



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**
WASHINGTON, D.C. 20555-0001

February 3, 2020

Mr. Jeffrey D. Isakson
Chief Executive Officer/President
Interim Storage Partners LLC
P.O. Box 1129
Andrews, TX 79714

**SUBJECT: INTERIM STORAGE PARTNERS LLC's LICENSE APPLICATION TO
CONSTRUCT AND OPERATE THE WASTE CONTROL SPECIALISTS
CONSOLIDATED INTERIM STORAGE FACILITY, ANDREWS COUNTY,
TEXAS, DOCKET NO. 72-1050 – REQUEST FOR CLARIFICATION OF
RESPONSES RELATED TO MATERIALS REVIEW**

Dear Mr. Isakson:

By letter dated July 19, 2018 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML18206A595), as supplemented May 31, and July 31, 2019 (ADAMS Accession Nos. ML19156A038, and ML19217A210), Interim Storage Partners LLC (ISP), a joint venture of Waste Control Specialists LLC (WCS) and Orano CIS LLC (a subsidiary of Orano USA), requested that the U.S. Nuclear Regulatory Commission (NRC) resume all safety and environmental review activities associated with the proposed WCS Consolidated Interim Storage Facility (WCS CISF) license application. ISP requested authorization to store up to 5,000 metric tons of uranium for a period of 40 years in the WCS CISF.

By letter dated November 16, 2018, the staff issued requests for additional information (RAIs) (First Request for Additional Information, Part 1; ADAMS Accession No. ML18320A184) in connection with its Materials Evaluation review for the WCS CISF. By letter dated May 31, 2019 (ADAMS Accession No. ML19156A038), ISP provided responses to the staff's request. The staff has reviewed your responses to staff's RAIs and determined that additional clarification and/or supplementation of your responses are needed to complete its review. The information needed by the staff is discussed in the enclosure. We request that you provide responses within 45 days from the date of this letter. If you are unable to meet these deadlines, please notify NRC staff in writing, within two weeks of receipt of this letter, of your new submittal date and the reasons for the delay.

Please reference Docket No. 72-1050 and CAC/EPID 001028/L-2017-NEW-0002 in future correspondence related to the technical review for this licensing action. If you have any questions, please contact me at (301) 415-0262.

Sincerely,

/RA/

John-Chau Nguyen, Senior Project Manager
Storage and Transportation Licensing Branch
Division of Fuel Management
Office of Nuclear Material Safety
and Safeguards

Docket No. 72-1050
CAC No. 001028
EPID L-2017-NEW-0002

Enclosure:
Request for Clarification of ISP's
Responses to 1st RAI, Part 1

SUBJECT: INTERIM STORAGE PARTNERS LLC's LICENSE APPLICATION TO
CONSTRUCT AND OPERATE THE WASTE CONTROL SPECIALISTS
CONSOLIDATED INTERIM STORAGE FACILITY, ANDREWS COUNTY, TEXAS,
DOCKET NO. 72-1050 – REQUEST FOR CLARIFICATION OF RESPONSES
RELATED TO MATERIALS REVIEW

DOCUMENT DATE: February 3, 2020

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**Request for Clarification of ISP's Responses to
First Request for Additional Information, Part 1**

Docket No. 72-1050

WCS Consolidated Interim Storage Facility in Andrews County, Texas

By letter dated July 19, 2018 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML18206A595), as supplemented May 31, and July 31, 2019 (ADAMS Accession Nos. ML19156A038, and ML19217A210), Interim Storage Partners LLC (ISP), a joint venture of Waste Control Specialists LLC (WCS) and Orano CIS LLC (a subsidiary of Orano USA), requested that the U.S. Nuclear Regulatory Commission (NRC) resume all safety and environmental review activities associated with the proposed WCS Consolidated Interim Storage Facility (WCS CISF) license application. Interim Storage Partners LLC requested authorization to store up to 5,000 metric tons of uranium for a license term of 40 years in the WCS CISF application.

By letter dated November 16, 2018, the staff issued requests for additional information (RAIs) (First Request for Additional Information, Part 1; ADAMS Accession No. ML18320A184) in connection with its Materials Evaluation review for the WCS CISF. By letter dated May 31, 2019 (ADAMS Accession No. ML19156A038), ISP provided responses to the staff's request. The staff has reviewed your responses to staff's RAIs and determined that additional clarification and/or supplementation of your responses are needed to complete its review. The information required by staff is discussed below:

RAI NP-15-10-S

Clarify bolting material listed on WCS SAR page 15-8.

SAR page 15-8 has a listing for ASTM A574 Grade 70, but the reference cited, "Structural and Thermal Material Properties – MAGNASTOR/MAGNATRAN Cask System," NAC Calculation 71160-2101 Rev. 9, NAC International, Atlanta, Georgia (Reference 15-3), does not contain information for ASTM A574 material.

There are two issues that need clarification:

1. ASTM A574 is not in Reference 15-3 but yield strength and tensile strength values listed on SAR Page 15-8 are correct according to ASTM A574.
2. ASTM A574 has multiple grades including: 4137, 4142, 4145, 4340, 8740, 5137M, and 51B37M, but no Grade 70. The Grades of ASTM A574 refer to alloy designations (i.e., 4340 Cr-Mo steel) rather than strength (e.g., A516 Grade 70). The yield strength and tensile strength of all grades of ASTM A574 is 135 ksi (minimum) and 170 ksi (minimum) respectively which is much stronger than a typical "Grade 70" steel which usually refers to an alloy with a tensile strength of 70 ksi.

This information is necessary to assure compliance with 10 CFR 72.24(c)(3) and (c)(4).

Enclosure

RAI NP-15-13-S

Provide the following:

1. The location of the referenced tables in the RAI response: The response to RAI NP-15-13 refers to (1) SAR Table 15.3-1 comparing the FO, FC and FF DSCs to the DSC subcomponents evaluated in the 1004 renewal, (2) SAR Table 15.3-2 comparing the GTCC DSCs to the DSC subcomponents evaluated in the 1004 renewal, (3) SAR Table 15.3-3 comparing the 24PT1 DSC to the to the DSC subcomponents evaluated in the 1004 renewal and, (4) SAR Table 15.3-4 comparing the AHSM to the HSM subcomponents evaluated in the 1004 renewal. SAR tables corresponding to Tables RAI 15.13-1 through RAI 15.13-4 were not included with the SAR change pages provided with the RAI response.
2. The applicability of the CoC No. 1004 AMPs to the 24PT1 DSC and the AHSM in the response to RAI NP-15-13: In their RAI response, the applicant stated:

SAR Section B.13 has been added to Appendix B to require the AMPs in Appendix C, Section C.13, to be applied to the Standardized Advanced NUHOMS® System (i.e., the 24PT1 DSC and the AHSM). SAR Tables 15.3-3 and 15.3-4 review the subcomponents of the 24PT1 DSCs and AHSM, compare them to corresponding DSC and HSM subcomponents evaluated in the Renewed CoC 1004, and conclude that no AMA is required or that the AMPs in CoC 1004 are applicable. Therefore, the AMPs in Appendix C (SAR Section C.13) are applicable to the SSCs of the MP187 system proposed for storage at the WCS CISF.

It appears that the underlined statement should refer to the Standardized Advanced NUHOMS® System and the 24PT1 DSC. The preceding paragraph in the RAI 15-13 response addresses the FO, FC, and FF DSCs of the MP187 system.

3. The CoC No. 1004 renewal time limited aging analyses (TLAAs), if any, which will be used to manage aging effects in the period of extended operation: Table RAI 15.13-1 through RAI 15.13-4 include a column titled CoC No. 1004 Aging Management Activity. The entries in this table only refer to aging management programs (AMPs). No TLAAs are listed in these tables. Several TLAAs in the CoC No. 1004 renewal that were incorporated into Rev. 17 of the CoC No. 1004 FSAR Section 12.2 would appear to be applicable including:
 - Fatigue Evaluation of the Dry Shielded Canisters
 - Horizontal Storage Module Concrete and Dry Shielded Canister Steel Support Structure Thermal Fatigue, Corrosion, and Temperature Effects Evaluation
 - Dry Shielded Canister Poison Plates Boron Depletion Evaluation
 - Evaluation of Neutron Fluence and Gamma Radiation on Storage System Structural Materials
 - Confinement Evaluation of 24P and 52B Non-Leaktight DSCs
 - Thermal Performance of Horizontal Storage Modules for the Period of Extended Operation

- Evaluation of Additional Cladding Oxidation and Additional Hydride Formation Assuming Breach of Dry Shielded Canister Confinement Boundary
 - Evaluation of Cladding Gross Rupture during Period of Extended Operation
4. Revisions to any TLAAAs approved in the CoC No. 1004 renewal and incorporated into CoC No. 1004 UFSAR Revision 17 that do not consider the proposed actions and loadings associated with the transportation of the existing DSCs currently in service at other specifically licensed and generally licensed ISFSIs: The movement of DSC to the proposed ISP/WCS CISF facility should consider additional parameters associated with the transfer and transportation operations as necessary. For example, it appears that the Fatigue Evaluation of the Dry Shielded Canisters included in Section 12.2 of the CoC No. 1004 UFSAR Revision 17 does not address loading cycles associated with the movement of DSC to the proposed ISP/WCS CISF facility including: (1) DSC loading during removal from the existing HSM, (2) DSC loading and temperature cycles during transportation package leak testing prior to transportation, (3) loads during transportation, (4) temperature during transportation, (5) DSC loading and temperature cycles during transportation package testing upon receipt at the ISP/WCS CISF facility, and (6) DSC loading during placement into the HSM at the ISP/WCS CISF facility.
 5. Additional information on the assessment of ITS components in Tables RAI 15.13-1 through RAI 15.13-4 where the comparison component for the CoC No. 1004 system was NITS: Entries in the columns of Table RAI 15.13-1 (page 38 of 93 of the RAI response) for the Stop Plate (2nd row) and the Bottom Shield Plug (6th row) are considered ITS for the FO, FC and FF DSCs currently located at the Rancho Seco ISFSI but are NITS for the CoC No. 1004 system. The assessment of the ITS components should consider the ITS function, the range of possible aging mechanisms and the operating environment. The applicant should also review Tables 15.13-2 thru 15.13-4 for similar entries.
 6. Additional information on the NITS components for the FO, FC, FF in Table RAI 15.13-1, the GTCC DSC in Table RAI 15.13-2, the 24PT1 Component of Table RAI 15.13-3 and the AHSM components in Table RAI 15.13-4: Specifically, provide additional information on the screening assessment and the determination on whether these components might be screened in under category 2 in accordance with the guidance in NUREG-1927 Revision 1 Section 2.4.2.
 7. Revised material information for the GTCC DSC and the DSCs from the CoC No. 1004 in Table RAI 15.13-2: The information provided in this Table RAI 15.13-2 appears to contain many errors on the materials used for the DSC components. For example, the Outer Bottom Cover Plate in Table RAI 15.13-2 is listed as SA-240 Type 304 for the GTCC Material and A240 Type 304 for the CoC No. 1004 Material. These appear to be reversed. The DSCs approved for spent fuel storage under the CoC No. 1004 system used SA-240 Type 304. The GTCC canisters used A240 Type 304.
 8. Aging management reviews for the FO, FC, FF, GTCC and 24PT1 DSCs and the AHSM: Tables RAI 15.13-1, through RAI 15.13-4 provide a crosswalk to justify the application of the approved CoC No. 1004 AMPs to the FO, FC, FF, GTCC and 24PT1 DSCs and the AHSM. While Tables RAI 15.13-1 through RAI 15.13-4 identify the safety classification of the subcomponent parts, the safety function(s) of the subcomponent parts are not identified. The CoC No. 1004 renewal (along with other CoC and specific license renewals) have included an aging management review with the safety functions

of the ITS SSCs identified. The staff has used the information in the aging management review to evaluate the adequacy of the proposed aging management activity. The information provided in previous renewals has been consistent with the guidance in NUREG-1927 Revision 1 Section 3.2. Without information on the safety functions of the ITS SSCs, the staff cannot determine whether the proposed aging management activities are sufficient to maintain the safety function of the ITS SSCs throughout the period of extended operation.

9. The use of surrogate inspections identified in SAR Sections C.13.3.1 and C.13.4.1: The revised SAR pages in Appendix C state the following:

Interim Storage Partners (ISP) may use inspections results from other general or specific licensee inspections if it can be demonstrated that the other licensee inspections are bounding. Parameters to be considered in making a bounding determination include: similar or more benign environmental conditions, similar storage system design components, similar stored fuel parameters, heat load, and operational history.

The staff notes that Sections C.13.3.4 and C.13.4.4 state the following:

A minimum of one DSC from each originating ISFSI, is selected for inspection. The DSC(s) selected for inspection is based on the following considerations/criteria which provide the basis for selection of a bounding DSC(s): (1) Time in service, (2) Initial heat load, (3) DSC Fabrication and Design Considerations and (4) HSM array configuration relative to climatological and geographical features.

Sections C.13.3.4 and C.13.4.4 do not address the potential use of surrogate inspections.

NUREG-1927, Revision 1, notes that the use of surrogate inspections may be acceptable only when substantial operating experience provides a basis for their use. Table B-1 notes that an approach of using surrogates would need to be justified on a case-by-case basis by an applicant, considering canister examination results for the susceptibility rankings.

In addition, in the Response to December 21, 2016, Nuclear Energy Institute Submittal: NEI 14-03, "Format, Content and Implementation Guidance for Dry Cask Storage Operations-Based Aging Management," Revision 2 (ML18325A207) the NRC clarified the additional information necessary for the use of surrogates for AMP inspections:

The NRC has not approved the use of surrogates for AMPs to date. There is not yet substantial operating experience for canister examinations for the various susceptibility rankings to understand how the susceptibility assessments may be applied, and surrogates used, across the Independent Spent Fuel Storage Installation fleet. There is not yet a technical basis for the use of surrogate inspections for canisters until the Code Case is developed and operating experience exists for canister examination results for the various susceptibility rankings. For other structures, systems, and components (SSCs) within the scope of renewal, there are limited AMP inspection results and no industry guidance for determining which SSCs may be appropriate for the use of surrogate inspections. Both a

guidance document that considers the effects of environmental and operational parameters on aging effects and operational experience gained from conducting

AMP inspections are necessary for identifying potential surrogates for SSCs other than storage canisters.

This information is needed to determine compliance with 10 CFR 72.42(a) and 72.120(a).