disposed to Municipal Corporation,	It will be ensured that segregation rules are followed. This will be maintained and monitored

57.	Is wastewater treated separately by the grantee? (Liquid waste from laboratory, chemicals, fluids, solvents, medium and cultures, coolants, etc.)	yes		Types of wastewater: Sewage water Waste water is treated through STP and treated water is being utilized for horticulture and chiller plant. Chemical management in wastewater treatment plants: Chemical waste is disposed off through third party approved by UPPCB. Laboratory medium and cultures: These are treated with bleach and is disposed off as bio-medical waste.	These will be periodically checked and maintained to ensure their proper functioning.
	Are there sludge management and cut off drains in place for wastewater?	yes			These will be periodically checked and maintained to ensure their proper functioning.
58.	Are necessary provisions for noise cancellation in place?	yes		Silent DG generator is used in the facility according to the test report their noise level is within permissible limit.	Preventive measures will be taken for reducing noise levels if generated.
59.	Are there any settlements, water bodies, cultivated land, or any other eco-sensitive areas near the grantee's premises?		No	Describe: Not in the vicinity of the facility	
60.	Are there any buffers, fire vehicle routes in the grantee's premises?	yes			Will ensure cleared for fire safety including vehicle routes

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