

Contact: Joan Racki

**UNIVERSITY OF IOWA FLOOD RECOVERY –
LESSONS LEARNED**

Action Requested: Receive the attached report from the University of Iowa.

Executive Summary: The University of Iowa has provided the attached report on lessons learned from the 2008 Flood, as requested by the Board at its February 2009 meeting. Topics included are: utilities and building systems, financial/insurance, data on predicted river dynamics, land use, programmatic needs, operations and disaster management, and communications and partnerships.

UNIVERSITY OF IOWA REPORT
FLOOD RECOVERY - LESSONS LEARNED

Over the course of the past eight months, the University has made note of circumstances and processes that have hindered or aided in the flood response and recovery processes. This will continue throughout the months to come. The University has been assisted by a number of consultants and flood recovery experts. Ayres Associates, the University's flood mitigation consultants, has assisted Facilities Management in developing a "lessons learned" document covering the utility system and facilities. This process was supplemented by HBK Engineering, a Chicago-based firm with expertise on utility tunnel systems.

UI's Department of Urban and Regional Planning, in conjunction with the Office of the Provost and the University's Risk Manager, is developing a "lessons learned" document focusing on other operational issues. The Department will be interviewing key personnel and will be reporting on four critical subjects: evacuation, personnel needs during the emergency, vendor and contract issues, and timing of major decision-making. This report (in abbreviated, bulleted format) is scheduled to be completed by the end of March.

Below are listed critical lessons learned that have been identified to date. This list is not intended to be a static document but rather will be refined and supplemented as new information becomes available and circumstances change. The learning process described below has been integrated into University decision-making and particularly judgments about immediate mitigation actions and the replacement of eligible facilities defined by FEMA. The latter analysis is found in another Board agenda item for March.

1. Utilities and Building Systems:

- University needs additional energy generation and distribution redundancy, particularly for West campus health care and laboratory research facilities.
- Location of permanent steam generation only on the East campus is an area of vulnerability.
- University needs to protect tunnel systems from infiltration or substitute direct bury lines.
- Location of electrical/mechanical systems in buildings needs to reflect flooding potential.
- University needs to develop emergency energy conservation/curtailment plan, including for major research enterprises (e.g.: fume hoods, specialized freezers).

2. Financial/Insurance:

- University needs to expand reliance on high deductible insurance and self-protection. The objective is to become less dependent on FEMA for recovery.
- Letter of credit or liquidity facility needs to be readily accessible.
- University needs to retain overall a strong liquidity position and maintain needed reserves for individual enterprise units.
- Fundraising must be a factor in financing performing arts replacement facilities.

3. Data on Predicted River Dynamics:

- Better upstream data is needed – Corps of Engineers model of dam discharge/river profile model should be reviewed and updated. Up-to-date hydraulic models and reliable upstream flow measurement information is essential for flood management.
- National Weather Service data/projections should be reviewed and communications processes defined.
- Independent assessment of landscape contours should define different land uses along the river.
- UI's IIHR – Hydrosience & Engineering (Hydraulics Institute) is a vital partner, and its expertise is critical in flood prediction and management.

4. Land Use:

- Less expensive structures and functions (e.g. parking, recreation and athletic playing fields) could be located on land which could occasionally be limited by flooding.
- Ways need to be found to bring the Iowa River into the campus life without exposing the University to the threat of unacceptable flood risks.
- Dubuque Street vulnerability to flooding and lengthy closures should be reviewed with the City of Iowa City.
- University needs additional adjacent land over the long-term. Replacement facilities need to fit within overall campus plan (see <http://masterplan.facilities.uiowa.edu/>)

5. Programmatic Needs:

- The re-occupancy of space flooded in 2008 must be judged from a risk management perspective in every instance – including the capacity for losses to be protected through commercial insurance.
- Insurability is an insufficient factor to rebuild or reoccupy space. The economic damage factor is crucial, but factors of University reputation, loss of time by valued faculty and students and enduring the overall displacements during recovery need to be considered.
- Performance arts could be better served and protected by aggregating venues and sharing support facilities.
- The Museum of Art could benefit from shared support with other activities (performance arts) and creation of a more visible destination for the public.

6. Operations and Disaster Management:

- Robust risk management function and identified disaster management leadership and planning throughout the UI needs to be supported adequately.
- Incremental decision-making regarding for closing facilities and limiting operations during a flooding event needs to be developed and documented.
- Vulnerability to street/bridge closure needs to be evaluated. Plans to respond need to be developed with local and state governmental bodies.
- Emergency transportation planning involving Iowa City, Coralville, Johnson County, Iowa DOT (perhaps Linn County and Cedar Rapids as well) should be pursued.
- Evacuation protocol and pre-ordered evacuation services need to be developed for selected buildings and segments of campus.
- University needs contingency plans to address Mayflower Residence Hall isolation.

7. Communications and Partnerships:

- University and Board Office partnerships and communications are vital and necessary when extraordinary approvals or powers are sought.
- Communication and relationships within the University and with external support organizations need to be nurtured – State Government, County Emergency, Corps of Engineers, National Guard, Homeland Security, surrounding cities.
- The University must have strong flood prevention and mitigation relationships with local governments and the Corps of Engineers in the operation of the Coralville Reservoir.
- Continued strong working relationships with loss prevention experts at Lloyds of London and FM Global insurance are needed.
- FEMA historical/environmental reviews and UI Campus Planning process need to be integrated.
- Daily meetings of University and external support personnel (e.g.: National Guard) during the height of the flood were invaluable.
 - Use of sub-groups focusing on specific tasks worked well.
- Use of flood website to provide clearinghouse of information proved valuable.
- Regularly scheduled press briefings involving key personnel were an important tool to provide external communication.