



National Nuclear Security Administration
Sandia Site Office
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ENT



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CERTIFIED MAIL – RETURN RECEIPT REQUESTED



James Bearzi, Chief
New Mexico Environment Department
Hazardous Waste Bureau
2905 Rodeo Park Road East, Building 1
Santa Fe, NM 87505

Subject: Request for Approval to Implement Supplemental Watering Activities for the Mixed Waste Landfill (MWL) Evapotranspirative (ET) Cover

Dear Mr. Bearzi:

On behalf of the Department of Energy/National Nuclear Security Administration (DOE/NNSA) and Sandia Corporation (Sandia), DOE/NNSA is submitting this letter to formalize in writing recent discussions with your technical staff and to request approval to implement supplemental watering activities for the MWL ET Cover. In addition, this letter provides information to the New Mexico Environment Department (NMED) in advance of the revised MWL Long-Term Monitoring and Maintenance Plan (LTMMP) of other ET Cover maintenance activities that may be performed during Calendar Year (CY) 2011 through CY 2013. The purpose of supplemental watering and other ET cover maintenance activities is to establish healthy, self-sustaining native vegetation on the MWL ET Cover.

Initial supplemental watering was conducted immediately after completion of ET Cover construction and seeding in September and October 2009, as authorized by Condition 2 of the NMED Conditional Approval of the MWL Corrective Measures Implementation Plan (CMIP) (Bearzi December 2008). The approach agreed to by NMED stipulated that all water applied to the MWL ET Cover, both natural precipitation and supplemental, be tracked as precipitation (i.e., inches of rain) and the sum of all “precipitation” for the CY shall not exceed the maximum annual precipitation (i.e., 16.5 inches) used in the Cover Performance Modeling effort presented in the Section 5.3 of the MWL CMIP (Sandia National Laboratories /New Mexico [SNL/NM] November 2005). Based upon modeling, annual precipitation of 16.5 inches will not result in water percolating downward through the ET Cover far enough to reach the waste disposal areas, especially given the greater as-built thickness of the ET Cover (average cover thickness above the compacted subgrade is 5.37 feet versus the design thickness of 4.17 feet). As stipulated in the September 4, 2009, DOE MWL Supplemental Watering Notification Letter (Wagner September 2009), all supplemental watering activities would be tracked and reported to NMED.

Additional limited supplemental watering is necessary for the CY 2011 growing season to promote healthy growth of native perennial grass seedlings, and may also be necessary for CY 2012 and CY 2013. The growth of native grasses that were seeded in September 2009 progressed slowly during the 2010 growing season and is currently not robust enough to ensure a future self-sustaining native grass community with foliar coverage approximately equivalent to the surrounding east mesa ecosystem. It may take two or more additional growing seasons to achieve this goal. Once the native vegetation is established in a self-sustaining manner, no additional supplemental watering should be needed.

The requested supplemental watering approach will be similar to the approach approved by NMED on July 31, 2009, for the Chemical Waste Landfill (CWL) and used in 2009 on the MWL ET Cover after discussions and formal notification to NMED (Wagner September 2009). As stated previously, the amount of water used and the duration of each watering event will be tracked as a precipitation event, along with all natural precipitation in the vicinity of the MWL (SNL meteorological monitoring station). Supplemental watering will be performed in a flexible manner to augment natural precipitation. No more than three inches of supplemental water will be applied over a 30-day period and no more than 0.5 inches will be applied during any one daily supplemental watering event. The total water applied to any portion of the MWL ET Cover over the CY shall not exceed 16.5 inches and will be reported to NMED as discussed above.

ET Cover maintenance activities for CY 2011 through CY 2013 will include invasive annual weed species removal (i.e., Russian thistle and others), erosion repair as necessary, and may include seeding bare areas (not the entire ET Cover surface) with the native grass seed mixture specified in the CMIP (SNL/NM November 2005). Seeding activities could include the addition of gravel mulch and commercially available, weed-free top soil to augment the existing top soil. Gravel mulch specifications and application will follow the approach documented in the NMED-approved CWL ET Cover Plan (Bearzi July 2009). This approach has been successful at both the Corrective Action Management Unit and CWL ET Covers. If performed, this cover maintenance work will be documented and reported to NMED along with supplemental watering activities.

The overall schedule and approach for supplemental watering and additional cover maintenance activities were discussed with Mr. William Moats and Mr. John Kieling of your technical staff on February 17, 2011, and during a MWL ET Cover field visit by Mr. Moats and Mr. McDonald on February 25, 2011. Preparations for supplemental watering are ongoing, and will likely be implemented quickly after receiving NMED approval due to the dry winter and the need to maximize native seedling growth on the MWL ET Cover in 2011.

Should you have any questions or need additional information regarding this correspondence, please feel free to contact me at (505) 845-6036 or John Gould of my staff at (505) 845-6089.

Sincerely,



Patty Wagner
Manager

cc:

W. Moats, NMED (Via Certified Mail)
L. King, EPA, Region 6 (Via Certified Mail)
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CERTIFICATION STATEMENT FOR APPROVAL AND FINAL RELEASE OF DOCUMENTS

Document title: Supplemental Watering and Additional Maintenance Activities on
the Mixed Waste Landfill Evapotranspirative Cover, March 2011

Document author: Mike Mitchell, Department 06234

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision according to a system designed to ensure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment for knowing violations.

Signature: _____

S. Andrew Orrell, Director
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3/21/11
Date

and

Signature: _____

Ms. Patty Wagner, Manager
U.S. Department of Energy
National Nuclear Security Administration
Sandia Site Office
Owner and Co-Operator

3-22-11
Date