

Nevada Test Site Emergency Response Organization

Severe Weather, Fires, and HAZMAT; Life at the NTS
(Six Operational Emergencies in 8 Months)

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Planning and Preparedness

Emergency Services and Operations Support

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Overview

Operational Emergencies

- Device Assembly Facility (DAF) Alarm Response
- Severe Weather “*Funnel Cloud*”
- Air Force Wildland Fire
- Visualization Examination and Repackaging Building (VERB) Glovebox Fire
- U1a Complex Power Outage “*Hoist Shutdown*”

Final Emergency Reports

- Final Emergency Report Requirement
- Information Gathering
- Writing a Comprehensive Final Report
- Microsoft Project – Gantt Charts



Nevada Test Site

DAF Alarm Response

January 24, 2005: Operational Emergency Not Requiring Further Classification

- Alarm activated at DAF.
- Facility Emergency Response Organization was activated.
- Protective Actions were implemented.
- NTS Emergency Response Organization was activated.
- NTS Fire and Rescue validated safe conditions. Event terminated.



Device Assembly Facility

Severe Weather – Funnel Cloud

April 28, 2005: Operational Emergency Not Requiring Further Classification

- Severe Weather at NTS began with a Lightning Alert and progressed to a Tornado Watch within 90 minutes.
- Shelter-in-Place Protective Actions were implemented. (GeoNotify® / All Nets Radio)
- NTS Emergency Response Organization was activated.
- The storm passed without significant damage and no injuries as a result. Event terminated.



Funnel Cloud over NTS

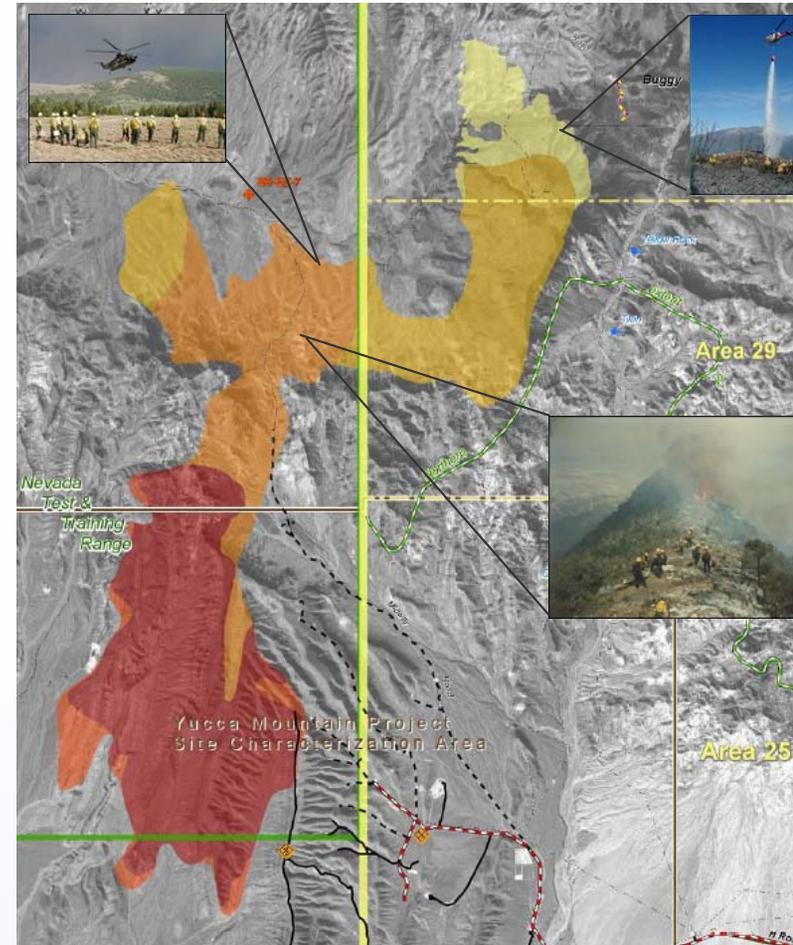
– Quick Fact –

Estimated probability of a tornado striking NTS is three in 10 million years.

Air Force Wildland Fire

June 02, 2005: Operational Emergency Not Requiring Further Classification

- The Wildland Fire started on Bureau of Land Management (BLM) Owned Land west of NTS. Lightning is suspected as cause.
- NTS Emergency Response Organization was activated. The fire was battled from the air and ground with more than 500 firefighters from multiple agencies involved.
- NTS terminated the Operational Emergency on June 9, 2005. The fire was not officially declared extinguished until Sunday, June 12, 2005.



– Quick Fact –

21,000 Acres burned

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VERB Glovebox Fire

June 09, 2005: Operational Emergency Requiring Further Classification – **ALERT**

- Upon terminating the Air Force Wildland Fire, the OCC reported a fire in the VERB Glovebox. The event was categorized as an Operational Emergency Requiring Further Classification – **ALERT**.
- The EMC, EOC, OCC and NTS Fire and Rescue transitioned from the Air Force Fire to the VERB Fire.
- Waste was being segregated during transuranic waste characterization operations when a grey powder material reacted by spontaneously igniting when it was removed from a glass tube.

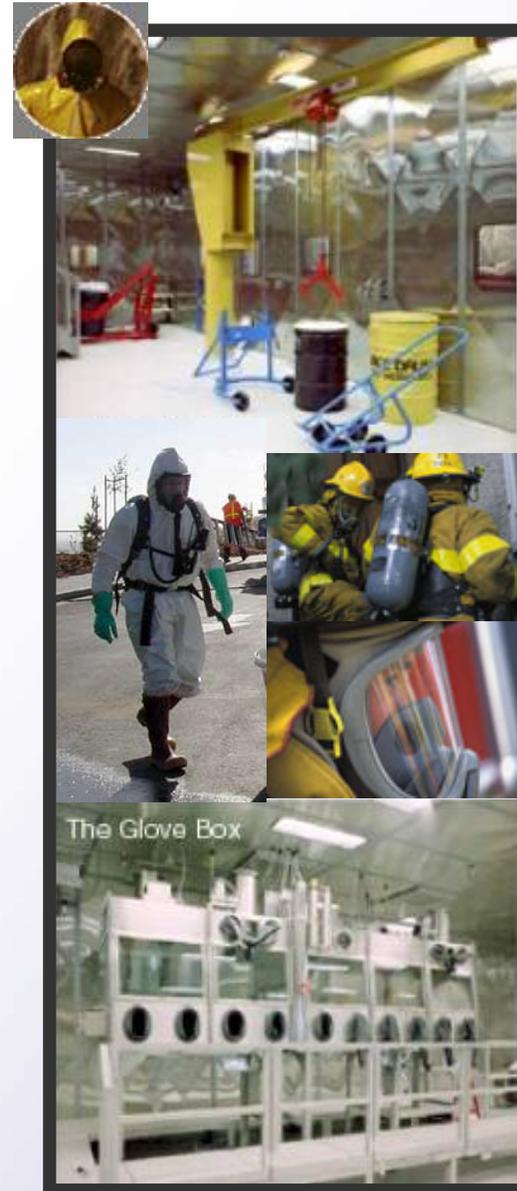


Actual Photograph Above

VERB Glovebox Fire (cont.)

June 09, 2005: Operational Emergency Requiring Further Classification – **ALERT**

- All personnel in the building were evacuated and the carbon dioxide fire suppression pull station located on the glovebox was pulled. Radiological surveys were conducted on personnel with negative findings.
- NTS Fire and Rescue made entry and ensured safe conditions with no personnel inside. Fire crews remained on fire suppression Standby until a recovery plan could be developed and implemented.
- No personnel were contaminated and no contamination occurred outside of the glovebox. One Waste Handler was treated for a minor finger injury. Event was terminated.



U1a Complex Power Outage

July 28, 2005: Operational Emergency Not Requiring Further Classification

- A power outage occurred below ground causing the U1a and U1h Hoists and the U1g Ventilation Fan to be inoperable. However, an emergency hoist with limited load capacity remained operational. 57 personnel had to shelter-in-place in the U1a Underground Refuge Chamber.
- The U1a Complex ERO and the NNSA/NSO EOC was activated. No request for the EMC to activate was made.
- Power was restored after 75 minutes and all personnel were brought to the surface. Event terminated.



U1h Hoist



U1a Hoist

U1a Complex Power Outage

August 08, 2005: Operational Emergency Not Requiring Further Classification

- A power outage occurred below ground causing the U1h Hoists and U1g Ventilation Fan to be inoperable. 44 personnel had to shelter-in-place in the U1a Underground Refuge Chamber.
- The U1a Complex ERO and the NNSA/NSO EOC was activated. No request for the EMC to activate was made.
- Power was restored after 36 minutes and all personnel were brought to the surface. Event terminated.



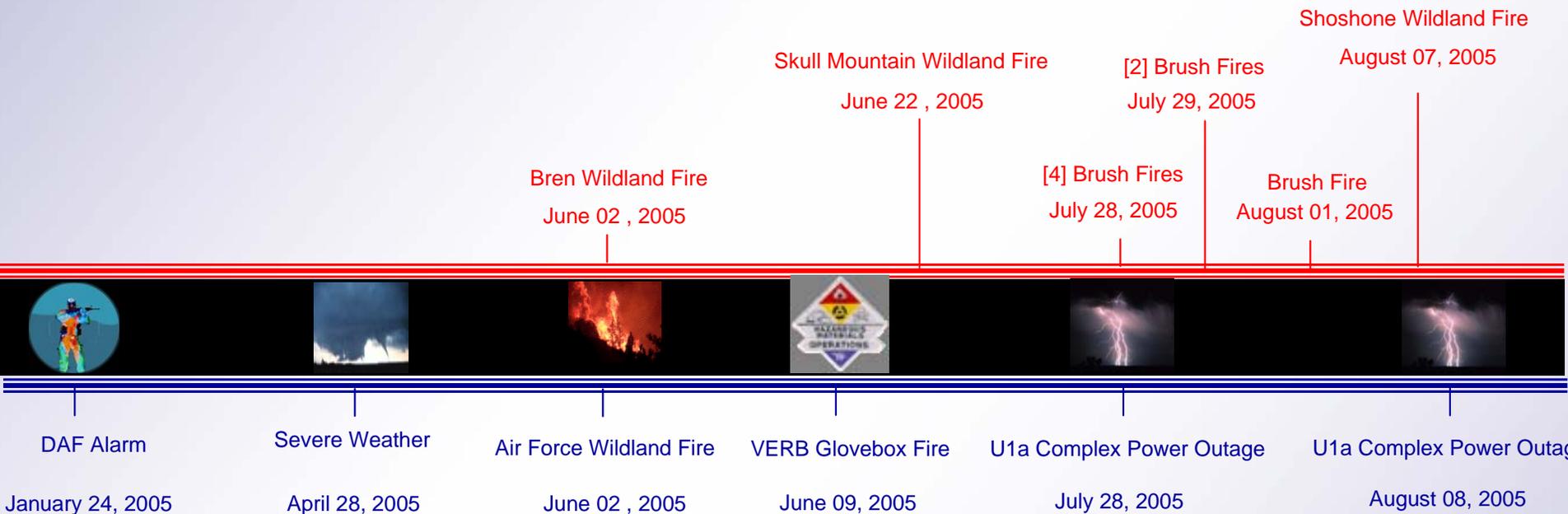
U1h Hoist



U1h Hoist

Emergency Event Timeline

Non-Operational Emergencies



Operational Emergencies

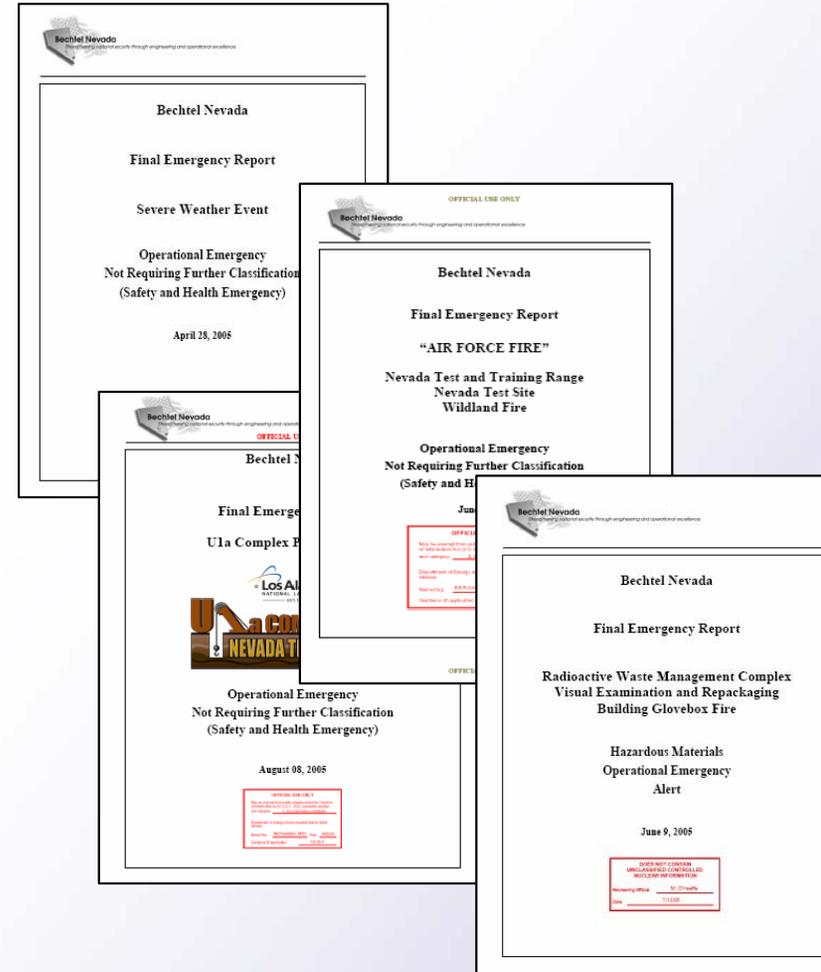
– Quick Fact –
**31 Wildland Fires Battled
on NTS Jun-Aug 2005**

Final Emergency Report

Requirements

U.S. Department of Energy Washington, D.C.	ORDER DOE O 151.1C Approved: 11-2-05
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- Following termination of emergency response, and in conjunction with the Final Occurrence Report, each activated Emergency Management Team must submit a final report on the emergency response to the Emergency Manager for submission to the Director, Office of Emergency Operations.



Final Emergency Report (cont.)

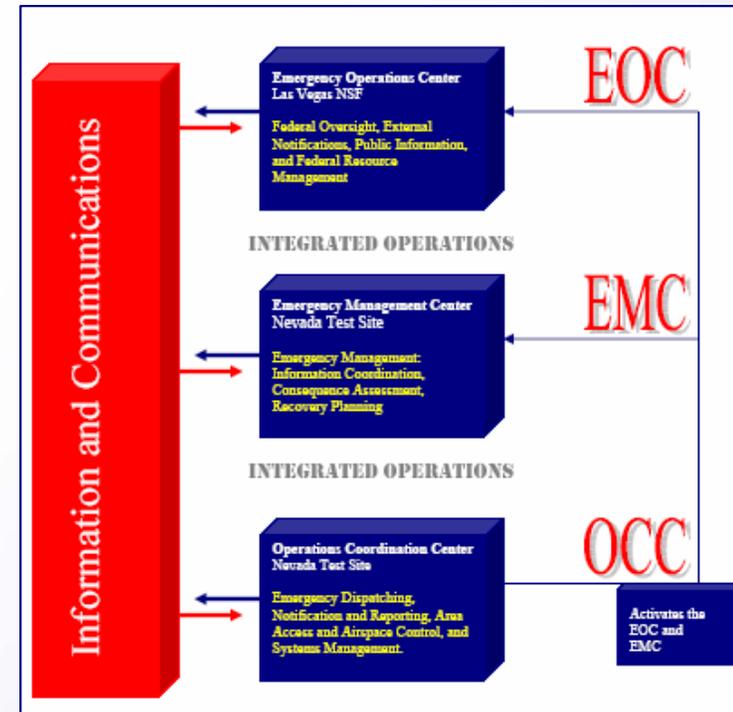
Gathering Information

- The Final Emergency Report developer must be able to successfully re-create the event using event documentation
- This makes it very important that all emergency response and support venues keep detailed notes beyond just entering key information into a web-based program such as WebEOC® or others that may be in use.



- Using a timeline is the best approach for capturing event details

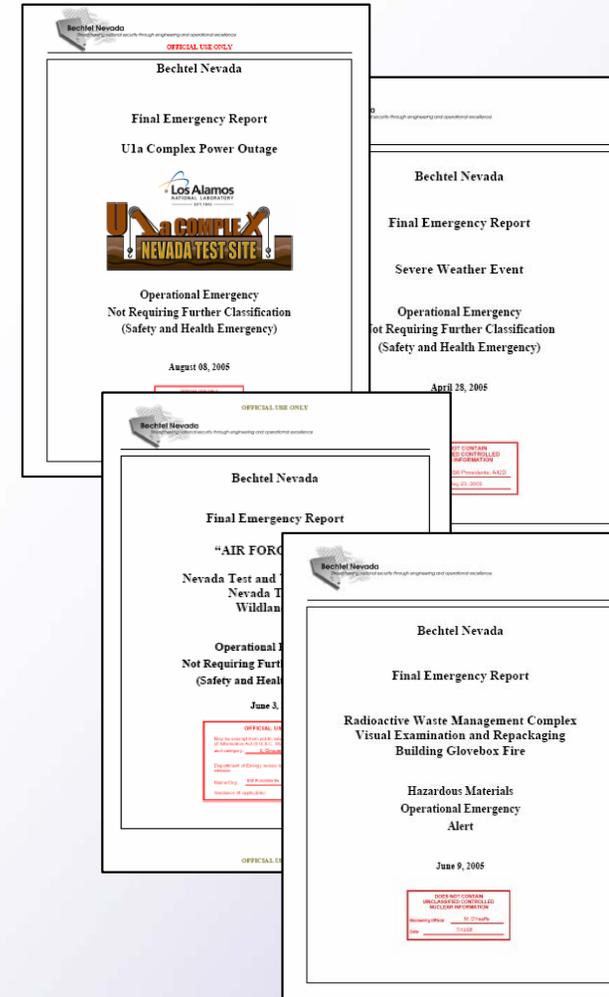
0900 hrs – Event occurred. Fire at Building ABC
0910 hrs – Fire and Rescue on-scene
0919 hrs – All personnel accounted for
0927 hrs – Emergency Operations Center Activated



Final Emergency Report (cont.)

Writing a Comprehensive Report

- The developer should first gather all event documentation prior to starting the Final Emergency Report.
- Create a timeline using all event documentation from all venues. Make sure the times and actions match. Conduct interviews to de-conflict information.
- Develop summaries for each section of the Final Emergency Report. This will allow the reader a comprehensive look at each venue and their specific actions taken to mitigate the event.



Final Emergency Report (cont.)

1.0 Executive Summary

2.0 Emergency Response Organization

2.1 Emergency Response Organization

2.2 Emergency Management Center

2.3 Facility or Complex

3.0 Notifications and Reports

3.1 Emergency Operations Center

3.2 Operations Coordination Center

3.3 Other

4.0 Press Release

5.0 Response Summary

5.1 Emergency Response Organization

5.2 Offsite Response Interface

5.3 Notifications and Communications

5.4 Emergency Medical Support

5.5 Emergency Facilities and Equipment

5.6 Emergency Public Information

5.7 Event Categorization / Classification

5.8 Consequence Assessment

5.9 Protective Actions and Reentry

5.10 Termination and Recovery

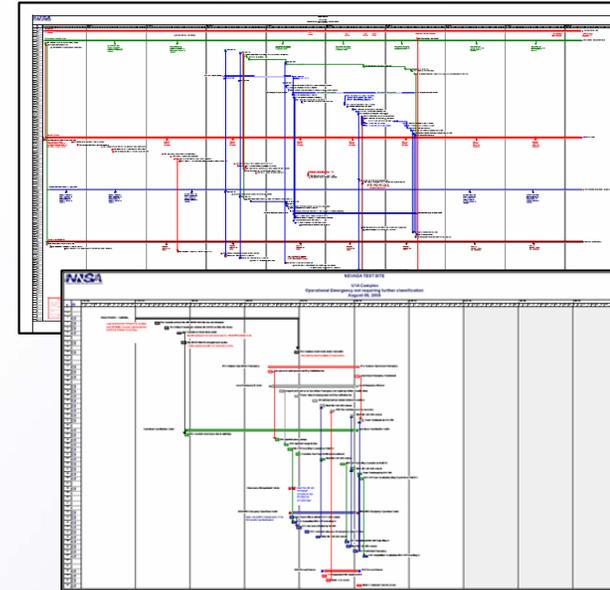
6.0 Lessons Learned

Attachments: Gantt Chart,
Notifications, Press Releases

Final Emergency Report (cont.)

A New Approach

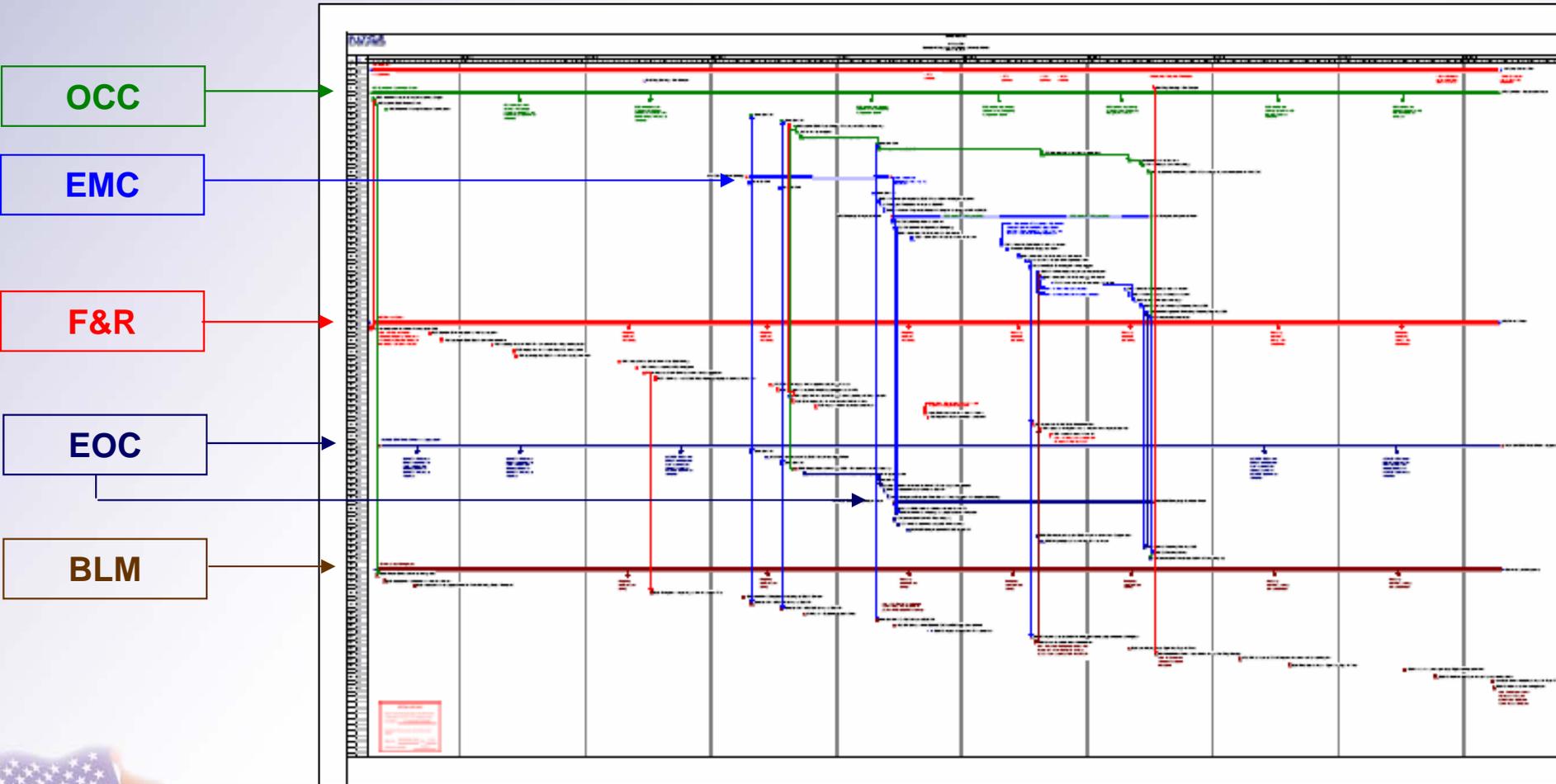
- When developing a Final Emergency Report, not everything in a timeline is needed to ensure critical actions were captured.
- Using a Gantt Chart allows the developer to create a comprehensive timeline within each venue and then linking the actions together. This provides a unique snapshot at how an emergency develops and how long actions took to be completed as they move through each venue.
- Provides the reader the opportunity to review each venue individually rather than reading multiple pages of a timeline with all of the venues intermixed.



**Microsoft Project 98
Gantt Charts**

Final Emergency Report (cont.)

Gantt Chart



Conclusion

- If Lighting doesn't strike the same place twice, it came very close during 2005 at NTS. The Emergency Response Organization was able to deliver an effective strategy to respond to and recover from the Operational Emergencies.
- Although the main focus during an emergency is mitigating the hazards and ensuring personnel and property is safe, we must remember how important it is to document the emergency details at all venues. This will allow the developer to re-create what occurred for the development of a comprehensive Final Emergency Report.
- I STRONGLY RECOMMEND using software to create a Gantt Chart to attach to the Final Emergency Report.

Now Available: Microsoft Project 2003

Any Questions

To request copies of the Final Emergency Reports discussed in this presentation please email me at the below address:

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