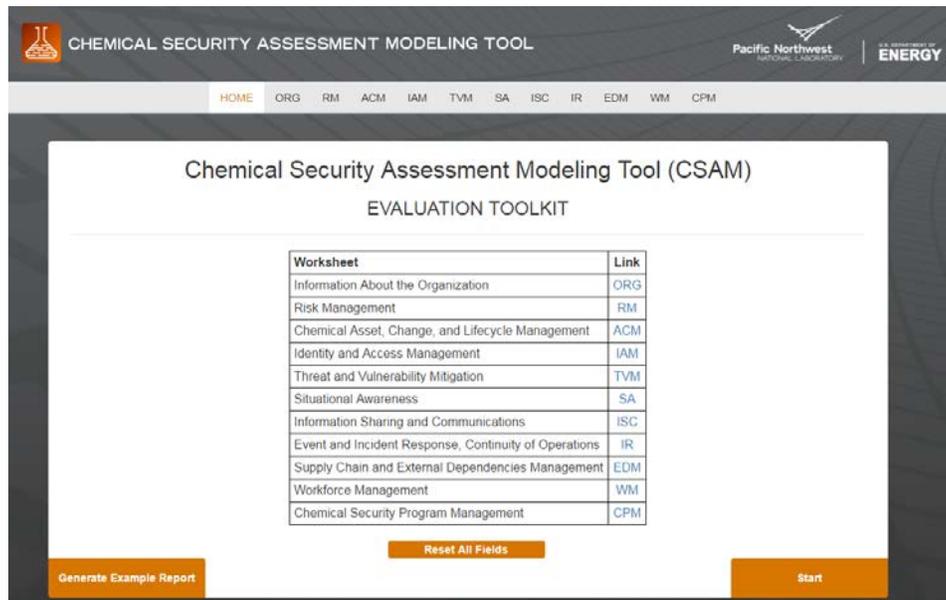


Chemical Security Assessment Modeling Tool (CSAM)

This guide is a short introduction to the assessment tool and the key features. A first assessment should be conducted with an experienced subject matter expert.

Visit: <https://csam.pnnl.gov/>. Landing page for the chemical security assessment modeling tool:



The screenshot shows the landing page for the Chemical Security Assessment Modeling Tool (CSAM) Evaluation Toolkit. The page features a dark header with the tool's name and logos for Pacific Northwest National Laboratory and the U.S. Department of Energy. A navigation menu includes links for HOME, ORG, RM, ACM, IAM, TVM, SA, ISC, IR, EDM, WM, and CPM. The main content area is titled "Chemical Security Assessment Modeling Tool (CSAM) EVALUATION TOOLKIT" and contains a table with two columns: "Worksheet" and "Link". The table lists various assessment worksheets and their corresponding links. Below the table are three buttons: "Generate Example Report", "Reset All Fields", and "Start".

| Worksheet | Link |
|-------------------------------------------------------|---------------------|
| Information About the Organization | ORG |
| Risk Management | RM |
| Chemical Asset, Change, and Lifecycle Management | ACM |
| Identity and Access Management | IAM |
| Threat and Vulnerability Mitigation | TVM |
| Situational Awareness | SA |
| Information Sharing and Communications | ISC |
| Event and Incident Response, Continuity of Operations | IR |
| Supply Chain and External Dependencies Management | EDM |
| Workforce Management | WM |
| Chemical Security Program Management | CPM |

This tool can be used to assess the security posture of a chemical facility. Other tools are available for other security domains and applications.

An assessment begins by entering some information about the organization. This optional step can be as detailed as needed to set the context for the assessment.

HOME **ORG** RM ACM IAM TVM SA ISC IR EDM WM CPM

Information About the Organization

1. What functions are performed by your organization? (limit 255 characters)

2. Please describe the scope defined for this evaluation (limit 255 characters)

Health Hazards?
 Physical Hazards?
 Environmental Hazards?
 Chemicals of Concern?

Back Next

The assessment questionnaire then begins. Users answer a set of questions in each security domain, starting with Risk Management. Each domain has an introduction that states the purpose, objectives, and high level description.

CHEMICAL SECURITY ASSESSMENT MODELING TOOL

Pacific Northwest NATIONAL LABORATORY U.S. DEPARTMENT OF ENERGY

HOME **ORG** **RM** ACM IAM TVM SA ISC IR EDM WM CPM

Risk Management

Purpose

Purpose: Establish, operate, and maintain a chemical facility's security risk management program to identify, analyze, and mitigate chemical security risk to the organization, including its business units, subsidiaries, related interconnected infrastructure, and stakeholders.

Chemical security risk is defined as risk to organizational operations (including mission, functions, image, and reputation), resources, and other organizations due to the potential for unauthorized access, use, disclosure, disruption, modification, or destruction of chemicals. Chemical security risk is one component of the overall business risk environment and feeds into an organization's enterprise risk management strategy and program. Chemical security risk cannot be completely eliminated, but it can be managed through informed decision making processes.

Objectives

The Risk Management (RM) domain comprises three objectives:

1. Establish Chemical Security Risk Management Strategy
2. Manage Chemical Security Risk
3. Management Oversight of Risk Management

Description

A chemical security risk management strategy is a high-level strategy that provides direction for analyzing and prioritizing chemical security risk and defines risk tolerance. The chemical security risk management strategy includes a risk assessment methodology, risk monitoring strategy, and chemical security governance program. This includes defining the enterprise risk criteria (e.g., impact thresholds, risk response approaches) that guide the chemical security program discussed in the Chemical Security Program Management domain later in this model. The chemical security risk management strategy should align with the enterprise risk management strategy to ensure that chemical security risk is managed in a manner that is consistent with the organization's mission and business objectives.

Managing chemical security risk involves framing, identifying and assessing, responding to (accepting, avoiding, mitigating, transferring), and monitoring risks in a manner that aligns with the needs of the organization. Key to performing these activities is a common understanding of the chemical security risk management strategy discussed above. With defined risk criteria, organizations can consistently respond to and monitor identified risks. A risk register—a list of identified risks and associated attributes—facilitates this process. Other domains in this model, including Event and Incident Response, Continuity of Operations, Threat and Vulnerability Management, and Situational Awareness, refer to the risk register and illustrate how the practices in the model are strengthened as they connect through a chemical security risk management program.

Questions are grouped by sub-domain:

Questions

1. Establish Chemical Security Risk Management Strategy

- a. There is a documented chemical security risk management strategy for the facility
- b. The strategy provides an approach for risk prioritization, including consideration of impact
- c. Organizational risk criteria (objective criteria that the organization uses for evaluating, categorizing, and prioritizing operational risks based on impact, tolerance for risk, and risk response approaches) are defined and available
- d. The risk management strategy is periodically updated to reflect the current threat environment
- e. An organization-specific risk taxonomy is documented and is used in risk management activities

Clear Fields

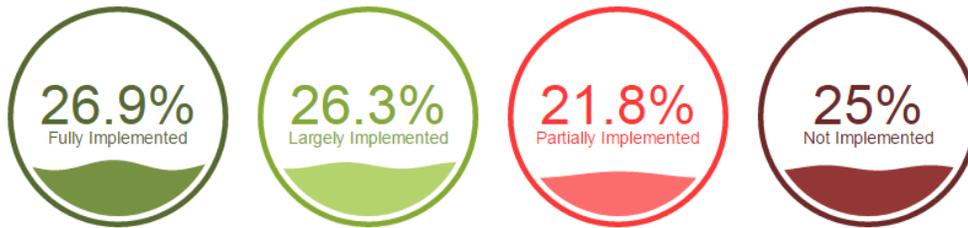
| | |
|-------------------------|-------|
| Fully Implemented ▾ | Notes |
| Partially Implemented ▾ | Notes |
| Largely Implemented ▾ | Notes |
| Partially Implemented ▾ | Notes |
| Fully Implemented ▾ | Notes |

Prior to starting an assessment, users can generate a sample report on the home page to explore the reporting and data visualization dashboards.

The screenshot shows the top navigation bar of the Chemical Security Assessment Modeling Tool. The navigation menu includes: HOME, ORG, RM, ACM, IAM, TVM, SA, ISC, IR, EDM, WM, CPM, REPORT, and DATA VISUALIZATION. The 'DATA VISUALIZATION' menu item is highlighted. Below the navigation bar, the 'Data Visualizations' section contains four buttons: Fluid Summary, Partition Graph, Treemap Graph, and Expandable Tree Graph. A red arrow points to the 'Generate Example Report' button in the top right corner of the page. Another red arrow points to the 'DATA VISUALIZATION' menu item. A third red arrow points to the 'Fluid Summary' button. In the top right corner, there is a list of categories: Threat and Vulnerability Mitigation, Situational Awareness, Information Sharing and Coordination, Event and Incident Response, Supply Chain and External Factors, Workforce Management, and Chemical Security Program. A 'Results' button is also visible.

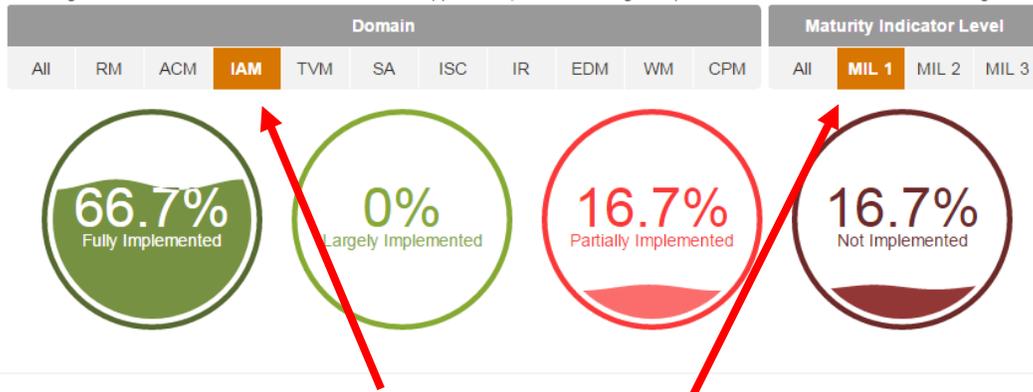
The fluid summary gives an at-a-glance summary of security maturity

Fluid Summary



Results by Selection

Choosing individual mils will show results like those in Appendix C, while selecting multiple mils will show results like those in Figure 3.1.



The fluid summary can be updated by domain and maturity level.

Partition, tree-map, and expandable tree graphs can also be used to explore the strengths and weaknesses an organization's security program.