

Water Security and Emergency Response

Voluntary or Regulatory?

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Presentation Overview

- National Sector Partnership Model
- Water Sector Security and Emergency Response
- Recent Developments
- Comments

Partnership Model: National Infrastructure Protection Plan

- NIPP provides a voluntary structure to strengthen national preparedness, timely response, and rapid recovery in the event of an attack, natural disaster or other emergency.
- Identifies 18 Critical Infrastructures (Sectors) as Partners.

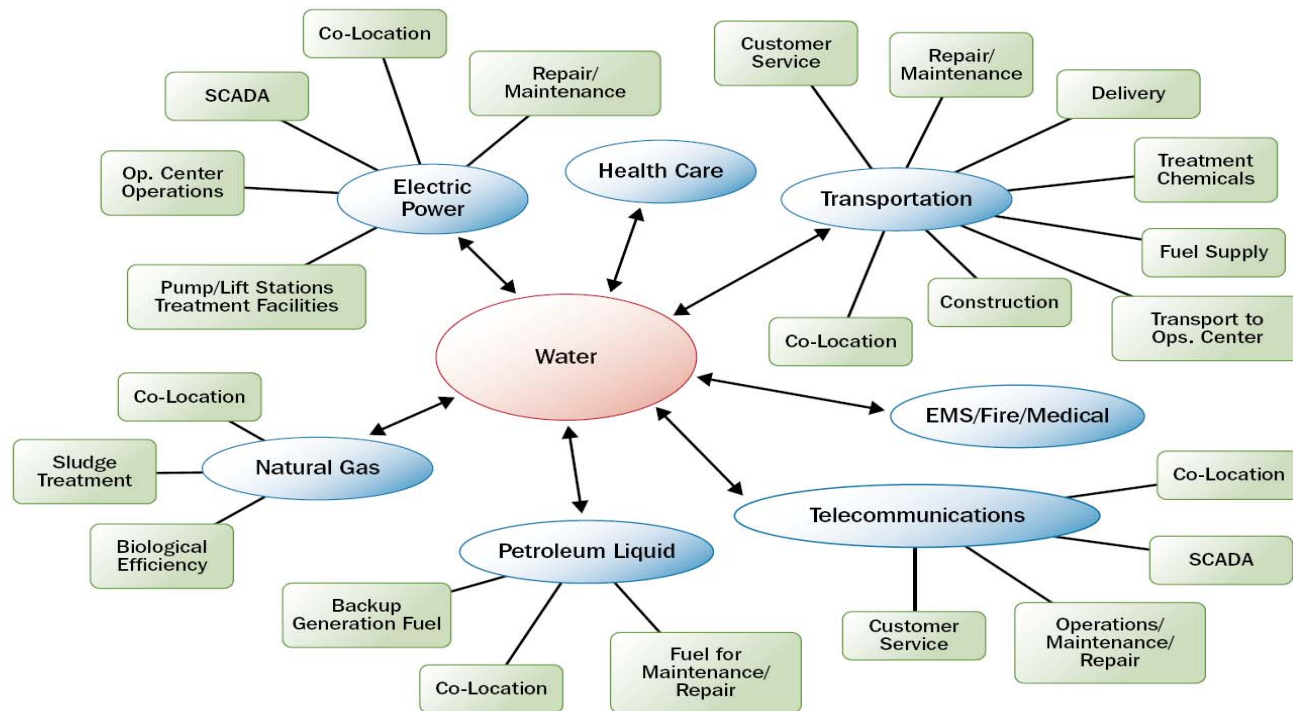
Critical Infrastructures

- Critical Infrastructure: Assets, systems, and networks, whether physical or virtual, so vital to the U.S. that if incapacitated or destroyed would have debilitating impact on security, national economic security, public health or safety, or any combination of those matters

NATIONAL CRITICAL INFRASTRUCTURES

Agriculture & Food	Critical Manufacturing	Government Facilities	Public Health & Health Care
Banking & Finance	Dams	Information Technology	Transportation
Chemical	Defense Industrial Base	National Monuments	WATER
Commercial Facilities	Emergency Services	Nuclear	Each CI/KR Sector is Required to have a Specific Plan similar to NIPP
Communications	Energy	Postal & Shipping	

Water Sector Interdependencies



Protection in the NIPP

Figure 1-1: Protection

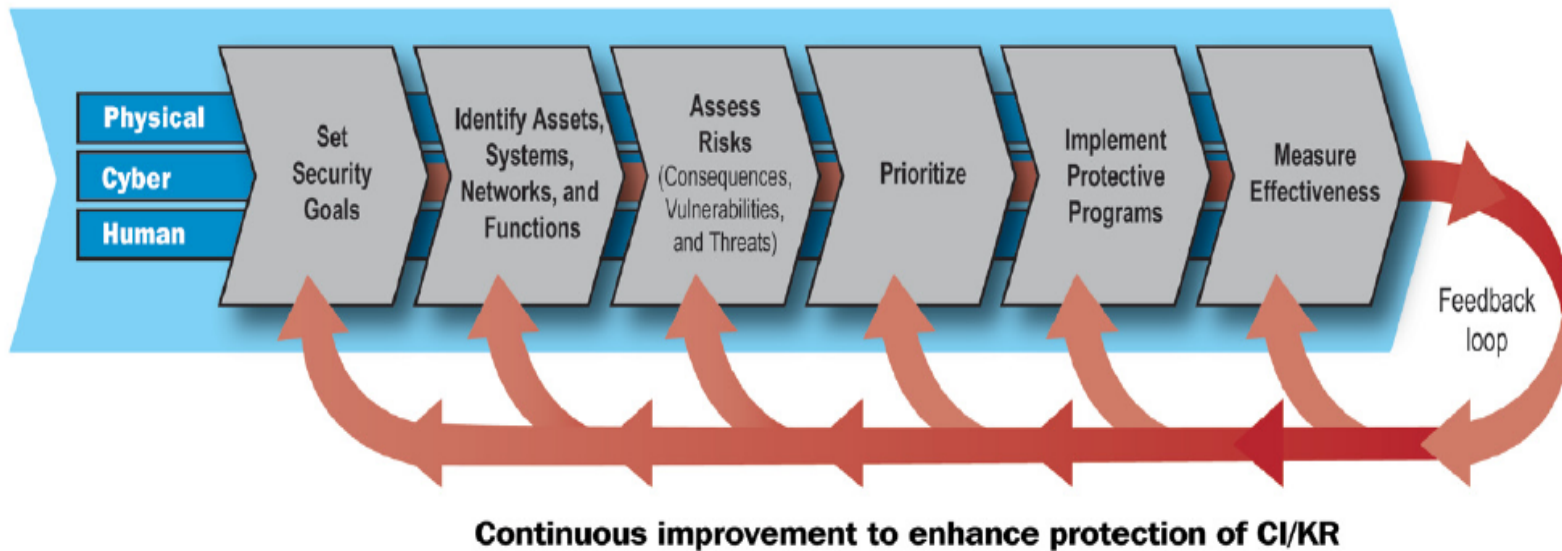


NIPP Objectives

- 1) Understanding and sharing information
- 2) Building security partnerships;
- 3) Implementing a risk management program; and
- 4) Maximizing efficient use of resources

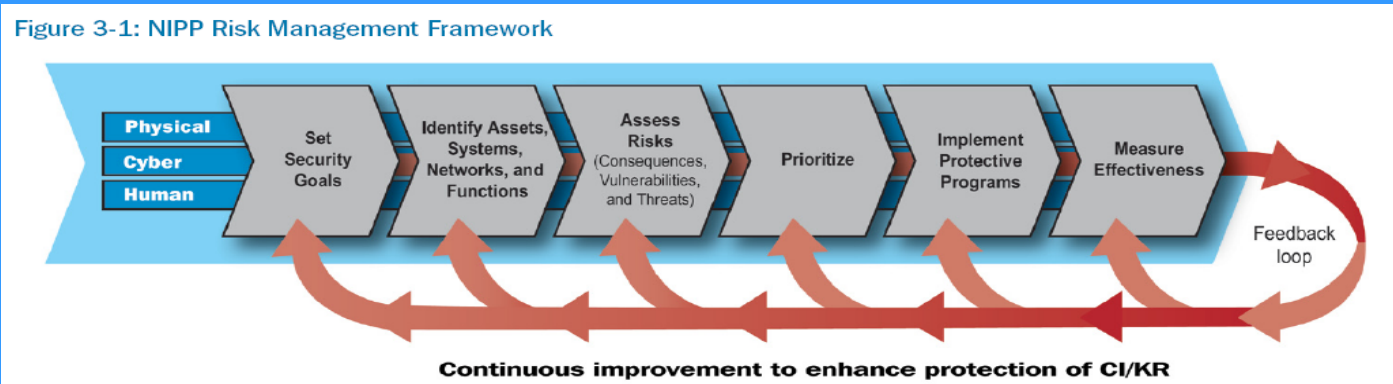
NIPP Risk Management Framework

Figure 3-1: NIPP Risk Management Framework



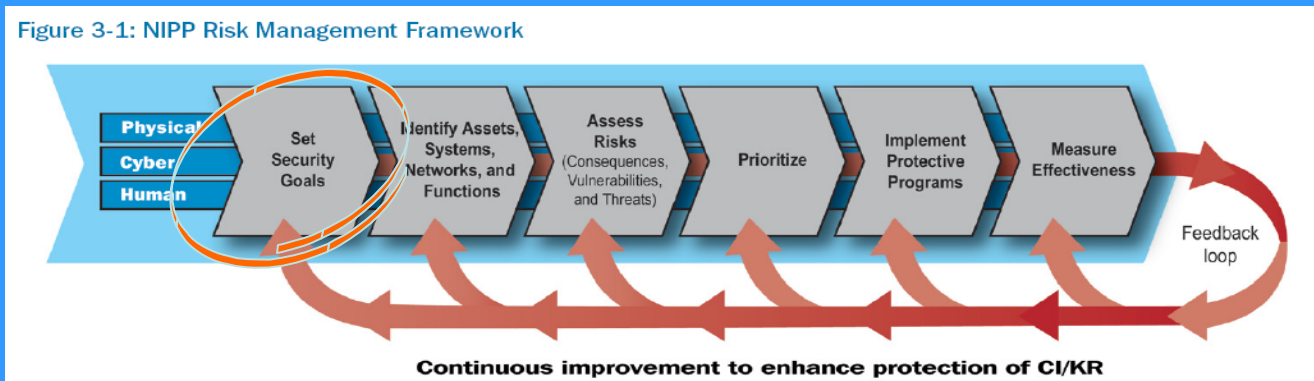
Water Sector and the NIPP

- *Goals and Objectives* as identified in Water Sector Specific Plan
- *Identification of Assets*
- *Assess Risk and Prioritize*
- *Implementation of Protective Programs*
- *Measurement of Effectiveness*



Water Sector Goals

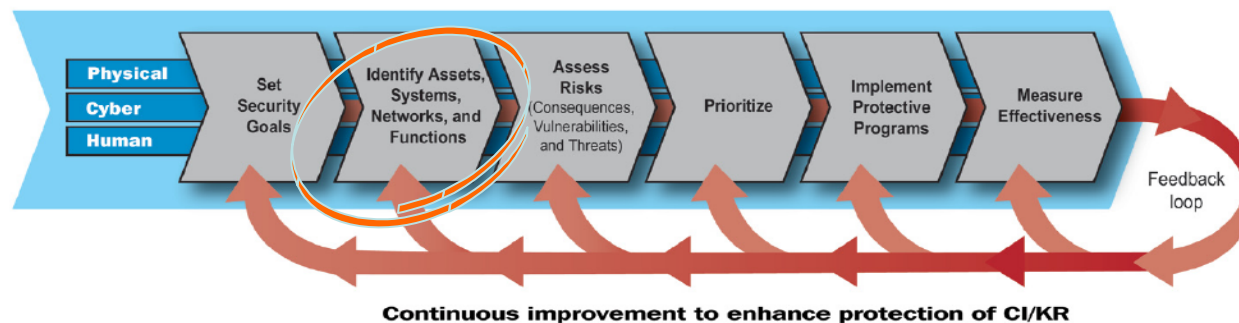
- 1) Sustain protection of public health and the environment
- 2) Recognize and reduce risks
- 3) Maintain a resilient infrastructure
- 4) Increase communication, outreach, and public confidence



Assets

- *Sector Asset*: defined as a drinking water or wastewater utility; each asset has several components (Physical; Cyber; Human)
- *Total Assets*: 160,000 public drinking water systems serving 84 percent of U.S. population; 16,000 wastewater systems serving 74 percent of population.

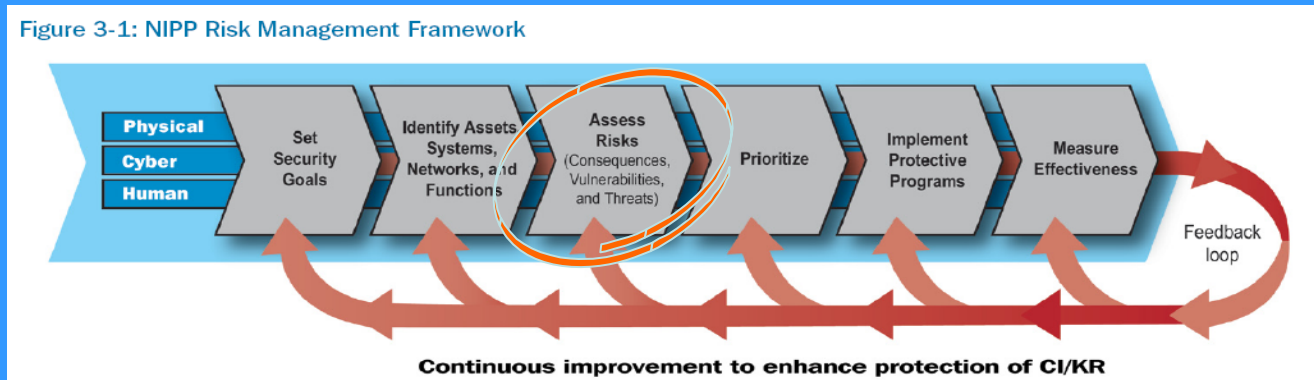
Figure 3-1: NIPP Risk Management Framework



Assessment of Risk

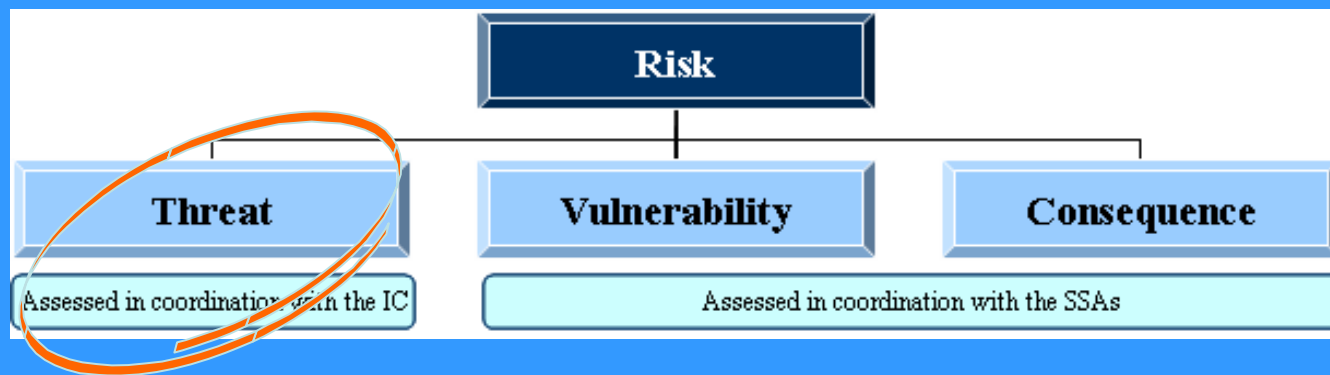
- Strategic Homeland Infrastructure Risk Assessment (SHIRA)
 - Comparative assessment of risks to all 18 critical infrastructure and key resources;
 - Published annually by DHS, in partnership with Sectors

Figure 3-1: NIPP Risk Management Framework



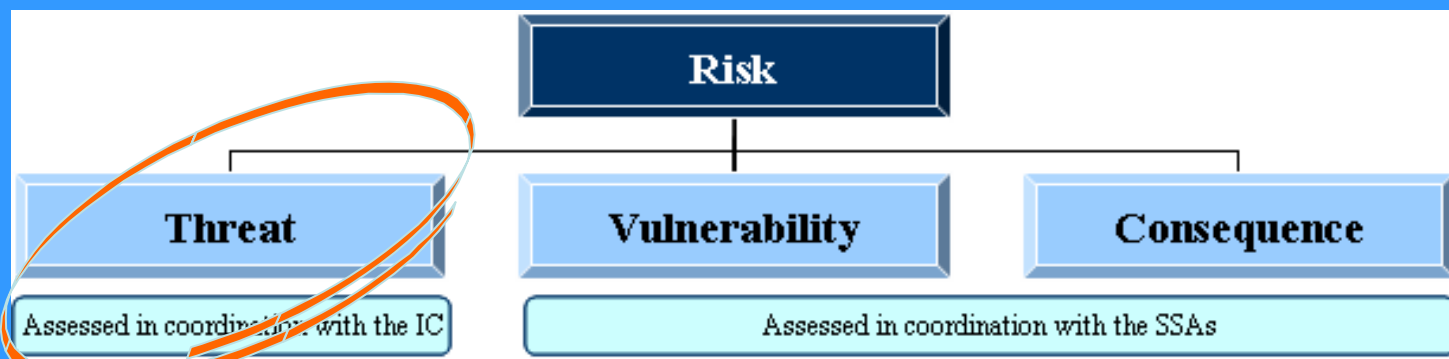
Threat Assessment

- Intelligence community assesses the intention and capability of an adversary to undertake actions that would be detrimental to the water sector
- Threats may be classified or for official use only (FOUO) so water sector utility executives should routinely communicate with local FBI office, DHS and federal, state, and local government law enforcement officials.



Threat Assessment (continued)

- Identified Water Sector Threat Themes include:
 - Chemical, biological, or radiological (CBR) contamination attacks
 - Vehicle-borne improvised explosive device (IED) attacks on infrastructure
 - Cyber attacks on industrial control systems
 - Chemical attacks (i.e. combustible contaminant in wastewater collection system)
 - Natural Disasters – recent hurricanes and floods have had significant impact



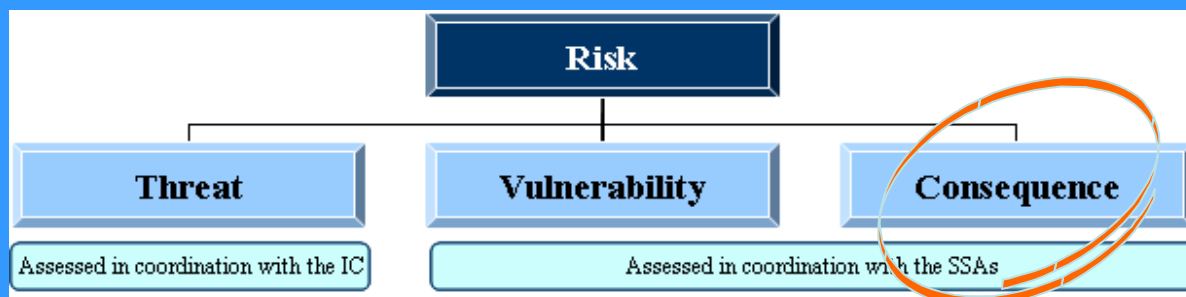
Vulnerability Assessment

- EPA (sector specific agency) and partners have developed vulnerability (risk) assessment tools for water sector: Risk Assessment Methodology for Water Utilities (RAM-W); Vulnerability Self-Assessment Tool (VSAT) and Security and Emergency Management System (SEMS)



Consequence Assessment

- Four main categories of consequences for all sectors: health impact; economic impact; psychological impact; governance impact



Consequence Assessment (continued)

Wastewater Utility Consequences of Concern

- Collateral damage to buildings, institutions, and icons that could result in loss of life by using sanitary or storm water collection systems to gain access to facilities
- Long term loss of collection or treatment and resulting impacts to drinking water sources
- Catastrophic release of stored hazardous chemical
- Decontamination of wastewater and subsequent residual disposal
- Adverse economic and environmental impacts

Consequence Assessment (continued)

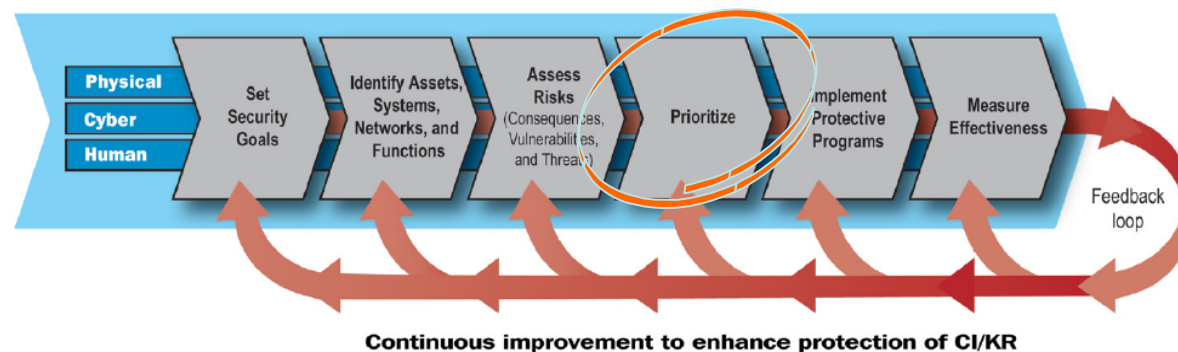
Drinking Water Utility Consequences of Concern

- Long-term loss of supply, treatment, or distribution of water for drinking, cooking, bathing, flushing toilets, fighting fires, and irrigation
- Catastrophic release of on-site hazardous chemicals that affects public health
- Adverse impacts to public health or confidence from actual or threatened intentional contamination of water with biological, chemical, or radiological materials
- Adverse economic and environmental impacts

Risk-Based Prioritization of Assets

- DHS is responsible for assessing risk across all sectors
- Water sector utilities, in coordination with EPA and others, are responsible for assessing risk within their utility

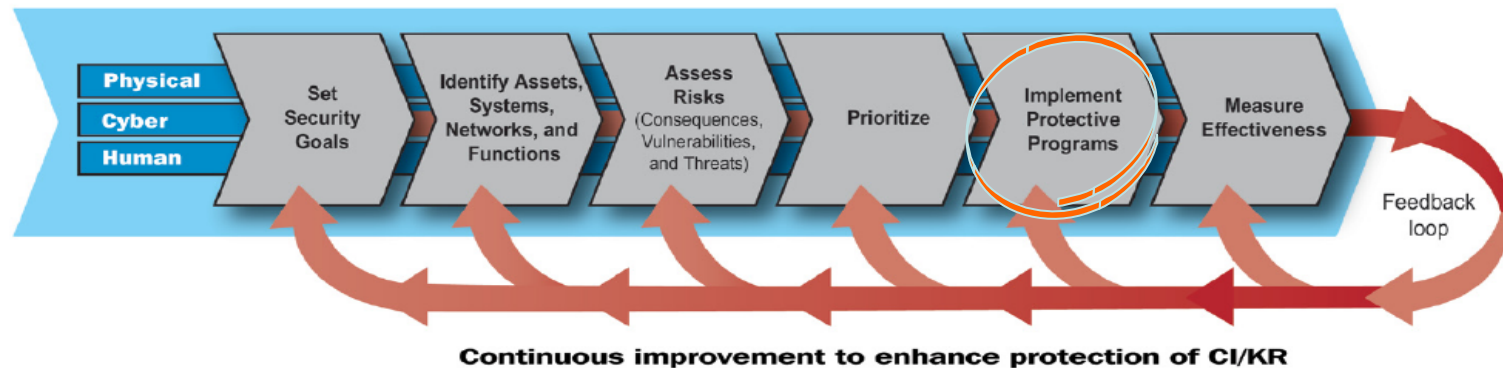
Figure 3-1: NIPP Risk Management Framework



Implementation of Protective Programs

- Water Security Initiative: EPA program that addresses the risk of intentional contamination of drinking water distribution systems.
- Mutual Aid: Interstate and Intrastate Utilities Helping Utilities

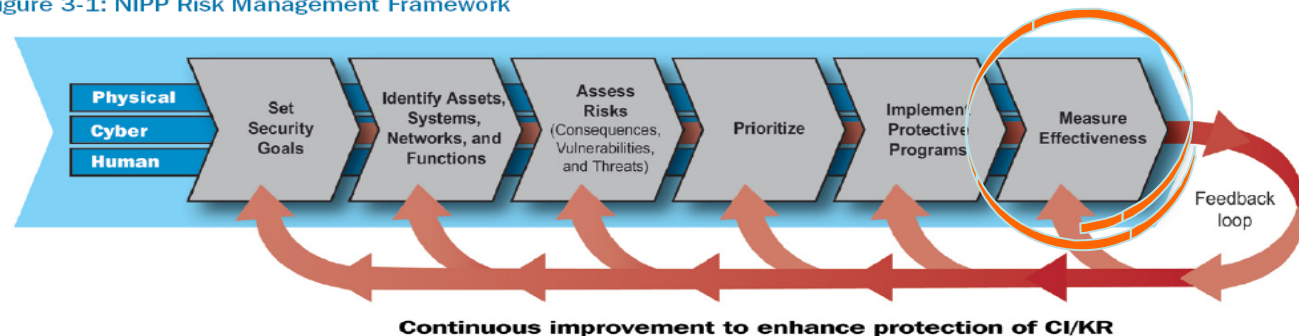
Figure 3-1: NIPP Risk Management Framework



Measuring Effectiveness: Metrics

- Suite of national metrics developed by the water sector for the water sector to gauge progress against national preparedness and security goals.
- Program is a voluntary self-assessment

Figure 3-1: NIPP Risk Management Framework



Measuring Effectiveness (continued)

1) Activity: Number and percentage of utilities that have integrated security and preparedness into budgeting, training, and manpower responsibilities.

2) Risk Reduction: Percent of utilities that can meet minimum daily demand with their primary production/treatment plant non-functional.

3) Hazardous Chemicals: Number and percent of utilities with physical and/or procedural controls in place to safeguard hazardous chemicals.

CFATS

- DHS develops Chemical Facility Anti-Terrorism Standards (CFATS) establishing risk-based performance standards for security chemical facilities
- Mandatory security vulnerability assessments
- Mandatory development and implementation of Site Security Plans

NACWA Legal Affairs Committee Meeting

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Comments