Department of Energy
Office of Emergency Management

Hazardous Materials (HAZMAT)
Spill Center

Strategic Plan

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HAZMAT SPILL CENTER
STRATEGIC PLAN

BACKGROUND

This strategic plan was developed in keeping with the Department of Energy's mission for partnership with its customers to contribute to our Nation's welfare by providing the technical information and the scientific and educational foundation for the technology, policy and institutional leadership necessary to achieve efficiency in energy use, diversity in energy sources, a more productive and competitive economy, improved environmental quality, and a secure national defense. The Plan provides the concepts for realigning the Department's Hazardous Materials Spill Center (HSC) in achieving its vision of becoming the global leader in meeting the diverse HAZMAT needs in the areas of testing, training, and technology. Each of these areas encompass many facets and a multitude of functional and operational requirements at the Federal, state, tribal, and local government levels, as well as those of foreign governments and the private sector.

The evolution of the limited dimensional Liquefied Gaseous Fuels Spill Test Facility into a multifaceted HAZMAT Spill Center will require us to totally redefine our way of thinking as related to our business approach, both within and outside of the Department. We need to establish and maintain a viable and vibrant outreach program through all aspects of the public (via government agencies) and private sectors, to include foreign partnerships.

The HAZMAT Spill Center goals and objectives provide the direction for meeting our vision. This direction takes into consideration the trends and happenings identified in the "Strategic Outlook", which includes valuable input from our stakeholders and our present and future customers. It is our worldwide customers that provide the essence of the strategic outlook for the HAZMAT Spill Center.

Hazardous Materials (HAZMAT) Spill Center, Nevada Test Site.
Establish, manage, operate and maintain a world class HAZMAT SPILL CENTER, which will incorporate: (1) customer-focused alliances with the DOE family that integrates the Center activities with critical business functions; (2) a research and demonstration facility provided on a user-fee basis to test sponsors, both foreign and domestic, concerned with safety aspects of hazardous materials; (3) a location for releases of live materials under controlled conditions to determine the patterns of dispersion, mitigation techniques, effluent analysis, and combustion characteristics; (4) a framework for relationships between industry and governments for joint participation; (5) a unique opportunity for training emergency responders in addressing all consequences, to include mitigation, clean-up, environmental remediation, etc., resulting from a release of hazardous materials to the environment; and (6) a cadre of experts that meet the expectations of a global customer base.
STRATEGIC OUTLOOK

The genesis of the DOE HAZMAT Spill Center started in the mid 1980's to address the safety and environmental hazards of transporting massive quantities of liquefied gaseous fuels from foreign sources to the United States. The Liquefied Gaseous Fuels Spill Test Facility (LGFSTF) remains a major and important component of the HAZMAT Spill Center. The Center is now a unique multi-purpose facility necessary for the expanded special needs of its customer demands. There are five functional areas to service strategic markets.

DOE HAZMAT Spill Center
Capability and Application Summary

Remote Sensing
Applications:
- Effluent analysis
- Stand-off HAZMAT identification

Source Term Definition - Dispersion Modeling
Applications:
- Test and validate computer modeling for source term definition and dispersion of HAZMAT
- Enhance and improve existing computer models for source term definition and dispersion of HAZMAT
- Develop new computer models for the dispersion of HAZMAT

Mitigation Technology
Applications:
- Test mitigation techniques using live material
- Test and validate computer mitigation models
- Conduct research for new techniques

HAZMAT Training
Applications:
- Train the trainers or leaders
- Gain confidence in equipment and procedures by using live material

Live HAZMAT Material Testing
Applications:
- Test protective gear using instrumented mannequins
- Test HAZMAT instrumentation
- Test equipment and procedures
The DOE respects the environment and vows to be a leader in improving the quality of the environment of future generations. Even after an aggressive effort to remove excess and unneeded chemicals, DOE continues to receive, store, consume and dispose of large quantities of hazardous materials. DOE places high value on providing the protective gear, equipment and procedures for the personnel who must respond to HAZMAT accidents.

DOE plays a significant role in the non-proliferation of weapons of mass destruction, especially nuclear weapons. Detection of nuclear weapon proliferation uses stand-off analysis of effluent as one indicator of development activity. The DOE HAZMAT Spill Center provides a wind tunnel that can “spill” known quantities of effluent, under controlled conditions, into the atmosphere at known rates. This capability provides a unique facility to test and/or validate the results of the sensors used in effluent analysis.

While operation of the Center is crucial to DOE’s mission, DOE currently does not fully utilize the facility. It is prudent and economical to offer, on a cost reimbursable basis, the unique capabilities of the Center to other government agencies (including foreign), state, tribal agencies, and the private sector. One criterion for use by this customer base is that the activity must contribute to the preservation of the environment, safety of personnel and/or national security - which is consistent with the DOE core values.

*Accidental release of Liquefied Petroleum Gas, Mexico City.*
A broader perspective of the value of the DOE HAZMAT Spill Center is based on the assumption that the probability of an accident is proportional to the ton-miles of hazardous materials being moved and used. Department of Transportation data show that there are in excess of 100 billion ton-miles of hazardous materials transported over the United States highways each year. This figure does not include any movements by rail, water, air, or unreported movements.

Although sometimes not thought of as being hazardous materials, the ton-miles of petroleum products being transported are potentially hazardous to the environment. As developing nations place a greater demand on the petroleum logistical system the probability of spill accidents increases. The HAZMAT Spill Center should be a leader in developing and providing training and procedures for assisting in mitigation and clean-up of spills for these developing nations. As history teaches us, a significant spill anywhere in the world can affect the global environment.
Be the global leader in meeting the diverse HAZMAT needs of federal, state, tribal and local governments, foreign governments and the private sector by providing a unique center that is cost-effective, flexible and customer oriented.
PLANNING ASSUMPTIONS

- Base funding will be provided for implementation of the concepts outlined in this plan.
- Over the next ten-years there will continue to be an internal need regarding HAZMAT testing, training, and technologies.
- The number of facilities with live material spill capability will be a limiting factor as the worldwide demand for testing increases.
- Major oil spills will increase because of the continued increased use world-wide of oil and oil related products.
- There will be adequate HAZMAT Spill Center staff available to implement this plan.
- This plan will remain dynamic and its vision will be re-engineered to adapt to the emerging, challenging, and changing needs of the HAZMAT Community.
STRATEGIC GOALS AND OBJECTIVES

DOE HAZMAT SPILL CENTER

Strategic Goals

Goal 1: DOE-Wide Partnerships
We will form customer-focused alliances with the DOE family to integrate HAZMAT Spill Center initiatives into critical business functions.

Goal 2: Government and Private Partnerships
We will leverage our unique resources to achieve significant, long term and diverse partnerships with government and private sectors.

Goal 3: Proactive Marketing Approach
We will understand the customers missions so that the capabilities of the HAZMAT Spill Center will be timely and responsive to market analyses.

Goal 4: Fully Utilized Center
Using the results of the market analyses, we will aggressively pursue potential customers for year-round use of the Center.

Goal 5: State of the Art Center
We will exploit technical and scientific expertise found within DOE, other agencies, academia, and industry to provide instrumentation, diagnostics, and computing power.

Goal 6: World-Recognized Training & Technical Capabilities
We will enhance existing training capabilities and expand our cadre of technical experts in order to meet the growing and diverse needs of our customers.
Goal 1: DOE-WIDE PARTNERSHIPS

We will form customer-focused alliances with the DOE family to integrate HAZMAT Spill Center initiatives into critical business functions.

STRATEGIES

Develop a Strategic Plan with input from stakeholders

Performance Measures
- Amount of stakeholder involvement
- Comprehensiveness of stakeholder involvement
- Plan developed on time
- Plan widely distributed

Gain customer buy-in on HAZMAT Spill Center goals and objectives

Performance Measures
- Positive customer feedback
- Customer comments resulting in change
- Customer involvement in attaining goals

Integrate objectives into Department plans and budgets

Performance Measures
- NN-60 funding committed to HSC
- Funding committed by other DOE offices
- Funding identified in out-year budgets
- HSC activities identified in out-year plans

Provide leadership and coordination for HAZMAT Spill Center utilization

Performance Measures
- Take lead to conduct semi-annual HSC capabilities briefings to DOE partners
- Conduct annual coordination meeting with Hazardous Materials Management and Emergency Response (HAMMER) facility
Goal 2:  
GOVERNMENT AND PRIVATE PARTNERSHIPS  
We will leverage our unique resources to achieve significant, long term and diverse partnerships with government and private sectors.

STRATEGIES

Increase the participation of government and private sector customers  
*Performance Measures*  
Invitations to participate  
Responses to the invitations  
Amount of follow-up for non-participants

Position DOE resources to be a key contributor for resolving HAZMAT problems  
*Performance Measures*  
Government HAZMAT problems solved primarily by DOE HAZMAT Spill Center  
Industry HAZMAT problems solved primarily by DOE HAZMAT Spill Center

Train our people on the process of developing partnerships  
*Performance Measures*  
Training opportunities available to the Center Team  
Training opportunities attended by the Center Team

Provide current and strategic data for decision makers of our partners  
*Performance Measures*  
Partnership awareness of available data  
Number of requests for data from partners  
Data provided by the Center
Goal 3: PROACTIVE MARKETING APPROACH

We will understand the customers missions so that the capabilities of the HAZMAT Spill Center will be timely and responsive to market analyses.

STRATEGIES

Gain insight into industry strategic plans pertaining to HAZMAT safety and health

*Performance Measures*

- Planning objectives requested
- Planning objectives discussed

Obtain government strategic plans pertaining to HAZMAT safety and health

*Performance Measures*

- Planning objectives requested
- Planning objectives discussed

Use partnerships to generate new concepts for the HAZMAT Spill Center

*Performance Measures*

- Sessions held with DOE partners
- New concepts identified by DOE partners
- New concepts implemented by HAZMAT Spill Center customers

Develop customer dialogue plans that focus on data for market analyses

*Performance Measures*

- Dialogue plans developed
- Customer interviews completed
- Trends identified from interviews

Use DOE’s Senior Industrial Advisors to explore potential market areas

*Performance Measures*

- Senior Industrial Advisors canvassed
- Concepts identified by DOE Senior Industrial Advisors
- New uses selected as a result of input from the DOE Senior Industrial Advisors
- New uses implemented as a result of input from DOE Senior Industrial Advisors
Center for Chemical Process Safety/Department of Energy - Partnering.

HSC induced draft wind tunnel.
Goal 4: FULLY UTILIZED CENTER

Using the results of market analyses, we will aggressively pursue potential customers for year-round use of the facility.

STRATEGIES

Train HSC Team on selling and closing agreements

*Performance Measures*

- Training opportunities available to the Center Team
- Training opportunities attended by the Center Team

Use Senior Industry Officials to identify potential customers

*Performance Measures*

- Strategic outlook expanded outside the DOE community
- Strategic outlook includes the international community
- Annual follow-up with initial contact list

Develop effective broad coverage advertising plans

*Performance Measures*

- Timely newsletter for stakeholders and customers
- Brochures detailing capabilities of the Center
- Professional associations briefed
- Professional conferences, including international, participated in or co-sponsored
- Interactions at the international level

Develop quality criteria

*Performance Measures*

- Standards and criteria established through lessons learned
- Government and industry reviews/ seminars
- Standards and criteria established through the use of critical feedback obtained from reviews/ seminars
- Noncompulsory site constraints eliminated

Develop uses for the Center during the winter months

*Performance Measures*

- Cold weather tests scheduled
- HAZMAT cold weather training sessions scheduled
Goal 5: STATE OF THE ART CENTER

We will exploit technical and scientific expertise found within DOE, other agencies, academia, and industry to provide instrumentation, diagnostics, and computing power.

STRATEGIES

Form partnerships with DOE scientific community to keep current on state of the art technologies

Performance Measures
- Uses of DOE National Laboratories
- Partnerships with DOE Offices
- Seminars conducted for DOE Scientific Community

Present intellectual challenges to the scientific community for source term definition, dispersion, mitigation, and multi-component modeling

Performance Measures
- Source term definition challenges developed and presented
- Dispersion challenges developed and presented
- Mitigation challenges developed and presented
- Data files for multi-component modeling experiments/test

Emphasize full scale live material experiments to test or validate computer modeling

Performance Measures
- Industry and government experiments or tests
- Joint domestic and international experiments or tests

Deploy advanced training aids to include virtual reality capabilities

Performance Measures
- Advanced computer technologies as training tools
- Video and telecommunication links with the international community
- Worldwide research of advanced training aids for HSC application

Exploit HSC results to the HAZMAT modeling community to promote update of models

Performance Measures
- Atmospheric Release Advisory Capability (ARAC) technologies applied to HSC activities
- Models tested and/or validated at HSC
Goal 6:
WORLD-RECOGNIZED TRAINING AND TECHNICAL CAPABILITIES
We will enhance the existing training capabilities and expand our cadre of technical experts in order to meet the growing and diverse needs of our customers.

STRATEGIES

Use proven technologies to provide for a World-Recognized training and technical center
Performance Measures
- Worldwide facilities reviewed to adopt the best capabilities of each
- Technologies identified
- Technologies selected
- Technologies implemented

Solicit acknowledged international experts to supplement HSC cadre
Performance Measures
- Experts identified
- Experts selected
- Experts affiliated with the HAZMAT Spill Center

Utilize Nevada Operations Office assets to expand HAZMAT training capabilities
Performance Measures
- Discussions with Nevada Operations Office Management
- Additional capabilities and/or equipment supplied

Balance the use of the Spill Center to meet diverse customer needs
Performance Measures
- Follow-up customer surveys conducted
- Usage plan based on comprehensive “User Community” input

Obtain sufficient funding to create World-Recognized training capabilities
Performance Measures
- Identify Pros and Cons for market analyses
- Market analyses and diverse customer needs based briefings to justify budget request
- DOE funding level sufficient to pursue World-Recognized capabilities
Training and technology evaluation.

STRATEGIC ISSUES

- Required resources and support to implement the “Vision” for a World-Class HAZMAT Spill Center
- Constrained funding throughout the Department - do more with less!
- The Department of Energy is currently undergoing realignment and many of its offices are unsure as to what their future HAZMAT requirements will be.
- Marketing future capabilities but offering current day technologies.
- Overcoming past reputation.
Vision, regarding future HAZMAT requirements as related to testing, training, and technologies, both internal and external to the Department of Energy, has been the driving force for the development of this Strategic Plan. Over any given period of time the basis for one’s vision is susceptible to change, thus, the current concepts outlined in this plan must be reviewed and updated periodically to ensure the plan remains attuned with the ever changing sociopolitical and technological climates. The annual review and update of this plan will be tracked as a designated Action Task in the Department of Energy’s, Office of Emergency Management’s Annual Operating Plan. In addition to the annual internal review, a tri-annual review of the plan will be requested from HSC Customers. This review will provide an outside perspective that will enhance the effort to ensure the plan is in keeping with national needs. These reviews will provide the basis for the HAZMAT Spill Center’s Program Plan and budget development, as well as a source of input for the Office of Emergency Management’s Multi-Year Program Plan and the Annual Report to the Secretary on DOE Readiness Assurance.
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