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**Planning for the Unexpected: Developing Innovative Disaster Training Exercises for Library Personnel**

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**Abstract**

*The challenge of preparing librarians and administrators to respond to disasters is one that few institutions have conquered. Even those with rigorous training and preparedness exercises face the challenge of managing a crisis in which many individuals will not remember their role or purpose in the response. Moreover, the fact that many disasters impact not only library collections but the people inside means that first responders are often viewed as not addressing the needs of a threatened collection. This paper outlines a training program developed at the University of Illinois at Urbana-Champaign in order to prepare its personnel for the challenges of dealing with a large-scale library disaster.*

**Introduction**

How does one demonstrate the ferocity of a disaster? How does one communicate the sense of helplessness that pervades while one watches one library, one's life's work, go up in flames or drown under swirling flood waters? Or, more prosaically, how does one demonstrate that while first responders (fire, police, etc...) value your collections, their concern for our collections is largely tempered by their primary concerns - protecting human life and preventing a fire's spread?

Disaster planning, preparedness, and recovery exercises have been a mainstay of library and archival preservation efforts for many years. Yet, they remain largely abstract concepts for most librarians. For those unfortunate enough to have experienced a significant disaster, the reality of

such an event is indelibly etched into their minds. But, for those fortunate enough to have been spared visions of such a loss, success in preparing ones colleagues and oneself for such a catastrophic loss remains elusive.

While I would argue that few are ever be completely prepared for such an event, educating oneself and one's colleagues remains critical to the success of any preservation program. Despite the continuing evolution of library preservation, disaster preparedness remains one of the most elementary aspects of any preservation and conservation program. It is also one of the programmatic elements most easily ignored by a library's staff and patrons. The feeling that "it can't happen here" prevails and increases the likelihood of an institution neglecting its obligations to prepare for the worst. Thus, the basic need to prepare a facility and its personnel for disaster response remains a major concern.

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For example, the University of Illinois at Urbana–Champaign (UIUC) faces any number of potential disaster situations. Tornadoes and severe storms rage across the Midwest on a regular basis. The institution sits reasonably close to the New Madrid fault, and the aging facilities housing the bulk of the Library's collections are susceptible to any number of age-related structural and facilities disasters. Moreover, given that the Main Library covers 500,000 square feet of floor space, the risk of accidental or purposefully set fires destroying portions of the collection remains a threat that no one can adequately monitor.

As the Library's Emergency Response and Security Task Force completed a new Disaster and Emergency Response Manual in 2004, the need for staff training became apparent. This work fell to the Library's Preservation Committee. As discussions about the training developed, it became obvious that the library's personnel as a whole remained unprepared. Many members of the disaster response team lacked basic familiarity with larger issues of disaster response, let alone familiarity with the plan. While everyone agreed on the need for training, the exact format remained undetermined until a Preservation Committee member mentioned the possibility of partnering with the Illinois Fire Services Institute, a unit on UIUC's campus.

### **The Illinois Fire Services Institute**

Like most states in the United States, Illinois supports a fire academy for training or certification of first responders in firefighting, emergency medical response, fire investigation and prevention, hazardous materials, rescue operations and homeland security. Headquartered at the UIUC's campus, the Illinois Fire Services Institute (IFSI) fulfills this role in Illinois through classroom education, hands-on training and distance education courses. The IFSI campus includes an administrative building with classroom spaces, a firehouse, a fire tower for simulating high rescues, several bunker-like burn sites for use in simulating fires, parked train cars for hazardous materials response training, simulated collapsed buildings and a number of other prepared facilities. IFSI's faculty consists of a combination of full-time and adjunct professionals.

## **Partnering for Success**

Although initially met with some hesitance by Preservation Committee members, the possibility of working with IFSI was quickly embraced as the training possibilities were considered. With the IFSI's librarian serving as a liaison between our two groups, the committee arranged for several meetings to present the Library's needs to IFSI's administration and tour the facilities. Most importantly, these meetings provided an opportunity to size one another up, evaluate the potential collaboration and determine if the project would prove worthwhile. Within a short time, all agreed that the potential benefits outweighed the Library's limited budget for this exercise. The Library received support to develop an innovative training program, and IFSI would get the opportunity to explore a potential avenue for expanding its mission.

## **The Classroom Training**

Library members and IFSI quickly settled on a schedule that would include classroom training and hands-on exercises. Limiting attendees to those named within the Library's disaster plan, the training began with a classroom session focusing on library disaster preparedness and response, followed by a presentation by a local fire station's division fire chief. His presentation focused on a first responder's role during an emergency with heavy emphasis on saving lives over property and the benefit accrued by developing and sustaining open lines of communication with first responders prior to an emergency.

After this discussion, participants received boxed lunches and viewed a computer generated walk-through of a *Fire Dynamic Simulation of the 2003 Cook County Administration Building* produced by the National Institute of Standards and Technology (NIST). The model dynamically illustrated the space in question and included separate time-lapse demonstrations of the spread of fire and smoke through the un-sprinkled site. It then modeled the spread of fire and smoke in the same facility if automatic sprinklers were present.

After lunch, a display of the Library's disaster response supplies and professional fire fighting equipment provided participants with an opportunity to acquaint themselves with the tools of the trade and organizers a chance to finalize preparations for the afternoon's controlled burn and recovery exercise.

## **The Controlled Burn**

The controlled burn focused on illustrating three points—the destructive force of a fire, the results of extinguishing a fire with fire hoses and the preventative role of sprinkler systems. Conveniently, it also provided materials for the afternoon's final exercise—a recovery exercise and discussion of the difficulty of salvaging materials. Located within a bunker-like structure designed so that observers outside the building could watch a developing fire, the controlled burn provided an opportunity to see how a fire spread, to feel the intensity of a relatively “cool” fire and to participate in the recovery of materials from a burn situation.

Facilities personnel from IFSI set up two shelving units ten feet apart with thirty books on each of their six shelves. A “grill” was then placed five feet in front of each shelf and piled with a combination of wooden pallets and straw. Finally, a sprinkler stand was placed in front of one grill. Equipped with a fusible link, the sprinkler would react once the elevated temperature triggered it, extinguishing one fire while permitting the other to burn freely for a period of

twenty minutes. This period roughly calculated to approximate the estimated time needed from the time a call was received until first responders located a fire within the deepest portions of the campus' Main Library.

### **The Controlled Burn's Results**

The most anticipated portion of the day, the controlled burn, provided an opportunity few experience. Yet, it was also dependent upon the most contingencies. Given the cool temperatures and cleanliness of a fire composed of pallets and straw, would the materials burn as expected? If they did catch fire, would there be anything left to salvage after twenty minutes of free burning? What type of smoke damage would result? Moreover, how long would it take to cool the space to enable the salvage exercise to begin?

To obviate some of these concerns, two Preservation Committee members spent a day at IFSI prior to the day of training to pre-burn some items. Intended as a precautionary exercise, the pre-burning ensured that some materials in a variety of conditions remained for the follow-up discussions about on-the-spot priority setting and the salvage exercise. These materials were then placed inside the burn site at a safe distance from the demonstration set for that day.

The material for the controlled burn was set up by IFSI's staff during the last portion of the classroom exercises. As everyone assembled outside, IFSI staff described the particulars of fire behavior, answered participants' preliminary questions and provided a brief tour of IFSI's campus. Then, IFSI personnel lit the fires. As the fires consumed the available fuel and smoke began to fill the room, discussion among participants turned to specific questions about what they were witnessing. Of particular interest to many were the smoke's layering effect and the sudden ignition of the shelved library materials as the radiant heat from the fire ignited books five feet away.

Unfortunately, the one major glitch in the training program occurred during the controlled burn. When the sprinkler reacted, it extinguished both fires. While IFSI staff reset one fire to permit the materials on that side of the room to cook further, some of the immediate drama was lost. Yet, the results of the burn exercise could not have been better. Not only did the attendees witness the burn, several actually handled the fire hoses used to extinguish the fire.

As the room cooled from the near 1200-degree temperatures reached during the burn, the participants entered the space. One of the most shocking portions of the session was the wall of humidity that engulfed individuals as they walked into the still steaming room. While everyone intellectually recognized that the room would be humid, the combination of heat, humidity and smoke generated by a relatively clean fire of wood and straw served to drive home the impact of such a disaster. Discussion quickly turned to the library materials—many of which were still too hot to touch. Armed with the knowledge that it might be hours or even days before library personnel would be permitted into a site after a fire, the oppressive humidity and heat provided ample opportunity to discuss the ongoing risk of damage from mold and moisture.

### **The Fire's Results**

Falling off shelving bowed by heat and scattered on the floor from the force of the fire hose, the library materials in this exercise clearly illustrated a fire's threat to collections. Some, charred

beyond all hope, illustrated the difficulty of recovering a collection from such conditions. While items may be bypassed in an initial salvage, the absence of burned off title pages or barcodes served to demonstrate the difficulty of developing an accurate inventory. Heavier damage on higher shelves clearly illustrated the fire's tendency to rise and inspired discussion about fire behavior in the Library's antiquated hanging stacks. Melted cassette tape cases unveiled problems of recovery and the costs associated with salvaging content from damaged audio-visual resources. Within the short time that passed between extinguishing the fire and re-entering the burn site, even materials with relatively minor damage from the fire had significantly swollen from the moisture.

When the materials cooled enough to permit handling, participants engaged in exercises typical of more common disaster exercises. Discussion about the selection and evaluation of library materials after a disaster, handling and packing wet and damaged materials for freezing or drying, washing materials damaged with a combination of soot and mud and air-drying wet materials composed the final portion of this exercise. Perhaps the most difficult and the most rewarding portion of the exercise was the realization that, in some cases, materials would be damaged beyond all hope of salvage. The potential emotional toll associated with seeing one's own library—in some cases, one's life's work—destroyed became apparent to the attendees. While the total items destroyed during this training process was limited, the training's purpose—familiarizing individuals with disasters, the amount of labor required to move even small numbers of damaged material and the potential impact of such an event on a campus' research and educational programs—was clearly articulated.

## **Conclusion**

While disaster training like this may not be possible at all institutions, familiarizing library administrators and disaster response team members with their disaster plan and the potential results of an event remains crucial to the success of an emergency response. The potential for individuals to freeze or retreat from working with such a situation remains high, no matter how well acquainted they are with a printed plan. Engaging these individuals within disaster response exercises and implementing the disaster response plan provide crucial firsthand experience to those with little familiarity with intricacies of disaster response and management. It also provides preservation administrators with an opportunity to vet those selected to fill key roles in the library's disaster plan.

### ***About the Author:***

Thomas H. Teper is the Head of Preservation and Assistant Professor of Preservation, John "Bud" Velde Professorship at the University of Illinois at Urbana-Champaign. Prior to joining UIUC in the fall of 2001, Mr. Teper worked at the University of Kentucky where he worked on programs to recover documents damaged in a fire that destroyed one of the university's administrative buildings. His MLIS is from the University of Pittsburgh. His professional affiliations include the American Library Association where he serves as an officer in the Preservation and Reformatting Section.

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