

DOE/NNSA EMBITT

Department of Energy/National Nuclear Security Administration

Emergency Management Binned Information Trending Tool (EMBITT)

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**EMI SIG Annual Meeting
May 7-9, 2007
San Antonio, Texas**



OUTLINE

- Vision
- What is DOE/NNSA EMBITT
- Why Develop EMBITT
- Who will use EMBITT
- Short term Goals
- Data Collection/Processing
- How EMBITT can be Utilized
- Some Benefits
- EMBITT Sample Screenshots



VISION

Build a web-enabled database of complex-wide EMS Program Element information typically found in:

- Annual Exercise Reports
- ERAP Summaries
- Other EMS Community generated documents

Capability to extract corrective actions, best practices and obtain trends of most EMS Program Element Data for a variety of user-specified search parameters.



What is EMBITT?

- **An EMS Program Element based database and query system**
 - with the initial goal of improving the utilization of Annual Emergency Exercise reports.
- **Categorization of Information into Major “Bins”**
 - based on the 15 EMS Program Elements.
- **Web accessible and searchable by Fed & Contractor personnel (w/password protection).**



WHY DEVELOP EMBITT?

- **Enable EMS Community:**
 - Searching through or trending of ones own program data
 - Complex-wide experience gained via implementation
 - Performance demonstrated via Exercises
 - Feedback & Improvement
- **Improve preparedness complex-wide by:**
 - Providing a tap into front-line expertise for:
 - resolving problem areas
 - effective operational practices
- **Improve prevention of, preparing for, responding to, and recovering from emergencies.**



WHO WILL LIKELY USE EMBITT?

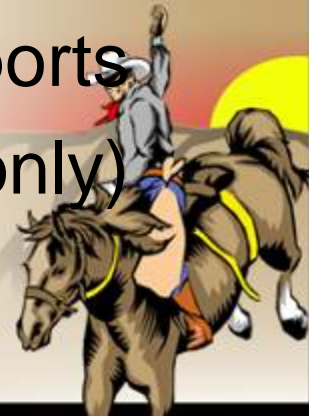
- NA-41 and Other HQ Staff
- DOE/NNSA Site Office EMS Staff
- DOE/NNSA Contractor EMS Staff



SHORT TERM GOALS

Build a system that will:

- **Identify trends** (windows into Strong and Weak program areas)
- Facilitate **sharing of best practices** within the EMS community (O 151.1C / CRD Req.!)
- Provide a **variety of graphic representations** of Binned data (Program Elements, etc.)
- Capability to **drill down** into source reports
- **No Additional Field Reports** (E-filed only)



NA-41 will collect, code and enter Source Data

(Annual Exercise Reports submitted by Exercise Coordinators)

- SMEs will code “binnable” elements**
- “Bin” selections entered by the EMBITT database administrator**
 - Program Elements
 - Finding Type
 - Best Practices
 - Evaluation Criteria
 - Others?
- Sub-binning schemes can be requested**
 - E.g., EOC related material



HOW EMBITT CAN BE UTILIZED

- **Track, Trend and Analyze EMS Issues**
- **Topical Access to Lessons Learned (Exercises initially)**
- **Enhance Understanding of Program Trends**
- **Consolidated complex-wide Corrective Action information**
- **Exercise Planning (i.e., what to test next time)**
- **Probably Others**

EXPECT THE UNEXPECTED



TRENDING BENEFITS

- Identify specific strong and weak performance areas
- The ability to easily present historical performance data
- Possible identification of leading indicators for undesirable trends

EXPECT THE UNEXPECTED



COMPLEX-WIDE BENEFITS

- **Reveal Strengths/Weaknesses in EMS Programs (Protective Actions, EALs, Training, Equipment, etc.)**
- **Validate Complex-Wide EMS Initiatives**
- **Assess Complex-Wide Effectiveness of Corrective Actions**
- **Evaluation and Sharing of Best Practices**

EXPECT THE UNEXPECTED



NA-41 APPLICATION

- **Identify issues that may indicate Contractor, Site Office, or HQ Program Office attention is needed**
- **Presentations on Complex-Wide EMS Performance**
- **Ensure Dissemination of Global Lessons Learned (LL) & Best Practices (BPs)**



SITE/FACILITY LEVEL USE

- **Easier Identification of LL applicable to an EMS Program**
- **Performance Monitoring via Trending**
- **Implementation of ISM Feedback and Improvement**
- **Assist in Resource Allocations**

EXPECT THE UNEXPECTED



FUTURE SOURCE DATA?

After initial “break-in” period, we could add:

- Emergency Readiness Assurance Plan (ERAP) Summary Information
- Interagency Exercises (National, Local)
- Actual Event Reports
- DOE/NNSA No-Notice Exercises
- Technical Planning Basis Metrics Data
- Other EMS data



From DOE Order 151.1C:

- 1. TECHNICAL PLANNING BASIS**
- 2. PROGRAMMATIC ELEMENTS**
- 3. RESPONSE ELEMENTS**



TECHNICAL PLANNING BASIS

- EPHSs
- EPHAs

PROGRAMMATIC ELEMENTS

- Program Administration
- Training & Drills
- Exercises
- Readiness Assurance

RESPONSE ELEMENTS

- Emergency Response Organization
- Offsite Response Interface
- Emergency Facilities & Equipment
- Categorization & Classification
- Notification & Communication
- Consequence Assessment
- Protective Action & Reentry
- Emergency Medical Support
- Emergency Public Information
- Termination & Recovery



EMBITT OUTPUT SAMPLES

Screen Shots

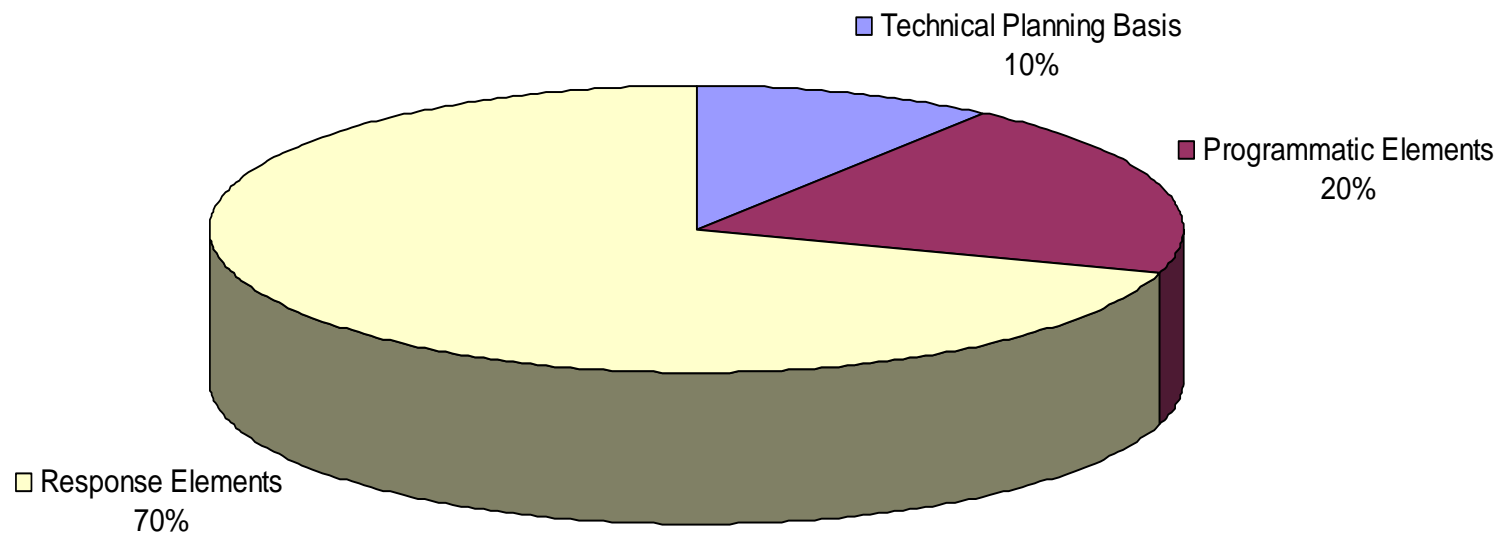
EXPECT THE UNEXPECTED



EMERGENCY MANAGEMENT ROUNDUP

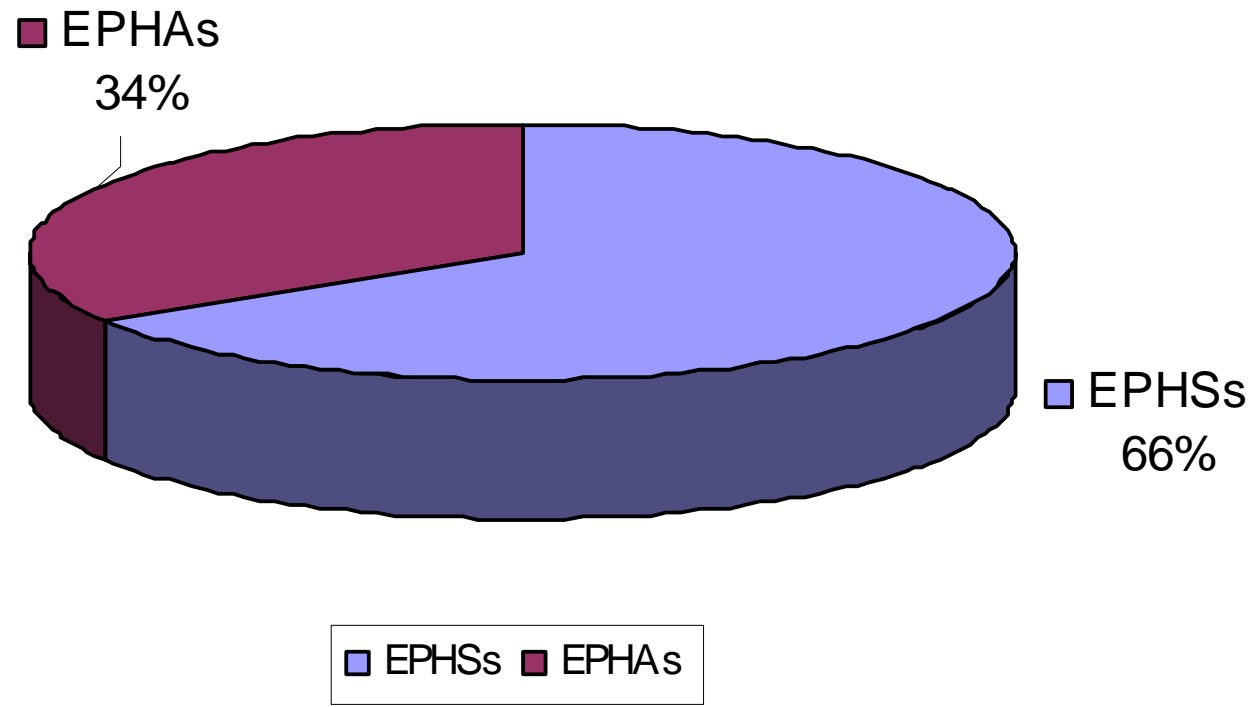
DOE/NNSA EMS Program Elements Data by EMBITT Major Bins
October 1, 2003 – September 30, 2006

EXPECT THE UNEXPECTED



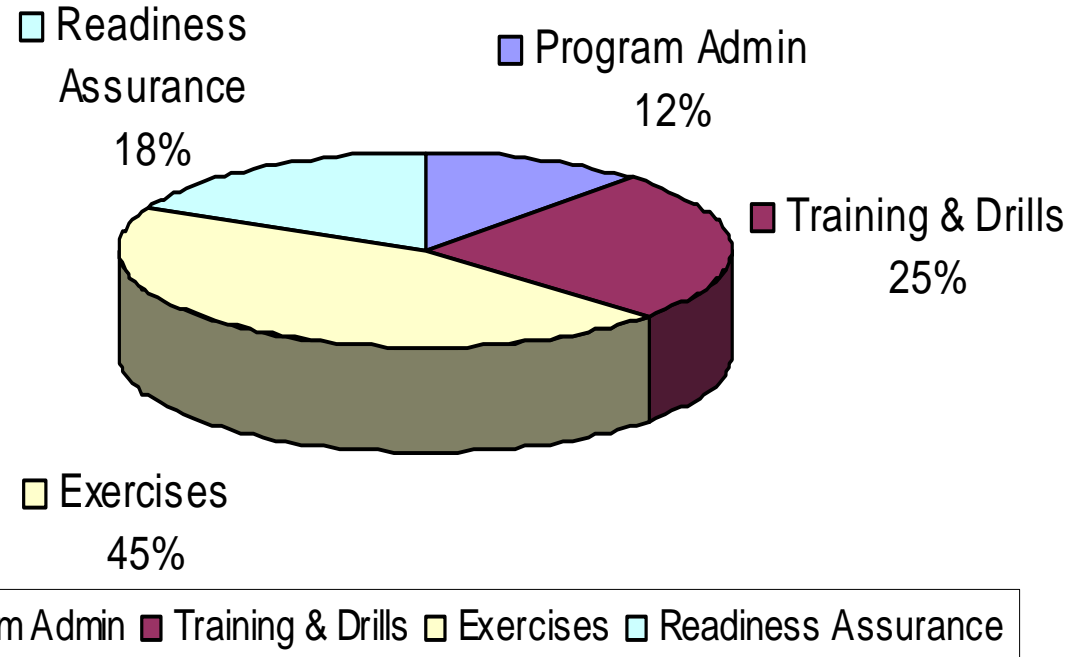
EXPECT THE UNEXPECTED

Technical Planning Basis



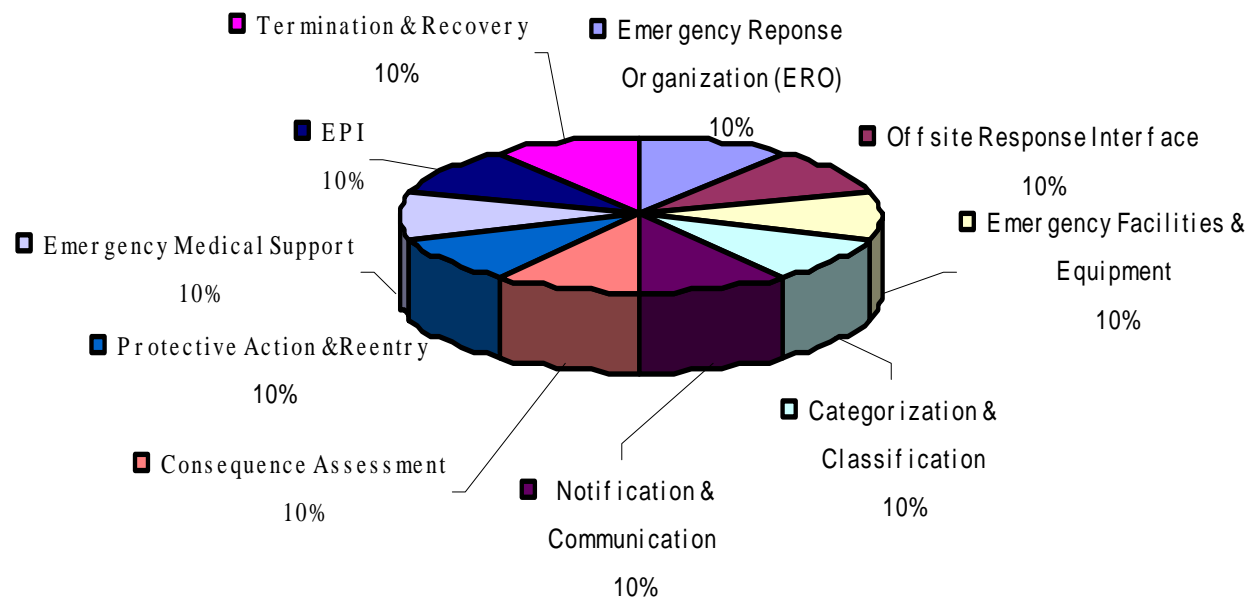
EXPECT THE UNEXPECTED

Programmatic Elements



EXPECT THE UNEXPECTED

Response Elements



- Emergency Reponse Organization (ERO)
- Emergency Facilities & Equipment
- Notification & Communication
- Protective Action & Reentry
- EPI
- Offsite Response Interface
- Categorization & Classification
- Consequence Assessment
- Emergency Medical Support
- Termination & Recovery



EMBITT OUTPUT SAMPLE

EMS Search Attribute: Response
Element: PROTECTIVE ACTIONS AND REENTRY

Search Date Range: 1/1/05 – 7/1/06
Criteria: Findings & Best Practices

Finding (P/E6.18): [XYZ Annual Exercise Report: 6-30-06](#)

1. A lack of command and control was evident during decontamination operations. Decontamination team members performed well individually, however the presence of a Team Leader at the Contamination Control Line (CCL) would have facilitated the processing of personnel through the decontamination line.

2. The Radiological Control Technician assigned to assist EMT personnel with a contaminated patient was not trained or qualified on the procedures for handling contaminated patients.

Best Practice: [High Level Waste Site \(EHLWS\) Annual Exercise Report: 2-30-05](#)

1. The Radiological Response Team (RRT) arrived at the scene well prepared with adequate equipment using pre-stocked response kits. The kits provide radiation monitoring instruments (RO-2, PIC-6, E-520) for dose rate/frisking, Anti-C's, respirators, air samplers, and dosimetry.

Best Practice: [Delta Squared Annual Exercise Report: 4-30-06](#)

1. (Continued on next page.....)



DOE EMBITT

Things to do to move forward:

- Get a green light to move forward (EMI SIG Response & EMAC?/NA-40 approval)
- Feasibility Design Study / Bin Schemes
- SOW/Software Design Specification
- \$ Stand-up Cost estimate / Supplier Decision?
- Secure Budget Money “FY-08?”
- Begin Initial Hardware/Software selections, etc.

For Questions on DOE EMBITT:

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