

Water & Wastewater Report Out Slides

Presented To: Community Resilience Panel

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Existing Guidance/Ongoing Efforts for Resilience in Sector

- What are existing codes, standards, guidance, goals, and/or protocol that have been published, or are in-process, in your respective sectors?
 - Local codes are the dominant province for existing underground pipe.
 - Design (lots) versus operational (few) requirements
 - Federal Flood Risk Management Standard (Executive Order 13690)
 - ASCE has pipe design standards (material and load)
 - American Lifelines Alliance for statistics / design / performance
 - Specific to seismic
 - ASCE TCLEE Monographs
 - AWWA for design (prescriptive)
 - Also performance (J100)
 - EPA Guides (e.g., Flood, Drought, EQ Resilience) (Incident Action Checklist)

Gaps and Needs in Sector

- What are the largest gaps and needs within your sector that need to be addressed in resilience planning and guidance products?
 - Little guidance for system operations and flexibility
 - Little Emergency Response Planning (especially wastewater - particularly for small utilities)
 - Building (\$\$) support for resilience in water/wastewater industry
 - How to measure resilience in water/wastewater
 - Sharpen the target audience for outputs (who are we talking to?)
 - Lack of agreed-upon best (appropriate?) practices
 - Methodology to prioritize resilience for mitigation and capital spending
 - Bridging from resilience goals to actual resilience plans (a framework to bridge this gap)
 - Performance standards to incorporate acute hazards (soils for EQ, wind, coastal storms)
 - How to engage the next-generation in water/wastewater problems
 - Aging infrastructure is a key concern.

Gaps and Needs in Sector

- Identify significant interdependencies and gaps with other sectors that impact resilience.
 - Fuel
 - Power
 - Transportation
 - Emergency Response
 - Chemical (e.g., disinfectant chlorine)
 - Communications (coordination)
 - Manpower
 - Regulatory flexibility
 - Some water is better than no water, even if it needs to be treated.
 - Interstate mutual assistance can be very difficult (municipal code and state laws).

How do we solve the problems?

- How do we address the needs and gaps we identified?
 - Develop guidance on optimal “bang for the buck” solutions.
 - Low-hanging fruit is on the operational side (rather than the capital investment side).
 - Leverage technology with the experience of current operators.
 - Develop a framework for lessons learned (e.g., airlines) at reasonable level of effort and cost.
 - Raise the issue, but don’t scare people.
 - Identify champions and provide them with knowledge and information to be successful.
 - Guidance should be 1-2 pages and useful to the operators.

How do we Solve the Problems?

- Are there others we need to engage to help us address these needs? Others may include SMEs/groups not at the meeting in your sector or SMEs/groups from other sectors.
 - Water Environment Federation
 - Firefighters and Emergency Responders
 - Association of State Drinking Water Administrators
 - American Water (private utility)
 - Transportation, Energy, Communications, Data/Metrics, Social/Economic
 - State and Local Governance
 - NGO's (League of Cities, Council of Governments)