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CERTIFIED MAIL - RETURN RECEIPT REQUESTED

February 13, 2008

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RE: LETTER OF DECEMBER 5, 2008, CONCERNING SANDIA NATIONAL LABORATORY'S MWL 2008 REPORT ON SOIL-VAPOR, TRITIUM, AND RADON SAMPLING RESULTS AND LETTER OF FEBRUARY 5, 2009, CONCERNING CONDITIONAL APPROVAL OF THE MWL CORRECTIVE MEASURES IMPLEMENTATION PLAN

Dear Mr. McCoy and Mr. Gilkeson:

I am in receipt of your December 5, 2008, letter that contains three requests concerning documents related to the Sandia National Laboratories (SNL) Mixed Waste Landfill (MWL). In particular, you request that the New Mexico Environment Department (NMED or Department) provide a notice period for public comment on the SNL report Investigation Report on the Soil-Vapor Volatile Organic Compounds, Tritium, and Radon Sampling at the Mixed Waste Landfill, dated August 2008, hold a public hearing on said report, and answer 17 questions. Secretary Curry and I have also received Citizen Action's letter of February 5, 2009, in which Mr. McCoy objects to the conditional approval of the MWL Corrective Measures Implementation (CMI) Plan and requests that the Department order the U. S. Department of Energy (DOE) and Sandia Corporation (Sandia) to terminate construction activities on the MWL cover until a public notice and comment period is held on the CMI Plan. The Department herein responds to both letters.

The Department's responses follow, organized by letter date. The Department also addresses your major "findings" in your letter of December 5, 2008, which lead to your 17 questions in that

letter. Where issues overlap between the December 5, 2008 and February 5, 2009 letters, the Department identifies which part of this letter you will find the Department's response.

A. LETTER OF DECEMBER 5, 2008

Request #1 – The Department denies your request to conduct a public comment period for aforementioned SNL report (referred to hereafter as the SV Report or Report). The Department explains its reasoning in its answer to Question #3 below.

Request #2 – The Department denies your request to conduct a public hearing on the SV Report. The Department explains its reasoning in the answer to Question #3 below.

Request #3 – The Department's responses to your 17 questions and major "findings" follow, enumerated as in your letter. Your questions or findings are in italic font. The Department's responses are in normal font (except formal titles of documents which are italicized).

Major Finding No. 1. *The sampling locations in the 2008 Soil Vapor Report were at too few locations to meet the requirements in the NMED November 20, 2006 NOD that are pasted below:*

This finding was previously addressed by the Department in responses R2, R22, R25, R26, R29, and R30 of the *NMED Response to Public Comments on the Mixed Waste Landfill (MWL) Soil-Vapor (SV) Sampling and Analysis Plan (SAP)*, dated February 2008 (hereafter referred to as NMED's Response to Public Comments on the SV SAP). As commenters on the SV-SAP, both of you were provided a copy of this latter document, which is also available on our web site at: <http://www.nmenv.state.nm.us/hwb/snlperm.html>.

Your arguments concerning the requirement of Comment #19 of the November 20, 2006, Notice of Deficiency (NOD) are not relevant to the SV Report. NOD Comment #19 concerns long-term monitoring, not the SV Report or its related plan entitled *Sampling and Analysis Plan for Soil Gas Volatile Organic Compounds, Tritium, and Radon at the Mixed Waste Landfill*, dated December 2006 (hereinafter referred to as the SV SAP). You both were previously informed that the SV SAP is unrelated to the MWL Corrective Measures Implementation (CMI) Plan in response R11 of NMED's Response to Public Comments on the SV SAP.

Regarding your argument that samples were collected at too few locations to identify ruptured containers (item #1 on page 2), the Department disagrees. This issue was previously addressed in response R22 of the NMED Response to Public Comments on the SV SAP. Data included in the SV Report demonstrate that there have been no significant new releases of contaminants from ruptured containers or by other means (see below and response to Question #2 of this letter).

Regarding your claim that there is a need to collect soil-gas samples at many locations at depths greater than 50 feet below ground surface (item #2 on page 2), the Department disagrees as none of the data show contaminant levels that are high enough to cause groundwater contamination that would exceed a water quality standard. The data are similar to those obtained during the RCRA Facility Investigation (RFI) and there have been no significant changes in volatile organic

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compound (VOC) concentrations at the landfill since completion of the RFI. Soil-gas sampling during the RFI was adequate as previously communicated to you in responses R24, R25, R26, and R30 of the NMED Response to Public Comments on the SV SAP.

Concerning your conclusion that samples were not collected at locations where contaminants were detected at their highest levels during the RFI (item #3 on page 2), the Department disagrees. See responses R2 and R26 of the NMED Response to Public Comments on the SV SAP. All of the "DP" boreholes, except DP2, targeted areas known to have had the highest concentrations of VOCs and/or tritium, and several of the radon sampling locations were selected specifically to match locations where radon had previously been detected at its highest activity levels in the 1997 survey.

Your arguments concerning the requirements of Comment #6 of the NOD issued on October 10, 2008, are also not relevant to the SV Report as this comment repeated the requirement of Comment #19 in the earlier NOD issued in November 2006. In fact, the October 2008 NOD did not mention the SV Report or the SV SAP.

Finally, contrary to your argument that sampling was not conducted from locations within the Classified Area of the MWL, samples recovered from boreholes DP1 and DP3 were purposely located in this or adjacent to this area, and are adequate for assessing contaminant releases from this area.

Question No. 1. *Why did NMED approve of the 2008 Soil Vapor Report given the failure of DOE/SNL to collect samples near the unlined pits in the Classified Area where the large inventory of tritium wastes were known to be buried?*

DOE and Sandia successfully collected samples at all locations and depths specified in the SV SAP, which was approved with modifications by the Department on February 14, 2008. Sampling locations DP1 and DP3 (as indicated above) and RN1, RN5, and RN7 are situated within or next to the Classified Area of the landfill and provided samples that are adequate for the assessment of contaminant releases from this area.

Question No. 2. *Why did NMED approve the 2008 Soil Vapor Report given the failure of the report to investigate "the rupturing of containers and leaking of their contents" for Trenches E and F in the MWL dump?*

There is no evidence that the drums shown in Figures 12 and 13 of your December 2008 letter have ruptured and released significant amounts of contaminants. Nor is there any evidence that the wastes contained within the drums can easily migrate should the integrity of the drums be compromised. Given the late dates (1980 and 1987) of disposal, it is doubtful that any liquid wastes were present in the drums.

Locations DP2 and DP4 and RN6, RN8, and RN9 are situated sufficiently near Trenches E and F to investigate any significant releases of VOCs, tritium, and radon from this area of the landfill. DP2 was drilled to a depth of 50 feet and should have allowed for the detection of any significant

new releases of VOCs and tritium. However, no such releases were found. *See also* responses R22 and R25 of the NMED Response to Public Comments on the SV SAP.

Major Finding No. 2. *NMED did not provide the required public comment on the 2008 Soil Vapor Report. The Interested Parties do not agree with the conclusions drawn by the Soil Vapor Report nor the approval of the Soil Vapor Report by the New Mexico Environment Department (NMED) that has occurred without the required written notice to the public.*

The SV Report is not the MWL CMI Plan, a Corrective Measures Study Report, a long-term monitoring and maintenance plan, or a major document concerning the MWL. Thus, a public notice and comment period is not required under the Secretary's Final Order. *See* NMED response to Question #3.

Question No. 3. *The Soil Vapor Report is a "major document" because it will be used to validate the CMIP soil cover and the fate and transport model. Why didn't NMED comply with the requirement in the Final Order that NMED shall provide a method and schedule that allows interested members of the public to review and comment on the Soil Vapor Report, and NMED shall review, consider and respond to these public comments prior to approving the Soil Vapor Report?*

The Department complied with all requirements of the Final Order concerning public participation. The SV Report is not a major document. The SV Report presents the results from implementation of the SV SAP and, thus, is a monitoring report. Like typical monitoring reports, the new factual data that the SV Report contains is limited exclusively to monitoring data. The data are what they are; the data can not be changed by public opinion. Thus, the SV Report and other individual monitoring reports should not be routinely subject to a formal public comment period or a public hearing.

See also response R8 of the NMED's Response to Public Comment on the SV SAP concerning the use of data in the SV Report to update the Fate and Transport Model.

The Department will review informal public comment received on the SV Report, as well as other MWL-related documents.

Major Finding No. 3. *The data presented in the Soil Vapor Report do not support the NMED finding on page 1 of the September 26, 2008 NMED approval letter for the Soil Vapor Report that is pasted below*

Based on the data in the SV Report, it is obvious that no significant new releases of contaminants have occurred at the MWL since the RFI was completed and, thus, no revision to the final remedy is necessary. This was the expected outcome given the low levels of contaminants discovered during the RFI. This finding is nevertheless important because it demonstrates that no significant impact to the environment has occurred.

You argue that “the earlier mid-1990’s RCRA Facility Investigation data (RFI data) and also the new 2008 sampling data collected for the 2008 Soil-Vapor Report were too sparse in locations across and in depth below the MWL dump to develop the required conceptual model for the nature and extent of tritium and VOC contamination...”. The Department disagrees. Concerning earlier characterization efforts done during and prior to the RFI, this issue was previously addressed in responses R2, R24, R25, R26, and R30 of the NMED Response to Public Comments on the SV SAP. Data obtained in 2008 are discussed below.

You assert “Furthermore, the documents in the NMED Administrative Record are proof that there never was a reliable network of monitoring wells at the MWL dump, and because of this fact, the risk assessment in the MWL Corrective Measures Study Report is without basis and must be retracted.” The Department disagrees. Adequacy of the earlier groundwater monitoring network has been addressed by the Department numerous times, most recently in responses R29 and R39 of the *NMED Response to Public Comments on the Mixed Waste Landfill (MWL) Corrective Measures Implementation (CMI) Plan*, dated November 2006 (hereafter referred to as NMED Response to Public Comment on the MWL CMI Plan). Copies of the latter document were provided to both of you and a copy is also posted on our website. The groundwater monitoring well network at the MWL is currently different than that in the recent past because many of the old wells that were going dry have been replaced with new wells, some at different locations than the old wells they replaced.

Furthermore, in this part of your letter, you claim that higher levels of tritium detected in 2008 cannot be attributed to the collection of samples closer to tritium sources as proposed by DOE/Sandia because earlier sampling in 1995 was accomplished through the use of angled boreholes installed along the boundary of the landfill. Presumably the angled boreholes allowed samples to be collected closer to the sources in the pits/trenches compared to the vertical 2008 boreholes (the discussion below concerning 1995 boreholes refers to boreholes BH-1 through BH-15 as mentioned in the 1996 MWL RFI Report). In support of your argument, you compare tritium data from samples collected at depths of 10, 30, and 50 ft in boreholes DP3 and BH-11. BH-11 is angled at 30° from the vertical, and extended downward from the surface from east to west. Pits 16, 25, and 26 are the closest pits to DP3 and BH-11 which are known to contain appreciable sources of tritium. Analytical results of subsurface soil samples collected from borehole BH-12 show higher levels of tritium occur in the vadose zone near the pits and support the conclusion that these pits contain appreciable sources of tritium. Taking into account the vertical component of the attitude of the borehole, the sample collected at 10 ft in BH-11 was taken outside the fence surrounding the MWL and, thus, was not collected under any pit, and was collected at a location that is at a larger horizontal distance from pits 16, 25, and 26 compared to that of the 10 ft sample of DP3. The sample collected at 30 ft in BH-11 was taken beneath the east edge of pit SP-1 (first pit inside the fence; this pit is not known to contain appreciable tritium), also at a location that is further from pits 16, 25, and 26 compared to 30 ft sample of DP3. The sample collected at 50 ft in BH-11 was taken under the center of SP-1, and yet again from a location further from pits 16, 25, and 26 than the 50 ft sample of DP3. Given that all three of the BH-11 samples you cited were actually collected further away from Pits 16, 25, and 26 compared to those from DP3, it is not surprising that the BH-11 samples have lower tritium activity levels.

More important in this case are the activity levels of tritium in the 50 foot samples collected in 2008. Based on the results of the RFI, it was concluded that the majority of tritium mass beneath the MWL was located within about 30 feet below ground surface, and that activity levels of tritium were extremely low at depths of about 130 feet. The 2008 samples collected at 50 feet continue to support the trend found during the RFI, as they show marked decreases in tritium levels compared to the samples taken at depths of 10 and 30 feet.

Citizen Action claims that "none of the six 2008 DP sample locations were in close proximity to the pits where a large inventory of tritium waste were known to be buried" and that "[t]he 2008 study collected no data from the known tritium hot spots". The Department disagrees with both statements. Based on the inventory, sources with the highest tritium levels are located primarily but not necessarily exclusively in the Classified Area of the MWL. Surface flux rates, isopleth maps, and cross-sections generated during the RFI suggests that much of tritium at the MWL resides within the Classified Area and (albeit at lower levels) within the northern portion of the Unclassified Area. Tritium migrates through the vadose zone primarily via gaseous diffusion, a process which potentially will spread tritium contamination in all directions under homogeneous and isotropic conditions. However, there is a zone of gravels and relatively clean sands that lie just beneath the MWL disposal pits/trenches where tritium appears to be preferentially migrating, causing the tritium plume to extend in the horizontal direction faster than the vertical direction. This is well illustrated in the tritium isopleth maps and cross-sections generated during the RFI, which show overall, a tritium plume that is larger in its horizontal extent compared to its vertical extent. Based on plume geometry and the mechanism of plume migration, the 2008 boreholes DP1 and DP3 are ideally located for evaluating tritium releases from the Classified Area. Furthermore, boreholes DP 4, DP5, and DP6 are located in the northern half of the Unclassified Area of the MWL, and are also situated ideally to evaluate tritium levels in this part of the plume.

The higher values of tritium detected in DP5 suggests that one or both trenches adjacent to DP5 contain a source for tritium. But even in this case, tritium activity levels decrease by 82.6 % at a depth of 30 feet and by 98.8 % at a depth of 50 feet compared to the tritium level at 10 feet. This is consistent with the conceptual model developed during the RFI that indicates that the majority of the tritium mass released at the MWL is located at fairly shallow depths. Maximum tritium activity levels will continue to fall as radioactive decay continues into the future.

You argue that use of the maximum activity level (found in borehole DP5 at a depth of 10 feet) to calculate risk is a mistake simply because the borehole is not located adjacent to the Classified Area. The Department addresses this issue in the agency's response to Question No. 4 below.

Question No. 4. *Does NMED recognize that it was a mistake for the 2008 Soil Vapor Report to use the tritium value measured in probe hole DP5 for the conclusion that the tritium concentrations at the MWL dump pose no threat to human health or the environment?*

It was not a mistake. Use of the highest value for tritium detected is a conservative and acceptable approach to estimate risk. As mentioned several times previously in this letter, there

is no evidence of a significant new release of tritium or VOCs. *See* response to Major Findings No.3 and No. 5, respectively.

Question No. 5. *Does NMED recognize that the sparse sampling data collected in the 2008 sampling program show a large increase in the tritium contamination in the vadose zone below the MWL dump as compared to the earlier RFI data?*

The Department does not agree with this assertion. *See* response to Major Finding No. 3.

Question No. 6. *Does NMED recognize that the nature and extent of tritium contamination in the vadose zone below the MWL dump is not known at this time and additional characterization of this contamination is necessary from information collected from deep probe holes, core holes and multiple-port vadose zone monitoring wells at locations inside the Unclassified Area and the Classified Area in the MWL dump?*

The Department disagrees. Tritium data obtained during the RFI are sufficient to characterize the MWL. The Department testified to this issue during the public hearing held on the MWL remedy, to which Citizen Action was a party. The Secretary found the Department's testimony persuasive, and Citizen Action's appeals were denied. *See also* response to Major Finding No. 3.

Question No. 7. *Does NMED recognize that 2008 Soil Vapor Report shows that the existing data on tritium contamination does not provide for accurate calibration of the DOE/SNL MWL Dump Fate and Transport Model?*

See response to Question No. 6. Because tritium has been adequately characterized via surface flux, subsurface soil, and groundwater sampling, the Department is satisfied that there is sufficient information to assess tritium using the Fate and Transport Model.

Question No. 8. *Does NMED recognize that the dirt cover must not be installed over the MWL dump until there is accurate knowledge of the nature and extent of the tritium (and also VOC) contamination below the MWL dump?*

See responses to Major Finding No. 3 and Question No. 6. Data obtained during the RFI and in 2008 indicate that additional corrective measures to remove contaminant vapors are not necessary.

Major Finding No. 4. *The sparse data presented in the 2008 Soil Vapor Report do not support the isopleth maps for tritium contamination that are presented in the report.*

See response to Question No. 9.

Question No. 9. *Does NMED recognize that the data collected in the 2008 sampling program were not sufficient for the construction of the tritium contamination isopleth maps in the 2008 Soil Vapor Report because the data were too sparse and missing from important locations where the large inventory of tritium wastes were buried?*

The isopleth maps would be better if additional data (historical data adjusted for natural decay) had been used to construct them. However, these maps were not required and are not necessary to assess whether there has been any significant change in tritium activity levels or distribution.

Major Finding No. 5. *The sampling data in the 2008 Soil Vapor Report were collected at too few locations across the MWL dump and at too shallow a depth to support the conclusions presented in the report for the VOC contamination.*

This issue concerning the adequacy of the RFI and the 2008 monitoring conducted under the SV SAP was previously addressed in responses R2, R24, R25, R26, and R30 of the NMED Response to Public Comments on the SV SAP. Data and graphs (Figures 6-7 through 6-10, inclusive) in the SV Report demonstrate on average that VOC concentrations detected in 2008 are slightly lower than those found during the RFI, indicating that there has not been any significant new release of VOCs at the MWL. The data also indicate that VOC vapors are sufficiently low that should any contaminants reach groundwater they will not cause a water quality standard to be exceeded.

The comparison you attempt to make concerning VOC distributions at the MWL and the Chemical Waste Landfill regarding your Figure 10, *Soil Gas Plume Measured in Deep Vadose Zone Monitoring wells for Long-Term Monitoring at the Sandia Chemical Waste Landfill* is flawed because it is based on data representing contaminant conditions beneath the Chemical Waste Landfill after vapor extraction to remove most of the soil-gas plume had been completed. Vapor extraction has not been done at the MWL. Thus, the data you cite do not represent undisturbed conditions, such as at the MWL, where higher concentrations of a contaminant would be expected close to the source of the contaminant, with decreasing concentrations detected at increasing distance from the source. The low levels of VOCs detected in 2008 at 30 feet do not justify a requirement to sample at depths of hundreds of feet.

Question No. 10. *Does NMED recognize that the body of knowledge shows that the proposed locations of the three FLUTE^B wells outside the boundary of the dirt cover will prevent the wells from the detection of VOCs and tritium that are released from the unlined pits and trenches in the MWL dump?*

Like tritium, VOC vapors migrate through the vadose zone via gaseous diffusion, a process which tends to spread VOC vapor contamination in all directions. It is therefore not surprising that VOC vapors were detected outside the landfill boundary during the RFI. Because VOC vapors tend to spread in all directions, the FLUTE wells at the MWL may have some value for monitoring VOC vapors, especially the ports located at greater depths. However, the Department has not determined fully the monitoring requirements for the MWL Long-Term Monitoring and Maintenance Plan. Other VOC monitoring stations may be required that are located within the footprint of the landfill or in angled boreholes along the perimeter of the landfill. DOE/Sandia will not be required to monitor tritium in soil gas due to the difficulty in extracting enough moisture, but they will be required to monitor for tritium in other environmental media.

Question No. 11. *Does NMED recognize the need to locate multiple-port vadose zone monitoring wells inside the MWL dump or in angle boreholes drilled under the unlined pits and trenches from locations outside the planned perimeter of the dirt cover?*

See response to Question No. 10.

Major Finding No. 5. **(Second Major Finding No. 5 on page 9)** *The statements about the VOC and tritium contamination in the 2008 Soil Vapor Report that are incorrect to the data.*

You argue that all VOC constituents show large increases in concentration in the 30 foot and 50 foot samples of borehole DP3 compared to the 10 foot sample. However, the increases you note are not especially large given such low concentrations of contaminants. Of more importance is that none of the concentrations listed for CFC-12, PCE, and TCE in Table 2 for DP3 is high enough to cause groundwater to become contaminated at a level that would exceed a water quality standard.

Sampling at 50 feet was conducted also at boreholes DP2 and DP5, with DP5 perhaps being the most important borehole as it was placed specifically within the area of most concern for the MWL for VOCs. The Department evaluates all data, not just selected data, when making decisions about the appropriate remedy for a contaminated site. In these boreholes, concentrations of CFC-12, PCE, and TCE in the 50 foot samples were less than those detected in the corresponding 30 foot samples. Like DP3, none of the concentrations listed for CFC-12, PCE, and TCE are high enough to cause groundwater to become contaminated at a level that would exceed a water quality standard. Additionally, none of the methane values detected in any sample from any borehole exceeds the lower explosive limit for methane. Thus, methane is not a concern.

As mentioned above, higher concentrations of a contaminant would be expected at locations close to the source of the contaminant, with decreasing concentrations detected at increasing distance from the source. A specific requirement to monitor or sample soil gas below a depth of 50 ft is not warranted based on the soil-gas data presented in the SV Report (*see also* response R30 of the NMED Response to Public Comments on the SV SAP).

In addition, you assert that a new well is needed near DP3. The Department disagrees. The amount of chemical waste disposed of in pit SP-1 is not known, but was probably not large as the pit is not especially large and was not used for a long period of time. Boreholes placed in the area of DP3 during the RFI found only low levels of contaminants in the vadose zone near SP-1, also suggesting that the amount of mobile waste disposed of in the pit was not large.

Question No. 12. *Does NMED recognize the need to locate a multiple-port vadose zone monitoring well with ports to a depth greater than 400-feet below ground surface at the location of DP3?*

See response to Question No. 10.

Question No. 13. *Does NMED recognize the need to install a monitoring well across the water table at a location immediately south of the Classified Area of the MWL dump to monitor contamination below the unlined pits including the "Acid Pit" which is located in the southeast corner of the Classified Area?*

A groundwater monitoring well is not needed at a location south of the Classified Area near Pit SP-1. See response to Major Finding No. 5 (the second Major Finding No. 5 on page 9).

Question No. 14. *Does NMED recognize that the increasing trends in VOC contamination measured in soil gas samples collected from 50% of the probe holes in the 2008 Soil Vapor Report requires additional investigation of the nature and extent of VOC contamination in the vadose zone and in the groundwater below the MWL dump?*

Significant increasing trends below 30 feet are not supported by the data (see response to Major Finding No. 5), and concentrations of VOC vapors remain low enough in 2008 that it is unlikely that groundwater can become contaminated above water quality standards. Thus, further site characterization of the landfill for VOCs is unnecessary.

Concerning the data for DP4 and DP6 listed in your Table 2, again, none of the concentrations listed for CFC-12, PCE, and TCE is high enough to cause groundwater to become contaminated at a level that would exceed a water quality standard. See response to the second Major Finding No. 5 concerning methane levels.

Statements in the SV Report concerning trigger levels are not relevant because approved trigger levels did not exist at the time the SV Report was prepared. Furthermore, an approved long-term monitoring program for the MWL also does not exist at this time (see response to Question No. 10). See response to Major Finding No. 5 concerning the incorrect use of your Figure 10 to draw comparisons between contaminate distributions at the Chemical Waste Landfill and the MWL.

Question No. 15. *Does NMED recognize that the nature and extent of VOC contamination in the vadose zone below the MWL dump is not known and the contamination may exceed the trigger levels in the LTMMMP as indicated by the VOC plume below the SNL Chemical Waste Landfill?*

See response to Question no. 14 concerning trigger levels and drawing comparisons between the MWL and the Chemical Waste Landfill.

Concerning your third and fourth examples of an incorrect statement in the Soil-Vapor Report, the Department disagrees. See responses to Major Finding No. 3 and Question No.4, respectively.

Major Finding No. 6. *The incorrect statement in the 2008 Soil Vapor Report about the disposal of liquid wastes in the MWL dump.*

This issue was addressed as part of the Department's testimony at the public hearing held for the MWL remedy. Citizen Action was a party to the hearing.

Question No. 16. *Why does NMED allow DOE/SNL to make statements in reports like the 2008 Soil Vapor Report that are not factual and not accurate to the NMED Administrative Record?*

The DOE/Sandia, like Citizen Action or any other party, may make any statements in their reports or letters that they wish. However, permittees like DOE/Sandia must also provide certification in writing that to the best of their knowledge the statements are true, accurate, and complete. The Department may agree or may not agree with some or all of their statements.

Major Finding No. 6. (Second Major Finding No. 6 on page 12) *Nickel and chromium are contaminants of concern for the waste disposed of in the MWL dump according to the findings from the mid-1990's RCRA Facility Investigation.*

This major finding has nothing to do with the SV Report and simply repeats an issue already answered by the Department (*see* NMED's previous correspondence to Citizen Action and Mr. Gilkeson). The SV Report and the related SV SAP have nothing to do with groundwater monitoring.

Also, as mentioned previously in this letter, Comment #19 of the November 20, 2006 NOD on the CMI Plan concerns long-term monitoring and, as such, has nothing to do with the SV Report.

Your claims that contamination has not been investigated in the areas of Trench D and the Acid Pit are not true. These areas were examined by the collection and analysis of subsurface soil samples during the RFI that specifically targeted these areas. Furthermore, a groundwater monitoring well (MWL-MW4) was installed below Trench D and shows no contamination in the groundwater at this location. Based on the results of the RFI, there is no need to install a groundwater monitoring well near the Acid Pit specifically to monitor only this small area of the landfill (*see* response to Question No. 13).

The data presented in Table 3 of your December 5, 2008, letter for MWL-MW1 is essentially the same data previously submitted in Citizen Action's letter of January 24, 2007, in which you allege that nickel contamination above the water quality standard occurs in groundwater at the MWL. Attached to Citizen Action's letter was a report on this subject prepared by Mr. Gilkeson. Except for the April 2007 time period, all of the data listed in your Table 3 were available to the Department and were examined by the Department as part of the agency's March 26, 2007, response to your January 24, 2007 letter. The additional April 2007 data in Table 3 does not indicate anything new with regard to this issue. In the absence of any new evidence to the contrary, the Department stands by its conclusion that the nickel detected in groundwater samples from MWL-MW1 is from the leaching of its stainless-steel screen. This is also the case for the other wells at the MWL that have the same corrosion problem with their stainless steel screens.

Furthermore, there is no need to install a new well near the former location of MWL-MW1. The Department is surprised either of you suggest this given that both of you have argued in the past

that MWL-MW1 was useless as a monitoring well in part because of its location relative to the landfill footprint and the groundwater-flow direction. The well screen for MWL-BW3 is also showing signs of corrosion (you point out that high levels of dissolved nickel are also present in the groundwater at this well). Monitor wells MWL-MW8 and MWL-MW9 are located near MWL-MW3 and have been constructed with PVC screens. Preliminary results of groundwater sampling from these new wells (as well as the other new wells MWL-MW7 and MWL-BW2) are indicative of background levels of nickel and chromium. This was expected given that there is no evidence of nickel and chromium contamination in the vadose zone.

Question No. 17. *Why hasn't NMED required DOE/SNL to characterize the nature and extent of the nickel plume in the groundwater at the water table below the MWL dump?*

Evidence to date suggests that there is not any nickel contamination in the groundwater beneath the MWL. Therefore, there is no need to require characterization of a nickel plume.

Results presented in the SV Report are persuasive and indicate that no significant new releases of tritium, radon, and VOCs have occurred since the RFI was completed.

B. LETTER OF FEBRUARY 5, 2009

The Department denies Citizen Action's request to order DOE/Sandia to terminate construction of the MWL cover. Contrary to Citizen Action's assertion, the public was already given the opportunity to comment on the MWL CMI Plan. The Department noticed the public of a public comment period on the CMI Plan on December 9, 2005. The public comment period ran for 60 days. During that 60 days, Citizen Action and others requested a technical public meeting to discuss the CMI Plan. The Department granted the request, and held the meeting on May 25, 2006. At that time, the Department also extended the public comment period through June 8, 2006. All of this was publicly noticed, and Citizen Action attended the meeting. The Department issued the first of two NODs on the CMI Plan on November 20, 2006 after considering public comment. The Department responded to all the public comment, including Citizen Action's comments, at about this time. Sandia responded to the NOD in two parts that were submitted on December 15, 2006 (first part) and January 19, 2007 (second part). In accordance with the Secretary's Final Order, the Department posted both responses on our website. The Department issued the second NOD on October 10, 2008, which was also posted on our website. Comments included in the second NOD were almost all holdover issues from the first NOD. Sandia responded November 26, 2008, to the second NOD, resolving all comments. The Department issued a conditional approval for the CMI Plan on December 22, 2008. The Department went far and above any requirements in law, regulation, guidance, and the Secretary's Final Order, in eliciting public participation. The Department fully complies with the Secretary's Final Order concerning public participation for the MWL.

The Department will not discuss the TechLaw Report issue in this letter as this issue is pending litigation.

Part of the Department's first NOD on the CMI Plan required Sandia to submit the SV SAP. While not part of the CMI Plan, the Department nevertheless public noticed the SV SAP on February 5, 2007 for 30 days. Again, the Department received a request for a public technical meeting, which the agency held on May 1, 2007. Citizen Action attended, and the Department also extended the comment period for this document until May 15, 2007. The Department issued an approval with modifications to the SV SAP and responded to public comment on February 14 and February 15, 2008, respectively. As indicated above, the SV SAP was not a characterization study; it was a one-time monitoring event that was conducted due to the delay in approval of a long-term monitoring plan for the MWL. The related SV Report is not a major document, and is not subject to the Final Order for the MWL. *See* response to Question No. 3 of your December 5, 2008 letter.

Citizen Action argues that the MWL CMI Plan has "changed greatly from what was originally proposed to the public". However, other than trigger levels, very little was changed. The CMI plan concerns how the cover for the landfill is to be constructed. It also presents the results of the Fate and Transport Model, and sets trigger levels for long-term monitoring which were required under the Secretary's Final Order for the MWL. Almost no changes were made regarding cover construction specifications, and no changes were made to the Fate and Transport Model. Although some trigger levels were changed significantly, the changes generally included the expansion of trigger levels to include more constituents and media to be monitored for, and many of the proposed trigger levels were decreased to lower levels to make them more conservative as desired by both the Department and the public, including Citizen Action.

Citizen Action implies that through "personal communications", that in the opinion of Citizen Action were not transparent to the public, agreements were reached between the Department and DOE/Sandia to eliminate the sampling of tritium in soil gas. The Department engaged with DOE/Sandia representatives in several face-to-face meetings and telephone conversations on this and other issues pertaining to the CMI Plan. This is a routine business practice with permittees to achieve voluntary compliance with the regulations, and to reach understanding about technical approaches to problems. Such exchanges do not constitute final agency actions, and are not prohibited by the Final Order. The decision not to monitor tritium in soil gas was made because it was later realized that it would be unreasonably difficult to extract sufficient amounts of soil gas to yield the required amount of moisture to analyze for tritium. The Department still plans to require the monitoring of tritium at the MWL in other environmental media, including groundwater. Specific requirements for the monitoring of tritium will be developed in the Long-Term Monitoring and Maintenance Plan (LTMMP) at some future date.

Citizen Action appears to assert in its February 5, 2009, letter that the LTMMP was issued out of sequence and that the plan has been altered by the CMI Plan in a way that the public has not been allowed to review. The LTMMP was submitted earlier than it should have been because of specific requests of the DOE/Sandia to do so, particularly from Citizen Action at the May 1, 2007 meeting. The Department articulated many times during the public meeting held on the CMI Plan that it would be best to generate the LTMMP in its proper sequence, after remedy implementation had been completed. Citizen Action and other members of the public were vociferous in their opposition to such an approach. Nevertheless, the LTMMP will undoubtedly

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be revised considerably prior to approval as many aspects of monitoring at the MWL have changed over the past few years. In any event, the Department is not prepared to approve the LTMMP at this date. Citizen's Action claim that alterations to the LTMMP through approval of the CMI Plan have not been reviewed by the public is untrue. The Department has not taken any action on the LTMMP, other than to notice the plan and accept public comment. The only approved modifications that will affect the LTMMP are changes to trigger levels. The public was given its opportunity (and took advantage of the opportunity) to comment on trigger levels through the review process for the CMI Plan.

NMED disagrees with all of Citizen Action's comments concerning new and increasing releases of tritium and VOCs, sampling of tritium at hot spots, the need to monitor for these constituents at depths greater than 50 feet, and Citizen Action's assertions that the 2008 data in the SV Report could not be compared to earlier data. See in particular responses to Major Findings Nos. 1, 3, 5, second No. 5 and Questions 1, 2, 6, and 14 of your December 5, 2008 letter.

Finally, groundwater monitoring wells were replaced because they went dry and in some cases they were replaced also due to well screen corrosion. At this time, the Department does not possess any water quality data from the new wells installed at the MWL, except, as mentioned previously, for a small amount of preliminary data for chromium and nickel.

Sincerely,



James P. Bearzi
Chief
Hazardous Waste Bureau

cc: J. Kieling, NMED HWB
W. Moats, NMED HWB
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