



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

DEC 01 1992

Docket Nos. 50-54
70-087

License Nos. SNM-639
R-81

Mr. James J. McGovern, President/Plant Manager
Cintichem, Inc.
P.O. Box 816
Tuxedo, New York 10987

Dear Mr. McGovern,

Nuclear Regulatory Commission staff has reviewed your October 22, 1992 responses to our September 23, 1992 request for additional information concerning the proposed residual soil contamination limits for your Tuxedo, New York facility. Per our teleconference and phone conversations of December 1, 1992, listed below is the additional information needed by the NRC staff to complete its review of these limits.

1. Please describe in detail the sampling and analysis that will be performed on the soil Cintichem intends to excavate from the site and then use as backfill on-site at the completion of the decommissioning of the facility. Information should include, but not be limited to: soil sample collection frequency (e.g., that each backhoe bucket will be sampled, per our teleconference of 12/1/92), sample volumes, sample collection procedures, sample preparation, sample averaging, a description of the methods and equipment used to analyze the sample, the quality assurance program for the sample collection and analysis, and records that will be maintained to support the determination of residual radioactivity in the soil. Also, please describe the method that Cintichem will use to analyze soil for alpha and beta emitting radionuclides.

It is imperative that you describe the procedures Cintichem will use to collect and analyze soil samples in sufficient detail to allow NRC staff to determine the validity and acceptability of the procedures. Where appropriate, Cintichem should use the methods and procedures outlined in NUREG/CR-5849 which I provided to you earlier this year since Cintichem will need to use these procedures (or acceptable alternatives) in its termination survey. In addition, please confirm that any soil analyses performed to date have been per these methods.

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NH 17 1/0

2. During our teleconference it was unclear what Cintichem will do to remediate each of the three areas at the facility characterized as surface contaminated areas. Please describe in detail what Cintichem will do at each of these areas to determine the extent and type of contamination and to remove contaminated soil above the cleanup criteria. In addition, provide a description of the depth of contamination for each surface contamination area and the soil depth to bedrock for these areas.
3. Please describe the procedures Cintichem will use to segregate and store soil that is characterized as "clean soil" (i.e., soil with radionuclide concentrations below the cleanup criteria) and contaminated soil. Also, please describe how this soil will be used as backfill and how the soil will be disposed of as radioactive waste.
4. Please clarify that an allowable "hot spot" will be defined consistent with the guidance in NUREG/CR-5849 as an area where the concentration of radioactive material in the soil is between 1 and 3 times "unity" as determined by the sum of fractions for the approved soil concentration criteria for the radionuclides present in the soil at that location.
5. Please provide the radioactive material concentrations in soil and the soil and bedrock surface exposure rate that Cintichem intends to use as background for the site.
6. Please revise the ALARA analysis provided in your October 22, 1992 letter to demonstrate that the proposed soil criteria are as low as reasonably achievable given the criteria outlined in NRC's letter to you of September 23, 1992. This analysis should evaluate, based on the information currently available, the cost and benefit (in reduction of radiation dose to the public) from incremental increases and decreases in the unrestricted release limit (i.e., the less than 10 mrem/year Cintichem proposed).
7. Please describe the method by which Cintichem will determine that soil containing radioactive material in excess of the established criteria is not present beneath or adjacent to areas that have been remediated to the established criteria (i.e., how will Cintichem ensure that all material contaminated above the cleanup criteria has been removed from the site, even in cases where that contamination is not contiguous with known contaminated material).



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

DEC 01 1992

Docket Nos. 50-54
70-687

License Nos. SNM-639
R-81

Mr. James J. McGovern, President/Plant Manager
Cintichem, Inc.
P.O. Box 816
Tuxedo, New York 10987

Dear Mr. McGovern,

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P PDR

delete: ACNW

NH17 1/0

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7. Please describe the method by which Cintichem will determine that soil containing radioactive material in excess of the established criteria is not present beneath or adjacent to areas that have been remediated to the established criteria (i.e., how will Cintichem ensure that all material contaminated above the cleanup criteria has been removed from the site, even in cases where that contamination is not contiguous with known contaminated material).

2. During our teleconference it was unclear what Cintichem will do to remediate each of the three areas at the facility characterized as surface contaminated areas. Please describe in detail what Cintichem will do at each of these areas to determine the extent and type of contamination and to remove contaminated soil above the cleanup criteria. In addition, provide a description of the depth of contamination for each surface contamination area and the soil depth to bedrock for these areas.
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DEC 04 1992

James J. McGovern

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8. Per our phone conversation of December 4, 1992, you indicated that Cintichem has developed K_d s for 7 of the radionuclides outlined in Table 2 of your October 22, 1992 letter. Please supply the data, procedures, and analyses used to develop these K_d values.
9. Please confirm that the soil that will be remediated to the sub-surface limits will only be deposited, or allowed to remain on-site, in areas that will be covered by at least 25 feet of building rubble and topped by at least three feet of clean soil.

If you have any questions please contact me at (301) 504-2566.

Sincerely,

15/

Dominick A. Orlando, Project Manager
Decommissioning and Regulatory
Issues Branch
Division of Low-Level Waste Management
and Decommissioning
Office of Nuclear Material Safety
and Safeguards

cc: See attached list

Distribution: Central File NMSS r/f LLDR r/f
RBangart WBrach JAustin JSurmeier MWeber TCJohnson DOrlando
JParrot BEid CDaily TMichaels

PDR YES ☒ NO ☐ Category: Proprietary ☐ or CF only ☐

ACNW YES ☐ NO ☒

IG YES ☐ NO ☒

SUBJECT ABSTRACT: REQUESTS ADDITION'' INFORMATION ON SITE DECOMMISSIONING

OFC	LLDR	E	LLDR	C	LLDR	C		
NAME	DOrlando		MWeber	W	JAustin			
DATE	12/4/92		12/4/92		12/4/92			

C = COVER E = COVER & ENCLOSURE

N = NO COPY