

U.S. NUCLEAR REGULATORY COMMISSION
REGION I

INSPECTION REPORT

Inspection No. 05000286/2010008
Docket No. 05000286
License No. DPR-64
Licensee: Entergy Nuclear Operations, Inc.
Facility: Holtec Manufacturing Division
Location: Turtle Creek, Pennsylvania 15145
Inspection Dates: April 20 - 21, 2010
Inspector: John Nicholson
Health Physicist
Decommissioning Branch
Division of Nuclear Materials Safety

Clyde Morell
Safety Inspector
Spent Fuel Storage and Transportation
Nuclear Materials Safety and Safeguards

Approved By: Judith A. Joustra, Chief
Decommissioning Branch
Division of Nuclear Materials Safety

EXECUTIVE SUMMARY

IR 05000286/2010008; 04/20/2010 – 04/21/2010; Indian Point Energy Center (IPEC); Oversight of fabrication of IPEC Unit 3 shielded transfer cask (STC) at the Holtec Manufacturing Division (HMD) facility in Turtle Creek, Pennsylvania.

This report covers an announced on-site inspection conducted by an NRC Region I inspector and an inspector from the NRC Nuclear Materials Safety and Safeguards Division, Spent Fuel Storage and Transportation Branch, of IPEC's oversight of the manufacturing process of the Unit 3 STC at HMD. A license amendment request for the STC under 10 CFR Part 50 was submitted by Entergy to the NRC on July 8, 2009. The NRC sent a request for additional information (RAI) to Entergy regarding the amendment request for the STC. The review of that request is ongoing. This STC will be used for the transfer of spent fuel assemblies from the IPEC Unit 3 spent fuel pool (SFP) to the IPEC Unit 2 SFP. At the time of the inspection, fabrication of the STC was put on hold for approximately three months while Entergy completes its response to the RAI.

The inspector reviewed equipment performance; program controls and documentation; and personnel qualifications and performance. Specific inspection areas included the welding and non-destructive examination of the STC completed to date.

Within the scope of this inspection, no violations of NRC requirements were identified.

REPORT DETAILS

1.0 Welding and Nondestructive Testing

a. Inspection Scope (IP60852)

The inspection included a limited review of IPEC's oversight of the HMD qualification and certification programs for welding and nondestructive examination (NDE) personnel, and the HMD programs and procedures for controlling special processes such as welding, and NDE associated with the fabrication of the IPEC Shielded Transfer Cask by Holtec. The inspector performed an onsite review of the HMD's Technical Specification requirements for implementing procedures controlling welding fabrication, and NDE inspection processes against the HMD quality assurance (QA) implementing procedures to assure that HMD's Technical Specification requirements were incorporated.

b. Observations and Findings

IPEC utilizes the Nuclear Procurement Issues Committee (NUPIC) process to place Holtec on its approved vendor list. The last NUPIC audit of Holtec was conducted October 20 through November 8, 2008. The NUPIC audit team spent a week at the Holtec corporate office and a week at the HMD facility. IPEC has a contract with URS Washington Division (URS) to serve as onsite quality assurance oversight for the fabrication of the STC at HMD. The URS contractor is required to witness hold points during the fabrication process. The inspector reviewed several hold points and noted that URS staff signed off on the hold points. Weekly communication occurs between URS and the IPEC Project Manager. The inspector reviewed the purchase agreement specifications developed by IPEC and provided to HMD. The agreement states that all drawings for fabrication must be approved by IPEC prior to the start of fabrication.

At the time of the inspection, the STC circumference weld was complete. The top flange was welded on but not the bottom flange. The stainless steel overlay on the inside was in process. The basket plate subassemblies had been fabricated, but the basket was not assembled.

The inspector reviewed HMD personnel NDE certification records to ascertain that they were certified in accordance with American Society for Nondestructive Testing (ASNT) ASNT-TC-1a -1992 editions, and the quality assurance (QA) HMD implementing procedure HQP-9.1, revision 11, Written Practice Qualification of NDE Personnel.

The inspector compared the HMD implementing procedure HQP-9.1, revision 11 to the Recommended Practice No. ASNT-TC-1a –1992 requirements for qualification and certification of nondestructive testing (NDT) personnel. The inspector found the HMD procedures to be compliant.

HMD has out sourced the management of the NDE program qualification and certification of HMD NDE personnel, the review and approval of HMD NDE procedures, and HMD Level III activities via a purchase agreement with System One. The inspector verified that HMD had imposed via the purchase agreement the requirement for System

One to implement the HMD QA program and implementing procedures when providing NDT services. A formal letter delegating these activities or a letter of appointment to System One was not available during this inspection. The inspector brought this to the attention of the Holtec QA Manager and immediate action was taken by drafting a letter before the end of the inspection.

The inspector reviewed System One NDE personnel qualification records for two personnel who performed NDT Level III activities to determine if they were qualified and certified in accordance with HMD HCP-9-1. The inspector found them to be compliant.

ANST TC-1a requires annual eye examinations (requirement for near vision) for NDT Level III certifications. The inspector reviewed the results of eye examinations performed for one HMD NDT employee as well as two System One NDT subcontractors with NDT Level III certifications, and determined that the annual eye exams, as required by ASNT-TC-1a, were in compliance.

In addition, the inspector reviewed the HMD implementing procedure HQP-9.4, Revision 7, "Qualification and Performance of Welding Activities". HMD HQP-9.4, Paragraph 5.5 – Welding Engineer states in part: "The Quality Assurance Manager, Quality Manager, or the Inspection Supervisor may perform the duties of the Weld Engineer". This implies that all parties identified are qualified as a Weld Engineer.

HMD HQP-9.4, Paragraph 6.2.4 states in part: "Holtec Manufacturing Division became an operational division of Holtec in 2006. Prior to this, the company was known as U.S. Tool & Die (UST&D) (under different ownership until 2004 when it became a subsidiary of Holtec) all weld procedures (and procedure qualification records) developed and qualified under the UST&D QA Program are acceptable for use under Holtec's QA program. ASME Section IX, QW-201 states that: "...each manufacturer or contractor is responsible for the qualifying of WPSs PQRs and Welder Qualifications." Also ASME Section IX, QW-201.1 states in part: "When a manufacturer contractor or part of a manufacturer or contractor is acquired by a new owner(s), the procedure qualification records (PQRs) and welding procedures specifications (WPSs) may be used by the new owners without requalification, provided all of the following are met:

- a. the new owner takes responsibility for the WPSs and PQRs
- b. the WPS's reflect the name of the new owner(s)
- c. the Quality Control System/Quality Assurance Program reflects the source of the PQRs as being from the former manufacturer"

The inspector determined that item "a" above, of the Code had not adequately been documented on the basis that all the approval signatures were UST&D employees and the PQR and WPS issue dates were prior to the date of the Holtec acquisition date of 2006. PQRs and WPSs indicating a review and approval signature by a responsible HMD official after the 2006 acquisition of UST&D by HMD were not available. The Holtec Corporate QA Manager concurred that each of the old UST&D PQRs and WPSs should contain a Holtec review and approval signature. On this basis, Holtec Corporate issued a corrective action (CPV788 dated 4/4/10) for documenting and tracking the evaluation of planned actions.

The inspector also reviewed other PQR's and WP's for compliance to items "b" and "c" above of the Code and determined that requirements had been met.

10 CFR Part 71.111 requires, in part, that the instructions, procedures, and drawings must include appropriate quantitative or qualitative acceptance criteria for determining that important activities have been satisfactorily accomplished.

The inspector reviewed the traveler for fabrication weld 1.1 referenced on Holtec Drawing 6988, Revision 0 and verified that the traveler provided adequate controls for the following welding and NDE processes:

- WPS-247 and WPS-93B
- RT-09121-1 and RT-09121-4

The inspector determined that the welding and NDE processes were in accordance with the HMD process control.

The inspector reviewed several WPS's and determined that they met the requirements of ASME Section IX, QW-250 – Welding Variables. The inspector also reviewed several NDE RT inspection reports and determined that they met the requirements of ASME Section V.

The inspector interviewed the HMD welding engineer to determine what systems were being used to control fabrication welding with regards to the following:

- a. Welding production drawing and changes
- b. Determining the correct WPS for fabrication use
- c. Assigning of qualified welders
- d. Tracking welder qualifications
- e. Issuance of welding materials and tracking usage.

The HMD welding engineer stated that HMD uses a computer-based production routing system to control these items. Because of the HMD self-imposed stop work and the limited amount of completed fabrication the inspector performed a limited review of welding related fabrication travelers and was able to verify that the requirements of the associated procedures were being maintained.

The inspector also reviewed the completed radiograph (RT) report for Holtec drawing No. 6988 rev. 0, fabrication weld 1.2, RT of weld, and verified that the RT process was documented in accordance with the requirements of ASME Section V.

In addition, the inspector reviewed the WPS variables identified in the respective WPS against the WPS variables identified in ASME Section IX, Paragraphs QW-250 through QW-256 to verify compliance with ASME Section IX. The WPSs were found to be compliant with the ASME Section IX Welding Code as an acceptable WPS for the HMD identified process.

c. Conclusions

IPEC demonstrated adequate oversight of HMD to fabricate the STC. Welding and NDE activities were performed by HMD in accordance with approved procedures. Personnel were qualified to perform their assigned functions. No findings of significance were identified.

Exit Meeting Summary

The inspector presented the inspection results to Joe DeFrancesco, Project Manager for IPEC and other Holtec corporate and HMD personnel at the conclusion of this inspection on April 21, 2010. The inspector confirmed that proprietary information was not provided or examined during the inspection.

ATTACHMENT: SUPPLEMENTAL INFORMATION

**SUPPLEMENTAL INFORMATION
PARTIAL LIST OF PERSONS CONTACTED**

- *Kevin Cuthill, Holtec International Corporate
- *Robert Czarnecki, Senior Product Line Manager HMD
- *Joe DeFrancesco, Project Manager, Entergy Indian Point Energy Center
- *Alan Hickman, Manufacturing Support Supply Chain Manager Holtec International Corporate
- *Joe Lasko, QC Engineer HMD
- *John Menhart, Senior Manufacturing Engineer/Welding Engineer, HMD
- *Gregory Miller, Quality Assurance Manager HMD
- Peter Probst, Quality Assurance, URS Washington Division
- *Mark Soler, Quality Assurance Manager Holtec International Corporate

* denotes attendance at exit meeting

INSPECTION PROCEDURES USED

60852 ISFSI Component Fabrication by Outside Fabricators

ITEMS OPEN, CLOSED, AND DISCUSSED

None

LIST OF DOCUMENTS REVIEWED

HMD Procedures:

- HQP-9.1, Rev. 11, Written Practice Qualification of NDE Personnel
- HQP-9.2, Rev.6, Welder Qualification Requirements
- HQP-9.4, Rev.7, Qualification and Performance of Welding Activities
- QCP: 9.2A, Rev. 8, Control and Issuance of SMAW and SAW Weld Filler Metal and Flux
- QCP: 9.6, Rev.15, Liquid Penetration Examination (Water Washable)
- QCP: 9.7, Rev. 8, Magnetic Particle Examination (Dry Particle Method)
- QCP: 10.5 H, Rev. 15, Visual Weld Examination for Holtec Product Lines
- QCP 10.7, Rev. 5, Control of Welding and Removal of Temporary Attachments
- QCP: 10.8, Rev. 6, Repair of Material

LIST OF ACRONYMS USED

ADAMS	Agency wide Documents and Management System
AMSE	American Society of Mechanical Engineers
ASNT	American Society for Nondestructive Testing
CFR	Code of Federal Regulations
HMD	Holtec Manufacturing Division
IPEC	Indian Point Energy Center
NDE	non destructive examination
NDT	non destructive testing
NUPIC	Nuclear Procurement Issues Committee
PQR	procedure qualification records
QA	quality assurance
RAI	request for additional information
RT	radiograph
SFP	spent fuel pool
STC	shielded transfer cask
URS	URS Washington Division
UST&D	U.S. Tool & Die
WPS	Welding Procedure Specifications