



# INTRODUCTION TO THE DAMS SECTOR RISK MANAGEMENT AGENCY



The Dams Sector delivers critical water retention and control services that support multiple critical infrastructure sectors in the United States. Sector functions include hydroelectric power generation, municipal and industrial water supplies, agricultural irrigation, sediment and flood control, river navigation for inland bulk shipping, industrial waste management, and recreation. The federal government's responsibility in the sector is diverse. Activities include providing timely threat information and working with organizations to develop standards and guidance for facility construction, operations, and security. The Cybersecurity and Infrastructure Security Agency (CISA), which serves as the Sector Risk Management Agency (SRMA) for the Dams Sector, and sector partners collaboratively develop guidance, resources, and training that support the security and resilience of the nation's critical dams, levees, navigation locks, and other water control facilities.

## DAMS SECTOR COLLABORATION, RESOURCES, AND TRAINING

CISA offers many resources to help owners and operators manage risks, improve security, and aid the implementation and execution of protective and response measures across the Dams Sector. This fact sheet lists a sampling of sector collaboration mechanisms, resources, and training materials. Unless otherwise noted below, additional information can be obtained from the CISA website at [cisa.gov/dams-sector](https://cisa.gov/dams-sector).



### Collaboration

**Government Coordinating Council (GCC), Sector Coordinating Council (SCC), and Working Groups** convene regularly, share information, and develop products, tools, and training to meet the needs of the sector. These groups work closely to support the planning and implementation of security and resilience within the Dams Sector.

**The Homeland Security Information Network–Critical Infrastructure (HSIN-CI) Dams Portal** allows Dams Sector partners to share sensitive information among trusted partners, research security and resilience reference documents, access exercise and training products, and remain updated on emerging threats and incidents.

**The Dams Sector Information Sharing Drill** tests the sector's information-sharing processes and procedures, including the ability to convene and share security-related information with vetted stakeholders. The virtual drill is held biannually and is open to owners, operators, emergency managers, and others with responsibility over dams and levees.



### Resources

**Dams Sector Security Guidelines** consolidate effective industry security practices to reduce sector risk and improve the protection of personnel, public health, and public safety.

**The Dams Sector Active and Passive Vehicle Barriers Guide** assists dam owners and operators in understanding various types of active and passive vehicle barriers and incorporating them into their overall security plan.

**The Dams Sector Cybersecurity Capability Maturity Model (C2M2)** helps Dams Sector organizations evaluate and improve their cybersecurity programs, regardless of the type or size of organization. The associated Implementation Guide helps organizations plan and conduct a C2M2 self-evaluation.

**Dams Sector Cybersecurity Framework Implementation Guidance** provides a common language that Dams Sector owners and operators can use to assess and manage their cybersecurity risks and use the National Institute of Standards and Technology (NIST) voluntary Framework for Improving Critical Infrastructure Cybersecurity.



### Training

#### Independent Study Courses:

**IS-870a Dams Sector Crisis Management** describes the basic elements of emergency action plans, recovery plans, and continuity plans.

**IS-871a Dams Sector Security Awareness** describes common vulnerabilities, threat indicators, surveillance detection, and reporting of incidents.

**IS-872a Dams Sector Protective Measures** describe the basic elements of a risk management program, including security measures and protective measures in use in the sector.

**Security and Protection of Dams and Levees** highlights fundamental aspects of security and protection for Dams Sector facilities. The course is offered throughout the year in two formats: a two-day in-person workshop and a two-hour virtual webinar.


**The Dams Sector Tabletop Exercise Toolbox (DSTET)** provides exercise planning resources to address sector-specific threats, issues, and concerns related to the protection of dams. The toolbox includes exercise templates for five scenarios (physical, cyber, and all-hazards).

## SECTOR PROFILE

Assets in the Dams Sector include dam projects (dams), navigation locks, and levees, as well as hydropower projects, dikes, hurricane barriers, tailings dams, and other industrial waste impoundments. Dams Sector assets irrigate at least 10 percent of U.S. cropland, help protect more than 43 percent of the U.S. population from flooding and generate about 60 percent of electricity in the Pacific Northwest. While there are more than 91,000 dams in the National Inventory of Dams database, there are more than 100,000 dams across the U.S. and Puerto Rico. A large and diverse set of public and private sector entities own and operate these facilities under highly distributed regulatory oversight from federal, state, and local entities.


### Sector Assets

**Dams**



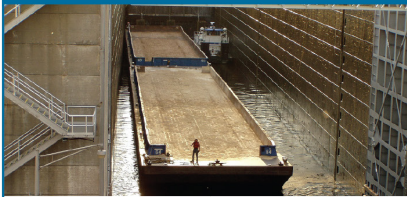
The purpose of a dam is to store water, wastewater, or liquid-borne materials for flood control, human water supply, irrigation, livestock water supply, energy generation, containment of mine tailings, recreation, or pollution control. Many dams fulfill a combination of the above functions. **The United States has more than 100,000 dams.**

**Levees**



Levees, hurricane barriers, and other flood protection systems contain, control, or divert the flow of water to reduce public safety risks from seasonal floods, storm surges, rain, and other extreme weather. Every state in the United States relies on levees for flood control to protect homes, businesses, and property. **Nearly 6,900 levee systems (totaling 24,500 miles) in the U.S. reduce flood risk to over 17 million people and \$2.0 trillion in property.**

**Locks**



Navigation locks make inland waterways viable transportation corridors by allowing commercial and recreational traffic to move safely between river pools and harbors. The U.S. Army Corps of Engineers (USACE) oversees locks as part of a larger marine highway network that stretches across the country. **Over 600 million tons of U.S. cargo valued at \$229 billion is moved annually by the inland marine network.**

## DAMS SECTOR SECURITY CONSIDERATIONS

- **Natural hazards** potentially impacting the sector include increased frequency of extreme weather, reduced water tables, increased droughts, and more frequent earthquakes. Combined with an increased population using sector resources, safe operations may be stressed, leading to loss of life, property damage, or disruption of facilities and operations.
- **Technological hazards** include a higher risk of systems failure, erosion and instability related to changing environments or industry practices, maintenance and rehabilitation of decades-old infrastructure, and threats from population growth and development.
- **Cybersecurity hazards** include cyberattacks that target inadequate security controls, outdated patches, and unknown vulnerabilities, social engineering attempts designed to gain operator credentials, and intrusions from insider threats. Such attempts could allow attackers to access critical control systems and disrupt or control physical components and processes.
- **Aging infrastructure and workforce** render the sector vulnerable to disruptions and recovery delays. Some Dams Sector assets were built decades ago and require routine maintenance to operate safely. Some may require rehabilitation to meet improved safety criteria or address new risks from extreme weather and downstream population development. Many Dams Sector jobs are highly technical or specialized and have limited turnover. Facilities lose institutional knowledge as experienced workers retire.
- **Criminal activities and terrorism** can take many forms with impacts ranging from temporary disruptions in operations to the total loss of a facility. Though the catastrophic failure of a dam would be difficult to achieve through a conventional terrorist attack, recent international events suggest terrorists still consider dams attractive targets because of the potential for significant economic, environmental, and public safety disruption. The adversary could commit a criminal act to access the facility, test security defenses, or draw security forces away from another area of the facility where they intend to execute a larger attack.