

# ***Environmental, Safety, and Occupational Health (ESOH) Management System***

## ***Challenges and Successes***

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***Defense Threat Reduction Agency***





# Agenda

- About DTRA
- DTRA ESOH Challenges & Opportunities
- DTRA ESOH Management Tools
- Brief Overview of ESOH Management Systems (ESOHMS)
- ESOHMS Software Features
- ESOHMS Software Future Plans
- Implementation Barriers
- Lessons Learned



# Defense Threat Reduction Agency

- Combat support DoD agency
  - Arms control
  - WMD Threat reduction
  - Technology development
  - Chemical and biological defense
- Established 1998; merged existing agencies
  - Defense Special Weapons Agency (Defense Nuclear Agency)
  - On-Site Inspection Agency
  - Defense Technology Security Administration
  - Cooperative Threat Reduction Program
  - Chemical Biological Defense Program

# Wide Range of Agency Activities

## Nonproliferation



## Counterproliferation



## Consequence Management



Security Cooperation & Partner Activities

Threat Reduction Cooperation

Interdiction

Elimination

Offensive Operations

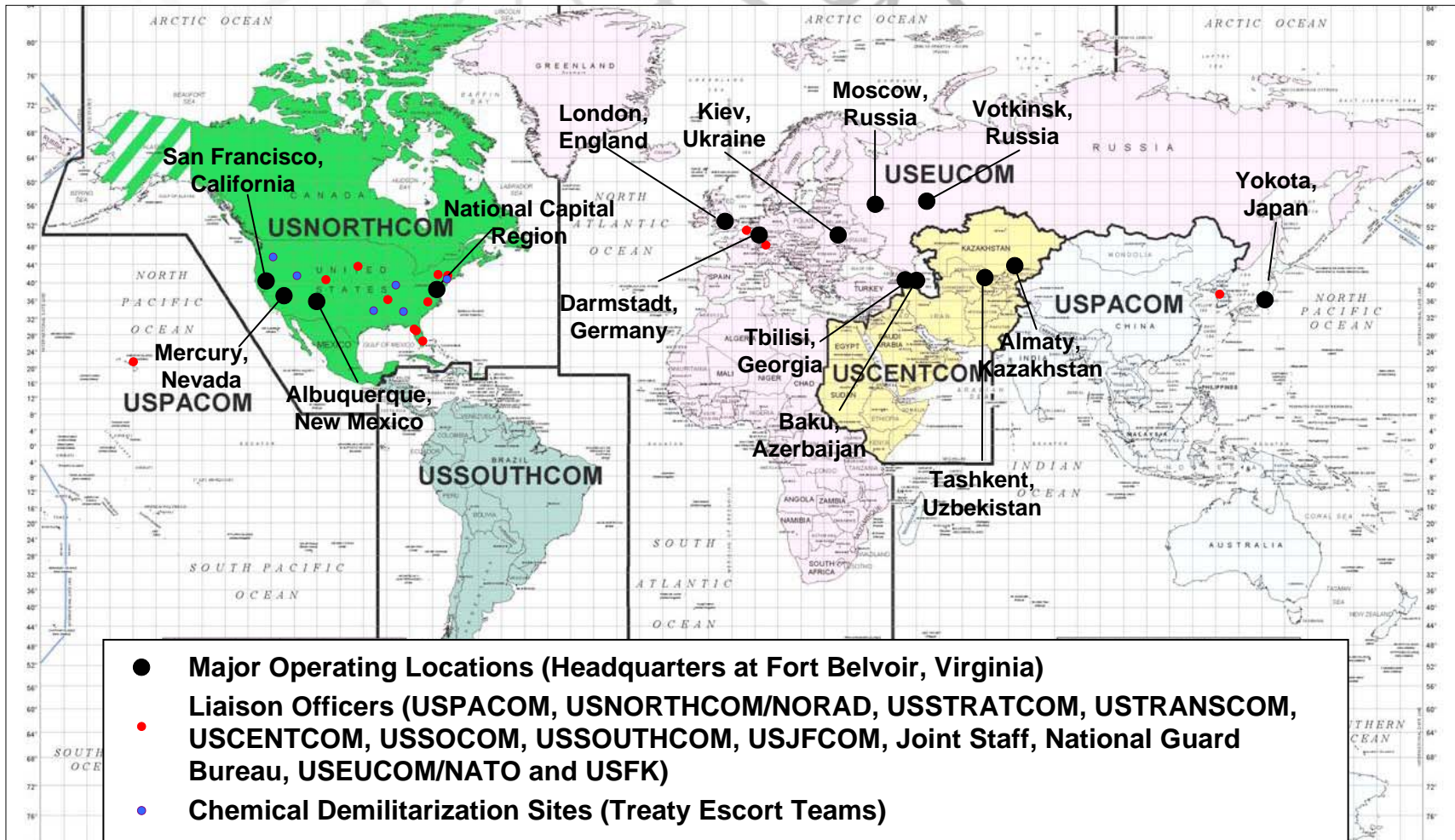
Active Defense

Passive Defense

Consequence Management Restoration Operations

Adversary WMD Means of Delivery

# Global Reach of DTRA Activities





# DTRA Challenges and Opportunities

- Lack of data-driven ESOH planning and management
  - ESOH mitigation efforts often driven by anecdotal evidence or whim
- Significant health-related cost burdens on organization and DoD
  - Medical costs difficult to determine (military, civilians, contractors)
  - Absence-related and productivity losses not adequately monitored
- Lack of coordination among relevant stakeholders
  - Enterprises (Divisions) still act as independent agencies
- Insufficient resources for health and safety interventions
  - Mission staff scattered around globe, often in small groups



# DTRA ESOH Management Tools

- Integrated Health & Human Capital Database
  - Integrates health data with HR data such as worker's comp, days lost, illness & injury burdens
  - Tracks dollars by burden of disease, illness, or injury
  
- ESOH Handheld Inspection Device
  - Used by Collateral Duty ESOH Officers
    - Mission Staff with basic ESOH training
  - Conduct Audits & Inspections
    - Point-of-impact data capture
  
- ESOH Management System
  - Intelx ESOHMS Software





# What is an ESOHMS?

## **An ESOHMS provides a structured framework for:**

- Identifying, evaluating, and addressing ESOH risks.
- Organizing and managing ESOH responsibilities.
- Evaluating the effectiveness of the organization and the ESOHMS in achieving desired performance levels.
- Continually improving operations

\*\*While most government organizations already have several ESOHMS elements in place, the system relationship is lacking. In other words, there are loose pieces but nothing is holding those pieces together to form anything.





# International Standards

**The DTRA ESOHMS will be based on two internationally recognized standards:**

- 1) **ISO 14001** - standard for environmental management systems
  - 2) **OHSAS 18001** - standard for safety and occupational health management systems
- Both standards employ a basic managerial approach of **Plan, Do, Check, Act**



# Planning Phase Tools

## Managing Activities, Hazards, and Risk Assessments with Technology



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### Hazards and Risks Details

Save Changes Save/Exit Add Entry Delete



Location: **Defense Threat Reduction Agency**

Record No.: 00021

\*Activity Name: Portable generators/power distribution

Description: Hazardous Equipment Operation

\*Person Responsible: Fraher, Jeff

Office Symbol: RD-CXT [Edit List](#)

\*Review Frequency: RD-CXTD

\*Next Review Date: Date Not Required 04/29/2010 (MM/DD/YYYY)

customization

Following is a list of all Hazards and Potential Barriers related to the above Activity. Add a Hazard and Potential Barriers to this list click the [Add to List] button below.

Add to List Remove from List

Record No.	Hazard Name	Risks	Condition	Notes	Related Potential Barriers	Risk Rating	Select/Deselect
<a href="#">00018</a>	Indoor Air Quality to gases/fumes	dizziness, fatigue, memory loss, respiratory difficulties/damage, cancer, etc.	Normal		Ensure proper Ventilation	20	<input type="checkbox"/>
<a href="#">00019</a>	Hazardous Materials--Use, Storage, Transport	fire, eye/skin irritation	Normal	Gasoline spills	Personal Protective Equipment	16	<input type="checkbox"/>
<a href="#">00029</a>	Extreme Noise Emission	hearing impairment	Normal	noise does not exceed OSHA regulations	Ear plugs	20	<input type="checkbox"/>

My Tasks/Activities Inventory/ICap8  
**Hazards and Risks Details**

Save Changes Save

Location **Defense Threat Reduction Agency**  
 Record No. 00021  
 \*Activity Name Portable generators/power distribution  
 Description Hazardous Equipment Operation  
 \*Person Responsible Fraher, Jeff  
 Office Symbol RD-CXT [Edit List](#)  
 \*Review Frequency 1 \* Year(s) Date Not Required (MM/DD/YYYY)  
 \*Next Review Date 04/30/2008 (MM/DD/YYYY) [Save Rescheduled Date](#)

- .....Albuquerque Office: BE-BQ
- .....HR: BE-BH
- .....R & D Enterprise - ADPR
- .....Systems Engineering: RD-SE
- .....Nuclear Technologies: RD-NT
- .....Counter WMD Technologies: RD-CX
- .....Test & Technologies Support Div: RD-CXT**
- .....Target Assessment Technologies Div: RD-CXA
- .....Combating Terrorism Div: RD-CXC
- .....Counterforce Systems Div: RD-CXS
- .....Chem/Bio: RD-CB

The following is a list of all Hazards and Potential Barriers related to the above Activity.  
 To add a Hazard and Potential Barriers to this list click the [Add to List] button below.

Add to List Remove from List

Record No.	Hazard Name	Risks	Condition	Notes	Related Potential Barriers	Risk Rating	Select Deselect
<a href="#">00019</a>	Hazardous Materials--Use, Storage, Transport	fire, eye/skin irritation	Normal	Gasoline spills	Personal Protective Equipment	16	<input type="checkbox"/>
<a href="#">00029</a>	Extreme Noise Emission	hearing impairment	Normal	noise does not exceed OSHA regulations	Ear plugs	20	<input type="checkbox"/>
<a href="#">00030</a>	Situational/Environmental--Outdoor Air Pollution	dizziness, fatigue, memory loss, respiratory difficulties/damage.	Normal		Ensure proper Ventilation	16	<input type="checkbox"/>

My Tasks/Activities Inventory/ICap8  
**Hazards and Risks Details** Exit

Save Changes Save/Exit Add Entry Delete



Location: Defense Threat Reduction Agency  
Record No.: 00021  
\*Activity Name: Portable generators/power distribution  
Description: Hazardous Equipment Operation  
\*Person Responsible: Fraher, Jeff  
Office Symbol: RD-CXT Edit List  
\*Review Frequency: 1 \* Year(s) Date Not Required: 04/29/2010 (MM/DD/YYYY)  
\*Next Review Date: N/A Reschedule Date

The following is a list of all Hazards and Potential Barriers related to the above Activity.  
To add a Hazard and Potential Barriers to this list click the [Add to List] button below.

Add to List Remove from List

Record No.	Hazard Name	Risks	Condition	Notes	Related Potential Barriers	Risk Rating	Select/DeSelect
<a href="#">00019</a>	Hazardous Materials--Use, Storage, Transport	fire, eye/skin irritation	Normal	Gasoline spills	Personal Protective Equipment	16	<input type="checkbox"/>
<a href="#">00029</a>	Extreme Noise Emission	hearing impairment	Normal	noise does not exceed OSHA regulations	Ear plugs	20	<input type="checkbox"/>
<a href="#">00030</a>	Situational/Environmental--Outdoor Air Pollution	dizziness, fatigue, memory loss, respiratory difficulties/damage,	Normal		Ensure proper Ventilation	16	<input type="checkbox"/>

# Hazard Identification and Risk Assessment

Save/Close Cancel

Identify the Hazard and Potential Barriers for the selected activity.

Activity Name: Portable generators/power distribution

\*Hazard: Hazardous Materials-Storage customization

Risks:
 

- Ensuring compliance with laws and regs
- Equipment Operation
- Ergonomics
- Exposed Wires
- Extreme Noise Emission**
- Falling Objects

Condition:
 

- Fire Hazards-extreme heat generation
- Fire Hazards-other
- Fire Hazards-overloaded circuits
- Hazardous Materials-Storage
- Hazardous Materials-Transport

Notes:

Assign Potential Barriers:
 

- Dry floors
- Install signs

Risk Calculation [Help](#)

\*Frequency:

\*Severity:

\*Legal Risk:

\*Cost:

\*Mission Impact:

Formula:

Risk Rating:

Override Score

Override A: If Freq >4 = significant

Override B: If Legal Risk >4 = Significant

Detail Information - Microsoft Internet Explorer provided by Defense Threat Reduction Agency

## Hazard Identification and Risk Assessment

Save/Close Cancel

**Identify the Hazard and Potential Barriers for the selected activity.**

Activity Name: Portable generators/power distribution

\*Hazard: Extreme Noise Emission

Risks: hearing impairment

Condition: [Empty]

Notes: [Empty]

Assign Potential Barriers: Dry floors, Install signs

Normal  
Abnormal  
Emergency



## Hazard Identification and Risk Assessment

Save/Close Cancel

Identify the Hazard and Potential Barriers for the selected activity.

Activity Name Portable generators/power distribution

\*Hazard

Extreme Noise Emission

Risks

hearing impairment

Condition

Normal

Notes

noise level = 30dBA  
Does not exceed OSHA standard

Assign Potential Barriers

Dry floors  
Ear plugs  
Ensure proper hydration  
Ensure proper Ventilation

Risk Calculation [Help](#)

\*Frequency

\*Severity

\*Legal Risk

\*Cost

\*Mission Impact

Formula

A\*(B+C+D+E)

Risk Rating

Override Score

Override A If Severity >4 = significant

Override B If Legal Risk >4 = Significant



# Risk Assessment Calculation

**Significance Score = Frequency X (Severity+  
Mission Impact + Cost + Legal Risk)**

- Can use any formula you want.
- Used this as min. value = 1, max value = 106 (close to 100).
- If score is above an assigned value (65 at DTRA), the hazard is deemed significant and addressed before insignificant hazards.



# Risk Assessments - Frequency

## Frequency X (Severity+ Mission Impact + Cost + Legal Risk)

Frequency: probability or likelihood that a safety or occupational health hazards will place an individual at risk

### Evaluation Considerations:

- Illness & Injury rates
- Violations
- Employee comments
- Proximity of the hazard to people
- Internal Audits (handheld inspection devices)

**Table 1: Frequency Scores**

1 =	Never occurs or occurring less than once every 3 years
2 =	Occurs annually or biannually (once every 2 years)
3 =	Infrequently – occurs 2-5 times over a 6 month period
4 =	Frequently – occurs 1-2 times per month over a 6 month period
5 =	Very Frequently -- occurs 3-4 times per month over a 6 month period
6 =	Continuously – occurs weekly (once or more every week) or daily



# Risk Assessments - Severity

## Frequency X (Severity + Legal Risk + Cost + Mission Impact)

Severity: refers to the degree to which the hazard places individuals at risk.

### Evaluation Considerations:

- Worst-case scenario
- Number of people affected
- Quality of life post-accident
- Toxicity of the hazard
- Duration of exposure
- Previous treatments for incidents (provider input)

**Table 2: Severity Scoring**

1 =	Insignificant – no risk or trivial consequences
2 =	Mild – small potential for harm but easily prevented
3 =	Moderate – somewhat harmful but still preventable
4 =	Serious – serious potential risk to individuals but still preventable
5 =	Severe – immediate, serious, widespread threat to human health that cannot be completely prevented ( <b>automatic significance</b> )



# Risk Assessments – Legal Risk

**Frequency X (Severity + Legal Risk + Cost + Mission Impact)**

Legal Risk: refers to the degree to which ESOH hazards are and have been in compliance with state and federal regulations

## Evaluation Considerations:

- Internal Audits (handhelds)
- Fines, NOV's
- Number & complexity of applicable laws
- Planning process
- Employee input

**Table 3: Legal Risk Scoring**

1 =	No relevant ESOH laws; unregulated hazard
2 =	In compliance with no history of non-compliance
3 =	Out of compliance with no history of non-compliance
4 =	Out of compliance with history of occasional non-compliance <i>(automatic hazard significance)</i>
5 =	Notified formally (e.g. fined, NOV) of non-compliance; well documented history of non-compliance <i>(automatic hazard significance)</i>



# Risk Assessments – Cost

## Frequency X (Severity + Legal Risk + Cost + Mission Impact)

Cost: refers to the amount of money that has or will be spent to prevent, mitigate, or compensate individuals for problems associated with the ESOH hazard

### Evaluation Considerations:

- Worker's Comp \$
- Short/Long Term Disability \$
- Absences
- Unpaid leave
- Productivity loss (presenteism)
- PPE costs

**Table 4: Cost Scoring**

1 =	Zero to \$50,000
2 =	\$50,000 to \$100,000
3 =	\$100,000 to \$250,000
4 =	\$250,000 +



# Risk Assessments – Mission Impact

## Frequency X (Severity + Legal Risk + Cost + Mission Impact)

Mission Impact: refers to the degree to which the ESOH hazards interfere with the mission objective

### Evaluation Considerations:

- Activity restrictions
- Duration restrictions
- Diversion of personnel to mitigate ESOH problems
- Diversion of mission dollars to mitigate ESOH problems

**Table 5: Mission Impact Scoring**

1 =	No mission restriction
2 =	Minor mission restrictions
3 =	Moderate mission restrictions
4 =	Serious mission restrictions/loss of ability to accomplish mission <i>(automatic significance)</i>

## Hazard Identification and Risk Assessment

Save/Close Cancel

**Identify the Hazard and Potential Barriers for the selected activity.**

Activity Name Portable generators/power distribution

\*Hazard Extreme Noise Emission

Risks hearing impairment

Condition Normal

Notes noise level = 30dBA  
Does not exceed OSHA standard

Assign Potential Barriers  
Dry floors  
Ear plugs  
Ensure proper hydration  
Ensure proper Ventilation

Risk Calculation [Help](#)

<b>*Frequency</b>	<b>*Severity</b>	<b>*Legal Risk</b>	<b>*Cost</b>	<b>*Mission Impact</b>
4	1	1	2	1

Formula  $A*(B+C+D+E)$

Risk Rating 20

Override Score

- Override A If Severity >4 = significant
- Override B If Legal Risk >4 = Significant



## Hazard Identification and Risk Assessment

[Close This Page](#)

Save/Clos

### Identify the Hazard and Potential

Activity Name Portable generators/power distributio

**\*Hazard**

Extreme Noise Emission

Risks

hearing impairment

Condition

Normal

Notes

noise does not exceed OSHA

Assign Potential Barriers

Dry floors  
Ear plugs  
Ensure proper hydration  
Ensure proper Ventilation

Risk Calculation [Help](#)**\*Frequency**

4

**\*Severity**

1

**\*Legal Risk**

1

**\*Cost**

2

**\*Mission Impact**

1

Formula

A\*(B+C+D+E)

Risk Rating

20

Override Score

Override A If Severity >4 = significant Override B If Legal Risk >4 = Significant 

### Risk Calculation Help

ENVIRONMENTAL, SAFETY AND OCCUPATIONAL HEALTH HAZARDS AND RISKS SCORING SHEET

DETERMINING THE HAZARD SIGNIFICANCE SCORE

Directions

Each environmental, safety and occupational health (ESOH) hazard must be rated for significance. The rating allows DTRA to determine where to concentrate its safety and health protection efforts.

In order to determine significance, ESOH hazard must be evaluated according to the five criteria (Frequency, Severity, Legal Risk, Mission Impact, and Cost) described below. Each criterion must be assigned a numeric rating using the descriptions and scales below as guides. The five ratings will be entered into an equation to determine significance score. The equation for determining significance is as follows:

Significance Score = Frequency X (Severity+ Mission Impact + Cost + Legal Risk).

Save Changes

Use the fields below to define the Risk Factors and Risk Calculation to be used for all locations.

Risk Factors	A	B	C	D	E	F	G	H
	Frequency	Severity	Legal Risk	Cost	Mission Impa			
Minimum Value	1	1	1	1	1			
Maximum Value	6	5	5	4	4			

Risk Calculation A\*(B+C+D+E)

Override Score  
 Override A If Severity >4 = significant  
 Override B If Legal Risk >4 = Significant

customization

To edit Captions and Flow click [here](#).

Pick Hazards from list or type text into text box:  Pick from list  Type into text box

Pick Control Measures from list or type text into text box:  Pick from list  Type into text box

Specify a text popup or link to a document for Risk Calculation Help:  Text popup  Link to a document

Enter the link or text

ENVIRONMENTAL, SAFETY AND OCCUPATIONAL HEALTH HAZARDS AND RISKS SCORING SHEET

DETERMINING THE HAZARD SIGNIFICANCE SCORE

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Active Location: Defense Threat Reduction Agency

Modules: Hazards and Risks

[Hazards and Risks Setup](#)
[Hazards and Risks List](#)
[Assign Activities to Workgroup](#)
[Potential Barriers](#)
[Potential Hazards](#)
[Risk Assessments](#)

My Tasks/Activities Inventory

### Hazards and Risks List

To find specific entries: enter the text string in the boxes immediately below, then press 'Find' or 'Enter'						
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Record No.	Location	Activity Name	Description	Person Responsible	Next Review Date	Select Deselect
<a href="#">00017</a>	Test & Technologies Support Div: RD-CXT	Advisory Support — environmental impact analysis	Prepare Environmental Impact Analyses for proposed . . .	Jeff Fraher	Monday, April 28, 2008	<input type="checkbox"/>
<a href="#">00018</a>	Test & Technologies Support Div: RD-CXT	Advisory Support — ESOH compliance review	ensure compliance with ESOH laws and regs	Jeff Fraher	Monday, April 28, 2008	<input type="checkbox"/>
<a href="#">00024</a>	Defense Threat Reduction Agency	Construction — build envelope/structure	build test targets	Jeff Fraher	N/A	<input type="checkbox"/>
<a href="#">00025</a>	Defense Threat Reduction Agency	Construction--Site Analysis	Construction Planning	Jeff Fraher	N/A	<input type="checkbox"/>
<a href="#">00020</a>	Defense Threat Reduction Agency	ESOH Program	Overall ESOH program - includes pre/post test targ . . .	Jeff Fraher	Thursday, April 24, 2008	<input type="checkbox"/>
<a href="#">00015</a>	Test & Technologies Support Div: RD-CXT	Hazardous Equipment Operation		Jeff Fraher	N/A	<input type="checkbox"/>
<a href="#">00019</a>	Test & Technologies Support Div: RD-CXT	Hazardous Equipment Operation — ordance/weapons		Jeff Fraher	N/A	<input type="checkbox"/>
<a href="#">00016</a>	Test & Technologies Support Div: RD-CXT	Hazardous Equipment Operation — other (input in adjacent cell)		Jeff Fraher	N/A	<input type="checkbox"/>

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Active Location: Defense Threat Reduction Agency

Modules: Hazards and Risks

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[Hazards and Risks List](#)
[Assign Activities to Workgroup](#)
[Potential Barriers](#)
[Potential Hazard](#)
[Risk Assessments](#)

My Tasks/Risk Assessments

### Risk Assessment List

Exit

List Significant Find List All

Tolerable Risk Rating:  Save Changes

To find specific entries: enter the text string in the boxes immediately below, then press 'Find' or 'Enter'

Record No.	Location	Activity Name	Risks	Condition	Notes	Hazard	Related Potential Barriers	Risk Rating
<a href="#">00028</a>	Defense Threat Reduction Agency	post-strike target assessment	injury	Normal	Targets inspected post-strike pose a serious safety risk as structure that are unstable must be inspected	Falling Objects	Personal Protective Equipment	70
<a href="#">00027</a>	Defense Threat Reduction Agency	Construction – build envelope/structure	injury	Normal		Falling Objects	Personal Protective Equipment	65
<a href="#">00031</a>	Defense Threat Reduction Agency	Portable generators/power distribution	hearing impairment	Normal	noise level = 30dBA BELOW OSHA threshold	Extreme Noise Emission	Ear plugs	20
<a href="#">00019</a>	Defense Threat Reduction Agency	Portable generators/power distribution	fire, eye/skin irriation	Normal	Gasoline spills	Hazardous Materials--Use, Storage, Transport	Personal Protective Equipment	16
<a href="#">00030</a>	Defense Threat Reduction Agency	Portable generators/power distribution	dizziness, fatigue, memory loss, respiratory difficulties/damage, cancer, etc.	Normal		Situational/Environmental- Outdoor Air Pollution	Ensure proper Ventilation	16
<a href="#">00024</a>	Defense Threat Reduction Agency	Logistics – maintenance	bodily injury	Normal		Equipment Operation	Personal Protective Equipment	12

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### [Scorecards](#)

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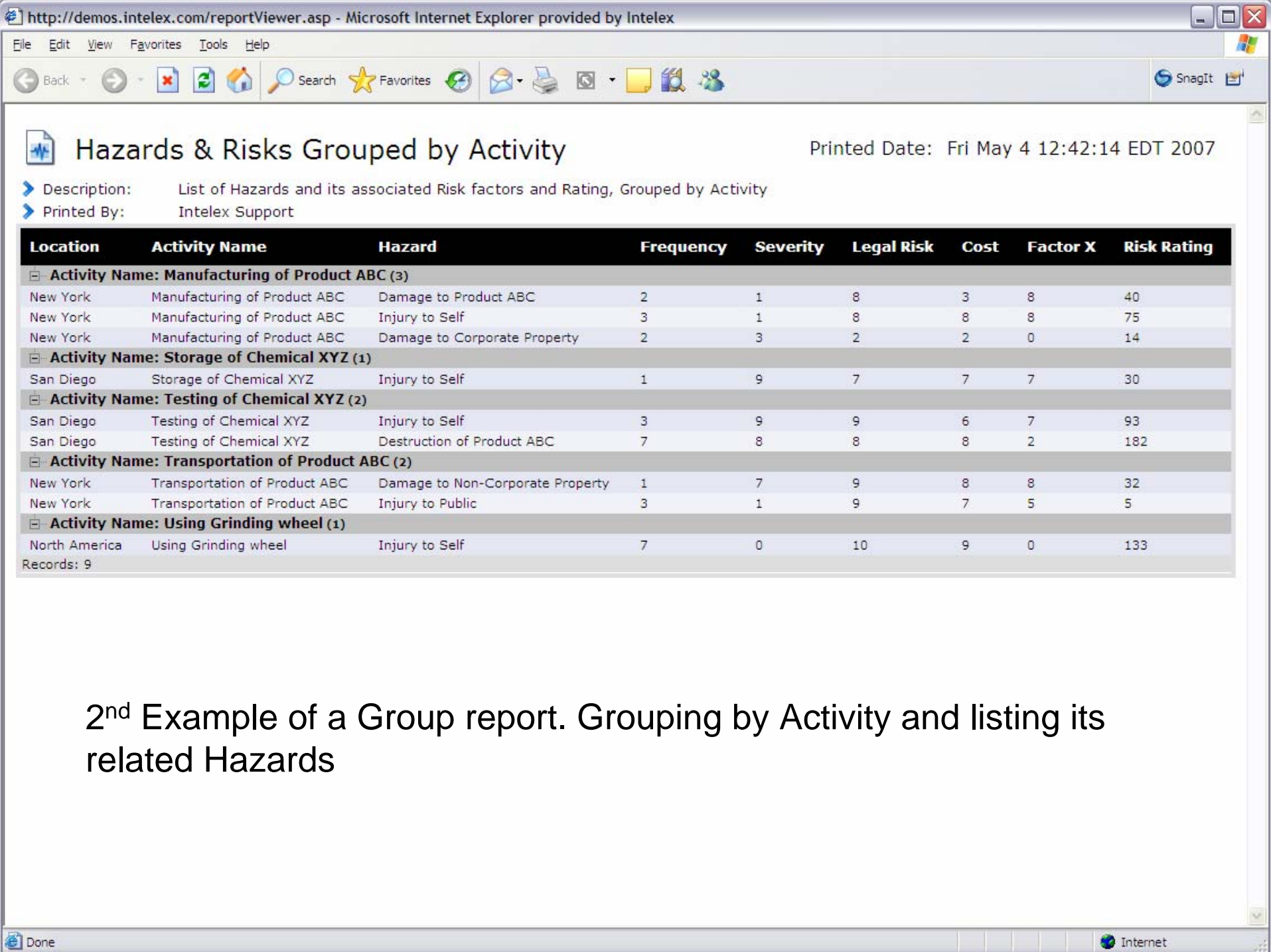
# Hazards & Risks Grouped by Location

Printed Date: Fri May 4 12:23:54 EDT 2007

- > Description: List of Hazards and its associated Risk factors and Rating, Grouped by Location
- > Printed By: Intelx Support

Location	Activity Name	Hazard	Frequency	Severity	Legal Risk	Cost	Factor X	Risk Rating
<b>Location: New York (5)</b>								
New York	Manufacturing of Product ABC	Damage to Product ABC	2	1	8	3	8	40
New York	Manufacturing of Product ABC	Injury to Self	3	1	8	8	8	75
New York	Manufacturing of Product ABC	Damage to Corporate Property	2	3	2	2	0	14
New York	Transportation of Product ABC	Damage to Non-Corporate Property	1	7	9	8	8	32
New York	Transportation of Product ABC	Injury to Public	3	1	9	7	5	5
<b>Location: North America (1)</b>								
North America	Using Grinding wheel	Injury to Self	7	0	10	9	0	133
<b>Location: San Diego (3)</b>								
San Diego	Testing of Chemical XYZ	Injury to Self	3	9	9	6	7	93
San Diego	Testing of Chemical XYZ	Destruction of Product ABC	7	8	8	8	2	182
San Diego	Storage of Chemical XYZ	Injury to Self	1	9	7	7	7	30
Records: 9								

The Groupings in this report are dynamic and can be collapsed or expanded. It shows a total count of records per Location



## Hazards & Risks Grouped by Activity

Printed Date: Fri May 4 12:42:14 EDT 2007

- Description: List of Hazards and its associated Risk factors and Rating, Grouped by Activity
- Printed By: Intelx Support

Location	Activity Name	Hazard	Frequency	Severity	Legal Risk	Cost	Factor X	Risk Rating
<b>Activity Name: Manufacturing of Product ABC (3)</b>								
New York	Manufacturing of Product ABC	Damage to Product ABC	2	1	8	3	8	40
New York	Manufacturing of Product ABC	Injury to Self	3	1	8	8	8	75
New York	Manufacturing of Product ABC	Damage to Corporate Property	2	3	2	2	0	14
<b>Activity Name: Storage of Chemical XYZ (1)</b>								
San Diego	Storage of Chemical XYZ	Injury to Self	1	9	7	7	7	30
<b>Activity Name: Testing of Chemical XYZ (2)</b>								
San Diego	Testing of Chemical XYZ	Injury to Self	3	9	9	6	7	93
San Diego	Testing of Chemical XYZ	Destruction of Product ABC	7	8	8	8	2	182
<b>Activity Name: Transportation of Product ABC (2)</b>								
New York	Transportation of Product ABC	Damage to Non-Corporate Property	1	7	9	8	8	32
New York	Transportation of Product ABC	Injury to Public	3	1	9	7	5	5
<b>Activity Name: Using Grinding wheel (1)</b>								
North America	Using Grinding wheel	Injury to Self	7	0	10	9	0	133

Records: 9

2<sup>nd</sup> Example of a Group report. Grouping by Activity and listing its related Hazards

## Performance Dashboard

Dashboard Selector: Hazards & Risks Dashboard
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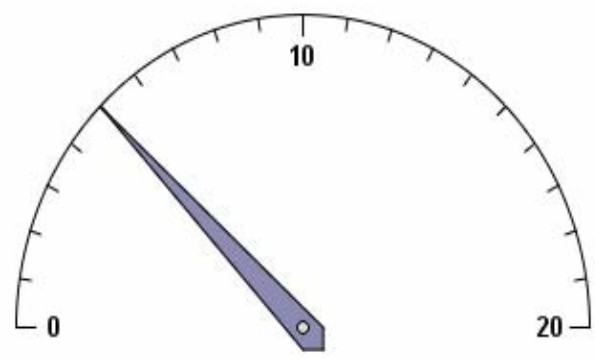


DTRA - Matrix Report

Location	New York	North America	San Diego
Activity Name			
Manufacturing of Product ABC	3.00	0.00	0.00
Storage of Chemical XYZ	0.00	0.00	1.00
Testing of Chemical XYZ	0.00	0.00	2.00
Transportation of Product ABC	2.00	0.00	0.00
Using Grinding wheel	0.00	1.00	0.00
	5.00	1.00	3.00

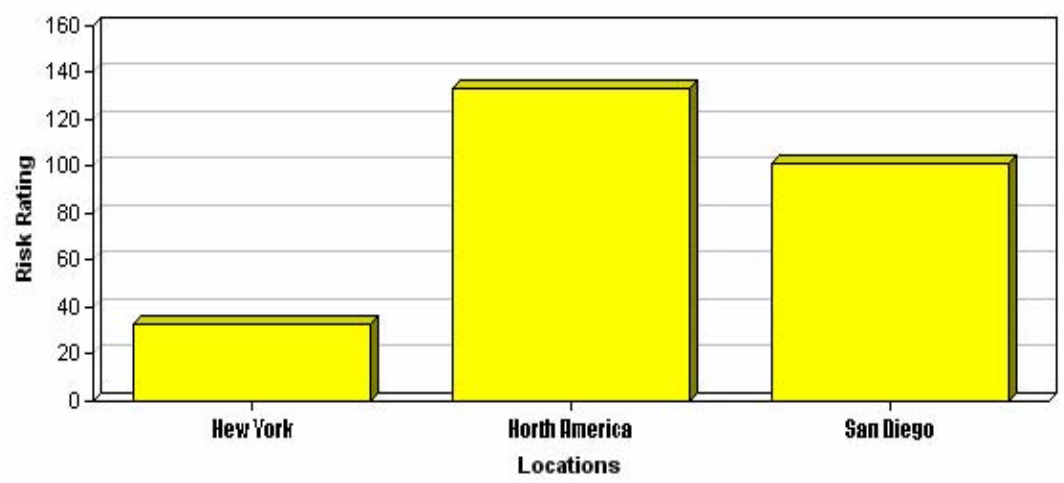
Upcoming Activity Review This Month

### Upcoming Activity Review This Month



Average Risk Rating by Location

### Average Risk Rating by Location





**Performance Dashboard**  
Dashboard Selector: EHS Management

Welcome to the Intelx System  
Thank you for accessing the Intelx Web Based Performance Management System. This screen is the Intelx Dashboard, a configurable view of the business issues most crucial to you. Please feel free to click on any of the Scorecards to view additional information.

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Nonconformances This Month by Date Reported

**Nonconformances This Month - Meter**

Count of Objectives and Targets Due This Month

**Objectives and Targets Due This Month**

Total Audits by Year - All Locations

**Audits by Year - Last 5 Years**

Year of Scheduled Audits	Total Number of Audits Per Year
2003	~5
2004	~25
2005	~20
2006	~10

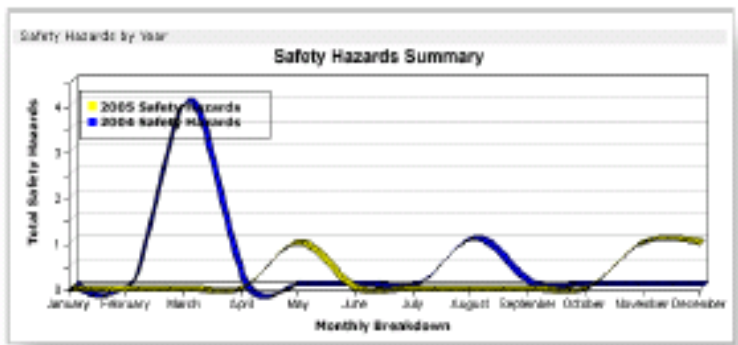
Completed Environmental Objectives & Targets Grouped by Year

**Completed Environmental Objectives**

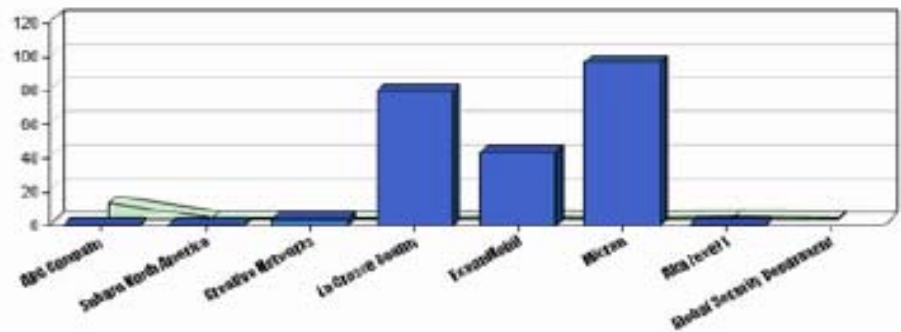
Year Objective Achieved	Completed Objectives
2003	~1.0
2004	~1.0
2005	~2.0

### Corporate Reports & Data Summary

Generate real-time reports which summarize all safety hazards and risk assessment details. Data can be filtered by location, work group, or department for easy analysis. Reports can also be generated to compare year-to-year results or to illustrate progress made to date.



Avg. Risk Assessment Score by Location





# Software – Future Plans

- Eventually, risk assessment process will be integrated into the project planning process so mitigation methods may be built into the program
- Plan to customize software by linking Hazards & Risks software module to the Environmental Impacts module.
  - Will allow threats to the environment & to human health and safety to be addressed simultaneously by Agency activity



# ESOHMS Implementation Barriers

- People naturally resistant to change, esp. when it requires additional duties and learning new skills e.g. software programs.
- Importance of ESOH issues undervalued. Need to provide a business case for changing operational practices.
  - If available, piggy-back on existing business improvement programs by demonstrating relationship



# Change Management – Lessons Learned

- Senior Leadership support is critical – Senior Leadership oversight is a guarantee for success
- Put the paperwork in place before commencing via policies and instructions
- Grant people chance to voice their concerns – even if seemingly insignificant (e.g. Lt. Col and proper boots)  
→ increases likelihood you'll get the support you need
- Market program initiatives and successes. Exposure increases likelihood of maintaining & increasing program support.



# Change Management – Lessons Learned

- Set the pace of implementation carefully – watch for signs of resistance.
  - 1 complaint is an outlier, 2 is an indication.
- Provide a roadmap for implementation to team so everyone knows what the end result is & where the milestones are.
  - Greater success of support for plan if implementing group feels involved in the planning process