OFFICE OF THE MEDICAL SUPERINTENDENT
LAHORE GENERAL HOSPITAL, LAHORE

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No. AMS (STAT-DMP) _____ /LGH, Dated, Lahore the / _____ /2018

CIRCULAR

The Flood Emergency Response Plan is one means of ensuring site resilience to flooding, as well as staff safety. An effective Flood Emergency Response Plan, when properly executed, can greatly reduce potential property damage and services/ business interruption. The Disaster Management and Meteorological authorities have forecasted unusual rains in the country. Every year, the monsoon season brings disaster to this institution due to its geographical location creating challenges to the administration as well as to the patients/ visitors.

2. Keeping in view the above, the **"Flood Emergency Response Plan"** of Lahore General Hospital is developed for coordinating response to flood, This plan and subsequent actions are tactical in nature, in that the disaster will probably last a very short period of time and is brought under control rather quickly. The Flood Emergency Response Plan addresses the incident prior to, during and directly after impact in orders to preserve property and restore critical operations.

3. This Plan after its approval by the competent fora is being circulated to all concerned with the request to kindly implement the provisions of the plan in order to lessen damages and to cope with the expected disaster situation in the institution, please.

By the Orders of
(Prof. Dr. Agha Shabbir Ali)
CE/Principal
PGMI/AMC/PINS/Lahore General Hospital, Lahore

No. AMS (STAT-DMP) 568094-70 /LGH, Dated, Lahore the, 13-7 /2018

A copy of the above is forwarded for information to the:

1. Secretary to Government of the Punjab, Specialized Healthcare & Medical Education Department.
2. CE/Principal, PGMI/AMC/PINS/LGH & Allied Health Institutions, Lahore.
3. Medical Superintendent, Lahore General Hospital, Lahore.
4. All the AMSs/ DMSs, PINS and Lahore General Hospital, Lahore.
5. All the Heads of Clinical Departments of PGMI/AMC/PINS/LGH, Lahore.
6. Director (Emergency), Lahore General Hospital, Lahore.
7. Director (OPD), Lahore General Hospital, Lahore.
8. Director Finance, LGH, Lahore
9. Chief Pharmacist, LGH, Lahore.
10. All Store Incharges of LGH, Lahore.
11. AMS (Statistics/PGRs/SMB/HRS/BBM)/Focal Person HRS, PGMI/AMC/LGH, Lahore.
12. Incharge Computer Cell, LGH, Lahore for its placement on the official website of the institution.
13. Office File.

13-7-18.

AMS (Statistics/PGRs/Service Matters)
Lahore General Hospital, Lahore

FLOOD EMERGENCY RESPONSE PLAN
PGMI/AMC/PINS/LAHORE GENERAL HOSPITAL, LAHORE & ALLIED HEALTH INSTITUTIONS

INTRODUCTION:

The Flood Emergency Response Plan is one means of ensuring site resilience to flooding, as well as staff safety. An effective Flood Emergency Response Plan, when properly executed, can greatly reduce potential property damage and business interruption. Most flooding events allow an adequate warning period to implement an effective emergency response plan. This warning period is an important factor to consider in the development of the plan. The definition of the "critical" flood hazard, at which mitigation measures are recommended, differ from country to country, as well as regionally within the same country. However, for water body flood, it is generally recommended that a site within a 0.2% annual probability of occurrence flood zone, i.e. 500 year return period, consider such measures. Sites within wind-driven flood zones, e.g. typhoon, tropical cyclone or hurricane, as well as regions prone to flash floods, are also recommended to develop an emergency response plan.

The Flood Emergency Response Plan of Lahore General Hospital is developed for coordinating response to flood, This plan and subsequent actions are tactical in nature, in that the disaster will probably last a very short period of time and is brought under control rather quickly. The Flood Emergency Response Plan addresses the incident prior to, during and directly after impact in orders to preserve property and restore critical operations.

The Flood Emergency Response Plan of Lahore General Hospital consists of three Phases:

I. PREPARATION PHASE:

The activities during this phase are primarily of a planning nature, and are a part of a comprehensive risk assessment analysis. The time frame for these activities is typically several weeks/months before a potential event:

Action	Details	Responsibility
Identify source of flood; river, streams, lake, rain, reservoir, dams	Clarify with local authorities for: Locations with high value and/or significant contribution to the group value chain, conduct a site specific flood analysis. Even small streams or topographic features, e.g. if the site is in a low-lying area, can lead to flooding.	Focal Person to contact Local/Provincial authorities (Like CDG, PDMA, Health Department etc.)
Identify and contact authorities and agencies responsible for monitoring of water-level or rain intensity (forecasting and monitoring services)	Identify local authorities responsible for this service and include the site management/emergency response team in any notification and warning service issued by this authority or agency. Define the time between the various warning levels and time required for the event to reach the site for each individual water source.	Focal Person to contact Local/Provincial authorities (Like CDG, PDMA, Health Department etc.)
Determine the lead time available to implement the flood plan:	• Identify the local authority or agency responsible for monitoring meteorological and water body conditions. • Establish the conditions (water levels or rain intensities) at which warnings are issued by the relevant authorities and the time/distance until adverse conditions reach the site. • Define actions for each warning level and the team responsible for implementing these actions, as well as	• Focal Person • Medical Superintendent to notify Response Team

	resources required, for each individual water source.	
Identify alternative supply routers, supplies and storage areas	Water-sensitive content and some parts of production can be relocated to alternative levels or storage facilities.	Chief Pharmacist and his/her team
Back up critical computer data and ensure important paper documents are stored in a safe place	Important digital documents and data should be backed up regularly to a data center or storage area which is located offsite and not considered to be at risk from the same flood event • Critical paper documents should be stored away from basement and ground floor levels in flood prone areas.	AMS (Statistics)/ Incharge Computer Cell
Define emergency response Team	Ensure that a sufficient number of trained personnel and proper resources will be available at all appropriate times, before, during and after the event, to implement the plan: • Members of the Team must have authority to implement the requisite response actions. • The Team should include not only trained staff, but also any auxiliary equipment, spare parts, replacements, and fuel. • Conduct regular testing of pumps or other equipment, e.g. emergency lighting, backup power supply. • Ensure adequate fuel is available for emergency equipment. Store fuel safely according to fire safety requirements and ensure it will not be impacted by flood water. • Communication protocols should be clearly established and the means of communication should consider	Notified Flood Emergency Response Team

	solutions to potential issues such as loss of cell phone battery power without mains power to recharge or cell phone network outages (For the latter, the plan should include alternative means of communication such as the posting information on an internet page, sending emails for mass communication or issuing satellite phones for use between key personnel, etc.)	
Identify equipment, stock and material, which could potentially be affected by roof damage-induced flooding	• Inundation of the building due to roof damage is a common occurrence not only due to high intensity rain but also wind events. In such cases, rain infiltrates through the roof into the building, resulting in damaged equipment and stock, predominately in the upper levels of the building. • Ensure a regular inspection and maintenance plan is being implemented for building envelopes (wall panels, roofing systems, drainage systems, doors, windows), especially for production-critical buildings or those with high-value content.	Administration/Medical Superintendent/ Directors concerned
Identify below-ground structures potentially exposed to flood water inundation	• Identify flood protection measures for these critical areas. • Redistribute high-value or production-critical equipment to higher levels. • Identify which material and portable equipment must be relocated from flood exposed areas before flood waters inundate the site, in accordance with the flood monitoring and warning systems and associated action plan.	Administration/Medical Superintendent/ Directors concerned

	• Define septic tanks, sewage lines, etc. through which flood water can backflow into the buildings or site and provide backflow prevention valves, where necessary.	
Identify which flood exposed equipment and structures must be anchored to secure foundations	• Uplift (buoyancy) of equipment, tanks, machinery, etc. due to flood can be avoided by pre-event identification of such components. As an example, day tanks for emergency power generators and firefighting pumps, storage tanks, etc. • Besides anchorage, top-up of these elements can also be implemented to prevent flood-induced buoyancy.	Administration/Medical Superintendent/ Directors concerned
Include inspection of roof panels, gutters, water proofing systems, roof mounted equipment anchorages, conditions of eaves, etc. in the building regular maintenance plan.	• Architectural and topographic features can result in high variations in wind forces on different parts of the building. Identify these critical areas with the support of a qualified structural engineer. • Wind damage of these elements can lead to tear-off of roof panels and exposure of building contents to rain damage. Regular maintenance reduces likelihood of damage. • It is recommended to conduct a detailed structural analysis of wind resistance of these components, especially for older buildings. Such an investigation is to be conducted by a qualified structural engineer in accordance with pertinent wind design codes.	Flood Emergency Response Team and Incharge AMS of Works Department alongwith his/her Team
Include regular checks of all equipment, including fuel supply for pumps,	Prepare a formal building maintenance plan, where types, frequency,	Administration/Medical Superintendent/ Directors concerned

emergency power generators, etc. in the building regular maintenance plan	responsibilities, etc. of activities are clearly defined. Results of inspections are to be documented.	
Include roof and site drainage systems in the building regular maintenance plan	Ensure that building contents are protected when conducting any activities, such as pressure testing of drainage pipes.	Flood Emergency Response Team and Incharge AMS of Works Department alongwith his/her Team
Verify that all installed back-flow valves and closures are fully functional	This is to be included in the building regular maintenance plan.	Flood Emergency Response Team and Incharge AMS of Works Department alongwith his/her Team
Conduct regular training exercises, also with participation of local emergency services	Document all lessons-learned and define and implement areas of improvement.	Flood Emergency Response Team and Incharge AMS of Works Department alongwith his/her Team
Include details of utility suppliers (gas, power, water etc.) into flood plan	• Continued supply of utilities is necessary for post-event site rehabilitation and resumption of activities. • Contact utility suppliers and become familiar with their response plans, including definitions of the critical flood levels and corresponding actions.	Flood Emergency Response Team and Incharge AMS of Works Department alongwith his/her Team
Include details of various contractors into flood plan	• The list may include: sprinkler system contractor, power transformer contractor, heat exchange room contractor, plumbers, decorators etc. • This is necessary also for post-event rehabilitation of the site.	Flood Emergency Response Team and Incharge AMS of Works Department alongwith his/her Team
Prepare diagrams/plans showing locations of shutoff valves in accordance with the Government's Building Codes Manual	• Identify locations of backflow valves, power, gas, water valves and other utilities. • Define responsibilities and action levels for each stage of the event with regards to shut-down levels of the plant.	Flood Emergency Response Team and Incharge AMS of Works Department alongwith his/her Team
Sign contracts with sub-contractors for post-event recovery work	These are companies, who support the site in post-event debris removal, repair of	Flood Emergency Response Team and Incharge AMS of Works Department

	damaged infrastructure, etc.	alongwith his/her Team
Prepare hand tools and personal protective equipment (PPE)	Equipment for small repairs, which can be used in such situations, e.g. shovels, mattock, submersible pumps, etc. should be stored in an accessible place. Pumps and other mechanical items should be checked and tested, and the results of these should be documented. Pre-purchase blowers and dehumidifiers in order to facilitate the drying out process of building and assets. These items will be in high demand post-event.	All concerned
Identify needed sewer lines backflow protection, e.g. at exit points of black, i.e. industrial, water or sewage water pipeline, septic tanks, etc.	Use drainage drawings and design documentation to determine locations of septic tanks, outlets, etc.	Flood Emergency Response Team and Incharge AMS of Works Department alongwith his/her Team
Identify construction material that could potentially be damaged by flood water, e.g. facade elements of composite panels, and prepare a stock of replacement material	• Scarcity of construction materials is common after any natural hazard event. Providing a stock of replacement material, as well as onsite expertise to conduct necessary repairs, ensures quick restoration of operations after the flood event. • Consider replacement of water-sensitive construction materials, e.g. replace composite panels for façade elements with precast concrete at critical buildings.	Flood Emergency Response Team and Incharge AMS of Works Department alongwith his/her Team

II. RESPONSE PHASE:

Once the flood trigger levels and corresponding time-frame for each level have been identified, the corresponding actions and resources at each level can be defined. Activate the contingency/ Emergency Response Plan in the predefined sequence according to the defined hazard (trigger)/ action levels.

Maintain a detailed log of events (diary or log book)	Detailed documentation of the event, e.g. maintaining a log book documenting alarm stages, internal communications and actions, photos of measures taken onsite and of the event before, upon and after arrival onsite, etc. will not only facilitate the post-event loss adjustment exercise but also support the emergency response team and site management in improving the response plan.	All concerned
Keep stakeholders informed of situation	• Not only suppliers and customers, but also staff should be informed of developments. • Inform tenants/suppliers to stop goods delivery • Communication function, to both employees as well as to local authorities, media, etc. should be defined within the emergency response team	Flood Emergency Response Team
Prepare for safe shut-down of operations	Critical operations and utilities are to be identified as part of the risk assessment conducted during the preparation stage.	Flood Emergency Response Team
Remove all hazardous substances to a safe location	These locations, as well as access routes, based on flood levels are to be defined during the preparation stage.	All concerned
Remove portable machinery & equipment to higher levels (groundwater/river flood) or away from the building envelope (wind/rain flood)	These locations, as well as access routes, based on flood levels are to be defined during the preparation stage.	All concerned
Remove stocks to higher levels or away from building envelope	These locations, as well as access routes, based on flood levels are to be defined during the preparation stage.	All concerned
Close any manual sewer backflow prevention valves and plug drains and/or sewer lines to prevent sewage backup	-	Incharge Sanitation alonwith his/her Team

Check and plug toilets (basement toilets in potential flooding areas should be removed and the drain pipe should be plugged)	-	
Isolate any low level electrical equipment, shut down machinery & equipment	Equipment which is not portable and cannot be removed must be protected from flood effects.	Incharge Sanitation alonwith his/her Team
Contact storage facility for mobile flood protection systems (if applicable)		Administration/Medical Superintendent/ Directors concerned
Secure all buildings	Restrict re-entry to all buildings once evacuated and secure the premises	Administration/Medical Superintendent/ Directors concerned

III. RECOVERY PHASE:

These actions are to be undertaken once the pertinent authorities have declared conclusion of the flood event and the site may be safely accessed.

Assess and document damages	Document (with photos) extent of damage. This will facilitate the claims process.	Flood Emergency Response Team/ Administration
Contact staff and inform of situation	Communication function, to employees, clients, suppliers, as well as to local authorities, media, etc. should be defined within the emergency response team	Flood Emergency Response Team
Initiate clean-up operations when safe to do so	• Site access only after instructions from pertinent authorities. • Remove ruined, moisture-soaked objects from the affected buildings and away from the walls to facilitate the drying out process. Damaged material, which is also most likely to be contaminated, is to be disposed according to local regulations. • Hire or purchase blowers and dehumidifiers to assist in the drying out	Flood Emergency Response Team/ Administration

	process	
Have all utilities checked by qualified personnel before use	Power and other utilities to be restored only after inspection by qualified personnel to ensure employee safety upon resumption of operations and prevent equipment damage.	Flood Emergency Response Team/ Administration
Conduct environmental controls the environment	If water has been collected in retention pits, test surface water collected therein for potential contaminants prior to drainage or release into the environment.	Flood Emergency Response Team/ Administration
Inform the Administrative Department off all actions, post-recovery efforts, damages etc.	-	Flood Emergency Response Team/ Administration

Prepared By:

AMS (STATISTICS/PGRs/SERVICE MATTERS)/
FOCAL PERSON HRS

Verified By:

Medical Superintendent
Lahore General Hospital, Lahore

Approved By:

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