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# **Disaster, Recovery and Emergency Water**

9 June 2010

BG Michael Stone

Director of the Joint Staff



# Water Usage: Domestic Perspective

<b>INSIDE ACTIVITY</b>	<b>GALLONS USED (conventional)</b>
Toilet Flushing	5 - 7 gallons per flush
Shower (water running)	7 - 10 gallons per minute
Bath (Full tub)	36 - 50 gallons
Laundry Machine (full load)	60 gallons top loader
Dishwasher	15 gallons normal load
Dish washing by hand	30 gallons tap running
Shaving	20 gallons tap running
Brushing Teeth	10 gallons tap running
Washing Hands	2 gallons tap running



# Average Water Usage

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The average family of four uses approximately 400 gallons of water per day. That is enough to fill 1,600 drinking glasses.

-U.S. EPA



# Water Distribution: Military Perspective

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# Water Purification & Distribution (not in the Michigan NG)



Reverse Osmosis Water Purification  
Unit (3K) - 120K gal/day



80K gal/day  
Storage & Distribution



Tactical Water Purification System  
120K gal/day



14 HIPPO (2K gal ea)  
Distribution



# Distribution Company

## Water Purification, Storage & Distribution



Lightweight Water Purification System  
2 LWPS (2.5K gal/day)



Tactical Water Purification System  
30K gal/day



Delivers 18K gal/lift



9 HIPPO (2K gal)



# Ensuring Resilience to Disasters (Emergency Water)

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- Hazard Mitigation
- Enhanced Preparedness
- Effective Emergency Response
- Rapid Recovery



# Mitigate Risks to Communities

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- Improve community capacity to withstand disasters
- Mitigate known and anticipated hazards
  - Develop land and water use policies that are in place and enforced ahead of time
  - Measures to reduce the consequences of disasters on critical infrastructure and essential systems and services, including:
    - Supply chains\*,
    - Health care systems,
    - Communications networks, and
    - Transportation systems



# Enhance Preparedness

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- Engage all levels and segments of society in improving preparedness
  - Heighten Awareness
  - Active participation
- Improve individual, family, and community preparedness



# Distribution of Water\*

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Tuesday, Sept. 6, 2005 Wal-Mart Praised for Hurricane Katrina Response Efforts

“Wal-Mart Stores Inc. marshaled its massive distribution network to have its shelves stocked and its store inventories bolstered, prepared for tremendous demand for supplies needed before and after Hurricane Katrina struck.”



# Enhance Preparedness

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- Individuals and families must be prepared to care for themselves for a reasonable period of time after a disaster and assist their neighbors
- First 72 hours\*\*\*
- Reserve scarce public resources to assist those who are injured, incapacitated, or otherwise unable to care for themselves



# Priority of Effort for Water Distribution

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- Determined by Incident Commander/Local Emergency Management Authority
- Planning Assumption: In the first 72 hours, water will go to:
  - Hospitals/Injured
  - First Responders
  - Special Needs populations (Elderly)



# **(Director) Joint Staff Missions**

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**Support to Civil Authorities**

**Homeland Defense**

**Homeland Security**



# Joint Task Force Command

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Following a Declaration by the Governor to activate the Michigan National Guard and upon the order of the Adjutant General, the Director of Joint Staff will serve as the Joint Task Force Commander for the National Guard and in most cases, under 32 U.S.C. 325, serve as the State's Dual Status JTF-Commander.



# State Emergency Operations Center (SEOC)

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## Upon activation of the SEOC:

- Man the SEOC
- On Order, employ the Michigan Reaction Force
- Launch Liaison Teams to support Incident Commander(s)/ MSP District Coordinators
- Enact EMACs (Joint Capabilities Database<sup>\*\*</sup>)
- With State, request other Federal Assets
- Support reception operations



# Joint Capabilities Database\*\*

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- **What is it?**

*Unclassified domestic response capability database*

- **Used by whom?**

*State National Guard, NGB, NORTHCOM and Department of Defense*

- **For what purpose?**

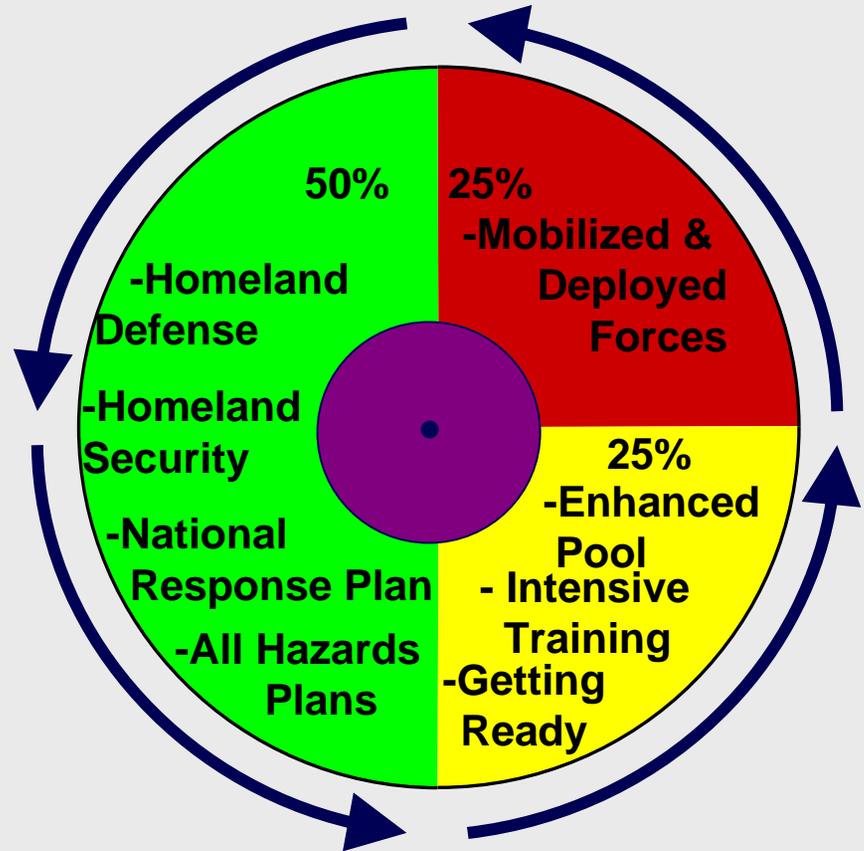
*Provides situation awareness of the State's response capabilities*



# Essential 10 Core Capabilities

**M**  
**E**  
**A**  
**S**  
**U**  
**R**  
**E**

- **C2**
  - Command, Control, Communications, Computers, Intelligence, Surveillance & Reconnaissance (C4ISR)
  - Reception, staging & onward integration (RSOI)
- **CBRNE**
- **Maintenance**
- **Aviation / Airlift**
- **Engineering**
- **Medical**
- **Communications**
- **Transportation**
- **Security**
- **Logistics**





# Michigan Reaction Force\*\*\*

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- 125 Military Police personnel, with organic equipment, to include HMMWVs are capable of assembling within 4 hours
- 400 Transportation personnel, with organic equipment, to include Tractors and Trailers are designated to reinforce or replace the MPs after 24 hours



# Transportation Company



Carries 20ft containers /970+ STon palletized cargo  
300K Gal per day when equipped with SMFT's



Carries 20ft containers/2200+ STon  
palletized cargo



Carries up to 40ft containers /  
1400+ STon palletized cargo  
600K Gal per day when equipped with SMFT's



Semi-trailer mounted  
Fabric tank



# Various Units Around State



2.5 Ton Version



400 gallon Water Buffalo



5 Ton Version



HMMWV 2500lbs cargo



# Forward Support Company

## Distribution Platoon



- Bulk Fuel  
19K gal per day
- Bulk Water  
4K gal per day
- Bulk Cargo  
16 ton-Truck  
16.5 ton-Trailer



# First 72 Hours: Michigan NG

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- Ground transportation assets to haul bulk water
  - 1600 Short tons of palletized cargo per lift
  - 12k gallons per lift, if provided potable water source
- Employ a Reaction Force (500 personnel, in the first 24 hours)
- Employ additional Michigan National Guard (Air and Army) personnel from 24-72 hours, with the confines of available units

**“I will Defend”**

