ENTERED

MEMORANDUM

TO: Trais Kliphuis, Steve Holmes, Ricardo Maestas, NMED HWB

FROM: Connie Walker

DATE: June 28, 2012

SUBJECT: Summary of NMED AK Observation of CCP INL Recertification Audit A-12-13

On June 11-14, 2012, the New Mexico Environment Department (NMED) observed the acceptable knowledge (AK), non-destructive examination, and solid/headspace gas sampling portions of DOE CBFO recertification audits of the INL Site. INL Laboratory activities were also audited. The scope of the audit was very, very broad and included the site and associated laboratory; the site is certified for S3000, S4000, and S5000 CH waste and S3000 and S5000 RH waste, so the audit addressed waste from all these Summary Category groups. Acceptable knowledge focused in five waste streams, one from each of the Summary Category Groups. This memorandum presents the results of audit observations pertinent to the AK process.

The audit was performed at Carlsbad, New Mexico and at INL. The NMED AK observer, Ms. Connie Walker (Trinity Engineering Associates) attended the audit with the auditor in Carlsbad, New Mexico.

Acceptable Knowledge

The AK technical specialist was Mr. Dick Blauvelt and QA auditor was Ms Katie Martin. CCP-INL representatives present were Mr. Scott Smith, Mr. Jim Lugynbhyl, and Mr. John Kleckner. Mr. Smith and Mr. Lugynbhyl were present in Carlsbad, and Mr. Kleckner attended via conference call. The NMED observer was Ms. Connie Walker (NMED support contractor, Trinity Engineering Associates). The documents presented in Attachment A were among those provided in hard copy and electronically to the audit team, including the NMED observers.

The following BDRS were among those provided for review:

Summary Category Group or Waste Stream	Drum Number	HSG or Solids BDR	RTR or VE BDR
CH S3000	10108765	No data	INRTR5060275
CH S3000	10061521	ALD08046M; ALD08023, S, V; ALD0815N;	INRTR5090073
CH S4000	ARP09485	ALD08014N, M, S, V	IN-ARP-VE-001081
CH S4000	ARP22785	ALD1005, S, V, N, M	IN-ARP-VE-002125
CH S5000	SNL/NM006398R	ECL11017G/M	INL RTR 5110051
RH S3000	IDBLANL880107 (ABC)	No data	INLRHRTR12010
RH S5000	NRFTRUSPC0631	ECL11035M	INLRHRTR11002
RH S5000	NRFTRUSPC0634	ECL110146, ECL1101M	INLRHRTR11001

Summary:

The CBFO Audit A-13-12 focused on five waste streams: ID-RF-S3114 (Rocky Flats Organic Setups S3000); ID-SDA-SOIL (ARP soil, S4000); ID-SNL-SOURCES-S5400 (Sealed Sources generated at Sandia and sent to INL for management, S5000); IN-ID-BTO-030 (Sludge generated at Bettis and sent to INL for management, S3000); IN-ID-NRF-SPC (Naval NRF SPC debris, S5000). The waste streams are described in CCP-AK-INL-001 Revision 11, CCP-AK-INL-005 Revision 5, CCP-AK-INL-022 Revision 1, CCP-AK-INL-570 Revision 2, and CCP-AK-INL-S590 Revision 2. References provided for review are presented in Attachment A.

The AK Auditor identified several issues during the course of the audit with respect to all waste streams. None of the elements were provided to NMED in writing or via email. The following is a listing of issues as presented in the Closeout meeting:

> The AK Audit team examined the AK record for five distinct waste streams representing the five CH and RH Summary Category Groups. In reviewing the AK Summaries (AKS) for these waste streams, the auditors identified language that could be modified/ supplemented to provide clarification to the documents. These changes were discussed and agreed upon and will become part of freeze files for each respective AKS. Examples are included in the attachment to this concern form. A complete listing will be provided at or before the final audit caucus.
>
> SAMPLES (of issues identified)
> (See AK Summaries Freeze Files in Attachment B for changes as a result of issues identified)

CCP-AK-INL-001 R11

1. Modify language in S4.3.2 to indicate that spent nuclear fuel was not disposed of the SDA undergoing excavation

CCP-AK-INL-005 R5

1. Clarify language in S5.4.1.2 regarding the use of RTR data to develop the waste material parameter weight estimate.
2. Insert footnote to explain the negative radionuclide numbers listed in table 5-2
3. Convert the AK Reevaluation Checklist cited in S5.4.3 p34 to an AK Source Document

CCP-AK-INL-022 R1

1. Provide specific information in S4.3.1 on the rationale for considering these sources to be defense waste.
2. Provide information on the storage of out-of-use sources prior to the repackaging effort.
3. Provide additional summary information in S4.4 regarding the use of the sources at SNL.
4. Remove/change old definition of a waste stream in S4.5.3

CCP-AK-INL-570 and CCP-AK-INL-590

1. Remove language from both documents that indicate that the permit **requires** the assignment of HWNs if there is a lack of analytical evidence....

Freeze file changes were provided to the CTAC auditor during the audit that showed how the issues will be addressed in future revisions of the AK Summaries. Freeze files are included in Attachment B. The NMED observer evaluated the freeze files for all waste streams, and specifically evaluated CCP-AK-INL-022 with respect to source document M1023 to determine whether this 1600+ page source document presented the location of sealed sources in the waste storage prior to repackaging. Although the source document M1023 does not include information for all sealed sources, the NMED observer was able to verify that sealed sources were typically stored in cabinets, "transporters", or other containers or locals where exposure to additional hazardous waste was unlikely. The Freeze File change generally supports this determination, and while no observer inquiry is recommended, it would be beneficial if AK Summaries in the future included more information about waste management prior to repackaging to ensure appropriate assignment of hazardous waste numbers.

Attachment C is an example page of the Pre-Audit Conference presentation given at the opening meeting prior to audit initiation (the full protocol was sent as a separate document). Note that the included page explicitly states that "regulators/observers will be treated the same as audit team members". During the daily caucus the afternoon of June 12, Mr. Blauvelt summarized concerns he identified during the course of the day with respect to AK; he indicated that every waste stream examined required revisions to some degree, the most extensive being to CCP-AK-SNL-SOURCES (see the example list of issues presented above and subsequent freeze file changes in Attachment B). Note that 20 issues were raised by the audit team in total (Attachment D), two of which were related to AK. As per protocol and as practice at every audit performed since 2000, after the auditors presented their issues in the caucus the audit team leader asked each observer to

offer any comments. At this offering, Ms. Walker, added a few comments pertaining to the issues associated with CCP-AK-SNL-SOURCES. When asked by Mr. Court Fesmire whether the issues she relayed were "hers" (i.e. NMEDs) and should be placed on an observer inquiry, Mr. Blauvelt interjected that they were instead the issues identified by him, and Ms. Walker was simply elaborating on the issues for the benefit of the group. The practice of sharing issues and ideas during the end of day open caucus has been a successful way to share concerns or ideas in an open forum, following the "no surprises" concept endorsed for all audits.

Presumably because of the large number of concerns raised by the CTAC auditors (Attachment D) and the fact that the observer echoed the CTAC AK auditor's concerns, CBFO inferred that inappropriate influence and coercion had been made by NMED observers with respect to AK. However, all actions and activities followed by the NMED observers were in direct compliance with the audit protocols specified during the opening meeting that explicitly state the NMED/Observers are to be treated as audit team members. The CTAC auditors are extremely well versed in their fields, and all issues and concerns identified by these auditors are the result of the audit process itself that involves interviews with individuals, interaction with other CTAC auditors, etc. It is the NMED Observer's perspective that the issues raised by the CTAC auditor during the course of the audit and NMED's interaction with the auditor are well within the typical exchange of information common at all audits, and in no way were the auditors influenced or coerced by any observers (NMED or otherwise) that may have been present at the audit.

In the future, it is recommended that the following process be implemented internally at NMED to avoid any future recurrence. The recommended process is not efficient and does not comport with the concept of open discussion and "no surprises", but would definitely alleviate any concerns CBFO may have regarding the role of observers at the audit.

1. CBFO observers attend the full audit process (e.g. AK) to verify that the Auditors are not being unduly influenced by any observers. If that isn't possible, record (audio and/or video) the audit. We are more than confident such actions will show that audits are performed professionally and with no undue influence by NMED.
2. NMED representatives caucus daily before each larger daily caucus to discuss observations. This has been very difficult to accomplish when the audit is conducted at several locations, and would need to be accomplished by conference call.
3. NMED observers will present all items to the NMED team leader who will make the ultimate decision as to when or if those issues will be shared with CBFO/CTAC. No information will be shared during the audit with the auditor.

The audit included five waste streams that were to be audited over the course of four days. The time allotted for this audit was barely sufficient, and the audit was only accomplished during the specified time frame because the bulk of the mandatory source document and other information as provided before the audit; information arrived at the NMED observer's home on a Thursday, prompting Friday and weekend review before leaving for the audit on Sunday. Rather than reduce the thoroughness of the audit, it is recommended that for sites with many approved SCGs, the supporting documentation be provided at least two weeks in advance to ensure sufficient time to review the material.

ATTACHMENT A
REFERENCES

Note: All references available electronically will be copied to a flash drive and provided to the NMED representatives at the next audit. Most of the documents presented below were available electronically, while others were reviewed in hard copy as no electronic version was provided. Not all references provided may be presented below.

CCP-AK-INL-001, Central Characterization Project Acceptable Knowledge Summary Report For Waste Retrieved From Designated Areas Within The Subsurface Disposal Area at the Idaho National Laboratory Transuranic Waste Streams ID-SDA-DEBRIS, ID-SDA-SLUDGE, ID-SDA-SOIL, Revision 11, December 2, 2011

CCP-AK-INL-005, Central Characterization Project Acceptable Knowledge Summary Report For Rocky Flats Immobilized Organic Liquids Stored At The Idaho National Laboratory Waste Streams: ID-RF-S3114 And ID-RF-S3150-A, Revision 5, August 24, 2011

CCP-AK-INL-022, Central Characterization Project Acceptable Knowledge Summary Report For Idaho National Laboratory Sandia National Laboratories, New Mexico, TRU Radioactive Sources (Debris) Waste Streams: ID-SNL-SOURCES-S5400, Revision 1, August 11, 2011

CCP-AK-INL-570, Central Characterization Project Acceptable Knowledge Summary Report For Idaho National Laboratory Remote-Handled Transuranic Debris Waste from the Naval Reactors Facility, Waste Stream IN-ID-NRF-SPC, Revision 2, December 05, 2011

CCP-AK-INL-590, Central Characterization Project Acceptable Knowledge Summary Report For Bettis Laboratory Remote-Handled Transuranic Waste Stored At Idaho National Laboratory Waste Stream IN-ID-BTO-030, Revision 2, April 4, 2012

CCP-AK-LANL-008, Central Characterization Project Acceptable Knowledge Summary Report For Los Alamos National Laboratory Off-Site Source Recovery Project Sealed Sources Waste Streams: LA-OS-00-01.001, LA-OS-00-03, AND LA-OS-00-04 Revision 9 May 3, 2012

CCP-PK-SNL-003, Central Characterization Project Process Knowledge Summary Report For SANDIA NATIONAL LABORATORIES/NEW MEXICO TRU Radioactive Sources (Debris) Waste Streams: SNL-SOURCES-S5400 Revision 0 March 14, 2011

CCP-TP-005 Revision 24 (Latest), Attachments for Waste Stream ID-SDA-SOIL, Attachment 1 (1/24/12), 4 (1/24/12), 5 (3/17/11), 6 (6/19/09), 8 (12/1/11), 10 5/17/11, 13 (AK Characterization Checklist Lots 64-60, 11/10/11-6/4/12).

CCP-TP-005 Revision 24 (Latest), Attachments for Waste Stream ID-RF-S3114, Attachment 1 (8/18/11), 4 (8/18/11), 5 (5/6/09), 6 (1/22/07), 8 (Undated), 10 (3/15/11-9/6/11)

CCP-TP-005 Revision 24 (Latest) Attachments for Waste Stream ID-SNL-SOURCES-S5400, Attachment 1 (7/19/11), 4 (7/19/11), 5 (8/10/11), 6 (8/10/11), 8 (8/2/11), 13 (AK Characterization Checklist 11/29/11)

CCP-TP-005 Revision 24 (Latest) Attachments for IN-ID-BTO-030, Attachment 1 (5/19/11), 4 (5/19/11), 5 (5/19/11), 6 (5/25/11), 8 (5/19/11), 15 (Correlation and Surrogate Summary Form, 5/19/11)

Characterization Information Summaries, Waste Stream ID-SDA-SOIL, Lots 64-69, 11/9/11

Characterization Resolution Report, Lots 1 And 2, L. Nelson to CCP Records, April 30, 2012
AK Tracking Spreadsheet Required By CCP-TP-005, All INL Waste Streams Provided 6/11/2012

ID-IN-NRF SPC Characterization Checklist Lots 1 And 2, 4/25/12

ID-IN-NRF-SPC Characterization Information Summary Lots 1 And 2, 4/25/12

Inter-Office Correspondence, T Gatliffe To CCP Records, Solids Random Sample Selection Memoranda For Lots 1, 2, 3, 4, And 5, Containers Of Subsurface Disposal Area Soils Waste, Waste Stream ID-SDA-SOIL, Being Characterized By The Central Characterization Project At The Idaho National Laboratory, Dated Nov.16, 2006- August 12, 2010

Inter-Office Correspondence, H.J. Neel to CCP Records, Transmittal Of Solids Summary Data Report For Lots 1, 2, And 4, ID-SDA-SOIL At The Idaho National Laboratory, May 20, 2009 - April 19, 2011

Inter-Office Correspondence, V. M. Waldram to CCP Records, Transmittal Of Idaho National Laboratory Waste Stream Profile Form For Waste Stream #ID-SDA-SOIL, Revision 1, June 8, 2010

Inter-Office Correspondence, CCP Certification to CCP Records, Transmittal Of Idaho National Laboratory Change Notice For Waste Stream #ID-SDA-SOIL, Revision 1, 2011

Inter-Office Correspondence, J. Vernon to W. Verlanic, Acceptable Knowledge Accuracy Report: Idaho National Laboratory Waste Stream Number ID-SDA-SOIL, Interstitial Soil From The Subsurface Disposal Area, Lots 58-73, June 2, 2012

Inter-Office Correspondence, J. Vernon to W. Verlanic, Acceptable Knowledge Accuracy Report: Idaho National Laboratory Waste Stream Number ID-RF-S3114, Organic Liquids that were Transferred to Building 774, Lots 60 - 81, Cumulative for Lots 1 – 81, May 31, 2012

Inter-Office Correspondence, J. Vernon to CCP Records, Transmittal of Idaho National Laboratory Solids Summary Data Report For Waste Stream ID-RF-S3114 Lot 2, June 4, 2012

Inter-Office Correspondence, J. Vernon to W. Verlanic, Acceptable Knowledge Accuracy Report: Idaho National Laboratory Waste Stream Number ID-SDA-SOIL from the Subsurface Disposal Area Lots 58-73, Cumulative For Lots 1-73, June 1, 2012

Inter-Office Correspondence, J. Vernon to CCP Records, Transmittal of Idaho National Laboratory Headspace Gas Summary Report for Waste Stream ID-SNL-SOURCES-S5400, November 22, 2011

Inter-Office Correspondence, J. Vernon to CCP Records, 100 Percent Headspace gas Sampling in Lieu of Random Selection for Waste Streams ID-SA-T001, ID-SNL-SOURCES-S5400 and ID-SNL-HCF-S5400 Based On The Small Waste Stream Sizes of ID-SA-T001, ID-SNL-SOURCES, May 17, 2011

Inter-Office Correspondence, M. Ramirez to CCP Records, Transmittal of Idaho National Laboratory Waste Stream Profile Form for Waste Stream ID-SNL-SOURCES-S5400, October 5, 2011

Inter-Office Correspondence, L. Nelson to CCP Records, Transmittal of Characterization Information Summary for Remote-Handled Lot IN-ID-NRF-SPC, at the Idaho National Laboratory, April 30, 2012,

Inter-Office Correspondence, J. Hoff to Distribution, Transmittal And Closure Of WTS Quality Assurance Audit I11-05, Central Characterization Project Quality Assurance Program, September 27, 2011

Random Sample Selection Memoranda, Waste Stream ID-SDA-SOIL, Lots 1-5, 11/16/06- 6/8/2011

Washington TRU Solutions LLC, To James Bearzi, Transmittal Of Approved Central Characterization Project waste Stream Profile Form Number ID-SDA-SOIL, Interstitial Soil From The Subsurface Disposal Area, June 19, 2008

Source Documents Provided For Review By Waste Stream (Including NOFORM Examined During The Audit). See Attachment 4 and Reference Lists in individual AK Summaries for the specific references associated with each document ID number (e.g.C515, etc).

ID SOIL (CCP-AK-INL-001):

- ID-P423, P426, P427, U115, U116, U1313, ID-D004, ID-P109

ORGANIC SET UPS (CCP-AK-INL-005):

C515, C517, C518, C134, C170, C184, C207, C502, C505, C506, C514,

P001, P002, P004, P014, P023, P024, P043, P052, P053, P076, P081, P090, P502, P505, P507, P508, P509, P512, P515, P517, P519, P520, P521, P535, P536, P538, P539,

U010, U040, U043, U059, U069, U092, U098, U099

SEALED SOURCES (CCP-AK-INL-022):

C1027

I1041, I1053

M1024, M1007, M1025

P1041, 1100, 1101, 1104, 1106

U1016

NRF SPC RH (CCP-AK-570):

C002, C003, C016, C031, C032, C049, C071, C084, C085, C090, C115

P005, P006, P008, P012, P015, P016, P025, P027, P043, P050, P207, P208, P212, P213

U072, U086, U103, U104, U106, U130, U134, U357, U358

IN-ID-BTO-030 Bettis Sludge RH (CCP-AK-590)

C031, C116, C117, C122, C123, C125, C126, C127, C128, C129, C132, C133, C134, C200, C201, C204, C205, C206, C207, C208, C209, C210, C211, C212, C214, C215, C301, C302, C302, C305, C307, C309, C310, C311, CC312

DR005, DR006, DR008

P016, P025, P100, P102, P103, P104, P105, P106, P107, P108, P109, P110, P112, P113, P114, P120, P121, P123, P124, P125, P126, P130, P131, P132, P133, P138, P201, P204, P205, P206

U200, U201, U209, U212, U214, U216, U220, U221, U223, U224, U229, U232, U236, U238, U239, U244, U249, U256, U264, U265, U266, U275, U276, U301, U302, U303, U304, U305

ATTACHMENT B
ACCEPTABLE KNOWLEDGE FREEZE FILES

CCP-AK-INL-001 Freeze File

Page 35, Section 4.3.2, last paragraph

The FCF became operational in 1964 and was used to demonstrate pyrometallurgical irradiated fuel reprocessing for spent EBR-II fuel from September 1964 to early 1969. After successfully demonstrating the process, this mission was discontinued; the facility was refurbished and was used to examine irradiated fuels and material experiments from EBR-II and TREAT and to provide other reactor support services such as spent fuel transfer to CPP (References ANL-W-P001, ANL-W-P003, ID-P091, and ID-P118). Wastes received in the retrieval areas from ANL-W include shipments from ANL-W-601 (including EBR-I, BORAX I-V, AFSR, and ZPR-II) and ANL-W-767 (EBR-II). Wastes received from ANL-W-601 include empty boxes and pallets, iron, wood, and canvas. Wastes received from ANL-W-767 include contaminated equipment, a metal shear station packaged in a lead-lined wooden box, plastic, paper, glass, wood, and steel and iron machine parts packaged in a lead-lined wooden box. FCF high-level waste and later HFEF high-level waste, was packaged in sealed metal containers and stored in carbon-steel-lined holes in the Radioactive Scrap and Waste Facility (RSWF), near the EBR-II area. Therefore, wastes from ANL-W included in the ARP retrieval areas are not spent nuclear fuel or HLW (References ANL-W-P003, ANL-W-P006, ANL-W-P008, ARA-U003, ID-P118, ID-U103, ID-U326, ID-U327, and ID-U344).

CCP-AK-INL-005 Freeze File

Page 25, Section 5.4.1.2, third paragraph

The number of containers from the Rocky Flats TRU waste certification program that were evaluated is 11. The number of containers from the CCP TRU waste certification program that were evaluated is 156. The current volume of Waste Stream ID-RF-S3114 is 7,440 containers. Therefore, these 156 containers represent only 2.0 percent of the current CCP waste stream volume. The original closure dates for the 7,440 containers in this waste stream range from October 1969 to September 1988. The closure dates for the drums in WWIS for the CCP waste stream range from August 1975 to February 1986. There are more than 2,000 containers in the waste stream generated before August 1975, but only 17 containers generated after February 1986. ~~Even though RTR or VE has not been performed on 97 percent of the waste stream, including the waste generated before August 1975~~Although the evaluation is based on a relatively small percentage of the waste stream, the Grease Plant was a waste treatment process that produced a consistent sludge-like material, and that process did not change during this time period. It is not expected that the waste generated prior to 1975 would be dissimilar to the wastes that have undergone RTR and VE. Therefore, the WWIS data for these 167 containers are representative of Waste Stream ID-RF-S3114 as a whole.

Page 28, Table 5-2

Add a footnote to the "Low" column header, "Table 5-2 values are listed directly from the AK source document. The negative low values are from deficient NDA data results. The assays were outside the system's capabilities; however, since this table summarizes the data the values were left in for completeness (Reference P507)."

Page 34, Section 5.4.3.3, first paragraph

During the analytical data review of the "non-detect" observations for homogeneous solids data, Rocky Flats determined that the MDL exceeded the PRQL for 1,2-dichlorobenzene (F002) due to dilution. The dilution was due to high hydrocarbon content in the waste matrix that caused difficulties in analysis per the required methodology. ~~Subsequent r~~Review of the Rocky Flats solid sampling data and reconsideration of process knowledge confirms that 1,2-dichlorobenzene was not an expected contaminant in this waste stream.

Page 34, Section 5.4.3.3, third paragraph

Therefore, trichlorofluoromethane will be added as an F001- and F002-listed constituent to this waste stream (Reference P540~~refer to Acceptable Knowledge Re-evaluation Checklist, 3/28/06~~).

Page 35-36, Section 5.4.3.5, first and second paragraphs

The materials in this waste stream do not meet the definition of ignitability as defined in 40 CFR 261.21. The materials are not liquid and absorbents were added to wastes having the potential of generating free liquids (i.e., dewatering of wastes) (References P015, P024, P501, and P503). However, ~~but the waste may contain some free liquids (Reference P015). Absorbents were added to wastes having the potential of generating free liquids (i.e., dewatering of wastes) (References P015, P024, P501, and P503).~~ RTR and VE identified drums of organic setup waste (IDC 003) containing free liquid (Reference P015). ~~Since oils and chlorinated solvents (e.g., carbon tetrachloride, 1,1,1-trichloroethane) were the predominant l~~Liquid wastes treated (refer to Section 4.3.1), ~~the liquids discovered during RTR and/or VE are not likely ignitable. However, solvents such as~~included alcohols and acetone ~~were also treated~~ so the possibility exists that the liquids are ignitable. Refer to Tables 4-1 and 4-2 for a more complete listing of organic liquids treated in Building 774 (Reference P015). The waste is not capable of causing fire through friction, absorption of moisture, or spontaneous chemical change (References P012, P016, P024, and P501). The materials are not compressed gases, nor do the wastes contain compressed gases, and the waste is not an oxidizer (References P012, P013, P015, P016, P022, P024, and P501). Waste Stream ID-RF-S3114 is therefore not an ignitable waste (D001).

RTR and/or VE are performed to ensure no amount of liquid is present in the IDC 003 waste, and to verify the absence of iginitable compressed~~s~~ gases. Any drum that contains any amount of liquid or compressed gas~~es~~ cylinders will be segregated from the waste stream during confirmation and will not be eligible for disposal at WIPP until further characterization and/or processing is conducted. The basis for not allowing residual liquids in this waste stream is described in Section 5.4.4.

CCP-AK-INL-570 Freeze File

1. Page 11, first partial paragraph, first full sentence on page, change to read: "The EPA Hazardous Waste Numbers (HWNs) will be assigned due to the lack of analytical evidence ..."
2. Page 28, Section 5.4.2, Second Paragraph, Change the Third and fourth sentences to read as follows: "There is evidence that these metals are in the waste stream but there is a lack of analytical evidence to prove the constituents do not exceed regulatory thresholds. Therefore, the appropriate HWNs will be assigned by INL prior to shipment to WIPP."
3. Page 28, Section 5.4.2, Third paragraph, Third sentence delete ", to comply with the WIPP-WAP,"
4. Page 30, Section 5.4.2.2, 1st paragraph, last sentence, delete "in accordance with the WIPP-WAP and CCP-TP-005 (Reference 3)"
5. Page 30, Section 5.4.2.2, 2nd paragraph, 2nd sentence, delete "to comply with the WIPP-WAP, to the waste stream"
6. Page 30, Section 5.4.2.2, 3rd paragraph, 2nd sentence, delete "to comply with the WIPP-WAP, to the waste stream"
7. Page 30, Section 5.4.2.2, 5th paragraph, Combine the 6th and 7th sentences to read as follows: "However, in the absence of any confirmatory test results, ..."

CCP-AK-INL-590 Freeze File

8. Page 11, third paragraph on the page, third sentence, change to read: "The EPA Hazardous Waste Numbers (HWNs) will be assigned due to the lack of analytical evidence ..."
9. Page 25, Section 5.4.2, First Paragraph after Table 2, Change the second and Third sentences to read as follows: "There is evidence that these metals are in the waste stream but there is a lack of analytical evidence to prove the constituents do not exceed regulatory thresholds. Therefore, the appropriate HWNs will be assigned by INL prior to shipment to WIPP."
10. Page 16, Section 4.2, fifth paragraph, change the second through fourth sentences to read as follows: " The IN-41 cans were removed from the HFEF canisters and sampled as necessary. Three or four IN-41 cans were packaged in 30-gallon drums. The 30-gallon drums were overpacked into a 55-gallon drum."
11. Page 29, Section 5.4.2.2, Second paragraph, first sentence, replace with the following: "A Toxicity Characteristic Leaching Procedure (TCLP) was performed on spent fuel at the Naval Reactors Facility (NRF) in Idaho. The spent fuel at the Bettis Laboratory is very similar so the TCLP information could apply to this waste as well."
12. Page 29. Section 5.4.2.2, Third paragraph, Change the fifth sentence to read as follows: "However, the TCLP was performed on only one type of fuel at NRF, there is no evidence the test applies to all types of fuel. The waste in this waste stream is from a combination of several types of fuel. This waste has not been tested to ensure the metals do not exceed the regulatory limits."

13. Page 34, Section 5.5, change fourth and fifth sentences to read: "Three or four IN-41 containers were placed into four vented30-gallon U.S. Department of Transportation (DOT) Specification 7A, Type A steel drums. The 30-gallon drums were placed in 55-gallon drums for shipment to WIPP"
14. Page 36, Table 6, Change the title of the second column from "Summary of AK" to "Summary of Characterization/Qualification Method"

Proposed changes for Waste Stream ID-SNL-SOURCES S5400 AK Documentation based on INL Recertification Audit conducted from June 11 – 15, 2012

Freeze file changes to CCP-AK-INL-022

Page 13, Section 4.3.1 -

Replace the last paragraph with the following discussion to clarify:

Waste stream ID-SNL-SOURCES-S5400 is comprised of 161 Am-241, six Pu-239, and four Cm-244 sources. Based on the review of documentation prepared by the generators included in the Mixed Waste Disposal Request Forms (DR), most of the sources in the waste stream include check sources used by the SNL/NM facilities to calibrate numerous health physics radiological monitoring and survey instruments. The waste stream also includes alpha, gamma, and neutron sources for research equipment and monitoring devices (e.g., various spectrometers, nuclear microscope, SNL/NM portal explosives detector, static charge eleminator bars, and smoke detectors). Based on historical inventory documentation including source receipts, inventory locations history, and material and waste transfer documentation, sources were sent to or originated from SNL/NM areas involved in the defense activities including TA-I, TA-II, TA-III, TA-IV, and TA-V (References M1023 and MXXXX).

- TA-I operations are dedicated primarily to three activities – the design, research, and development of weapon systems; limited production of weapon system components; and energy programs.
- TA-II is a 45 acre facility that was established in 1948 for the assembly of chemical high explosive main charges for nuclear weapons and later for production scale assembly of nuclear weapons. Activities in TA-II include the decontamination, decommissioning, and remediation of facilities and landfills used in past research and development activities.
- TA-III facilities include extensive design-test facilities such as rocket sled tracks, centrifuges and a radiant heat facility. Other facilities in TA-III include the Melting and Solidification Laboratory and the Radioactive and RMWMF. RMWMF serves as central processing facility for packaging and storage of radioactive and mixed waste. The remediation of the Chemical Waste Landfill, which started in September 1998, is an ongoing activity in TA-III.
- TA-IV consists of several inertial-confinement fusion research and pulsed power research facilities, including the High Energy Radiation Megavolt Electron Source, the Z Facility, the Short Pulsed High Intensity Nanosecond X-Radiator Facility, and the Saturn Accelerator.
- TA-V contains two research reactor facilities, an intense gamma irradiation facility znd the Hot Cell Facility.

Based on the review of the DR documentation, in addition to being used to support site defense missions, comingling of contamination would have occurred during the the ongoing management of these materials. Several instances of leaking, unsealed, and contaminated sources were identified in the DR documentation. Additionally some of these sources have been managed by the site since the late

1950s. This management has resulted in the frequent movement and storage of these materials with other sources and in areas supporting defense activities. Additionally, comingling would occur during the leak testing of the sources in the Hot Cell Facility, dissassembly of some of the sources, calibration of instrumentation, surveys, use of monitoring equipment, and packaging repackaging of the sources in the RMWMF (Reference M1023). Based on this evaluation the sources meet the definition of defense waste as defined in the NWPA because they are derived from defense nuclear materials production, used to support of defense activities at SNL/NM, and commingled with contamination from defense activities described above (References 3, C1045, M1023, M1024, and MXXX).

Add the following reference:

MXXX – Sandia National Laboratory Wikipedia Link
(http://en.wikipedia.org/wiki/Sandia_National_Laboratories)

Page 18 , Secton 4.5.3, 1st paragraph, 1st sentence – replace the sentence with the following:

A waste stream consists of waste materials that have common physical form, that contain similar hazardous constituents, and that are generated from a single process or activity.

Page 23, Section 5.4.3, second paragraph:

Replace this sentence: "It was also assumed, based on how the sources were used and managed, they would not have come in contact with characteristic or listed hazardous materials as constituents."

With

"Since the sources were segregated from process debris materials potentially contaminated with process chemicals and based on the physical composition of the sources described in the DRs, this stream consists of only the sources and associated containment materials and does not contain those materials most commonly associated with process chemical contamination (e.g., liquids, homogeneous solids, or absorbent materials). Therefore, any contact with characteristic or listed hazardous materials would be incidental and negligible."

Page 24, Table 6 – make the following changes:

- change the "Expected Present" field for Pu-238, Pu-242, U-233, U-234, U-238, and Sr-90 to "Yes[5]" and add the following footnote to the bottom of the table "5. Isotope was not detected, but is expected as a decay product or as a contaminant of the primary radionuclide".
- change the "Number of Containers witrh Reported Radionuclide" field forPu-242 from "1" to "0"

Page 26, Section 5.4.3.2, last paragraph – add the following sentence to end of the paragraph:

(Note – CCP-PK-SNL-003 incorrectly excluded chromium (D007) due to the identification of chromium as trivalent in source document P1106. Ths waste does not meet the trivalent chromium exemption as defined in 49 CFR 261.4(b)(6), thus D007 has been added)(Reference 12).

Changes to Source Documents and Attachments

- Add DR/container information matrix to M1023 and update Attachment 3 (in process of being added)
- Add a memo to the TP-005 Attachment 7 file that the Table 6 changes noted above were recommended during the INL Recertification Audit conducted from June 11 – 15, 2012
- Submit new WMP memo and update C1044 with additional information on how the WMP estimate was completed:

Audit Conduct & Protocol

- Professionally
  - Audit team will use both C6 and QA checklists
  - Audit team, Observers, & INL/CCP Staff expected to act professional
  - Regulators/Observers will be treated the same as audit team members
- Timely
  - Daily Schedule – Guide to help ensure all aspects of audit are covered
- Informed
  - Concerns conveyed to the auditee
  - Management briefing meetings
  - Trust that information presented is shared with the appropriate INL/CCP management

ATTACHMENT D
AUDIT ISSUES AND CONCERNS

No	Who	Description of Concern	Requirements Comments
1	P. Gomez	NDE Batch RTR5110051 objective evidence indicates that the SPM validation was initially completed without inclusion of an NCR that was associated with a container in the batch, SNL.NM006398R. NCR-INL-2041-11 was initiated by an SPM on 5/13/11 against SNL/NM006398R. The NCR was dispositioned on 5/16/11. Corrections dictated by the NCR were completed in the BDR and the ITR checklist on 5/16/11. A second SPM signed the validation checklist on 5/19/11 with question #6 which asks if there were NCRs associated with the batch answered as "no." A third SPM changed the answer to question #6 on 6/9/11.	CCP-TP-001, Rev. 19, "CCP Project Level Data Validation and Verification," Section 4.2.1 requires that the following steps be included when initiating a BDR review: [E.3] Compare NCRs included in the BDR to the NCRs in the P-TS, if applicable [E.4] IF any NCRs are missing from the P-TS OR DO NOT match those entered into the P-TS for the BDR, THEN contact the NCR Coordinator, AND resolve the problem.
2	P. Gomez	In NDE Batch RTR5110085 objective evidence the radiographer indicated under Container Inventory and Comments that drum ND1081R contains metal framed HEPA filters. Section 4, Packaging Materials and Waste Material Parameters report did not indicate the presence of any metal material. In this instance, an item that was identified in the description was not included as an estimated material parameter weight.	CCP-TP-001, Rev. 19, CCP Project Level Data Validation and Verification, Attachment 2, Questions 21 and 22 are as follows: 21. Does the BDR include an estimate of each material parameter weight in kg for each container? 22. Does the BDR include a description of each material parameter for each container?
3	P. Gomez	Inter-Office Correspondence CP:11:01336 objective evidence which documents the headspace gas random selection process for waste streams ID-SA-T001, ID-SNL-SOURCES-S5400, and ID-SNL-HCF-S5400 used language inconsistent with procedural requirements and	**ADDITIONAL INFORMATION HAS BEEN PROVIDED TO THE AUDIT TEAM TO RESOLVE THE CONCERN. THEREFORE,**

No	Who	Description of Concern	Requirements Comments
		did not address all procedural requirements. In the Objective Evidence Inter-Office Correspondence CP:11:01336 contains the following Subject Line and paragraph. There are no additional attachments or tables associated with the letter. Bold text indicates areas where language is inconsistent with procedure. *"SUBJECT: 100 PERCENT HEADSPACE GAS SAMPLING **IN LIEU OF RANDOM SELECTION** FOR WASTE STREAMS ID-SA-T001, ID-SNL-SOURCES-S5400 AND ID-SNL0HCF-5400* *Based on **the small waste stream sizes** of ID-SA-T001, ID-SNL-SOURCES-S5400 and ID-SNL-HCF-S400, Central Characterization Project (CCP) **has opted** to Headspace Gas Sample all drums in the waste streams rather than perform a random selection. This meets the criteria of CCP-PO-001 C2-1b Statistical Selection of Containers for Headspace Gas Analysis. If any of the waste streams were to exceed ten drums, CCP will continue to Headspace Gas Sample all drums in the waste stream rather than perform a random selection of the containers per CCP-TP-162."*	**CONCERN #3 IS BEING WITHDRAWN.** CCP-TP-162, Rev. 1, "CCP Random Selection of Containers for Solids and Headspace Gas Sampling and Analysis" Section 4.2.8 requires that the SPM creates a Solids Random Selection Memorandum or Headspace Gas Random Sample Selection Memorandum, as applicable to the following information as a minimum: ..... • The population size (number of containers in the waste stream RS lot) from which containers have been selected for Solids or HSG sampling and analysis. • The quantity of containers selected for Solids or HSG sampling and analysis and number of containers identified as contingency selections. • Identification of all containers within the entire population of the waste stream RS lot with their associated random numbers. CCP-TP-162, Rev. 1, "CCP Random Selection of Containers for Solids and Headspace Gas Sampling and Analysis" Section 4.2 has a NOTE containing the following:

No	Who	Description of Concern	Requirements Comments
			"For the initial sample selection for a HSG waste stream RS lot, n will equal ten. For HSG waste streams with fewer than ten containers, the entire waste stream will be characterized in one lot and all containers will be HSG sampled."
4	P. Gomez	NDE Batch RTR5110051 objective evidence indicates that the initial SPM who completed the validation was not familiar with the AK for waste stream ID-SNL-SOURCES-S5400 specifically the AK concerning the use of vermiculite as a packaging material in container SNL/NM006398R.	**ADDITIONAL INFORMATION HAS BEEN PROVIDED TO THE AUDIT TEAM, TO RESOLVE THE CONCERN. THEREFORE, CONCERN #4 IS BEING WITHDRAWN.**

No	Who	Description of Concern	Requirements Comments
5	R. Bradford C. Castillo	VE Operators completing BDR INLRHVE11003 did not follow Step 4.1.2, Section F, G, & H of CCP-TP-500. BDR INLRHVE11003, Containers FF-45A, B, C were signed by VE Operator 1 on 8/8/11 and by VE Operator 2 on 6/28/11. Additionally...On Attachment 1 for containers FF-45A & FF-45B, the wrong procedure is referenced. The procedure should be "CCP-TP-500" BUT is listed as "CPP-TP-500."	**REVISED** CCP-TP-500, Rev. 11, Section 4.1.2: [F] IF VE of the container can NOT be completed by the original qualified operators that started the waste container for any reason, THEN STOP and notify the VE Expert. [G] Complete comment section of on Attachment 1, initial and date comments. New qualified operators SHALL initial and date comments for acceptance of waste previously placed into the waste container. [H] IF different qualified operators resume or complete the VE the operators will start a separate Attachment 1 at step 4.1.2[D], THEN completed Attachment 1 per CCP-TP-500, CCP Remote-Handled Waste Visual Examination.
6	R. Bradford C. Castillo	Attachment 1 of CCP-TP-006 does not provide a field to record the waste streams listed in CCP-AK-INL-001, yet SPMs & ITRs are required to verify that the correct waste streams are listed on the VE Data Form. Summary Category Groups are listed instead of appropriate waste streams.	CCP-TP-006, Rev. 16, Attachment 2, VE ITR Checklist #21, "Was the correct waste stream and waste matrix code assigned?"

No	Who	Description of Concern	Requirements Comments
7	R. Morrison T. Putnam G. Knox	Maintenance Record 12-047 was completed on 6/8/12. According to DOE/WIPP 02-3183, CH Packaging Program Guidance, Section 5.6.2, "...shall be sent immediately after maintenance activities are completed." This record has not been sent to Packaging Maintenance Engineer.	**REVISED** DOE/WIPP 02-3183, Rev. 6, Section 5.6.2 Information was sent to Carlsbad.
8	R. Morrison T. Putnam G. Knox	CH Operators were working on TRUPACTS following DOE/WIPP 02-3184 and were installing O-rings in Section 2.10. The operators installed all four O-rings, then signed off on steps, then verification signed off all four steps. Procedure says to install O-rings one at a time.	**REVISED** DOE/WIPP 02-3184, Section 2.10, and Second Note right under Step 2.0 on page 37 of Rev. 11.0.
9	R. Morrison T. Putnam G. Knox	The bag for the spare part 2077-180-06 did not have the description on the bag. The bag had 7 washers in it and the bag was written on with the part number and PO number.	**REVISED** DOE/WIPP 02-3183, CH Packaging Program Guidance, Section 2.4, "The parts package will be labeled with part number, description, WIPP purchase order number, and shelf-life expiration date, if applicable."
10	B. Pace R. Riggs	Training qualification card documentation that are submitted to NMED and for public access are marked: *Private Information* *Authorized Personnel Only* *Controlled Disposal is Required*	
11	B. Pace R. Riggs	Training qualification card documentation that is submitted to NMED and for public access have been copied on a color copier and the "ORIGINAL" stamp is in color (either red or blue). It is difficult to determine if these documents are the "original" or a "copy" of the original.	

No	Who	Description of Concern	Requirements Comments
12	D. Blauvelt K. Martin	Approximately 250 drums of waste were added to waste stream ID-RF-S3114 since the previous audit. The AK Summary, CCP-AK-INL-005 R5 and AK attachment 8, the waste containers list, were updated. However an Add-Containers memo as called for in CCP-TP-005 S4.10 has not been prepared.	Auditor was provided with objective evidence. CDA
13	P. Martinez C. Riggs	A container number was incorrectly recorded in the Batch Narrative on BDR # INRTR5110094 for container 10046232, the container was recorded as 1004632, on 8/22/11. On 8/23/11, the ITR reviewed the BDR and recorded "yes" on the ITR checklist question #10, "is all data recorded clearly, legibly, and accurately?"	**REVISED** CCP-TP-053, R11, Section 5.4.10.2
14	P. Martinez C. Riggs	The ITR reviewed BDR INLRHRTR11006 and recorded "N/A" to ITR checklist questions 8 & 9, "Are all changes to original data lined out, initialed, and dated?" and "Were data changes made by the individual who originally collected the data or individual authorized to change the data?" on 8/8/11. A change was made in the comment section on the RTR Data Sheet for container #NRFTRUSPC074-1 on 8/2/11.	CCP-TP-508, R7, Section 4.9.2, "Review the BDR to the criteria in the checklist of Attachment 3, AND complete Attachment 3"
15	P. Martinez C. Riggs	The ITR reviewed BDR INLRHRTR12002 and recorded "yes" to ITR checklist question #7, "Is all data recorded clearly, legibly, and accurately?" on 3/1/12. The BDR # was not correctly recorded on the RTR Data Sheet for container # ANLE33G, on 2/28/12. Note: The BDR # was corrected on 3/7/12.	CCP-TP-508, R7, Section 4.9.2, "Review the BDR to the criteria in the checklist of Attachment 3, AND complete Attachment 3"
16	P. Martinez C. Riggs	The NCR initiator recorded "See Attachment 1" in Block 3 of NCR-INL-3173-11 to record container numbers. The container numbers affected by the NCR were recorded on Attachment 2. The NCR initiator recorded "(See Attachment 1) on Block 7c as well.	CCP-QP-005, Section 4.1.1 **ADDITIONAL INFORMATION HAS BEEN PROVIDED TO THE AUDIT TEAM, TO RESOLVE THE CONCERN. THEREFORE,**

No	Who	Description of Concern	Requirements Comments
			CONCERN #16 IS BEING WITHDRAWN.
17	D. Blauvelt K. Martin	The AK Audit team examined the AK record for five distinct waste streams representing the five CH and RH Summary Category Groups. In reviewing the AK Summaries (AKS) for these waste streams, the auditors identified language that could be modified/supplemented to provide clarification to the documents. These changes were discussed and agreed upon and will become part of freeze files for each respective AKS. Examples are included in the attachment to this concern form. A complete listing will be provided at or before the final audit caucus.	SAMPLES AK Summaries Freeze Files CCP-AK-INL-001 R11 2. Modify language in S4.3.2 to indicate that spent nuclear fuel was not disposed of the SDA undergoing excavation CCP-AK-INL-005 R5 4. Clarify language in S5.4.1.2 regarding the use of RTR data to develop the waste material parameter weight estimate. 5. Insert footnote to explain the negative radionuclide numbers listed in table 5-2 6. Convert the AK Reevaluation Checklist cited in S5.4.3 p34 to an AK Source Document CCP-AK-INL-022 R1 5. Provide specific information in S4.3.1 on the rationale for considering these sources to be defense waste.

No	Who	Description of Concern	Requirements Comments
			6. Provide information on the storage of out-of-use sources prior to the repackaging effort. 7. Provide additional summary information in S4.4 regarding the use of the sources at SNL. 8. Remove/change old definition of a waste stream in S4.5.3 <u>CCP-AK-INL-570 and CCP-AK-INL-590</u> 2. Remove language from both documents that indicate that the permit **requires** the assignment of HWNs if there is a lack of analytical evidence....
18	D. Blauvelt K. Martin	AK attachment 5, Hazardous Constituents, for waste stream IN-ID-BTO-030 is inconsistent with the information in the AK Summary for this waste stream. Acetone, n-butanol and methanol should be listed on attachment 5 as expected. In addition, the hazardous constituents expected in this waste stream that are potentially flammable should be listed in the appropriate section of attachment 5. AK Attachment 15, the CCP TRU Waste Correlation and Surrogate Summary Form for waste stream IN-ID-BTO-030 indicates that the radioisotopic analysis of waste stream BT-T001 will be used to characterize waste stream ID-IN-BTO-030. This is no longer the plan and that sentence should be removed from this attachment.	**REVISED** Information was provided to the audit team.

No	Who	Description of Concern	Requirements Comments
19	P. Martinez C. Riggs	The RH RTR (RH-RTR-01, Rev. 3) Qualification Card for an operator did not have Block 4 under "Additional Training Requirements" filled in.	**REVISED** CCP-QP-008, Rev. 19, Sec. 3.7.1, CCP Personnel: Each individual who creates records must verify the record(s) are legible, accurate, and complete, appropriate to the work accomplished. Corrected copy was provided to the audit team.
20	T. Putnam R. Morrison G. Knox	The inspection on the OCA lid for unit 501 was performed. The unit was loaded and ready to leave the docks. The OCA fiberglass lift pocket tube (1 of 3) was cracked all the way through. The audit team advised the TCO of their concern. The TCO verified the broken part and verified inspection of part was signed off. Part was replaced following appropriate work instruction.	DOE/WIPP 02-3184, R11.0, Step 2.7.2