



# PROJECT MANAGEMENT CENTER FOR EXCELLENCE

A.J. CLARK SCHOOL OF ENGINEERING  
Civil & Environmental Engineering Department



# HERDING THE CATS: MANAGING INFORMATION DURING DISASTER RESPONSE

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*2018 Project Management Symposium*



# Learning Objectives

- Understand basic management information systems (MIS).
- Understand how MIS are used during disaster recovery.
- Understand how the electronic workflows and forms are used during disaster recovery.
- See practical applications of these concepts.



# What We Know

- Disaster response is information intensive.
- Document management is critical.
- Every state seems to start from scratch on their MIS systems.
- There still remains considerable use of manual information movement.
- Considerable inefficiency.



# MIS Desired Attributes

- Process automation
- Single point of data entry
- Accountability
- Document management
- Web access on any platform
- Management visibility
- Integrated systems



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<http://pmsymposium.umd.edu>

# HURRICANE/SUPERSTORM SANDY



# Hurricane Sandy

- Deadliest and most destructive in 2012 hurricane season
- \$68B in damages
- 233 fatalities
- 2<sup>nd</sup> costliest hurricane on record
- Came ashore in Brigantine, NJ



# Hurricane Sandy MIS

Program	Rapid Repairs	NYS Housing	NJ RREM	NYS GOSR
Year	2012	2013	2013-2018	2014-2018
Automation			X	
Data Entry			X	Manual
Accountability			X	
Document Mgmt	X		X	
Web Access	Some		X	X
Visibility		Reporting	X	X
Integration			Cold Link	Manual



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# NYC RAPID REPAIRS





# NYC Rapid Repairs

- 15,000 houses
- Execution: NOV 2012 - MAR 2013
- Paperwork: MAR 2013 - SEP 2013
- Electricity, heat, water only
- \$25,000 cap per property



# NYC Rapid Repairs

- FEMA's 1<sup>st</sup> stay in place program
- Program Manager
- 9 Construction contractors
- 1000 homes per week back on line
- Pre-position major pieces of equipment
  - Hot water heaters
  - Electrical panel boxes



# NYC Rapid Repairs MIS

- Access Database
  - Project information
  - Funding
- One contractor with mobile data collection
- Permanent records all paper



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# NYS HOUSING PROGRAM



# NYS Housing Program

- 4,500 houses
- Execution: AUG 2013 - OCT 2013
- Reimbursement inspections
- \$300,000 cap per property
- Attempt to distribute monies prior to one year anniversary



# NYS Housing Program

- 1 lead program manager
- 2 other program managers
- Staffing peak at 650
- \$1M/day burn rate
- Inspections completed in 3 weeks
- Less than \$1M distributed by one-year anniversary



# NYS Housing Program MIS

- Access Database
  - Inspection documents
  - Construction estimates
- Thumb drive “sneaker net” document movement
- Static forms and estimates



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rebuilding  
a lasting  
foundation

# NJ RREM





# NJ RREM

- Reconstruction, Rehabilitation, Elevation and Mitigation
- Over 9,000 homeowner applications
  - 7,429 grant agreements signed
  - 5,929 homes rebuilt
- Execution: MAY 2013 - Ongoing
- \$150,000 cap per property



# NJ Program Distributions to

date

Total	\$2,653,123,226
• RREM	\$1,202,094,415
• FRM	\$298,676,340
• LRRP	\$49,899,783
• Resettlement	\$203,098,717

As of April 23, 2018



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# NJ RREM

- Permanent housing solution
- 1 lead program manager
- 2 other program managers
- 25 Construction contractors
- Full phase program
  - Preliminary design and estimate
  - Design
  - Construction
  - Closeout



# NJ RREM

- SharePoint site
  - Workflow and forms
  - Homeowner interaction
  - Document processing, tracking and repository
- System of record access database
- Considerable interface design to move information in and out
- Permanent records all electronic
  - Submitted by home



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**Governor's Office of  
Storm Recovery**

# NYS GOSR



# NYS GOSR

- Governor's Office of Storm Recovery
- Execution: DEC 2013 – Ongoing
- Programs
  - Housing
  - Economic Development
  - Community Reconstruction
  - Infrastructure



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# NYS GOSR Funding

- Housing  
\$4,919,603,949
- Economic Development  
\$242,391,500
- Community Reconstruction  
\$698,432,500
- Infrastructure  
\$24,799,115,535



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# NYS GOSR

- 1 lead program manager
- Numerous consultants
- Homeowner program - 16,000 applicants
- Small Business - 1,350 applicants





# NYS GOSR MIS

- System of record: Intelligrants
  - Application and supporting documents
- Invoices and certified payrolls: Elation Systems
  - Manual upload into Intelligrants
- Excel “smartsheet” for process tracking
  - Manual upload into Intelligrants
  - No workflow—check location on spreadsheet



# Lessons Learned

- Manage the information and documents
- Eliminate inefficiency
- Workflow is essential
  - Routing and document review/approval
  - Nothing falls through the cracks
- Effective passing information between systems
- Consideration of single system with web access
- Use of off the shelf software—why



# Achieving MIS Desired Attributes

- Process automation
- Single point of data entry
- Accountability
- Document management
- Web access on any platform
- Management visibility
- Integrated systems



# Changing the Way we Think

- FEMA needs to establish best practices
- Workflow utilization
- System integration
- Single system/single responsibility
- Constant improvement
- Application on other programs



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# Thank You!

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