



**Homeland
Security**

Dams Sector Analysis Tool

The Dams Sector Analysis Tool (DSAT) is intended to provide Dams Sector partners with secure access to a series of modules and applications covering a range of analytical capabilities. Created in collaboration with the U.S. Army Corps of Engineers, the DSAT serves as an effective Web-based tool to integrate available information on critical infrastructure facilities across the sector. DSAT provides an integrated platform to consolidate analysis tools and data collection mechanisms supporting the screening, prioritization, characterization, and analysis of critical assets.

DSAT Modules

Consequence-Based Top Screen (CTS) – Supports the identification of those critical facilities within the Dams Sector whose failure or disruption could potentially cause the most significant impact among sector assets and individual portfolios. The CTS module, which considers a worst reasonable case scenario, serves as an effective all-hazards criticality screening tool for a consequence-based approach.

Portfolio Prioritization Tool (PPT) – Supports the prioritization of those facilities identified through the criticality screening process. The PPT is scalable and may be used for various portfolio levels (i.e., national, regional, and state) by adopting different severity thresholds and relative weights for individual consequence categories. The PPT computes a numerical score, referred to as the Potential Consequence Index (PCI), which ranges from 0 to 100 and represents the combined potential for severe impacts. This index is based on the perceived relative importance of the different consequence categories. The PPT constitutes an effective all-hazards portfolio prioritization approach that can support decisions requiring additional analyses and detailed studies.

Comprehensive Facility Report (CFR) – Consolidates consequence, operational, and interdependency information through project-specific, information-gathering efforts. The CFR module facilitates rapid reporting of critical project features, components, and missions, as well as location and regional setting. The CFR module also supports the identification of other local critical assets and associated interdependencies, and the potential for significant impacts associated with severe project disruption.

In addition, the CFR module captures system-wide information on the watershed, including identification of other dams along the same river basin. Intended to capture historical information on flood events and other incidents, this module seeks to enhance the understanding of potential impacts to the surrounding region in the event of an attack, natural disaster, or other emergency.

Common Risk Model for Dams (CRM-D) – Assists in quantifying vulnerabilities based on standard security configuration attributes and pre-selected attack vectors. The CRM-D module is also used as an objective self-assessment tool that supports the consistent identification of scenario-based vulnerabilities and associated conditional risk estimates. The methodology is based on the definition of defensive layers, used to systematically characterize the



Source: DHS

security posture of critical components within the facility. The corresponding vulnerability assessment is conducted based on pre-selected attack vectors, which effectively streamlines the security assessment process and the determination of conditional risk values.

ATPlanner-Dams Input Module (AIM) – This is a pre-processor for blast damage assessment analysis for selected project components. It captures and consolidates the necessary input data for scenario-based analyses by using the Anti-Terrorism Planner for Dams (ATPlanner-Dams) software, which is developed and maintained by the U.S. Army Corps of Engineers. In addition to geometric characteristics, material properties, and reservoir level, the AIM module collects other information such as relevant attack vectors and the corresponding standoff distances.

Significant Incident Reporting Tool (SIR) – Supports the reporting of significant incidents in an effort to establish a database of historical failure and non-failure incidents to improve sector-wide situational awareness.

DSAT Viewer – This is a web-based viewer with user-specific access that provides geospatial mapping, visualization capabilities, and a host of other analytic products. The tool links to, and integrates with, available real-time information (e.g., earthquake data, stream flows, and weather conditions). Additional analysis features include the ability to perform spatial queries of populations and critical infrastructure assets within a defined area. In addition, this tool provides access to pre-processing capabilities to support simplified dam break flood inundation analysis using a special version of the Decision Support System for Water Infrastructural Safety (DSS-WISE), developed by the National Center for Computational Hydroscience and Engineering at the University of Mississippi.

Contact Information

For more information please contact the Dams Sector-Specific Agency at dams@hq.dhs.gov.