



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

May 4, 2000

Ms. Beverly A. Cook, Manager
Idaho Operations Office
U.S. Department of Energy
850 Energy Drive
Idaho Falls, ID 83401-1563

SUBJECT: NRC INSPECTION REPORT 72-0020/00-201

Dear Ms. Cook:

On April 4-5, 2000, the U.S. Nuclear Regulatory Commission (NRC) performed an announced inspection of American Boiler Works, Inc. (ABW) at its facility in Everett, Washington. The purpose of the inspection was to determine if ABW's fabrication of the Model NUHOMS®-12T System dry shielded canisters (DSCs) is conducted in compliance with the requirements of Title 10 of the Code of Federal Regulations (CFR) Part 21, "Reporting of Defects and Noncompliance," and Part 72, "Licensing Requirements for the Independent Storage of Spent Nuclear Fuel and High Level Radioactive Waste,"

ABW is fabricating the DSCs for the U.S. Department of Energy - Idaho Operations Office (DOE-ID) Independent Spent Fuel Storage Installation (ISFSI) located at the Idaho National Engineering and Environmental Laboratory (INEEL) in Idaho Falls, Idaho. The DSCs will provide dry storage for damaged fuel from the Three Mile Island, Unit 2, reactor (TMI-2).

The inspection was limited in scope to a review of portions of DOE-ID's oversight of ABW's QA program implementation. The team determined that DOE-ID, through its subcontractors, provided effective oversight of ABW's QA program. Details of the team's findings are provided in this report. There were no violations identified during this inspection.

B.A. Cook

-2-

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be placed in the NRC Public Document Room (PDR).

No reply to this letter is required. We appreciate your cooperation.

Sincerely,

/RA/

Susan F. Shankman, Deputy Director
Licensing and Inspection Directorate
Spent Fuel Project Office
Office of Nuclear Material Safety
and Safeguards

Enclosure: NRC Inspection Report 72-0020/00-201

cc: Attached List

Docket No.: 72-0020

License No.: SNM-2508

B.A. Cook

-2-

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Sincerely,

(Original Signed by:)

Susan F. Shankman, Deputy Director
Licensing and Inspection Directorate
Spent Fuel Project Office
Office of Nuclear Material Safety
and Safeguards

Enclosure: NRC Inspection Report 72-0020/00-201

cc: Attached List

Docket No.: 72-0020

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**U.S. NUCLEAR REGULATORY COMMISSION
Office of Nuclear Material Safety and Safeguards
Spent Fuel Project Office**

Inspection Report

Docket: 72-0020

License: SNM-2508

Report: 72-0020/00-201

Licensee: U. S. Department of Energy
Idaho Operations Office
850 Energy Drive
Idaho Falls, ID 83401-1563

Inspection Site: American Boiler Works, Inc.
1332 West Marine View Drive
Everett, WA 98201

Inspection Dates: April 4-5, 2000

Inspection Team: W. Ward, Team Leader, SFPO
F. Jacobs, Inspector, SFPO
J. Armenta Jr., Special Agent, R-IV

Approved by: Susan F. Shankman, Deputy Director
Licensing and Inspection Directorate
Spent Fuel Project Office
Office of Nuclear Material Safety
and Safeguards

Enclosure

EXECUTIVE SUMMARY

NRC Inspection Report 72-0020/00-201

On April 4-5, 2000, the U.S. Nuclear Regulatory Commission (NRC) performed an announced inspection of American Boiler Works, Inc. (ABW) at its facility in Everett, Washington. ABW is fabricating the Model NUHOMS®-12T System dry shielded canisters (DSCs). The DSCs are being fabricated for the U.S. Department of Energy - Idaho Operations Office (DOE-ID) Independent Spent Fuel Storage Installation (ISFSI) located at the Idaho National Engineering and Environmental Laboratory (INEEL) in Idaho Falls, Idaho. The DSCs will provide dry storage for core debris from the Three Mile Island, Unit 2, reactor (TMI-2).

The purpose of the inspection was to determine if DOE-ID's oversight of ABW's QA program and fabrication of DSCs is conducted in compliance with the requirements of Title 10 of the Code of Federal Regulations (CFR) Part 21, "Reporting of Defects and Noncompliance," and Part 72, "Licensing Requirements for the Independent Storage of Spent Nuclear Fuel and High Level Radioactive Waste,"

This inspection team found that DOE-ID, through its subcontractors, provided effective oversight of all activities performed by ABW. Good communications existed between the on-site personnel for Transnuclear West, Inc. (TN West), Bechtel BWXT Idaho, LLC (BBWI), and ABW. No violations were found. The inspection team concluded that DOE-ID's oversight ensured that:

- ABW's management controls were effective and responsive to the changing contractual requirements without sacrificing a commitment to quality. ABW implements its Quality Assurance (QA) program independent of cost and schedule concerns.
- ABW's QA program is adequately implemented as required by Subpart G of 10 CFR Part 72. Turnover in the QA department does not appear to have affected the implementation of the QA program.
- ABW has improved its fabrication instructions. The previous DSC fabrication travelers were not clear and concise with regard to some of the action steps contained within. ABW has worked to ensure future travelers do not share the same problem.
- ABW continues to fabricate the DSCs in compliance with the requirements of 10 CFR Parts 21 and 72.

LIST OF ACRONYMS USED

ABW	American Boiler Works, Inc.
BBWI	Bechtel BWXT Idaho, LLC
CFR	Code of Federal Regulations
DOE-ID	U.S. Department of Energy - Idaho Operations Office
DSC	Dry Shielded Canister
INEEL	Idaho National Engineering and Environmental Laboratory
ISFSI	Independent Spent Fuel Storage Installation
M&O	Management and Operating
NRC	U.S. Nuclear Regulatory Commission
QA	Quality Assurance
TMI-2	Three Mile Island, Unit 2
TN West	Transnuclear West, Inc.

INSPECTION PROCEDURE USED

60852, "ISFSI Component Fabrication by Outside Fabricators"

PERSONS CONTACTED

The team held an entrance meeting with representatives from DOE-ID, the management and operating (M&O) contractor for DOE-ID at INEEL, BBWI, TN West, and ABW on April 4, 2000, to present the scope and objectives of the NRC inspection. On April 5, 2000, the team held an exit meeting with representatives from DOE-ID, BBWI, TN West, and ABW to present the results of the inspection. The individuals present at the entrance and exit meetings are listed in the following table.

Table 1
Entrance/Exit Meeting Attendees

	S. Akerman	ABW, Quality Assurance Manager
	J. Armenta, Jr.	NRC, R-IV Special Agent
	R. Ayers	TN West, Quality Assurance Manager
*	D. Baserman	ABW, Project Manager
	B. Bogue	ABW, General Manager
*	D. Coburn	BBWI, Quality Assurance Inspector
	R. Davis	DOE-ID, Quality Assurance Manager
	D. Dreyfus	BBWI, Deputy General Manager
	F. Grygorcewicz	TN West, Quality Assurance Representative
	F. Jacobs	NRC, SFPO, Safety Inspector
	A. Kee	TN West, Project Manager
	M. McCarthy	ABW, Quality Assurance Coordinator
	D. Rodgers	TN West, Quality Engineer
	W. Ward	NRC, SFPO, Inspection Team Leader
	M. Webb	ABW, Quality Control Manager
**	J. Alerico	BBWI, Subcontract Administrator
**	B. Beller	DOE-ID, TMI-2 Project Manager
**	R. Blyth	DOE-ID, Quality Assurance Specialist
**	H. Bohrer	DOE-ID, Director, Quality Assurance Division
**	G. Bowman	DOE-ID, Assistant Manager, Office of Technical Support
**	P. Dirkmaat	DOE-ID, Director, INTEC Programs Division
**	K. Grooms	DOE-ID, Quality Assurance Specialist
**	G. Law	BBWI, Spent Nuclear Fuel Program QA Supervisor
**	C. Maggart	DOE-ID, Deputy TMI-2 Licensing Manager
*	Present at exit meeting only	
**	Present at exit meeting only - via telephone conference	

REPORT DETAILS

1. INSPECTION SCOPE

On April 4-5, 2000, NRC performed an announced inspection of ABW at its facility in Everett, Washington. ABW is fabricating DSCs under contract with TN West. The DSCs are being fabricated for the DOE-ID ISFSI located at INEEL in Idaho Falls, Idaho. The DSCs will provide dry storage for core debris from TMI-2.

The inspection was limited in scope to a review of portions of DOE-ID's oversight of ABW's QA program implementation. The team reviewed documentation, interviewed personnel, and observed activities and facility areas. Documentation reviewed includes the fabrication specification, purchase orders, fabrication tracking systems, fabrication records for 11 completed DSCs, training records, and QA procedures for fabrication.

2. FINDINGS

2.1 Management Controls

The team determined that DOE-ID's oversight of ABW's QA program implementation in this area meets regulatory requirements.

The team noted that ABW has received 15 changes to its contract for the fabrication of the DSCs since fabrication began in November 1998. Significant changes include revision of the nondestructive examination requirements and methods, fabrication records requirements, financial arrangements and DSC delivery schedules. All of these changes could have adversely affected the quality of the DSCs and the applicable fabrication records delivered to DOE-ID. The team found that management had not allowed changes in the contract to adversely impact their commitment to quality.

2.2 Quality Assurance Program

The team determined that DOE-ID's oversight of ABW's QA program implementation in this area meets regulatory requirements.

The team noted that ABW has changed QA managers twice since fabrication began in November 1998. The current QA manager has held the position for 5 months. One individual was hired to assist with external audits and QA program revisions and left after 10 months. ABW has hired a QA coordinator to assist with the coordination of QA activities between the QA, Engineering and Production departments. He has been in the position for 10 months. The team found that the turnover in the QA department has not adversely affected the QA program implementation.

The team found that ABW's QA policies were documented, approved, and implemented. QA personnel authorities and responsibilities were defined and the QA organization functioned as an independent group as depicted by ABW's organization

chart. The team verified that ABW's QA personnel had sufficient freedom and authority to identify and resolve quality problems.

2.3 Fabrication Controls

The team determined that DOE-ID's oversight of ABW's QA program implementation in this area meets regulatory requirements.

The team noted that a large number of corrections are being made to the completed DSC fabrication documents, specifically, the travelers used for the fabrication of the DSCs. These corrections include line-outs to portions of the instructions in individual, previously completed action steps. The line-outs were initialed and dated properly. The corrections were made during document review, well after the action steps were dated as complete, and initialed by personnel not performing the action.

ABW explained that the corrections were made to conform to the preferred method of documenting actual performance of steps as prescribed by TN West. In the past, ABW allowed an overall step to be signed as completed when a portion of the action step was not applicable or required. During review of the document, TN West decided that they would prefer that the un-executed portion of the step be lined out to show that it was not performed (because it was unnecessary). The completed DSC fabrication documents were then corrected to reflect this method and clarify which portions of the steps which were performed.

The team also noted that there were other post-performance revisions to the action steps to correct the names or identification of the procedures or forms used during performance. These revisions identified a procedure or form change since the traveler was created.

ABW's explanations were satisfactory to the inspection team. ABW's travelers are currently up-to-date and include revised travelers to prevent the need for line-outs.

2.4 Oversight of ABW by BBWI and TN West

The team determined that the oversight of ABW by BBWI and TN West was adequate.

The team noted that BBWI and TN West provide on-site surveillance personnel to oversee ABW's fabrication of DSCs. TN West's on-site inspector plays an active role in the process. His presence is required at certain hold points in the fabrication sequence. Additionally, the inspector must give approval of the satisfactory completion of the step. TN West's inspector and ABW maintain open communications with the BBWI on-site inspector and include him in the inspection of the fabrication process. BBWI's inspector is not required to observe hold point steps.

The team found that the on-site surveillance personnel were qualified and knowledgeable of all aspects of the fabrication effort. There appeared to be a good

working relationship and level of communication between on-site surveillance personnel and ABW management.

3. OVERALL CONCLUSIONS

This inspection team found that DOE-ID, through its subcontractors, provided effective oversight ABW's QA program. Good communications existed between the on-site personnel for TN West, BBWI, and ABW. No violations were found. The inspection team concluded that DOE-ID's oversight of ABW ensured that:

ABW's management controls were effective and responsive to the changing contractual requirements without sacrificing a commitment to quality. ABW implements its QA program independent of cost and schedule concerns.

ABW's QA program is adequately implemented as required by Subpart G of 10 CFR Part 72. Turnover in the QA department does not appear to have affected their implementation of the QA program.

ABW has improved its fabrication instructions. The previous DSC fabrication travelers were not clear and concise with regard to some of the action steps contained within. ABW has worked to ensure future travelers do not share the same problem.

ABW fabricates the DSCs in compliance with the requirements of 10 CFR Parts 21 and 72.

4. EXIT MEETING

On April 5, 2000, at the conclusion of the inspection, the team held an exit meeting with DOE-ID, TN West, BBWI, and ABW management to present the inspection results. Representatives in attendance acknowledged the inspection results presented by the teams. A list of those in attendance is provided in Table 1.