NRC FORM 591S PART 1
(8-2002)
10 CFR 2.201

U.S. NUCLEAR REGULATORY COMMISSION

SAFETY INSPECTION REPORT AND COMPLIANCE INSPECTION

1. LICENSEE/CERTIFICATE HOLDER	2. NRC/REGIONAL OFFICE
Holtec International 555 Lincoln Drive West Marlton, NJ 08053 REPORT NUMBER(S) 72-1014/04-201	US Nuclear Regulatory Commission Spent Fuel Project Office 11555 Rockville Pike Rockville, MD 20852-2738

3. LICENSEE/CERTIFICATE NUMBER(S)	4. INSPECTION LOCATION	5. DATE(S) OF INSPECTION
72-1014	USTool&Die, Pittsburgh, PA	10/18-22/2004

The inspection was an examination of the activities conducted under your license as they relate to radiation safety and to compliance with the Nuclear Regulatory Commission (NRC) rules and regulations and the conditions of your license or Certificate of Compliance (CoC). The inspection consisted of selective examinations of procedures and representative records, interviews with personnel, and observations by the inspector. The inspection findings are as follows:

☐ 1. Based on the inspection findings, no violations or nonconformances were identified.

☐ 2. Previous violation(s) or nonconformance(s) closed.

☐ 3. The violation(s), specifically described to you by the inspector as non-cited violations, are not being cited because they were self-identified, non-repetitive, and corrective action was or is being taken, and the remaining criteria in the NRC Enforcement Policy, NUREG-1600, to exercise discretion, were satisfied.

_____ Non-Cited Violation(s) was/were discussed involving the following requirement(s) and Corrective Action(s):

☒ 4. During this inspection certain of your activities, as described below and/or attached, were in violation or nonconformance of NRC requirements and are being cited. This form is a NOTICE OF VIOLATION OR NONCONFORMANCE, which may be subject to posting in accordance with 10 CFR 19.11.

(Violations, Nonconformances, and Corrective Actions)

10 CFR 72.150, "Instructions, procedures, drawings," requires, in part, that a certificate holder shall prescribe activities affecting quality by documented instructions or procedures of a type appropriate to the circumstances and shall require that these be followed.

Contrary to the above, during an inspection conducted October 18-22, 2004, at U.S. Tool & Die (USTAD), the certificate holder's fabricator, the NRC identified the following instances where activities affecting quality were not prescribed in documented instructions or procedures, or where procedures or

STATEMENT OF CORRECTIVE ACTIONS

☐ I hereby state that, within 30 days, the actions described by me to the inspector will be taken to correct the violations identified. This statement of corrective actions is made in accordance with the requirements of 10 CFR 2.201 (corrective steps already taken, corrective steps which will be taken, date when full compliance will be achieved). I understand that no further written response to NRC will be required, unless specifically requested; **OR**

☒ Written Response requested in 30 days ☒ YES ☐ NO

TITLE	PRINTED NAME	SIGNATURE	DATE
LICENSEE	Mark Soler	Mark Soler	10/22/04
NRC INSPECTOR	Robert R. Temps	Robert R Temps	10/22/04

NRC FORM 591S PART 2
(8-2002)
10 CFR 2.201

U.S. NUCLEAR REGULATORY COMMISSION

SAFETY INSPECTION REPORT AND COMPLIANCE INSPECTION

1. LICENSEE/CERTIFICATE HOLDER	2. NRC/REGIONAL OFFICE
Holtec International	SFPO
REPORT NUMBER(S) 72-1014/04-201	

3. LICENSE/CERTIFICATE NUMBER	4. INSPECTION LOCATION	5. DATE(S) OF INSPECTION
72-1014	UST&D	10/18-22/2004

(Continued)

instructions prescribing quality activities were not followed &

1) Company Quality Procedure (CQP) - 12.0, "Equipment Calibration and Control of Measuring and Test Equipment," Rev. 0, Section 6.1.2, states, in part, that measuring and test equipment (M&TE) selected by an inspector shall have a current calibration; however, the NRC identified several pieces of M&TE that were in use, or available for use, that had calibration stickers on them indicating that calibration was not current.

2) A piece of M&TE (height gage) was declared out-of-service in July 2004, but was not properly controlled to prevent its further use. Also, CQP-12.0 does not provide adequate instructions for the processing (e.g., by tagging, segregation, etc...) of out-of-service M&TE and it does not address such a category even though the electronic Tool/Gage Inventory data base does contain an out-of-service category.

3) UST&D uses an electronic database, ESADS (electronic subassembly data sheets) for documenting certain quality-related activities. However, not all aspects of the Administrative control of this quality-related database are contained in approved procedures or instructions.

4) The Holtec HI-STORM Final Safety Analysis Report, Section 9.1.1.5 states that, "Machined surfaces of the metal components of the HI-STORM 100 System shall be visually examined in accordance with ASME Section V, Article 9, to verify they are free of cracks and holes." However, this requirement was not implemented in any Holtec or UST&D fabrication procedures.

This is a Severity Level IV Violation (Supplement VI)

NRC FORM 591S PART 3
(8-2002)
10 CFR 2.201

U.S. NUCLEAR REGULATORY COMMISSION

Docket File Information

SAFETY INSPECTION REPORT AND COMPLIANCE INSPECTION

1. LICENSEE/CERTIFICATE HOLDER	2. NRC/REGIONAL OFFICE
Holtec International REPORT NUMBER(S) 72-1014/04-201	**SFPO**

3. LICENSEE/CERTIFICATE NUMBER(S)	4. INSPECTION LOCATION	5. DATE(S) OF INSPECTION
72-1014	UST&D	10/18-22/2004

6. INSPECTION PROCEDURES USED	7. INSPECTION FOCUS AREAS
60852	Fabrication Controls and QA Oversight

SUPPLEMENTAL INSPECTION INFORMATION

3. LICENSEE CONTACT	4. TELEPHONE NUMBER
Joe Livecchi	412-823-3773

PROGRAM SCOPE

INSPECTOR NOTES COVER SHEET

Licensee/Certificate Holder (name and address)	Holtec International 555 Lincoln Drive West Marlton, NJ 08053
Licensee/Certificate Holder contact and phone number	Joe Livecchi (UST&D) 412-823-3773 Mark Soler (Holtec) 856-797-0900
Docket No.	07201014
Inspection Report No.	2004201
Inspection Date(s)	October 18-22, 2004
Inspection Location(s)	USTool&Die (UST&D)
Inspectors	Robert Temps Frank Jacobs Ray Kellar Bill Bezanson (ATL)
Summary of Findings and Actions	This inspection involved a review of Holtec's fabricator, UST&D, at their fabrication facility in Pittsburgh, PA. At the time of the inspection, fabrication activities were ongoing for Farley, ANO, and Browns Ferry. Overall, UST&D's fabrication activities, and Holtec's oversight of the fabrication activities, were assessed to be adequate in meeting their QA Program requirements as well as NRC QA requirements. One Violation of NRC requirements was identified. The Violation, with four examples, concerned instances where procedures for activities affecting quality were not complete or were not followed.
Lead Inspector Signature/Date	Robert R. Temps 11/04/04
Inspector Notes Approval Section Chief Signature/Date	Robert J. Lewis 11/4/04

INSPECTOR NOTES: SECTIONS 02.01 THROUGH 02.08 OF IP 60852 WERE PERFORMED DURING THE INSPECTION WITH RESULTS DOCUMENTED BELOW:

02.01: Determine whether the fabrication specifications are consistent with the design commitments and requirements documented in the SAR, and, as applicable, the CoC or the site-specific license and technical specifications.

The team's focus in addressing this inspection element was on 1) the process UST&D uses to control procedure distribution and 2) to translate vendor supplied design information into controlled UST&D's procedures and drawings for fabrication activities.

Procedures Reviewed:

- QCP 17.2, "Preparation of Document Packages for ASME Code and Important to Safety Equipment, Components, Miscellaneous Items & Spare Parts"
- CQP 6.0, "Document Control"
- CQP 6.1, "Project Document Transmittal and Control"
- CQP-11.0, "Computer Programs"

Document Control

The team interviewed the Document Controller (DC) regarding document control functions and also performed a field walkdown with the DC to observe firsthand how documents were being distributed to controlled locations. Based on the discussions and walkdown, as well as verification of procedures and drawings in use during the observed fabrication activities, the team assessed that UST&D's document control processes were adequate and being properly implemented.

The team also interviewed the Executive Vice President regarding UST&D's use of two electronic databases used to control and document certain quality-related fabrication activities; these were the eSADS (electronic SubAssembly Data Sheets) and LogBooks databases. Although UST&D appeared to have performed substantial testing and verification of the electronic databases, the team noted no formal verification and validation procedure, no documentation of results, and no formal procedure governing the eSADS program. UST&D had relied on the procedures for the previously used paper SADS, considering the processes to be essentially equivalent. The team noted that there were no documented procedures controlling activities such as programmatic and software changes and approvals; correction of database errors; data backups; filing of records; and operations during, and recovery from, power or server loss.

The team interviewed the IT specialist responsible for maintaining eSADS and LogBooks. The IT specialist's practice was to perform differential backups of the databases Monday through Thursday and a full backup once a week. The backup files were stored in a fireproof cabinet in the server room. Monthly, a backup file was moved to offsite storage. However, there was no formal procedure specifically addressing these eSADS and LogBooks computer operations.

The team considered the use of the eSADS system to be a quality-related activity and therefore required by 10 CFR 72.150 to be controlled by documented procedures or instructions. The

failure to have such documented procedures or instructions was cited as example #3 of the Violation of 10 CFR 72.150 requirements documented on the Form 591 issued at the inspection exit meeting.

Control of Design Information

QCP-17.2 specifies the requirements for assembling a final component documentation (data) package. The Holtec FSAR, Section 9.1.1.13. listed items that were to be included in the document package. The team reviewed two (2) document packages to verify that the requirements of both the FSAR and UST&D Procedure 17.2. had been met. No discrepancies were identified during the review.

Section 9.1.2.2.1. of the Holtec FSAR required that the 125-ton HI-TRAC transfer cask water jacket be hydrostatically tested to 75 psig +3,-0 psig in accordance with written and approved procedures. The team reviewed procedure HSP-112, "Hydrostatic Test Procedure for the HI-TRAC Overpack," and verified that the FSAR required hydrostatic test pressure and tolerances were included in the procedure.

During the review of the incorporation of SAR and CoC requirements into appropriate procedures, the team identified that the Holtec FSAR, Section 9.1.1.5 specifies that "Machined surfaces of the metal components of the HI-STORM 100 System shall be visually examined in accordance with ASME Section V, Article 9, to verify they are free of cracks and pin holes." A review of the fabrication documents revealed that the FSAR visual examination requirement had not been incorporated into the fabrication documents. The team considered the failure to implement this requirement into procedures to be a Violation of 10 CFR 72.150 which requires that quality-related activities be documented in procedures or instructions. The failure to have such documented procedures or instructions was cited as example #4 of the Violation of 10 CFR 72.150 requirements documented on the Form 591 issued at the inspection exit meeting. Holtec's preliminary determination at the time of the inspection was that the FSAR requirement would likely be removed (via the 72.48 process) and that no products were adversely impacted by not performing the specific FSAR action. Other SAR and CoC commitments were reviewed and no further discrepancies were identified.

02.02: Determine whether corrective actions for identified fabrication deficiencies have been implemented in a time frame commensurate with their significance, and whether nonconformance reports documenting the deficiencies have been initiated and resolved.

Procedure reviewed:

CPQ-15.2, "Non-conformances"

The team reviewed the procedure controlling the problem identification and corrective action program used by UST&D. Discussions were held with the Quality Manager (QM), who controls the program, and the team also reviewed 21 selected Non-conformance Reports (NCRs). UST&D's resolution of the issues documented in the various reports was assessed to be appropriate and the reports were closed in a timeframe commensurate to their importance. The team noted that the QM performs tracking and trending of all NCRs and this information is presented in periodic reports that receive management review.

The team had one observation regarding the documentation of NCR close-out actions. While all the NCRs reviewed did have objective documentation to support their closure, the information was not always attached with, or referenced by, the closure section of the NCRs, although CPQ-15.2 implies that all closure information should be attached with the NCR. UST&D took appropriate action during the inspection to address this observation.

02.03: Determine whether individuals performing quality-related activities are trained and certified where required.

The team reviewed selected portions of audits, travelers, procedures, and drawings to identify personnel performing activities affecting quality. From the review, the team verified the qualifications and/or certifications of UST&D personnel who perform various activities such as welding processes, NDE processes, or quality auditing activities. As described below, from the document reviews and discussions with personnel, and through direct observation of fabrication activities, the team assessed that UST&D personnel were qualified and appropriately trained and/or certified for the performance of the quality-affecting activities.

Codes and Fabrication Procedures Reviewed:

- ASME Code
- SN-TC-1A
- Welding Procedure Specification 47 "Gas Tungsten Arc Welding"
- Welding Procedure Specification 218 "Submerged Arc Welding"
- Welder, Performance Qualification Test Record
- PS-101, "Procurement Specification For Fabrication of the Holtec MPC"
- PS-117, "Fabrication Specification for the HI-TRAC Transfer Cask 100 and 125"

Various fabrication drawings and Inspector Test Records:

- Drawings: MPC-402, Rev. 2; MPC-405, Rev. 6; 1402, Rev. 30; 3753, Rev. 13; 3438, Rev. 18; and 4350, Rev. 9
- PWRPs Project 0176, MPC 3252-16, Rev. 3, and Project 9925, MPC 1210-19, Rev. 1
- Certified Material Test Reports (CMTRs) for welding and NDE materials

Company Quality Procedures:

- CQP-2.4, "Training Program"
- CQP-9.1, "Written Practice for Qualification of NDE Personnel"
- CQP-9.2, "Welder Qualification Requirements"
- CQP-9.4, "Qualification and Performance of Welding Activities"
- U.S. Tool & Die ASME Quality Assurance Program Manual, Section 2.0
- U.S. Tool & Die Quality Assurance Program, Section 9.0, "Control of Special Processes," and Section 10.0, "Inspection"

Three (3) welders and two (2) Level II Quality Control (QC) Non Destructive Examination (NDE) Inspectors were selected to determine if the selected individuals were properly trained and certified. The selected individuals were responsible for shop activities (fit-up, welding, visual inspections, NDE inspections, and testing) being performed on the Hi-Trac and multi-purpose

canister (MPC) fabrications. The team assessed that the welders and inspectors were trained, certified, or qualified to perform those fabrication activities witnessed by the team. This was based on a review of each individual's training records, certifications, and observations noted during the fabrication process. The shop personnel interviewed demonstrated a very good working knowledge of the company procedural, welding, fabrication drawing, and quality requirements. It was also evident that each individual interviewed was cognizant of their duties, responsibilities, and requirements for documenting each completed fabrication activity on the Product Work Routing Plan (PWRP) and in the electronic Subassembly Data System (eSADS).

The team also witnessed selected MPC basket visual weld inspections. The controlling procedure specified that the inspections would be conducted by a Level II VT certified inspector. Procedure CQP-9.1 provided requirements for training, examination and certification of personnel performing nondestructive examinations. The team verified that the Level II quality control inspector that had performed the inspection of the MPC basket welds met the requirements for Level II VT certification as specified by CQP-9.1.

ASME Section IX, Part QW-322.1, required that performance qualifications of a welder or welding operator expire when he had not welded with that process for 6 months or more. UST&D Company Quality Procedure 9.2, "Welder Qualification Requirements," Revision 0, Section 6.5.3 required that welder continuity records be maintained. The team reviewed the fabricator's process and database for maintaining the welder continuity records. A minor record keeping issue was discovered during the inspection, which was promptly resolved by the fabricator. UST&D's process for maintaining welder continuity records was assessed to be satisfactory.

Special processes, including welding, heat treating, and nondestructive testing are required to have measures established to provide control of qualified personnel and procedures in accordance with 10 CFR 72.158. The team reviewed selected requirements contained in three CQPs pertaining to control of welding and nondestructive testing. The procedures reviewed included CQP-9.1, CQP-9.2, and CQP-9.4. Personnel certification requirements of three welders and three NDE inspectors were also compared to the requirements contained in the referenced CQPs and no personnel qualification nor procedural discrepancies were noted in the review.

With respect to the training program structure, as governed by CQP 2.4, the team reviewed training records and noted the following observations: 1) there was no record of CQP Manual training for one production foreman who was subject to the training, 2) an "e-mail to everyone" was used to notify personnel of several procedure changes, however, there was no read-and-sign requirement and no method to verify receipt and reading of e-mail, and 3) there was no procedural criteria for determining the appropriate type of training (e.g., read and sign versus classroom), and no procedural guidance addressing determination of training requirements by position. UST&D stated they would evaluate the observations.

02.04: Determine whether the offsite fabricator's personnel are familiar with the specified design, designated fabrication techniques, testing requirements, and quality controls associated with the construction of the DCSS.

Various UST&D personnel (welders, floor inspectors, receiving inspector, QA Engineers, QA Manager, and Welding Engineer) were interviewed during this inspection to determine how familiar they were with the design, fabrication, welding, code, quality control, and inspection requirements. The interview results indicated they were cognizant of their responsibilities and duties associated with those requirements, including documentation requirements. As discussed below, from these discussion and observations, the team concluded that UST&D personnel were familiar with the designs under fabrication, and with the associated fabrication techniques, testing requirements and quality controls. No concerns were identified.

The following fabrication activities were witnessed during this inspection: fit-ups, tack welding, production welding (gas tungsten arc welding and submerged arc welding), inspections (visual and liquid penetrant), equipment (welding and inspection) calibration, material verification (weld wire, weld flux, plates, bars, and components), and tracking systems. With the exception of the eSADS system discussed earlier, the team assessed that these activities were performed in accordance with applicable drawing and procedural requirements. Completed activities were adequately documented in the PWRPs and using the eSADS program.

During the fabrication process, the team witnessed the fit-up, tack weld, and or production welding of several weld joints (#s 8, 9, and 61). The weld joint number, weld procedure, joint configuration, materials, and inspection requirements were identified on drawings 3438, 405 and 3753. The applicable PWRP operation sequence number also specified the weld procedure, drawing, work description, joint number, fabrication, and inspection Hold or Witness Points. No concerns were identified with the control of these welds. A review of the welder qualification for the three welders (stamp numbers 13, 23, and 60) observed during this inspection indicated they were qualified for the process being used.

The team witnessed a final liquid penetrant (LP) examination of weld joint 20.1. The weld was identified on drawing 3753, sheet 2 and 5, as item 2 (MPC Shell Plate) to item 5 (Lifting Lug). The procedure used was 9.6H, "Liquid Penetrant Testing Procedure (Water - Washable) For Holtec Dry Storage Products." Some nonrelevant indications were identified during the examination. The U.S. Tool & Die inspector documented the examination results in eSADS. The inspector also identified those indications to the welder for removal (surface grind) prior to a re-examination being performed.

The team's review of procedure 9.6H identified two (2) conditions that required U.S. Tool & Die action to clarify the procedure requirements and its intent. Neither condition identified below affected the NDE process or results of the liquid penetrant examination witnessed by the team.

A. Paragraph 6.1.2 states: "*The area to be inspected will be pre-cleaned with a solvent cleaner to assure proper surface preparation.*" Paragraph 5.1 only identified the following products: Sherwin, Inc. Dubl-Check, Penetrant DP-51 and Dubl-Check, Developer D-100. However, the procedure does not specify the manufacturer or type of solvent cleaner to be used. Also, the ASME Code, Section V, Article 24, Paragraph 6.1 states: "*The intermixing of liquid penetrant materials from various manufactures is not recommended.*" Although the procedure did not reference the type of solvent cleaner, the correct solvent cleaner (Sherwin, Inc. Dubl-Check, Solvent Cleaner DR-60) was used by the U.S. Tool & Die inspector during the LP examination.

B. Paragraph 8.3.2 states: "*Non-relevant indications and broad areas of pigmentation which would mask indications of defects are unacceptable.*" However, there is no reference in Paragraph 6.0, "Surface Finish and Cleaning," or 6.1.2, pertaining to the pigmentation removable requirement prior to the LP examination. U.S. Tool & Die personnel were not clear on the pigmentation requirements or its intent. However, the QA Manager indicated that he would investigate the pigmentation requirement and its origination.

The above two (2) conditions also exist in Procedure 9.6, "Liquid Penetrant Examination Procedure (Water - Washable)," Rev. 12.

The team witnessed the Foreign Material Exclusion (FME)/cleanliness inspection of an MPC prior to its shipment. The inspection was performed as directed by Procedure HS-9, "Pre-Shipment Inspection." The UST&D personnel involved with the inspection were knowledgeable of the procedure and equipment operation necessary to examine the MPC basket cells and shell for cleanliness. No discrepancies were noted by the team.

The team observed the cleaning and drying of an MPC basket. The team reviewed Holtec Procedure HSP-314, Revision 0, that provided water quality requirements necessary for performing the cleaning process. Based on water samples analyzed by an outside vendor on October 11, 2004 and October 14, 2004, the water quality utilized for the MPC basket cleaning was verified to meet the requirements of HSP-314.

As part of this inspection element, the team reviewed UST&D controls on the use of measuring and test equipment (M&TE).

Procedures Reviewed:

- CQP 12.0, "Equipment Calibration and Control of Measuring and Test Equipment"
- QCP 12.1, "Calibration of Equipment"

The team reviewed a sample of M&TE either in use or available for use. The team identified concerns with the use of M&TE that indicated personnel inattention to detail as well as failure to follow procedures. The team also noted that while UST&D had previously initiated a corrective action report (QPVF327) addressing calibration frequency discrepancies, that report did not identify the calibration issues observed by the team. Specific concerns identified are discussed below.

The calibration label for in-use welding machine RM-08 was marked with an incorrect and past due date of 2/2/04 instead of the correct due date of 2/2/05 as indicated in the Tool/Gage Inventory database. The calibration label for in-use temperature probe TC-4 was marked with an incorrect and past due date of 8/18/04 instead of the correct due date of 2/18/05 as indicated in the Tool/Gage Inventory database. The team was concerned that UST&D personnel did not question, prior to use, that the dates on the calibration stickers indicated the equipment was not in calibration. Although in both cases the equipment was actually within calibration, UST&D personnel should have identified the discrepancy and initiated action to have correct calibration labels placed on the equipment. Further, UST&D CQP-12.0, states in Section 6.1.2 that M&TE selected shall have a current calibration. The failure to follow this

procedure requirement was cited in example #1 of the Violation of 10 CFR 72.150 requirements documented on the Form 591 issued at the inspection exit meeting.

On 10/20/04, the team observed a height gage (HG-02) that had a calibration label with the past due date of 10/19/04. The gage was located out on a granite surface plate in the calibration area. Although the Tool/Gage Inventory database indicated that the gage was placed in an "out-of-service" category on 7/20/04, the gage was not labeled in a manner indicating this condition and that would prevent its use. Instead, it still had its normal calibration label on it. Further, the calibration label indicated that the gage's calibration frequency had expired the previous day, yet the gage appeared to be available for use as it had not been segregated with other out-of-calibration equipment as required by procedure. The team identified that CQP 12.0 did not provide adequate instructions for designating and controlling out-of-service equipment. The failure to have adequate instructions in CQP 12.0 for addressing this situation was cited in example #2 of the Violation of 10 CFR 72.150 requirements documented on the Form 591 issued at the inspection exit meeting.

02.05a: Determine whether materials, components, and other equipment received by the fabricator meet DCSS design procurement specifications.
02.05b: Determine whether the procurement specifications conform to the design commitments and requirements contained in the SAR and, as applicable, the CoC or the site-specific license and technical specifications.

The team reviewed procurement procedures, interviewed procurement QA personnel, reviewed various approved vendor audits/surveillances, and traced the procurement history of components undergoing fabrication to verify that they were procured from qualified suppliers and met specifications.

Procedures Reviewed:

- CQP 7.0, "Receipt Inspection"

Several Holtec material components being used at the time of the inspection in fabrication activities were reviewed for their procurement history. For all of the items reviewed, the associated Material Inspection Releases (MIRs) and CMTRs were available. The team also reviewed the UST&D Approved Vendors List (AVL) and the process for qualifying and maintaining suppliers on the AVL. All materials reviewed were verified to have been procured from suppliers listed on the AVL. The team also verified that Part 21 requirements were invoked on purchase orders where applicable. A Receipt Inspector was interviewed by the team regarding inspection of incoming material. The inspector was very knowledgeable of the receipt inspection process prescribed in CQP 7.0 and use of the electronic database.

Overall, the team concluded that UST&D's procurement activities were being performed in accordance with their controlling procedures. Procurement personnel understood the procurement process and the procedures used. Methods used to approve addition of suppliers to the AVL were appropriate and the audits and surveillances used to qualify and maintain suppliers on the AVL were adequate. Where issues identified in the audits required response by the supplier, documentation of supplier corrective action was included in the audit files.

02.06: Determine whether DCSS components are being fabricated per approved QA and 10 CFR Part 21 implementing procedures and fabrication specifications.

All of the fabrication activities observed or reviewed by the team were determined to be conducted in accordance with approved UST&D QA procedures and fabrication specifications. The team noted that project specific procedures for vendor fabrication taking place at UST&D required adherence to 10 CFR Part 21.

02.07a: With regard to fabrication activities, determine whether they are conducted under an NRC-approved QA program (10 CFR 72.140).

The UST&D QA Program is not directly an NRC-approved program; however, Holtec's QA Program is an NRC-approved program and Holtec contractually imposes QA requirements on UST&D that meet NRC's requirements.

02.07b: With regard to fabrication activities, determine whether the provisions of 10 CFR Part 21, "Reporting of Defects and Noncompliance," for reporting defects that could cause a substantial safety hazard have been implemented.

The team determined that UST&D has an approved procedure, QCP-15.1, "Reporting of Defects and Noncompliances per 10 CFR 21," that governs the reporting of defects.

02.07c: With regard to fabrication activities, determine whether the fabricator's personnel are familiar with the reporting requirements of 10 CFR Part 21.

The training records were reviewed to determine if 10 CFR Part 21 training had been provided to the UST&D employees. The UST&D training verification log indicated that all the appropriate facility personnel involved with both the technical and production tasks had been exposed to Part 21 training. The team interviewed a cross section of the fabricator's personnel to determine if they were familiar with the reporting requirements of 10 CFR Part 21. Personnel interviewed included union craft, quality control inspectors and shop supervision. All the personnel were familiar with the fabricator's expectations and requirements for reporting non-complying conditions. The quality control inspectors and shop supervision were familiar with the requirements of 10 CFR Part 21 and were generally knowledgeable of where the Part 21 postings were located. Craft personnel were not as familiar with Part 21 or its posting. UST&D was evaluating methods to enhance training of 10 CFR Part 21 requirements for the craft personnel.

02.07d: With regard to fabrication activities, determine whether the fabricator has complied with 10 CFR 21.6, "Posting requirements."

The team verified that the Part 21 requirements were posted in multiple accessible locations at the various fabrication shops that comprise the UST&D fabrication facility.

02.08a: With regard to quality assurance activities, determine whether the fabricator has been audited by either the licensee or CoC holder.
02.08b: With regard to QA activities, determine whether for selected audits and inspection findings from QA audit or surveillance and/or inspection reports issued in the

previous 2 years, the findings were appropriately handled with corrective actions implemented in a time frame commensurate with their safety significance.

The team determined that UST&D performs an annual audit of the UST&D QA Program and that UST&D personnel perform audit and surveillance activities of UST&D activities and of suppliers on the AVL. The annual audit is led by a contract Lead Auditor who has the required independence from the QA organization. Lead Auditor qualifications were reviewed against UST&D qualification requirements and no concerns were identified. UST&D is also audited by Holtec and other vendors who have contracted with them for cask fabrication and other fabrication activities. Several outside audit reports were reviewed, as well as numerous periodic surveillance reports. Audit findings were documented in the UST&D corrective action system and were addressed in a time frame commensurate with their importance.

02.08c: With regard to quality assurance activities, determine whether supervision and quality control/quality assurance personnel perform appropriate oversight during fabrication activities.

To help determine if appropriate oversight had been applied to fabrication activities the team observed various activities in the field and reviewed various documents and procedures. For fabrication procedures the team noted the incorporation of hold and witness points in them at various points. The team witnessed the completion of hold point sign-offs (using eSADS) during the inspection. Document reviews and discussion with UST&D quality inspectors/NDE examiners, as well as UST&D QA personnel, indicated that sufficient levels of oversight have been, and are, being performed of the UST&D fabrication activities.