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MEMORANDUM FOR: Ross A. Scarano, Chief
Low-Level Waste Licensing Branch

FROM: Timothy C. Johnson
Low-Level Licensing Branch

SUBJECT: MEETING WITH WASHINGTON AND NEVADA REGARDING
10 CFR 61 IMPLEMENTATION

Enclosed are copies of the reports of my meetings with the States of Washington (WA) on December 13, 1982 and Nevada (NV) on December 15, 1982 concerning implementation of the 10 CFR Part 61 waste form and waste classification requirements. I have also enclosed my report of my meeting with Chem-Nuclear Systems, Inc. at the Bellevue, WA offices on December 14, 1982.

Original Signed By

Timothy C. Johnson
Low-Level Waste Licensing Branch

Enclosure: As stated above

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10 CFR Part 61 Implementation
Meeting With State of Washington

Purpose: The purpose of this meeting was to discuss the implementation of 10 CFR Part 61 waste form and waste classification requirements.

Date & Place: December 13, 1982
Olympia, WA

Attendees:
N. Kirner, WA
L. Gronemeyer, WA
T. Strong, WA
J. Horner, NRC, Region V
T. Johnson, NRC, WM

Discussion: During the implementation of the 10 CFR Part 61 waste form and waste classification requirements, many questions are expected to be raised by licensees concerning the detailed conditions they will be required to meet at the existing commercial disposal sites. In an effort to provide licensees information they will need to develop implementation programs, we discussed with WA the waste form and waste classification requirements in 10 CFR Part 61 and the respective Branch Technical Positions (BTP's) which provide additional guidance.

In the area of waste form I briefly discussed the purpose of the BTP, that is, to provide guidance to waste generators for demonstrating compliance with the stability requirements in 10 CFR Part 61.

Much of the discussion in this area involved the high integrity container (HIC) option, which, to date, WA has not incorporated in their disposal site license conditions. I agreed to provide WA with copies of the referenced standards in the BTP.

WA indicated that they needed technical assistance to review two HIC applications which were inhouse. I indicated that the NRC was willing to provide such technical assistance and welcomed the opportunity to formally review the HIC's. The HIC applications are from Chem-Nuclear and Hittman. WA stated that they would initiate the request within one or two weeks.

WA was concerned about the Type A drop conditions in the NRC BTP for HIC's. They stated that they preferred a 45ft drop condition. I explained that the Type A condition is intended to ensure that the container will be of high quality and withstand the conditions of normal

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handling and transportation. Since currently used disposal containers are not required to meet even Type A requirements (Type A or B packaging for transportation is provided by certified shipping casks), we believe that the Type A HIC condition will provide greater safety than currently used containers.

WA indicated that while containers are not dropped from the edge of the trench, containers are randomly placed using claw-type device. Containers may be dropped a short distance using this procedure. I stated that at Barnwell operating procedures restrict the types of waste containers which are placed next to HIC's. These procedures prohibit randomly placed drums which could damage polyethylene containers. These procedures have been effective at Barnwell in ensuring that HIC's and adjacent waste containers are emplaced properly.

I stated that if WA required a 45ft. drop test the current HIC design would probably be unable to pass such a condition. In fact, many Type B, transportation accident qualified packages (30ft. drop test) might also fail. I indicated that the advantages in allowing waste generators the flexibility to use an HIC for Class B and C wastes were substantial in comparison to the hazard of infrequently dropping and fracturing an HIC. Such a hazard has existed with the current disposal containers and has not resulted in adverse health and safety impacts. As a result of this discussion, N. Kirner agreed to reconsider the HIC drop conditions. I agreed that in an NRC review of the two HIC applications we would, of course, consider any unique conditions WA believed needed to be addressed for the Hanford site.

We discussed the burial depth differences between the Barnwell (25ft) and Hanford (45ft) sites. We agreed that a WA HIC review needed to consider the 45ft depth in order to ensure adequate structural stability in HIC's.

The free liquid conditions at Hanford are more restrictive than is allowable under 10 CFR Part 61. I agreed to provide WA with the technical data we used to justify the 1 percent free liquid requirement for wastes packaged in HIC's. WA indicated that they were amenable to raising the free liquid limit if a defensable position was provided. We briefly discussed the DOW correspondence in this area and I agreed to send copies of our correspondence to WA.

For demonstrating stability of solidified products for Class B and C wastes, we discussed qualifying process control programs (PCP's) to be consistent with the waste form BTP. An individual waste generator could

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qualify his PCP himself or he could reference generic data such as in an approved topical report. WA was not prepared to agree to such a concept but indicated that the philosophy appeared adequate.

I stated that South Carolina (SC) desired to requalify solidification agents which currently have generic approval. SC was concerned that proper solidification may not be achieved with all waste streams. Therefore, a generic approval might not be wholly satisfactory. NRC staff and SC discussed performing this requalification based on the test methods in the BTP. Implementation would be through the utilization of PCP's qualified to guidance consistent with the BTP. WA indicated that they desired more time to think about this issue prior to implementing a requalification similar to SC's desires.

I asked WA what areas WA evaluated in approving absorbents. WA was concerned about the absorbency ratio, effects of vibration and temperature, bacterial growth, compatibility with the proposed waste stream and process control. I indicated that this is an issue we want to address in the future in a BTP.

WA has not performed a detailed assessment of the waste classification BTP. However, they do not have difficulties with the concepts when applied by waste generators in preparing shipping documents.

WA was concerned regarding their responsibility in inspecting the waste generators' programs for classifying wastes. I indicated that this responsibility belonged to the NRC inspectors for NRC licensees and State inspectors for their licensees. Inspections of waste generators' waste management operations would include verification that waste classification was performed in accordance with procedures consistent with 10 CFR Part 61.55.

WA indicated that US Ecology was developing a plan for segregating wastes in accordance with 10 CFR Part 61. WA also indicated that segregation would probably be performed within a single trench rather than opening a second one. I indicated that this approach was consistent with the intent of 10 CFR Part 61.

Regarding the 10nCi/gm limit and the 10 CFR Part 61 limit of 100nCi/gm, WA indicated that they would prefer Congress imposing the higher limit. Currently, the 10nCi/gm is negotiable by an existing license condition. However, the language in the Northwest Compact defines low-level wastes as having a concentration less than 10nCi/gm. To alter this language

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would be expected to result in political obstacles which could delay approval of the compact. WA was not willing to modify the compact provisions at this time.

WA indicated that they need more guidance regarding the specific comparability issues which they need to incorporate in their programs. I stated that NRC staff is preparing guidance to States in form of draft regulations which could be incorporated in State regulations. This guidance would be considered by J. Vaden's committee for the development of uniform Agreement State waste management regulations.

I discussed with WA the status of our discussions with SC for setting an activity level above which powdered form wastes (ash, calciner bottoms, etc.) would require stabilization to reduce its dispersability. I indicated that low activity powdered wastes might be suitable for disposal without solidification. WA did not disagree with the concepts NRC was discussing with SC and wished to be kept informed of agreements reached with SC.

NRC Action Items:

Transmit copies of standards referenced in BTP Waste Form; transmit copies of Dow Chemical Company related correspondence; transmit data to support increasing the free liquid criteria to be consistent with 10 CFR Part 61.

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10 CFR Part 61 Implementation
Meeting with State of Nevada

Purpose: The purpose of the meeting was to discuss the implementation of the 10 CFR Part 61 waste form and waste classification requirements.

Date & Place: December 15, 1982
Carson City, NV

Attendees: John Vaden, NV
J. Horner, NRC (Region V)
T. Johnson, NRC (WM)

Discussion: During the implementation of 10 CFR Part 61 waste form and waste classification requirements, many questions are expected to be raised by licensees concerning the detailed conditions they will be required to meet at the existing commercial disposal sites. In an effort to provide licensees information they will need to develop implementation programs, we discussed with NV the waste form and waste classification requirements in 10 CFR Part 61 and the Branch Technical Positions (BTP's) dealing with these subjects.

In the area of waste form I briefly discussed the purpose of the BTP, that is, to provide guidance to waste generators for demonstrating compliance with the stability requirements in 10 CFR Part 61.

No changes in the NV free liquid license conditions would be made. All wastes are expected to be dry. This would also include ion exchange resins and would be irrespective of any practical considerations in dewatering. NV currently disposes of resin wastes. These resins are certified to contain no liquids, but NV has not verified this certification by punching liners.

NV will consider the use of high integrity containers but does not have the staff to review applications. I indicated that NRC could provide assistance through State Programs.

Process Control Program (PCP) requalification is acceptable to NV. The review of topical reports by NRC to accomplish this was said to "make sense."

The waste classification BTP was acceptable to NV as a method for preparing manifest and disposal documentation.

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NV indicated that they could implement segregation in a single open trench. However, they expected antagonism from the site operator. I indicated that US Ecology was developing a similar segregation program for the Hanford site. Because of the large trenches constructed at Beatty and the low waste input rate, it was estimated that a single trench would remain open for 12 years. This would make opening two trenches impractical.

NV stated that they were evaluating proposals from ten firms for preparing a study of stabilization and closure of the Beatty site. This study would include economics. They expected an award being made in January. Flash flooding and seismic effects would be given special consideration in this study.

Little subsidence effects have been observed to date on the Beatty site. This was attributed to the arid conditions. Eventual subsidence due to waste degradation was, however, expected in the future, although at lowers levels than at a humid site.

NV expected to segregate wastes with chelating agent concentrations greater than 0.1 percent.

No change in the TRU limit of 10nCi/gm was expected at this time even if 10 CFR Part 61 raised the limit to 100nCi/gm.

At this time NV has no strong feelings about stabilizing powdered form products. The primary concern is that wastes are not liquids and arrive at the disposal site in that condition.

J. Vaden is chairman of a group of State regulators which will be preparing model State regulations for implementing 10 CFR Part 61. I indicated that K. Dragonnette was preparing guidance in this area and that she desired to assist J. Vaden's group as needed.

NV indicated that the future operation of the Beatty site remained in question. This would be settled eventually following the litigation between US Ecology and NV. New license conditions are expected to be issued upon resolution of this question. The delay in issuing new license conditions was attributed to a desire not to introduce new contentions into the ongoing litigation.

Action Items: None

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Chem-Nuclear HIC Meeting

Purpose: To discuss status of CNSI HIC development and to observe containers tested in the South Carolina qualification.

Date & Place: Bellevue, WA
December 14, 1982

Attendees:
J. Potter, CNSI
C. Temus, CNSI
D. Hobart, CNSI
T. Johnson, NRC/WM
J. Horner, NRC/Region V

Discussion: J. Potter briefly discussed the development of the Chem-Nuclear Systems, Inc. (CNSI) high integrity container (HIC). This included evaluating metallic containers, commercially available polymeric tanks, and composite materials. Slides of early testing were shown. These early assessments identified major problems and focused CNSI on materials which had the highest potential for success. This work resulted in rotationally molded Marlex CL-100 and fibreglas being chosen as materials for the CNSI containers.

One early problem which was addressed was closure design. Prototype testing showed that an open head drum type closure would not withstand drop testing forces. Various threaded closures were used. However, those with wide threads were easier to fabricate since larger tolerances could be allowed.

We observed containers which had undergone drop and compression testing. These containers were intact and no fractures were observed. One container had been loaded to 50 PSI and had essentially returned to its initial shape, although the top corner areas still showed deformation. No fractures were observed.

Several of CNSI's fibreglas demineralizer units were also observed. These units are designed as pressure vessels in order that ion exchange can take place at elevated pressures. This concept allows more efficient utilization of the resin beds.

Some of the fibreglas containers had undergone prototype testing. Rod penetration tests had produced visible indication of damage to several of the multiple fibreglas layers. However, the rod had not penetrated the

container and the structural stability or containment properties did not appear to be affected.

Conclusion: This discussion with CNSI was useful, especially for J. Horner, who had little previous experience with HIC's. Observing containers which had undergone prototype testing resulted in a greater feeling of confidence that HIC's can meet the South Carolina and NRC design lifetime goals.

Action Items: None