

Wildland Fires & External Responders “Lessons Learned”

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Bechtel Nevada

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Background Information

- A severe storm crossed the Nevada Test Site (NTS) on June 2, 2005. Lightning strikes initiated a fire on the NTS near the Bren Tower in Area 25 at approximately 8:30 p.m.
- NTS Fire & Rescue (F&R) assets immediately deployed upon notification. Within one hour F&R had commenced operations with 12 personnel and six apparatus.



Background Information (cont.)

- During the early morning hours of Friday, June 3, 2005, the F&R command staff noted smoke on the horizon offsite west of NTS near the Yucca Mountain Project (YMP) area.
- The Bechtel Nevada (BN) Duty Manager notified YMP personnel and the Las Vegas Interagency Communication Center (LVICC) of smoke west of NTS.
- With assistance from the U.S. Air Force, the Bren Tower fire was controlled (no visible fire) at 5:15 p.m. Estimated burn area was 900 acres.

Background Information (cont.)

- At 5:45 a.m. on Saturday, June 4, 2005, F&R scouts reported a fire offsite was moving slowly north. Bureau of Land Management (BLM) operations were observed. BLM reported escalating response for the fire now named “Air Force Fire” at 6:00 a.m. Water drops continued through the afternoon.
- On Sunday, June 5, 2005, at 6:00 a.m., two NTS F&R senior officers attended a BLM Incident Command (IC) briefing at the offsite Air Force Fire command post. BLM requested access to NTS for positioning hot-shot crews on the east flank of the fire.



Background Information (cont.)

- BLM access to NTS was approved and, around 2:30 p.m., 27 BLM firefighters were escorted across NTS to the east side of the fire area. The U.S. Department of Energy, National Nuclear Security Administration Nevada Site Office placed restrictions on Foreign National personnel access for ground and air crews.



Background Information (cont.)

- Early Monday, June 6, 2005, NTS F&R Deputy Chief assigned as Agency Representative to BLM IC at new command post located in Beatty, Nevada.
- At 12:15 p.m., NTS F&R assisted BLM by establishing helicopter Landing Zone operations from existing pad in Area 25 (water re-supply).



Background Information (cont.)

- At 2:45 p.m., BLM reported the fire had crossed NTS boundary near Dome Mountain in Area 18. No NTS infrastructure was at risk in the remote area. BLM retained IC responsibility with NTS F&R in support capacity.
- A 138KV electrical line was de-energized as a precaution to protect firefighters operating in the area.
- The Air Force Fire was declared an operational emergency due to its potential to encroach a radiological contaminated area on Tuesday, June 7, 2005, at 10:20 a.m. Heavy air tanker drops were increased to redirect the path away from this site.



Background Information (cont.)

- NTS F&R developed a fail-safe fire break plan and positioned heavy equipment in a safe staging area to deploy to this site if the fire was not stopped.
- Subject Matter Experts (SMEs) from NTS were deployed to the command post in Beatty to conduct briefings for hot-shot crews in regards to contamination and unexploded ordnance (UXO).
- Radiological surveys were conducted on all personnel and aircraft exiting the hazard areas.



Background Information (cont.)

- Air sampling instruments were positioned downwind of the contamination site to document contamination (or lack thereof) in the event the fire burned through the radiological area.
- The fire was 100% contained at 6:30 a.m. on Wednesday, June 8, 2005, with cold trailing continuing through Thursday, June 9, 2005.
- The Air Force Fire was declared cold by BLM IC Friday, June 12, 2005, at 7:00 p.m.
 - Total burn area was 21,000 acres
 - Total burn area on NTS was 5,459 acres
 - Total of 517 personnel responding
 - Total vehicles: 13 ground, six helicopters, seven air tankers, and two light aircraft

Lessons Learned

- The Memo of Understanding/Memo of Agreement in place at the time did not address specific needs that challenge responders to NTS. A revision to the document incorporated these needs including:
 - Radiological surveillance activities
 - Hazards briefing to include radiation, UXO, etc.
 - Financial funding transfer process
 - Operating plans identifying resource and asset listings and capabilities
 - Adjacent land response provisions
- In subsequent fires, when the BLM was unavailable to provide support due to high firefighting demands, F&R utilized structural firefighting neighbors to provide back-fill personnel resources.

Lessons Learned (cont.)

- A pre-established policy regarding use of foreign national pilots and/or responders for observation and suppression flights should be in place.
- Hazard communications to mutual-aid responders expected to deploy to the location. A modular briefing approach should be used depending on type and location of the incident.
- Ensure radio communications are compatible with assisting offsite agencies. If not, compensatory measures must be developed.
 - Shared frequency should be used if possible
 - Assign extra radios with onsite responder frequencies to mutual-aid teams
 - Maintain capability to deploy mobile repeaters to improve reception in dead spots

Lessons Learned (cont.)

- A multiple layer, electronic map identifying site-specific hazards should be available to enable ease of briefing to external responders. Such hazards may include, but are not limited to:
 - Radiation areas
 - Open boreholes
 - Surface-laid cable
 - Mine shafts
 - Electrical hazards
 - UXO
- Routine (annual) pre-fire season vegetation assessments should be expanded to include potentially contaminated sites as necessary.

Lessons Learned (cont.)

- Use of available aviation assets for thermal imaging of hot spots and transmission of real-time camera data was invaluable in strategic incident action planning.
- Vehicle and personnel tracking systems paint a better picture to Emergency Operations Center/Emergency Management Center personnel of suppression activities.
- Placement of high-zoom fixed cameras for smoke detection during lightning storms provides earlier detection allowing for a more timely response.
- Current contract with local aviation service should be expanded to include fire observation flights and suppression activities.