

71-9218
71-9279



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July 18, 2007

Mr. M. Rahimi, Project Manager
NMSS/SFPO, Mail Stop O13D13
U.S. Nuclear Regulatory Commission
One White Flint North
11555 Rockville Pike
Rockville, MD 20852-2738

Subject: REVISION 22 OF THE TRUPACT-II SHIPPING PACKAGE APPLICATION,
DOCKET NO. 71-9218, AND REVISION 5 OF THE HalfPACT SHIPPING PACKAGE
APPLICATION, DOCKET NO. 71-9279

Dear Mr. Rahimi:

Washington TRU Solutions LLC, on behalf of the U.S. Department of Energy (DOE), hereby submits Revision 22 to the application for a Certificate of Compliance (CoC) for the TRUPACT-II Packaging, U.S. Nuclear Regulatory Commission (NRC) Docket No. 71-9218, and Revision 5 to the application for a CoC for the HalfPACT Packaging, NRC Docket No. 71-9279. The application consists of the following documents:

- TRUPACT-II Safety Analysis Report (SAR), Revision 22
- HalfPACT SAR, Revision 5
- Contact-Handled Transuranic Waste Authorized Methods for Payload Control (CH-TRAMPAC), Revision 3
- CH-TRU Payload Appendices, Revision 2.

The application includes revisions to the TRUPACT-II and HalfPACT SAR drawings to request changes that facilitate packaging fleet repair and maintenance activities, enhance operational effectiveness, and provide for implementation of lessons-learned improvements. The TRUPACT-II and HalfPACT SARs are also revised to implement changes that support a request for revision of the package identification to include the "-96" suffix.

The application includes revisions to CH-TRU Payload Appendix 6.12, *Shipment of High-Wattage CH-TRU Waste*, to request extension of the methodology previously approved for TRUPACT-II to HalfPACT for shipments of high-wattage contact-handled transuranic (CH-TRU) waste. CH-TRAMPAC Section 6.2.3, *Shipments Designated as Controlled Shipments*, and CH-TRU Payload Appendix 3.6, *Shipping Time – Controlled Shipments*, have been revised to allow intersite shipments in addition to shipments to WIPP. CH-TRU Payload Appendix 6.12 has been revised to allow intersite shipments of SQ 154 in addition to shipments to WIPP.

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In addition, CH-TRAMPAC Section 6.2.3, CH-TRU Payload Appendix 3.6, and CH-TRU Payload Appendix 6.12 have been revised to reallocate the time associated with the transportation and unloading of controlled shipments such that the two activities must be completed within the remaining total time allowed following the 1-day loading activity. Additionally, CH-TRU Payload Appendix 6.13, *Shipment of CH-TRU Waste Packaging Configurations with Unvented Heat-Sealed Bag Layers*, has been revised to request extension of the methodology previously approved for configurations with a single heat-sealed bag to allow configurations with more than one heat-sealed bag layer (in series).

Minor editorial revisions have also been made to the TRUPACT-II and HalfPACT SARs, CH-TRAMPAC, and CH-TRU Payload Appendices. Changes are indicated by right-bars in the margin of the documents ("|").

This letter includes the following attachments:

- Attachment A – Summary of Requested Changes
- Attachment B – Revised Documents.

As noted in previous application submittals, an NRC/DOE agreement exists to waive applicable review fees. To facilitate implementation, it is requested that the current package CoCs and Package Identification Number markings (i.e. "-85") be valid for use one year from the date of issuance of revised CoCs.

If you have any questions regarding this submittal, please contact Mr. B. A. Day of my staff at (505) 234-7414.

Sincerely,



T. E. Sellmer, Manager
Packaging Integration

TES:clm

Attachments

cc: M. A. Italiano, CBFO

ATTACHMENT A – Summary of Requested Changes

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ATTACHMENT A – Summary of Requested Changes

TRUPACT-II SAR, Revision 22			
Section	Page	Change Description	Justification
General		Revised references to 10 CFR 71 from 01-01-01 to 01-01-07 Edition.	To provide consistency with current edition of 10 CFR 71. No impact to safety basis.
General		Revised references to 49 CFR 172 and 173 from 01-01-01 to 10-01-06 Edition.	To provide consistency with current edition of 49 CFR 172 and 173. No impact to safety basis.
1.1	1.1-2	Removed reference to 20 curies of plutonium and 10 CFR §71.63(b).	To provide consistency with current edition of 10 CFR 71. No impact to safety basis.
1.1	1.1-2	Revised from “criticality Transport Index” to “Criticality Safety Index (CSI)”.	To provide consistency with current edition of 10 CFR 71. No impact to safety basis.
1.1	1.1-2	Revised reference to 10 CFR §71.4 from Type B(U) to Type B(U)F-96.	Authorization is sought to revise the package identification number with a “-96” suffix. Additional revisions to the SAR (i.e., 10^5 A ₂ curie limits) are implemented to demonstrate compliance with the 01-01-07 Edition of 10 CFR 71. No impact to safety basis.
1.2.3	1.2-8	Added clarification that contents of packaging do not exceed 10^5 A ₂ quantities.	To demonstrate compliance with 10 CFR §71.61. No impact to safety basis.
2.7	2.7-1	Changed cross-referenced section number from 2.7.7 to 2.7.8, <i>Summary of Damage</i>	Change is editorial to accommodate added section 2.7.7, <i>Deep Water Immersion Test</i> . No impact to safety basis.
2.7	2.7-12	Added new section 2.7.7, <i>Deep Water Immersion Test</i> .	To demonstrate compliance with 10 CFR §71.61. No impact to safety basis.
2.10.2.2	2.10.2-1	Revised “TRUPACT-II and TRUPACT-II” to “TRUPACT-II and HalfPACT”.	Change is editorial to correct typographical error. No impact to safety basis.

ATTACHMENT A – Summary of Requested Changes

TRUPACT-II SAR, Revision 22			
Section	Page	Change Description	Justification
5.0	5-1, 5-2	Revised dose rate requirement from “less than” to “less than or equal to”.	Change is editorial to provide consistency with CH-TRAMPAC, 10 CFR §71.47, and 10 CFR §71.51. No impact to safety basis.
5.0	5-1	Revised “transport index” to “Transport Index (TI)”.	Change is editorial. No impact to safety basis.
6.0	6.1-1	Revised from “criticality transport index” to “Criticality Safety Index (CSI)”.	To provide consistency with current edition of 10 CFR 71. No impact to safety basis.
6.1	6.1-3	Revised from “criticality Transport Index” to “CSI”.	To provide consistency with current edition of 10 CFR 71. No impact to safety basis.
6.3	6.3-1	Added cross-reference to sections 6.3.2, 6.3.3, and 6.3.4. Revised cross-reference from section 6.3.2 to 6.3.5.	Change is editorial to correct section references. No impact to safety basis.
6.3.2	6.3-4	Revised alternate unit callout for ½ inch from “1.200” to “1.2700”.	Change is editorial to correct typographical error. No impact to safety basis.
6.4.3.2.5	6.4-7	Revised from “criticality Transport Index” to “CSI”.	To provide consistency with current edition of 10 CFR 71. No impact to safety basis.
6.5.3	6.5-3	Revised “benchmark results <u>withou</u> t beryllium” to “benchmark results with beryllium”.	Change is editorial to correct typographical error. No impact to safety basis.
7.1.6	7.1-5	Revised steps 9 and 13 from “35 – 45” to “28 – 32” torque values for the seal test and vent port thermal and access plugs.	Change is to provide consistency with SAR drawing change request and to simplify the installation of non-containment boundary access plugs by utilizing a torque value common to the locking ring lock bolts. Torque value is sufficient to retain the plug during transport, so no impact to safety basis.

ATTACHMENT A – Summary of Requested Changes

TRUPACT-II SAR, Revision 22			
Section	Page	Change Description	Justification
7.1.7	7.1-6	Revised “transport index” to “Transport Index (TI)”.	Change is editorial. No impact to safety basis.
7.2.6	7.2-3	Revised steps 6 and 7 from “35 – 45” to “28 – 32” torque values for the seal test and vent port thermal and access plugs.	Change is to provide consistency with SAR drawing change request and to simplify the installation of non-containment boundary access plugs by utilizing a torque value common to the locking ring lock bolts. Torque value is sufficient to retain the plug during transport, so no impact to safety basis.
9.3	9.3-1	Revised appropriate instances of “package” to “packaging”, including minor additional editorial changes.	Change is editorial to provide consistency with corresponding sections in Rev. 4 of the RH-TRU 72-B SAR. No impact to safety basis.
9.3.5.2	9.3-2	Revised to clarify that the “appropriate” DOE Field Office(s) shall be responsible for inspecting and approving the shippers’ and receivers’ QA programs.	Change is editorial. No impact to safety basis.

ATTACHMENT A – Summary of Requested Changes

TRUPACT-II Packaging SAR Drawings – 2077-500SNP, Revision W			
Sheet	Zone	Change Description	Justification
1	General	Moved notes to revise consistent spacing and allow room to accommodate new notes and note revisions.	Change is editorial (not flagged). No impact to safety basis.
1	A-7	Revised Flag Note (FN) 22 to change the seal test and vent port access plug torque requirements from “35 – 45” to “28 – 32” LB-FT.	Change is to simplify the installation of non-containment boundary access plugs by utilizing a torque value common to the locking ring lock bolts. Torque value is sufficient to retain the plug during transport, so no impact to safety basis.
1	C-4/5/6	Revised General Note (GN) 27 to remove explicit reference to “SHELL” materials and add phrase “AND NON-CONTAINMENT BOUNDARY COMPONENTS” to sub-item a).	Change is to clarify that welds joining non-containment boundary components may also be utilized and inspected per the applicable requirements. Change explicitly defines the inspection requirements for any additional welds utilized to join non-containment boundary components. No impact to safety basis.
1	D-2/3	Revised GN 47 to add phrase “AND NON-CONTAINMENT BOUNDARY COMPONENTS”.	Change explicitly defines the ASME code requirements for welds utilized to join non-containment boundary components. No impact to safety basis.
1	C-3	Revised GN 48 to revise “METAL” to “MATERIAL”.	Change is editorial for consistency with HalfPACT SAR drawings. No impact to safety basis.
1	C-2/3	Revised GN 48 to add phrase “AND NON-CONTAINMENT BOUNDARY COMPONENTS”.	Change explicitly defines the ASME code repair requirements for welds utilized to join non-containment boundary components. No impact to safety basis.

ATTACHMENT A – Summary of Requested Changes

TRUPACT-II Packaging SAR Drawings – 2077-500SNP, Revision W			
Sheet	Zone	Change Description	Justification
1	B-2/3/4	Added GN 58 as follows: "INTERPRET WELD SYMBOLS PER AWS A2.4. JOINT CONFIGURATION IS OPTIONAL FOR ALL WELDS THAT IMPLY COMPLETE JOINT PENETRATION (CJP) AS LONG AS CJP IS MAINTAINED."	Addition specifies previously implied AWS code reference for interpretation of weld symbols. Change also adds the option to utilize alternative joint configurations for welds that imply complete joint penetration (ex. sheet 4, zone C-3, square groove with 3/8 fillet cap weld implies complete joint penetration of the square groove weld). Assuring complete joint penetration for alternative joint configurations assure equivalent structural welds and therefore has no impact to safety basis.
1	B-2/3/4	Added GN 59 as follows: "REFLECTIVE TAPE MAY OPTIONALLY BE APPLIED TO LESS THAN 2000 SQ. IN. OF ANY EXPOSED EXTERNAL SURFACES OF THE OCA. MATERIAL: 3M 983-10 OR EQUIVALENT."	Addition specifies the ability to utilize reflective tape as conspicuity markings that aid the visibility of the package while in transit. The small surface area of application (less than 5% of total surface area of OCA) ensures inconsequential impact to thermal performance of package. No impact to safety basis.
5	C-2	Revised pan head screw location dimension (i.e., 1) to be a reference dimension.	Change is editorial to eliminate the redundant location dimension; position is given in Detail B-B. No impact to safety basis.
6	C-6/7	Added callout as follows: "(FOAM REMOVED FOR CLARITY)".	Addition is to clarify view simplifications consistent with HalfPACT drawings.

ATTACHMENT A – Summary of Requested Changes

TRUPACT-II Packaging SAR Drawings – 2077-500SNP, Revision W			
Sheet	Zone	Change Description	Justification
6	C-5/6	Added weld note as follows: "SIDE OPTIONAL, MAY BE STAGGERED INSIDE/OUTSIDE WITH 1" OVERLAP AT TRANSITION LOCATIONS".	Change is to allow the optional placement of weld attaching the lower z-flange to the OCV lower seal flange on the outside of the unit. Repairs to a damaged unit are not possible for a weld on the inside, as previously specified. Allowing an alternating inside and outside weld with 1" overlap between transitions from the inside and outside allows the localized repair of the z-flange to seal flange attachment weld. The optional change provides for a structurally equivalent weld, so there is no impact to the safety basis.
6	C/D-5/6	Revised aluminum honeycomb spacer cover sheet callout to change allowable thickness from ".080 THK" to ".080 - .125 THK", specify that "UP TO TWO SHEET LAYERS" may be utilized, and to specify that "SHEET LAYERS BONDED TOGETHER WITH 1617 A-B FURANE ADHESIVE OR EQUIVALENT".	Change is to allow the reinforcement of the cover plate of the honeycomb spacer by bonding an additional plate to the existing structure. Thickness of the plates are revised to allow flexibility in fabrication and to enhance the robustness of the top plate particularly in the cut-out regions where the spacer is attached to the ICV spacer bracket. The optional change does not impact the compressive load absorption characteristics of the spacer, so there is no impact to the safety basis.
6	D-2	Added height tolerance range to honeycomb spacer as "+5/16 -3/4".	Addition is to clarify and explicitly callout tolerance for "H" dimension. Variation in honeycomb height beyond the +/- 5/16 default tolerance block allowance is requested. Reducing minimum thickness by 7/16 has no impact to the safety basis because minimal crushing of the honeycomb spacer was observed during certification testing. No impact to safety basis.

ATTACHMENT A – Summary of Requested Changes

TRUPACT-II Packaging SAR Drawings – 2077-500SNP, Revision W			
Sheet	Zone	Change Description	Justification
6	B-3	Added callout as follows: "(FOAM REMOVED FOR CLARITY)".	Addition is to clarify view simplifications consistent with HalfPACT drawings.
9	C-7	Added callout to OCV vent port plug handling O-ring as follows: "(OPTIONAL)".	Addition is to clarify that the handling O-ring is for operational convenience only and has no safety significance, so it is an optional component. No impact to safety basis.
9	D-5	Added "Ø" callout to 21/32 dimension.	Addition is editorial for clarification only. No impact to safety basis.
9	B-5	Added callout to OCV vent port cover handling O-ring as follows: "(OPTIONAL)".	Addition is to clarify that the handling O-ring is for operational convenience only and has no safety significance, so it is an optional component. No impact to safety basis.

ATTACHMENT A – Summary of Requested Changes

HalfPACT SAR, Revision 5			
Section	Page	Change Description	Justification
General		Revised references to 10 CFR 71 from 01-01-98 to 01-01-07 Edition.	To provide consistency with current edition of 10 CFR 71. No impact to safety basis.
General		Revised references to 49 CFR 172 and 173 from 01-01-97 to 10-01-06 Edition.	To provide consistency with current edition of 49 CFR 172 and 173. No impact to safety basis.
1.1	1.1-2	Removed reference to 20 curies of plutonium and 10 CFR §71.63(b).	To provide consistency with current edition of 10 CFR 71. No impact to safety basis.
1.1	1.1-2	Revised from “criticality Transport Index” to “Criticality Safety Index (CSI)”.	To provide consistency with current edition of 10 CFR 71. No impact to safety basis.
1.1	1.1-2	Revised reference to 10 CFR §71.4 from Type B(U) to Type B(U)F-96.	Authorization is sought to revise the package identification number with a “-96” suffix. Additional revisions to the SAR (i.e., 10^5 A ₂ curie limits) are implemented to demonstrate compliance with the 01-01-07 Edition of 10 CFR 71. No impact to safety basis.
1.2.3	1.2-8	Added clarification that contents of packaging do not exceed 10^5 A ₂ quantities.	To demonstrate compliance with 10 CFR §71.61. No impact to safety basis.
2.7	2.7-1	Changed cross-referenced section number from 2.7.7 to 2.7.8, <i>Summary of Damage</i>	Change is editorial to accommodate added section 2.7.7, <i>Deep Water Immersion Test</i> . No impact to safety basis.
2.7	2.7-10	Added new section 2.7.7, <i>Deep Water Immersion Test</i> .	To demonstrate compliance with 10 CFR §71.61. No impact to safety basis.
5.0	5-1, 5-2	Revised dose rate requirement from “less than” to “less than or equal to”.	Change is editorial to provide consistency with CH-TRAMPAC, 10 CFR §71.47, and 10 CFR §71.51. No impact to safety basis.

ATTACHMENT A – Summary of Requested Changes

HalfPACT SAR, Revision 5			
Section	Page	Change Description	Justification
5.0	5-1	Revised "transport index" to "Transport Index (TI)".	Change is editorial. No impact to safety basis.
6.0	6.1-1	Revised from "criticality transport index" to "Criticality Safety Index (CSI)".	To provide consistency with current edition of 10 CFR 71. No impact to safety basis.
6.1	6.1-3	Revised from "criticality Transport Index" to "CSI".	To provide consistency with current edition of 10 CFR 71. No impact to safety basis.
6.3	6.3-1	Added cross-reference to sections 6.3.2, 6.3.3, and 6.3.4. Revised cross-reference from section 6.3.2 to 6.3.5.	Change is editorial to correct section references. No impact to safety basis.
6.3.2	6.3-4	Revised alternate unit callout for ½ inch from "1.200" to "1.2700".	Change is editorial to correct typographical error. No impact to safety basis.
6.4.3.2.5	6.4-7	Revised from "criticality Transport Index" to "CSI".	To provide consistency with current edition of 10 CFR 71. No impact to safety basis.
6.5.3	6.5-3	Revised "benchmark results <u>without</u> beryllium" to "benchmark results with beryllium".	Change is editorial to correct typographical error. No impact to safety basis.
7.1.6	7.1-5, 7.1-6	Revised steps 9 and 13 from "35 – 45" to "28 – 32" torque values for the seal test and vent port thermal and access plugs.	Change is to provide consistency with SAR drawing change request and to simplify the installation of non-containment boundary access plugs by utilizing a torque value common to the locking ring lock bolts. Torque value is sufficient to retain the plug during transport, so no impact to safety basis.
7.1.7	7.1-6	Revised "transport index" to "Transport Index (TI)".	Change is editorial. No impact to safety basis.

ATTACHMENT A – Summary of Requested Changes

HalfPACT SAR, Revision 5			
Section	Page	Change Description	Justification
7.2.6	7.2-4	Revised steps 6 and 7 from “35 – 45” to “28 – 32” torque values for the seal test and vent port thermal and access plugs.	Change is to provide consistency with SAR drawing change request and to simplify the installation of non-containment boundary access plugs by utilizing a torque value common to the locking ring lock bolts. Torque value is sufficient to retain the plug during transport, so no impact to safety basis.
9.3	9.3-1	Revised appropriate instances of “package” to “packaging”, including minor additional editorial changes.	Change is editorial to provide consistency with corresponding sections in Rev. 4 of the RH-TRU 72-B SAR. No impact to safety basis.
9.3.5.2	9.3-2	Revised to clarify that the “appropriate” DOE Field Office(s) shall be responsible for inspecting and approving the shippers’ and receivers’ QA programs.	Change is editorial. No impact to safety basis.

ATTACHMENT A – Summary of Requested Changes

HalfPACT Packaging SAR Drawings – 707-SAR, Revision 7			
Sheet	Zone	Change Description	Justification
1	General	Moved notes to revise consistent spacing and allow room to accommodate new notes and note revisions.	Change is editorial (not flagged). No impact to safety basis.
1	A-6/7	Revised Flag Note (FN) 22 to change the seal test and vent port access plug torque requirements from “35 – 45” to “28 – 32” LB-FT.	Change is to simplify the installation of non-containment boundary access plugs by utilizing a torque value common to the locking ring lock bolts. Torque value is sufficient to retain the plug during transport, so no impact to safety basis.
1	D-4/5	Revised General Note (GN) 27 to remove explicit reference to “SHELL” materials and add phrase “AND NON-CONTAINMENT BOUNDARY COMPONENTS” to sub-item a).	Change is to clarify that welds joining non-containment boundary components may also be utilized and inspected per the applicable requirements. Change explicitly defines the inspection requirements for any additional welds utilized to join non-containment boundary components. No impact to safety basis.
1	A-5/6	Revised GN 47 to add phrase “AND NON-CONTAINMENT BOUNDARY COMPONENTS”.	Change explicitly defines the ASME code requirements for welds utilized to join non-containment boundary components. No impact to safety basis.
1	D-2/3	Revised GN 48 to add phrase “AND NON-CONTAINMENT BOUNDARY COMPONENTS”.	Change explicitly defines the ASME code repair requirements for welds utilized to join non-containment boundary components. No impact to safety basis.

ATTACHMENT A – Summary of Requested Changes

HalfPACT Packaging SAR Drawings – 707-SAR, Revision 7			
Sheet	Zone	Change Description	Justification
1	B-2/3/4	Added GN 58 as follows: "INTERPRET WELD SYMBOLS PER AWS A2.4. JOINT CONFIGURATION IS OPTIONAL FOR ALL WELDS THAT IMPLY COMPLETE JOINT PENETRATION (CJP) AS LONG AS CJP IS MAINTAINED."	Addition specifies previously implied AWS code reference for interpretation of weld symbols. Change also adds the option to utilize alternative joint configurations for welds that imply complete joint penetration (ex. sheet 5, zone C-2/3, square groove with 3/8 fillet cap weld implies complete joint penetration of the square groove weld). Assuring complete joint penetration for alternative joint configurations assure equivalent structural welds and therefore has no impact to safety basis.
1	B-2/3/4	Added GN 59 as follows: "REFLECTIVE TAPE MAY OPTIONALLY BE APPLIED TO LESS THAN 2000 SQ. IN. OF ANY EXPOSED EXTERNAL SURFACES OF THE OCA. MATERIAL: 3M 983-10 OR EQUIVALENT."	Addition specifies the ability to utilize reflective tape as conspicuity markings that aid the visibility of the package while in transit. The small surface area of application (less than 5% of total surface area of OCA) ensures inconsequential impact to thermal performance of package. No impact to safety basis.
3	C/D-5/6	Revised aluminum honeycomb spacer cover sheet callout to change allowable thickness from ".080 THK" to ".080 - .125 THK", specify that "UP TO TWO SHEET LAYERS" may be utilized, and to specify that "SHEET LAYERS BONDED TOGETHER WITH 1617 A-B FURANE ADHESIVE OR EQUIVALENT".	Change is to allow the reinforcement of the cover plate of the honeycomb spacer by bonding an additional plate to the existing structure. Thickness of the plates are revised to allow flexibility in fabrication and to enhance the robustness of the top plate particularly in the cut-out regions where the spacer is attached to the ICV spacer bracket. The optional change does not impact the compressive load absorption characteristics of the spacer, so there is no impact to the safety basis.

ATTACHMENT A – Summary of Requested Changes

HalfPACT Packaging SAR Drawings – 707-SAR, Revision 7			
Sheet	Zone	Change Description	Justification
3	C/D-2	Added height tolerance range to honeycomb spacer as "+5/16 -3/4".	Addition is to clarify and explicitly callout tolerance for "H" dimension. Variation in honeycomb height beyond the +/- 5/16 default tolerance block allowance is requested. Reducing minimum thickness by 7/16 has no impact to the safety basis because minimal crushing of the honeycomb spacer was observed during certification testing. No impact to safety basis.
4	C-1	Revised fillet weld from bottom to top side of symbol and added weld note as follows: "SIDE OPTIONAL, MAY BE STAGGERED INSIDE/OUTSIDE WITH 1" OVERLAP AT TRANSITION LOCATIONS".	Change is to correct drafting error in weld symbol placement. Certification units and production drawings all implemented "inside" weld location with fillet weld on top side of symbol. Change is to allow the optional placement of weld attaching the lower z-flange to the OCV lower seal flange on the outside of the unit. Repairs to a damaged unit are not possible for a weld on the inside, as previously specified. Allowing an alternating inside and outside weld with 1" overlap between transitions from the inside and outside allows the localized repair of the z-flange to seal flange attachment weld. The optional change provides for a structurally equivalent weld, so there is no impact to the safety basis.
8	B-3/4	Added callout as follows: "(FOAM REMOVED FOR CLARITY)".	Addition is to clarify view simplifications consistent with TRUPACT-II drawings.
9	C-4	Added "10°" dimension.	Addition is to correct drafting error of omission and to provide consistency with TRUPACT-II drawings.

ATTACHMENT A – Summary of Requested Changes

HalfPACT Packaging SAR Drawings – 707-SAR, Revision 7			
Sheet	Zone	Change Description	Justification
11	C-6/7	Added callout to OCV vent port plug handling O-ring as follows: "(OPTIONAL)".	Addition is to clarify that the handling O-ring is for operational convenience only and has no safety significance, so it is an optional component. No impact to safety basis.
11	B-6/7	Added callout to OCV vent port cover handling O-ring as follows: "(OPTIONAL)".	Addition is to clarify that the handling O-ring is for operational convenience only and has no safety significance, so it is an optional component. No impact to safety basis.

ATTACHMENT A – Summary of Requested Changes

CH-TRAMPAC, Revision 3			
Section	Page	Change Description	Justification
LIST OF CH-TRU PAYLOAD APPENDI- CES	xiv	Revised titles of Appendix 6.12 and Appendix 6.13.	Change is editorial for consistency with the revised Appendix titles in the CH-TRU Payload Appendices document. No impact to safety basis.
1.1	1.1-1	Revised sentence referring to CH-TRU Payload Appendix 6.13 to replace “a single unvented heat-sealed bag layer” with “unvented heat-sealed bag layers”.	Change is editorial to revise text consistent with CH-TRU Payload Appendix 6.13 revisions to expand the resistance calculation methodology to multiple bag layers. No impact to safety basis.
1.6.2	1.6-1	Revised “waste specific data packages” to “waste-specific data TRAMPACs”.	Change is editorial for consistency with language in Section 1.4. No impact to safety basis.
2.1.1	2.1-1	Revised footnotes 1 and 2 of Table 2.1-1 to clarify that standard pipe overpacks are to be treated as 55-gallon drums and subject to the applicable limits for 55-gallon drums whenever configured in payload assemblies with 55-gallon drums. Footnotes were also revised to clarify that the requirement to configure standard pipe overpacks as seven-packs of only 6 or 12-inch pipe overpacks is not applicable when mixing with 55-gallon drums.	Change is editorial to clarify previously approved allowances for mixing. No impact to safety basis.
2.3.1.1 and 2.3.2.1	2.3-2	Deleted “(i.e., one standard deviation)”.	Change is to correct reference to error associated with weight measurement, as standard deviation does not correlate with scale error. The error associated with weight measurement is typically defined by the scale calibration. No impact to safety basis.

ATTACHMENT A – Summary of Requested Changes

CH-TRAMPAC, Revision 3			
Section	Page	Change Description	Justification
2.9.8	2.9-31	Revised text to clarify overpack configurations and added sentence as follows: "The SWB may also be used to package up to three 85-gallon drums or up to two 100-gallon drums. "	Change is to clarify that the SWB may be direct loaded or used as an overpack for drums. No impact to safety basis.
3.1.1	3.1-3	Revised text from "...two times the error" to "...two times the measurement error (i.e., two standard deviations)".	Change is editorial to clarify that the Pu-240 poison content utilized as credit for increased FGE limits must be determined after the subtraction of two times the measurement error, where measurement error is defined as one standard deviation. No impact to safety basis.
3.1.2	3.1-9 thru 3.1-15	Added 24 radionuclides and associated data to Table 3.1-2. Revised footnote order to insert FGE reference to ANSI/ANS-8.1-1998.	Addition is to list the same radionuclides as that defined for TRU waste in the RH-TRAMPAC and correctly reference the ANSI/ANS standards utilized to determine the FGE conversion factors. No impact to safety basis.
3.3.1 and 3.3.2	3.3-1	Revised to include reference to and requirements for the determination of compliance with less than 10^5 A ₂ curies per payload.	Change is to implement payload controls consistent with the request for a "-96" package identification number suffix. No impact to safety basis.
4.1	4.1-1	Revised definition of a pyrophoric (solid) consistent with 10 CFR §61.2 and revised phrase "TRU process areas" to "TRU waste process areas".	Change is editorial to provide consistency with original CFR reference for the definition and to clarify statement. No impact to safety basis.
4.2	4.2-1	Revised definitions of explosives and corrosives consistent with 49 CFR §173.50 and 40 CFR §261.22.	Change is editorial to provided consistency with original CFR references. No impact to safety basis.

ATTACHMENT A – Summary of Requested Changes

CH-TRAMPAC, Revision 3			
Section	Page	Change Description	Justification
5.2.4.1	5.2-21	Added reference to Section 5.2.5.	Change is to clarify that headspace gas sampling for flammable VOCs is required to be in accordance with Section 5.2.5. No impact to safety basis.
5.2.5.5	5.2-45	Clarified reference to headspace gas measurement for hydrogen and/or flammable VOCs.	Change is to add an explicit reference to headspace gas measurement in addition to testing consistent with the methods listed in Section 5.2.5.2. No impact to safety basis.
6.2.1.1	6.2-6, 6.2-12, and 6.2-22	Deleted five instances of phrase: "(one standard deviation)".	Changes are to correct reference to error associated with weight measurement, as standard deviation does not correlate with scale error. The error associated with weight measurement is typically defined by the scale calibration. No impact to safety basis.
6.2.2	6.2-23	Revised to include reference to and requirements for the determination of compliance with less than 10^5 A ₂ curies per payload.	Change is to implement payload controls consistent with the request for a "-96" package identification number suffix. No impact to safety basis.
6.2.2	6.2-25	Revised Table 6.2-4 to include reference to and requirements for the determination of compliance with less than 10^5 A ₂ curies per payload.	Change is to implement payload controls consistent with the request for a "-96" package identification number suffix. No impact to safety basis.

ATTACHMENT A – Summary of Requested Changes

CH-TRAMPAC, Revision 3			
Section	Page	Change Description	Justification
6.2.3	6.2-26 thru 6.2-28	Revised section to change the controlled shipment compliance methodology from a Loading Time (24 hour), Transport Time (8 days), and Unloading Time (24 hour) to Loading Time (24 hours) and Transport and Unloading Time (9 days). Section also revised to allow controlled shipments between sites in addition to WIPP and to require any necessary venting period to be at least as long as the package was sealed.	Change is to allow receiving sites to vent the shipment any time after receipt as long as a 9-day Transport and Unloading Time is not exceeded. Previously approved administrative controls for a 10-day shipment required venting of the package within 24 hours of receipt even if the shipment arrived many days prior to the 10-day overall limit justified by the shipping period evaluation. Venting period ensures return to steady-state hydrogen concentration conditions in the waste containers prior to package closure. No impact to safety basis.
7.2	7.2-1	Revised "surveillance" to "review".	Change is to clarify the nature of the oversight provided by the CBFO managing and operating contractor with respect to users' payload compliance procedures. No impact to safety basis.

ATTACHMENT A – Summary of Requested Changes

CH-TRU Payload Appendices, Revision 2		
Appendix	Change Description	Justification
2.2	Table 2.2-1 (page 2.2-6) has been revised to include the resistance factor for an unvented heat-sealed bag as specified by Appendix 6.13 for specific waste material types.	Addition allows for the determination of payload shipping categories for configurations including heat-sealed bags in a manner consistent with other packaging configurations. No impact to safety basis.
3.4	Appendix 3.4 has been revised to clarify that shipments may be made between sites and to update the list of sites and the distances associated with current transport routes to WIPP.	Update and clarification of information. No impact to safety basis.
3.5	Page 3.5-5 has been revised to clarify that shipments to WIPP from LANL, RFETS, and NTS may be made either under the general case 60-day shipping period (per Appendix 3.4) or as close-proximity 20-day shipments (per Appendix 3.5).	Clarification of information. No impact to safety basis.
3.6	Appendix 3.6 has been revised to change the controlled shipment compliance methodology from a Loading Time (24 hour), Transport Time (8 days), and Unloading Time (24 hour) to Loading Time (24 hours) and Transport and Unloading Time (9 days). Appendix also revised to allow controlled 10-day shipment to be made between sites in addition to shipments to WIPP.	Change is to allow receiving sites to vent the shipment any time after receipt as long as a 9-day Transport and Unloading Time is not exceeded. Previously approved administrative controls for a 10-day shipment required venting of the package within 24 hours of receipt even if the shipment arrived many days prior to the 10-day overall limit justified by the shipping period evaluation. No impact to safety basis.

ATTACHMENT A – Summary of Requested Changes

CH-TRU Payload Appendices, Revision 2		
Appendix	Change Description	Justification
6.12	<p>Appendix 6.12 has been revised to extend the methodology previously approved for TRUPACT-II to HalfPACT for shipments of high-wattage CH-TRU waste and to allow shipments assigned to Content Code SQ 154 to be made between sites in addition to shipment to WIPP. Appendix 6.12 has also been modified to change the controlled shipment methodology for Content Codes LA 154 and SQ 154 to be consistent with the changes described for Appendix 3.6. The Content Codes LA 154 and SQ 154 (Section 6.12.10) have been revised to clarify the required minimum total hydrogen diffusivity per payload container (as opposed to specifying a minimum number of filters) consistent with the approved CH-TRAMPAC filter specification (Section 2.5 of the CH-TRAMPAC). Table numbers in Appendix 6.12 have been revised to be consecutive (i.e., Table 6.12-7 was inadvertently not used in previously approved version).</p>	<p>Changes allow use of the HalfPACT for LA 154 and SQ 154 shipments. Changes allow shipments assigned to Content Code SQ 154 to be made between sites in addition to WIPP. Specification of minimum total hydrogen diffusivity is consistent with the CH-TRAMPAC. No impact to safety basis.</p>
6.13	<p>Appendix 6.13 has been revised to allow the evaluation and shipment of packaging configurations that include more than one heat-sealed bag.</p>	<p>Appendix 6.13 as previously approved limited the use of heat-sealed bags to a single heat-sealed bag per container. Revision allows for multiple heat-sealed bags to be present in a series as exists in some packaging configurations at the Hanford site. No impact to safety basis.</p>

ATTACHMENT B – Revised Documents

(Two Hard Copies and Seven CDs in Adobe PDF Format)

- TRUPACT-II SAR, Revision 22
- HalfPACT SAR, Revision 5
- CH-TRAMPAC, Revision 3
- CH-TRU Payload Appendices, Revision 2.