This brochure identifies the 10 Key Features of an Active and Effective Protective Program and additional activities the Water Sector can implement to enhance its water preparedness programs.

The Key Features describe the basic elements of a "protective program" for owners/operators of utilities to consider as they develop utility-specific approaches. They address the physical, cyber, and human elements of prevention, detection, response, and recovery.

Regardless of the cause of a drinking water or wastewater service disruption, adopting a security culture should be a priority to effectively mitigate adverse public health, economic, and environmental consequences.

The Key Features use the terms "protective program," "protection," and "protective" to describe activities that enhance resiliency and promote continuity of service, regardless of the type of hazard or adverse effect a utility might experience.

Benefits of implementing the 10 Key Features into daily operations:

- Increased protection of public health

- Ability to more quickly detect, respond to, and recover from any adverse event

- Increased access to resources during an emergency through mutual aid and assistance

- Better coordination between all levels of government and emergency responders

- Improved public confidence in drinking water and wastewater systems

- Better understanding of the interdependencies between the water sector and other critical infrastructure sectors

- Enhanced water security capabilities and infrastructure protection

Contact Us:

For more detailed information on the 10 Key Features of an Active and Effective Protective Program presented in this fact sheet, please visit: **www.epa.gov/watersecurity**

For additional information, please contact:
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Key Features of an Active and Effective Protective Program

The Water Sector has developed the **Active and Effective Protective Program** to assist owners and operators of drinking water and wastewater utilities in preventing, detecting, responding to, and recovering from "all-hazards" incidents (i.e., human, natural, cyber). The 10 Key Features of this program:

- Provide a framework to reduce risk to the Water Sector, improve resiliency and continuity of operations, and enhance overall preparedness

- Support the *Water Sector-Specific Plan for Critical Infrastructure Protection* (SSP) goals and objectives to maintain a resilient infrastructure, increase communication, outreach, and public confidence

10 Key Features of an Active and Effective Protective Program

1 Integrate protective concepts into organizational culture, leadership, and daily operations

- Foster attentiveness to protection in the day-to-day thinking of front-line workers, emergency responders, management, and senior leadership
- Identify employees responsible for implementating protection priorities

2 Identify and support protective program priorities, resources, and utility-specific measures

- Dedicate resources to specific protection needs through annual capital, operations and maintenance budgets, and/or staff resource plans
- Develop measures appropriate to utility-specific circumstances and operating conditions

3 Employ protocols for detection of contamination

- Establish working relationships with local, state, and public health communities to detect public health anomalies and evaluate them for contamination implications
- Track, characterize, and consider customer complaints to identify potential contamination events

4 Assess risks and review vulnerability assessments (VAs)

- Maintain current understanding and assessment of threats, vulnerabilities, and consequences

- Establish and implement a schedule for review of threats, vulnerabilities, and consequences and their impact on the vulnerability assessment at least every three to five years to account for factors such as facility expansion/upgrades and community growth

5 Establish facility and information access control

- Implement physical and procedural controls to restrict utility access to only authorized personnel
- Define, identify, and restrict access to security-sensitive information (both electronic and hard copy) on utility operations and technical details

6 Incorporate resiliency concepts into physical infrastructure

- Include protective program considerations early in the design, planning, and budgeting processes to mitigate vulnerability and/or potential consequences and improve resiliency
- Develop design and construction specifications that address both physical hardening of sensitive infrastructure; and adoption of inherently lower risk technologies and approaches where feasible

7 Prepare, test, and update emergency response and business continuity plans

- Understand, train, and implement National Incident Management System (NIMS) guidelines and Incident Command Systems (ICS)
- Review and update emergency plans annually; and test those plans through tabletop, functional, and full-scale exercises

8 Develop partnerships with first responders, managers of critical interdependent infrastructure, other utilities, and response organizations

- Forge partnerships in advance of an emergency, ensuring utilities and key partners are better prepared to work together if an incident should occur
- Establish relationships with critical customers (hospitals, manufacturing, first responders, etc.) to identify interdependency issues that may impact business continuity

9 Develop and implement internal and external communication strategies

- Motivate staff to support protective program strategies and goals
- Prepare key messages, in advance, for various types of emergencies and determine who and how those messages should be delivered to the community

10 Monitor incidents and threat-level information

- Develop systems to access threat information, identify threat levels, and determine specific response actions (e.g., WaterISAC)
- Monitor threat information as a regular part of a utility's protective program