**From:** George, Victoria A
**Sent:** Friday, September 05, 2014 4:07 PM
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**Cc:** Pete Maggiore; Silas DeRoma; Cummings, Lisa K; Nickless, David J; Bishop, M. Lee; Turner, Gene E; Armijo, Karen (CONTR); Wallace, Terry C; Mousseau, Jeffrey David; Cox, Daniel Ray; Torres, Enrique; Woitte, Deborah Kay; Johns-Hughes, Kathryn W; Clemmons, Steve; Allen, Don; Roberts, Kathryn Margaret; Brandt, Michael Thomas; Sharp-Geiger, Raeanna Racine; Dorries, Alison Marie; Grieggs, Tony; Haagenstad, Mark P; Bacigalupa, Gian A; Vigil-Holterman, Luciana R; Alexander, Rick A; Baumer, Andy; Martinez, Saundra; Sauer, Selena Z; Wood, Yvonne Barbara; Schreiber, Arleen Thorn; Maestas, Pamela Therese; Hargis, Kenneth Marshall
**Subject:** Daily Technical Submission - September 5, 2014

Attached is the written daily technical submission for today. The Permittees are submitting this pursuant to: Section 19 of the May 19, 2014, *Administrative Order; the* July 10, 2014 letter from NMED regarding *Modification to May 19, 2014, Administrative Order*; and Section VIII of the May 29, 2014, *Revised LANL Nitrate Salt-Bearing Waste Container Isolation Plan*.

If you have any revisions, please let me know.

Thank you

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Tori George

Program Director

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# NMED / LANL Technical Summary

# September 5, 2014

**LANL Technical Update:**

- **Location of Nitrate Salt-Bearing Wastes**
  - Remediated nitrate salt-bearing waste containers.
    - All containers remain in the 375 Permacon.
  - Unremediated nitrate salt-bearing waste containers.
    - All containers remain in the 231 Permacon.
- **Monitoring - Daily Temperature**
  - Temperatures remain below 90°F.
- **Monitoring – Visual Inspections**
  - No abnormal conditions.
- **Additional measures currently underway**
  - As a conservative measure, LANL is currently conducting additional monitoring. This additional monitoring includes:
    - Container (SWB) 68685.
      - Continue daily head space gas (HSG) sample collection.
        - September 5, 2014 HSG data attached
          - $H_2$, CO, $CO_2$ and $N_2O$
        - LANL also continuing *solid phase micro-extraction*.
      - Hourly temperature measurements.
        - Temperatures remain below 90°F.
    - Container (SWB) SB50522.
      - Continue daily HSG sample collection.
        - September 5, 2014 HSG data attached
          - $H_2$, CO, $CO_2$ and $N_2O$
        - LANL also continuing *solid phase micro-extraction*.
      - Hourly temperature measurements.
        - Temperatures remain below 90°F.
    - Five (5) other SWB overpacks (containing 55-gallon drums of remediated nitrate salt-bearing waste).
      - Continue bi-weekly HSG sample collection.
    - LANL has conducted HSG sampling on each of the 55 SWBs that contain 55-gallon drums of remediated nitrate salt-bearing waste.

- **Anticipated Changes to Nitrate Salt-Bearing Waste Containers (e.g. movement, re-packaging).**
    - Currently, no further movements or re-packaging are planned.

- **Other**
    - LANL has made minor revisions to the round sheet procedures associated with the nitrate salt-bearing waste containers (EP-AREAG-WO-DOP-1249, R.1 IPC –1 and EP-AREAG-WO-DOP-1251, R.1 IPC –1). These round sheet procedures were originally provided to NMED in the June 11 summary (see item 14 below). If NMED would like copies of these revised procedures, LANL will promptly provide them.

**Summary Chart - Requested Information / Pending Issues:**

| | Requested Information | Actionee | Status | Completion Date |
|---|---|---|---|---|
| 1. | NMED contact / process for LANL to notify NMED under the Revised Isolation Plan (e.g., 24 hour notices). | NMED | --- | Complete<br><br>June 5, 2014 |
| 2. | Keep NMED informed on the status of on-going chemistry / analytical work. | LANL | --- | Complete<br><br>June 9, 2014 |
| 3. | On upcoming daily call, provide additional discussion on the potential for liquids in the 350 post-1991 cemented containers (including a discussion of the review of RTR tapes). | LANL | --- | Complete<br><br>July 6, 2014<br>(Discussion on call)<br><br>July 18, 2014<br>(Meeting held) |
| 4. | On upcoming call, provide additional discussion on why 231 and 375 Permacon fire suppression systems are not part of the LANL RCRA Hazardous Waste Facility Permit Contingency Plan. | LANL | --- | Complete<br><br>June 5, 2014 |
| 5. | Send copy of June 4, 2014 written daily submission to Trais Kliphuis. Also, include her on future daily submissions. | LANL | --- | Complete<br><br>June 5, 2014 |
| 6. | Provide LANL procedures and example records associated with post-1991 TA-55 cementation process discussed on June 6. | LANL | --- | Complete<br><br>July 3, 2014 |
| 7. | Provide information on numbers of containers in the post-1991 cemented waste streams from the TA-55 process discussed on June 6. This should include numbers regarding RTR status (RTR'd, meet WIPP criteria, requiring remediation). | LANL | --- | Complete<br><br>June 17, 2014<br><br>(Supplemental Info provided July 3) |

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| 8. | Provide RTR video and pre-screening information associated with those containers requiring remediation from the post-1991 cemented waste streams from the TA-55 process discussed on June 6. | LANL | --- | Complete<br><br>July 3, 2014 |
| 9. | Provide copy of CCP/LANL Interface Document. | LANL | --- | Complete<br><br>June 9, 2014 |
| 10. | Provide a list of the analytes for which LANL is sampling HSG ($CO_2$ and LFL analytes). | LANL | --- | Complete<br><br>June 11, 2014 |
| 11. | Discuss potential sampling of HSG for $NO_x$. | LANL | --- | Complete<br><br>June 16, 2014 |
| 12. | Follow-up with Tim Hall regarding LANL Hazardous Waste Facility Permit and procedures that LANL is developing for possible future sampling of empty parent containers and unremediated nitrate salt-bearing containers at LANL. | LANL | Unremediated Parent<br>In progress – | Empty Parent<br>Complete<br>June 16, 2014<br><br>August 14, 2014<br>(Supplemental information discussed on sampling of parent containers)<br><br>August 26, 2014<br>(Letter on applicability of LANL HWFP for opening waste containers) |
| 13. | Respond to NMED email request for information associated with the nitrate salt-bearing parent and daughter waste containers.<br><br>WIPP Recovery Daily Meeting Action List item #84 – NMED requested a copy of the LANL remediation records for waste stored in Panel 6 (Trais Kliphuis) – is a subset of the information in item 5 of this action. | LANL | In progress – remaining are portions of item 5 | Partially Complete<br><br>July 9, 2014<br>(Letter sent addressing items 1-4 and 6-9 of the email request)<br><br>July 17, 2014<br>(Letter sent with updated spreadsheet)<br><br>August 7, 2014<br>(First submittal in response to item 5)<br><br>August 14, 2014<br>(- Letter sent addressing items 2 & 8 - Second submittal in response to item 5)<br><br>August 18, 2014<br>(Third submittal in response to item 5)<br><br>August 21, 2014<br>(Fourth submittal in response to item 5) |

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| | | | | August 27, 2014 (Fifth submittal in response to item 5)<br><br>September 4, 2014 (Sixth submittal in response to item 5) |
| 14. | NMED will review the Round Sheets (provided in June 11 summary) and inform LANL if these should be attachments to the Revised Plan, or if they fall under the provision in Section I of the Revised Isolation Plan and their identification during this technical call is sufficient. | NMED | NMED has reviewed Round Sheets – no comments / direction at this time. NMED will address any comments in their formal response to Revised Container Isolation Plan. | Complete<br><br>June 23, 2014 |
| 15. | NMED has requested 'copies of any waste processing, treatment, characterization stop orders issued since Feb 14, 2014.' | LANL | --- | Complete<br><br>June 13, 2014 (Included w/ daily summary)<br><br>June 16, 2014 (Discussed current TA-54 & WCRRF operations) |
| 16. | NMED requested information on the location of drums 68327 and 68328. Request made June 14. | LANL | --- | Complete<br><br>June 14, 2014 |
| 17. | Update on LANL efforts – including LANL teams. (On June 20 call, LANL offered to schedule an update meeting). | LANL / NMED | --- | Complete<br><br>July 2, 2014 |
| 18. | Neutralizer use in association with container S855793 (parent of 68660 and 68685). | LANL | --- | Complete<br><br>June 25, 2014 |
| 19. | List of nitrate salt-bearing waste containers that LANL records indicate contain absorbed liquids with the same neutralizer, as discussed during June 25 technical call. | LANL | --- | Information will be included in LANL response to NMED's August 26, 2014 letter. |
| 20. | Schedule follow-on update on LANL efforts – including teams. | LANL / NMED | --- | Complete<br><br>August 14, 2014 (Meeting held) |
| 21. | NMED requested information on document approval / review (as discussed on July 3 call). | LANL | --- | Complete<br><br>July 29, 2014 |
| 22. | What analyses will be conducted on samples taken from empty drums that previously contained nitrate salt-bearing waste. | LANL | --- | Complete<br><br>July 7, 2014 |

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| 23. | NMED requested the following information on cemented waste containers generated from TA-55, that are currently stored above-ground at Area G: container id number; location; form (cans or monoliths); and type of concrete. Additionally, NMED requested information on pH adjustment during waste generation process, and information on anticipated pH of free liquids (and rationale). | LANL | --- | Complete<br><br>July 17, 2014<br>(Letter sent w/ information)<br><br>July 18, 2014<br>(Meeting held) |
| 24. | NMED requested the procedure for sampling empty parent drums that previously contained nitrate salt-bearing waste. | LANL | EP-AREAG-WO-DOP-1245 is included in Enclosure 1 to LANL's July 3, 2014 *Response to Request for Information on Management of Waste at LANL*. | Complete<br><br>July 8, 2014 |
| 25. | NMED requested an additional discussion on a future technical call regarding $CO_2$, including data. | LANL | --- | Complete<br><br>August 14, 2014<br>(Meeting held) |
| 26. | NMED requested additional discussion on CIN-01 waste containers and absorbent, including confirmation and extent of use. | LANL | --- | Complete<br><br>July 18, 2014<br>(Meeting held) |
| 27. | NMED requested historic analytical information on pH of liquids associated with gypsum cemented waste. | LANL | --- | Complete<br><br>August 7, 2014 |
| 28. | NMED requested link to pdf of Actinide Quarterly edition (3rd Q 2008). | LANL | --- | Complete<br><br>July 21, 2014 |
| 29. | NMED requested a copy of lessons learned | LANL | --- | Complete<br><br>August 11, 2014 |
| 30. | NMED request regarding empty drum sampling presentation. | LANL | Presentation is a pre-decisional draft/working document not for external release | August 25, 2014 |
| 31. | Respond to NMED email request dated 8/12/2014 for information associated with the nitrate salt-bearing waste containers. | LANL | In progress | |
| 32. | NMED request regarding technical presentation. | LANL | Presentation is a pre-decisional draft/working document not for external release | August 25, 2014 |

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| 33. | NMED request regarding literature review of catalytic reactions. | LANL | Literature review is a pre-decisional draft/working document not for external release | August 25, 2014 |
| 34. | LANL requested to schedule a meeting with NMED on remediation planning and schedules. | LANL / NMED | In progress | |
| 35. | Schedule a third update on LANL efforts – including teams. | LANL / NMED | In progress | |

**Next Call:** Tuesday, September 9, 2014

**Remediated Nitrate Salt Container Headspace Gas Analysis**

| | 68685 | | | | 69553 | | | | 69615 | | | | 69616 | | | | SB50069 | | | | SB50452 | | | | SB50522 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | $H_2$ ppm | CO ppm | $CO_2$ ppm | $N_2O$ ppm | $H_2$ ppm | CO ppm | $CO_2$ ppm | $N_2O$ ppm | $H_2$ ppm | CO ppm | $CO_2$ ppm | $N_2O$ ppm | $H_2$ ppm | CO ppm | $CO_2$ ppm | $N_2O$ ppm | $H_2$ ppm | CO ppm | $CO_2$ ppm | $N_2O$ ppm | $H_2$ ppm | CO ppm | $CO_2$ ppm | $N_2O$ ppm | $H_2$ ppm | CO ppm | $CO_2$ ppm | $N_2O$ ppm |
| 09/05/14 | 129 | 1172 | 25641 | 8192 | | | | | | | | | | | | | | | | | | | | | 8823 | 407 | 55026 | 900 |