



**Allen, Pam, NMENV**

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**From:** Maestas, Ricardo, NMENV  
**Sent:** Friday, May 02, 2014 10:13 AM  
**To:** Allen, Pam, NMENV  
**Subject:** FW: WIPP Team brief Feb. 14-Feb. 24  
**Attachments:** WIPP Rad Release Brief 021914 Conf Com Privileged UPDATED 022414.docx

Email and att for WIPP file

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**From:** Smith, Coleman, NMENV  
**Sent:** Monday, February 24, 2014 4:46 PM  
**To:** Kendall, Jeff, NMENV  
**Cc:** Flynn, Ryan, NMENV; Tongate, Butch, NMENV; Blaine, Tom, NMENV; Kieling, John, NMENV; Schwender, Erika, NMENV; Skibitski, Thomas, NMENV; Kliphuis, Trais, NMENV; LucasKamat, Susan, NMENV; Maestas, Ricardo, NMENV; Smith, Coleman, NMENV; Holmes, Steve, NMENV; Nelson, Morgan, NMENV  
**Subject:** WIPP Team brief Feb. 14-Feb. 24

Jeff,

I am forwarding you this update for WIPP events that is current through today. This was a collaborative effort put together by Ricardo, with input from Steve and myself. Please edit as you like. If you have any questions, please call.

Thanks,

Cole

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**Status of the Waste Isolation Pilot Plant (WIPP) following the underground detection of airborne radiation on Feb. 14, 2014 – information conveyed from DOE and has not been verified by NMED:**

- At 11:30 PM on Friday, Feb. 14<sup>th</sup>, a continuous air monitor (CAM) detected airborne radiation underground at the active hazardous waste disposal unit (HWDU), configured as Panel 7. The CAM radiation alarm automatically switched the underground ventilation system to filtration mode. Normally mine air is exhausted to the atmosphere. It was believed that the high efficiency particulate air (HEPA) filter system performed as expected, mitigating releases.
- No personnel were underground (2150 ft below ground level) at the time.
- Personnel on site at above-ground locations were instructed to shelter in place.
- Initial measurements from multiple perimeter monitors at the WIPP boundary suggested that there was no detectable release from the repository and, therefore, no danger to human health or the environment.
- Personnel that are considered non-essential were allowed to leave the site at 5:00 PM on Saturday, Feb. 15<sup>th</sup>. None were found to have any contamination on their bodies.
- WIPP was already in stand down following a vehicle fire in the underground that occurred on Feb. 5<sup>th</sup>. Initial thoughts were that naturally occurring radon had pooled due to the carbon buildup from the fire causing the radiation alarm to trigger.
- The Department of Energy is investigating both events. No personnel have been allowed underground since the radiological event. Limited personnel were permitted underground after the fire.
- Panel 7, Room 7 is the active panel where the CAM alarm activated. There are approximately 238 containers in the room.
- Until the phone conference on Feb 19<sup>th</sup> at 4:00 PM, DOE had provided the NMED with limited information.
- At the Feb 19<sup>th</sup> meeting, DOE informed NMED of the following:
  - Station A (air monitoring and sampling site located at exhaust) data showed a maximum of 4.4 million dpm (disintegrations per minute) on the morning after the onset of the event (Feb. 15<sup>th</sup>), comprised of americium and plutonium. Americium and plutonium are transuranic elements permitted for disposal at the WIPP.
  - Station A data is declining and now showing values around 326 dpm.
  - Station B (at filter exhaust) shows activity of 42 dpm.
  - DOE is looking across the complex for personnel with expertise for this type of circumstance. A team from the Savannah River Site may be deployed.
  - There is no underground monitoring beyond Station A deeper into the repository.
  - DOE is performing plume modeling (computer simulation of air dispersion) to determine where releases may have gone. The plume went from the SE to the NW.
  - The ventilation system is still operating at a decreased level and venting through the filtration system.
  - DOE is working on a re-entry plan to determine the cause of the release.

- DOE is considering all options and may send robotic instrumentation underground.
- Decontamination of salt and all associated infrastructure may prove to be very tedious and difficult. WIPP may not be able to accept waste for an extended period of time.
- On Feb. 19<sup>th</sup>, a portable radiation monitor emplaced by the Carlsbad Environmental Monitoring and Research Center (CEMRC) detected transuranic radionuclides approximately 0.6 mile northwest of the WIPP property boundary. CEMRC is a laboratory located in Carlsbad and is run by New Mexico State University in collaboration with Los Alamos National Laboratory, Sandia National Laboratory, and the WIPP operating contractor, Nuclear Waste Partnership. CEMRC is the laboratory that routinely analyzes air, water, and soil samples collected at WIPP resulting from permit required periodic monitoring. CEMRC announced through the *Carlsbad Current Argus* that their independent air sampling show levels that are higher than the normal background levels of radioactivity from transuranic elements commonly found at this sampling station. Thus, their presence during this specific time frame appears to indicate a small release of radioactive particles from the WIPP underground exhaust shaft in the brief moments following when the radiation event occurred and when the WIPP ventilation system shifted to the filtration mode, or from a release of particulates that were not removed by the HEPA filters.
- NMED DOE Oversight Bureau also takes samples at the Air Stations A and B. Currently, those samples are being held at the WIPP.
- NMED also has ambient air monitoring at off-site locations: twenty (20) direct penetrating radiation (DPR) monitoring stations are located in the Carlsbad region: fourteen within the Exclusive Use Area and six off-site in Carlsbad, Loving and Malaga.

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**Update 2/20/14 AM**

- The WIPP Team participated in a conference call with EPA-HQ (ORIA) and EPA Region 6. The EPA had been given more initial data than NMED. Supplied by the EPA were the following values (all values in dpm):
  - Station A initial: 4.4E6  $\alpha$ , 1.2 E6  $\beta$
  - Station B initial: 2.8E4  $\alpha$ , 5.9E4  $\beta$As of 2/20/14:
  - Station A: 3.26E2  $\alpha$ , 3.38E2  $\beta$
  - Station B: 4.2E1  $\alpha$ , 6.1E1  $\beta$
- EPA-HQ: Tom Peake, Kathy Economy, Jon Walsh
- EPA-R6: Nick Stone, George Razowski
- EPA quotes CEMRC that the wind direction at the time of the incident was out of the southeast; a contamination NW of the site is consistent
- NMED (Holmes) states there are 238 containers in Panel 7 Room 7

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- NMED states that a RADCON Team from SRS is on the way
- CBFO states that skid A3 stops sampling as soon as filtration mode is activated.
- EPA has the following specific questions:
  - How is WIPP showing compliance with 40CFR191, Subpart A dose limits to the public of 25 mrem and 75 mrem to any target organ? EPA wants assurance of compliance.
  - EPA wants to review DOE's plume modeling and want a consequence assessment.
  - Need results of filter digestions from CEMRC as soon as available. Need results from Station B to evaluate quantity of radionuclide that made it past the HEPAs.
  - EPA can request data from DOE at any time; NMED and EPA will combine questions and list will be submitted by EPA.
  - Need meteorological data from WIPP tower since 0000 hrs on Feb. 14.
  - Need current map of all above ground air monitoring stations.
  - Need calculation of mrem release (related to 191 compliance).
  - Need results of all laboratory analyses.
- EPA would like a "heads-up" from DOE before information is release to the public. NMED would like to request this also.
- Kathy – CAM in exhaust drift of Panel 7 could have picked up material released from Panel 6 Room 1.
- EPA-HQ states that Susan McCauslin will be the CBFO contact for the EPA.

### Update 2/20/14 PM

- A joint news conference was held at the WIPP site. The CBFO Manager, Jose Franco and the NMED Secretary, Ryan Flynn, explained recent events and took questions from the media. General dissatisfaction conveyed by Sec. Flynn that DOE was not being transparent enough to NMED. Continuous future communication was promised by Franco. The WIPP Team staff were not at the news conference and thus do not know the extent of questions asked by the media.

### Update 2/21/14

- Friday, February 21, 8am: DOE informed EPA and NMED in a conference call the following:
  - Review: Cam alarmed at 11:30pm on Friday, 2/14
  - Cam on exhaust of Panel 7
  - Mine Ventilation was at 260,000 cfm
  - Ventilation was switched to filtration mode, took about one minute or so, 60,000 cfm through 2 HEPA banks
  - Central Monitoring Room was alerted
  - Station A had 3 skids: A1, A2, A3. A3 shuts off at filtration shift mode.
  - A3 showed background only at time of ventilation switch
  - Station B is located after the HEPA banks.
  - Station A?? filters were getting clogged with salt

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- Saturday, 6am Site personnel were responding to release, pulling filters to sample
  - Station A, skid A2: 4.4 million dpm
  - Station B: 2,800-3,700 dpm
  - Hand held rad detectors were not picking anything at the surface.
  - Samples take a 72hour holding time and actual readings are taken after the 72hours.
  - The Site activated the Joint Information Center (JIC)
  - Saturday, Feb. 15 samples were picked up NW of the site, about 1 kilometer from exhaust shaft, initial reading was normal
  - 2 days to sample, lab confirmed reading of 40 dpm
  - Feb. 16, deactivate JIC and start recovery efforts
  - Right now:
    - Station A: 203 dpm alpha, 84 dpm beta
    - Station B: 33 dpm alpha, 12 dpm beta
  - Levels at Station B are close to background
  - Station A, skid A3 normal background reading of 21 dpm alpha, 41 dpm beta
  - Station A filters had lots of soot from Feb.5 fire
  - HEPA filters are 99.97% effective depending on particle size
  - 2 HEPA banks with 4 sets of filters each
  - 100,000-1 million reduction, that is what DOE planned for
  - Communication
    - DOE to provide information as promptly as possible
    - Regular debriefing calls
    - Weekends as well because of sample results
  - DOE invites EPA to perform independent sampling
  - Steve Holmes is in Carlsbad working on monitors for NMED
- Friday, February 21, 10am: DOE CBFO and NMED in a conference call discussed the following regarding the WIPP RCRA Permit:
    - RCRA Contingency Plan, Attachment D; 90 day Emergency Permit
    - WIPP personnel do not yet have access to the underground and will not be able to perform Permit required activities such inspection in Att. E, monitoring (VOC, Hydrogen-Methane) in Atts N, N1.
    - Site derived waste
      - May be up to 40 SWBs of filters
      - May include many drums full of contaminated salt
      - May need provision for storage while decontamination activities are ongoing
    - No waste handling operations in WHB, inspections only
    - Waste packages in the WHB and Parking area
    - Some waste in storage for close to 20 days: Permit limit is 60 days
    - CBFO is debating Emergency Permit to bring all Parking area containers into the WHB
    - Would likely exceed Permit limit on number of facility pallets it would take
      - 15 pallets total in WHB, 13 in WHB and 2 in docks

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- 20 pallets total if surge was invoked
  - 19 ¾ pallets; CBFO is estimating would be needed IF they restacked/rearranged the waste for efficiency.
  - 23 pallets; estimate if waste was not rearranged
  - This would be interim measure only
  - May ship waste back to generators if it takes longer than 90 days
  - There is no RH waste in the WHB or Parking area
  - Proposing to set up a VOC sampling station above ground at exhaust shaft for ongoing VOC monitoring
  - Groundwater monitoring activities start in March and are not anticipated to be impacted
- Friday, February 21, 12:30pm: Steve Holmes called Ricardo Maestas to check in. Steve said that Tom Kesterson from NWP was helping him set up the NMED monitors. Steve and Tom K. were working at the WIPP Site surface near the Salt Shaft. Upon completing their work they had to scan out of the area and as a result site personnel had to confiscate Steve's back pack and Tom K's pants because of some contamination. The site personnel mentioned that it might be Radon and if so they would get their belongings back at a later time. Steve and Tom were headed to another monitoring site located northwest of the site.
  - On Friday, February 22: Steve set up two stations, after some repair and replacement of sampling equipment. These two stations were LVAS 2, located approximately a half a mile northwest of the WIPP site on WIPP Road (within yards of the CEMRC sampling station) and LVAS 3, located about 250 yards east of the WIPP site fence. Steve also started the sampling as soon as repairs were conducted.

### Update 2/22/14

- On Saturday, February 22: Steve set up a third station, after an abundance of repairs and replacement of sampling equipment. This station is LVAS 1 located a few yards northeast of the Waste Shaft on the WIPP site (with yards of a WIPP sampling station). Steve started this sampling event very soon after the sampling equipment was set up and calibrated.

### Update 2/24/14

- Friday, February 21, 1pm: DOE informed EPA and NMED in a conference call the following:
  - DOE had just issued a press release and updated their website
  - Tables showing latest results from Station A
  - Samples are being taken on 8 hour cycles
  - Should have latest results for Station B tomorrow

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- Other environmental samples (air, surface water, soil, vegetation) have been taken and are being processed at their lab, no word on when results will be available
- Results were obtained from air samples collected on 18 Feb from the Mills Ranch (2.7 DPM), Smith Ranch (4.2 DPM), and Carlsbad (1.3 DPM) sampling locations.
- Steve Holmes from NMED mentioned that NMED would be collecting their air samples this Friday and Saturday (2/28, 3/1) and will then take a few days to process
- There is a concern with the ventilation louvers at the surface.
- There are 2 louvers in the exhaust that are “designed to leak” and are located before the HEPA filters
- DOE is working on a plan to use a foam to seal the leakage of these louvers on Thursday (2/27)