



U.S. Department of Energy
Office of River Protection

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03-OSR-0302

Mr. J. P. Henschel, Project Director
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Dear Mr. Henschel:

CONTRACT NO. DE-AC27-01RV14136 – CONFIGURATION MANAGEMENT (CM)
INSPECTION REPORT A-03-OSR-RPPWTP-017

Reference: BNI letter from J. P. Henschel to R. J. Schepens, ORP, "Transmittal of Configuration Management Path Forward – July 2003 Benchmark," CCN-065241, dated August 12, 2003.

This letter forwards the results of the U.S. Department of Energy, Office of River Protection (ORP) inspection of the Bechtel National, Inc. (BNI) CM process for the Waste Treatment and Immobilization Plant (WTP) conducted during the period July 21 through 25, 2003. For CM, the Contractor had selected the International Standard ISO 10007:1995(E), *Quality Management – Guidelines for Configuration Management* as their committed Safety Requirements Document implementing standard. The primary focus of the inspection was to assess the Contractor's effective implementation of this standard to conduct work during the design and construction of the facility.

The inspectors concluded BNI's implementation of the CM program was improving and supported the design and construction efforts. The inspectors had no new Findings as a result of this inspection. BNI demonstrated improved ownership of the CM program by implementing organizational changes and increasing oversight of the CM program.

Corrective actions from BNI's oversight activities were documented in the Reference. This "Path Forward" provides appropriate milestones to ensure the corrective actions are implemented in a timely fashion to maintain WTP configuration during the design and construction phases of the project. The milestones also provide assurance that the CM program will continue to evolve to support commissioning and operations of the WTP.

Mr. J. P. Henschel
03-OSR-0302

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Details of the inspection are in the enclosed inspection report. If you have any questions, please contact me, or your staff may call Robert C. Barr, Director, WTP Safety Regulation Division, (509) 376-7851.

Sincerely,

OSR:JEA

Roy J. Schepens
Manager

Enclosure

cc w/encl:
G. Shell, BNI

U.S. DEPARTMENT OF ENERGY
Office of River Protection
WTP Safety Regulation Division

INSPECTION: Configuration Management

REPORT: A-03-OSR-RPPWTP-017

FACILITY: Bechtel National, Inc.

LOCATION: 2435 Stevens Center
Richland, Washington 99352

DATES: July 21-25, 2003

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EXECUTIVE SUMMARY

Configuration Management (CM)

INTRODUCTION

This inspection of the Contractor's CM activities covered the following specific areas:

- CM program;
- Application of CM to subcontractors and vendors;
- Organization for managing CM program and implementation;
- Identification and documentation;
- Change control;
- Status tracking and reporting; and
- Configuration audit.

SIGNIFICANT OBSERVATIONS AND CONCLUSIONS

- The Contractor had implemented an adequate CM program by including all four activities (identification and documentation, change control, status tracking and reporting, and configuration audit) required by the CM Standard in the CM Plan. The Contractor had self-identified insufficient implementing procedures. Corrective actions for those deficiencies were being tracked in the Contractor's Corrective Action Program and in the *Configuration Management Path Forward-July, 2003 Benchmark*,¹ (CM Program Path Forward). The Contractor's CM training was adequate to support design and construction activities for the project. The inspectors opened Assessment Follow-up Item (AFI) A-03-OSR-RPPWTP-017-A01 to follow up the corrective actions committed in the CM Program Path Forward. (Section 1.2)
- The Contractor had adequately established procedures for the application of CM to subcontractors and vendors with some program weaknesses identified in the Contractor's corrective action programs. The Contractor had performed adequate surveillances and self-assessments, and identified weaknesses in the implementation procedures for purchasing materials and services. The Contractor had not completed corrective actions and the implementation deficiencies had not been corrected. Completion of corrective actions for subcontractor and vendor CM were documented in the CM Program Path Forward. These corrective actions will be tracked by AFI A-03-OSR-RPPWTP-017-A01. (Section 1.3)
- The Contractor's CM organizational structure had sufficient independence and authority to achieve the required CM objectives and to provide effective implementation of the CM objectives throughout the project. Strong ownership of the CM program was

¹ BNI letter from J. P. Henschel to R. J. Schepens, ORP, "Transmittal of Configuration Management Path Forward – July 2003 Benchmark," CCN-065241, dated August 12, 2003.

demonstrated by the Engineering Manager which resulted in effective oversight of the CM program. (Section 1.4)

- The Contractor's program for selection and identification of all structures, systems, and components as configured items (CI) was adequate for current design and construction activities with the exception of Contractor-identified deficiencies (concerning the selection of CIs based on a selection process and selection criteria to support the transition to the commissioning phase). The CM databases (CONRAD, CIS, and INTTools) were generally adequate information technology platforms for numbering components and creating relationships between CIs, configured documents, and configuration changes; however, CIS and INTTools are not considered quality databases yet and need further management attention to use for CM purposes. This issue was self-identified by the Contractor and corrective actions were being tracked in the Contractor's corrective action program. Completion of these corrective actions were documented in the CM Program Path Forward. These corrective actions will be tracked by AFI A-03-OSR-RPPWTP-017-A01. (Section 1.5)
- The Contractor had adequate procedures to implement change control requirements of the SRD, as described in the project CM Plan, in a manner appropriate for the early construction phase of the project. The inspectors also concluded these procedures were being adequately implemented. However, two issues were identified: (1) the inspectors identified an issue associated with the documentation and verification of complex design changes affecting multiple CDs and CIs. The inspection team determined the Contractor's design change process did not require an explicit identification of all CIs and CDs affected by a proposed change prior to approval of the change or a specific verification of the correct implementation of the change following its approval as specified in the CM Standard. The ORP will continue to evaluate the Contractor's implementation of design changes that involve multiple CDs and CIs during the upcoming design process assessment. In addition, the ORP will monitor the actions taken by the Contractor with regard to CAR 03-149 and RITS-QAIS-03-553, which are related to this issue. These activities will be tracked under AFI A-03-OSR-RPPWTP-017-A02; and (2) the inspectors noted DCA documents were being attached to drawings issued by project document control with CONRAD identifying many DCAs as approved design change documents. Contrary to the information in CONRAD, DCAs are not approved design change documents. ORP will verify references to DCAs as approved design change documents have been removed from CONRAD during a future assessment. The Contractor informed the inspectors design document linkage to DCAs in CONRAD would be purged. The inspectors opened Follow-up Item AFI A-03-OSR-RPPWTP-017-A03 to perform future verification that references to DCAs as approved design change documents have been removed from CONRAD. (Section 1.6)
- The Contractor addressed CM status tracking and reporting programmatically in the CM Plan. The Contractor, however, did not have adequate procedures to support the plan. This issue was self-identified by the Contractor and corrective actions were being tracked in the Contractor's corrective action program. Completion of these corrective actions was

documented in the CM Program Path Forward. These corrective actions will be tracked by AFI A-03-OSR-RPPWTP-017-A01. (Section 1.7)

- The inspectors concluded the CM program oversight was improved and effective based on the significantly increased number and substance of CM implementation assessments and surveillances; assessments and surveillances proactively identifying CM issues and documenting the issues using the Contractor's corrective action program; and CM ownership was evident in the commitment and attention management provided to the program. (Section 1.8)

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CONFIGURATION MANAGEMENT (CM) INSPECTION

1.0 REPORT DETAILS

1.1 Introduction

At the time of the U.S. Department of Energy (DOE), Office of River Protection (ORP) inspection, Bechtel National, Inc. (the Contractor) was approved to work the River Protection Project Waste Treatment and Immobilization Plant (WTP) under the full Construction Authorization Agreement (CAA), with the project 49% design complete and 13% construction complete according to the Contractor status report of August 2003. Construction activities primarily consisted of base mat concrete pours and installation of important-to-safety (ITS) reinforcement steel for walls to grade for the major facilities. Based on last years inspection, which stated "...a number of implementation issues were identified relative to effective CM and warrant prompt management attention," the new Engineering Manager was in the early stages of implementing a revised CM Plan as well as issuing approved drawings for construction and procurement through Project Archives and Document Control (PADC). The Contractor recently reassigned several key managers including the Project Manager, the Engineering Manager, the Process Engineering Manager, and the PADC Manager. The Contractor increased emphasis on design change control, CM and linkage of change documents with the design prints and based on oversight conducted over the last six months, the Contractor had issued *Configuration Management Path Forward-July, 2003 Benchmark*,¹ (CM Program Path Forward) capturing their future commitment to correct existing problems.

The Contractor's authorization basis (AB) for CM was described in Safety Requirements Document (SRD) Safety Criteria 4.0-1 and 4.0-2, *Engineering and Design*, Quality Assurance Manual (QAM), Policy Q-07.1, *Control of Purchased Items and Services*, and International Standard ISO 10007:1995(E), *Quality Management – Guidelines for Configuration Management*. The Contractor was implementing the CM program via 24590-WTP-PL-MG-01-002, *RPP-WTP Configuration Management Plan* (the CM Plan) which was the basis for compliance with *International Standard ISO 10007:1995(E)*, *Quality Management – Guidelines for Configuration Management* (the CM Standard).

The inspectors focused on the results of the Contractor's efforts to improve CM processes including design change control as observed by the CM databases and field drawings supporting the design and construction phase of the facility. The inspectors assessed the ownership and oversight by management to identify weaknesses and manage issues into a path forward. The inspectors assessed the database tools needed to transition to commissioning and operations of the facility.

¹ BNI letter from J. P. Henschel to R. J. Schepens, ORP, "Transmittal of Configuration Management Path Forward – July 2003 Benchmark," CCN-065241, dated August 12, 2003.

1.2 Configuration Management Program (Inspection Technical Procedure [ITP] I-102)

1.2.1 Inspection Scope

The inspectors reviewed the scope and structure of the CM Plan, the set of procedures established for implementing this plan, the management assessments of the CM program, quality assurance (QA) surveillances and Corrective Action Reports (CARs) associated with CM, and a sampling of the design drawing as issued by PADC to the Construction site. This review was performed to assess the Contractor's effective implementation of the CM program to provide quality databases and documents to the designer and the field construction authority. The inspection also included CM training, program oversight (audits and management self-assessments), and integration of major elements of the CM program required by the CM Standard.

1.2.2 Observations and Assessments

1.2.2.1 CM Plan

The inspectors reviewed the current CM Plan to assess its compliance to the CM Standard as well as its ability to support all phases of the facility life cycle. The CM Plan included all the activities required by the CM Standard for the design and construction phase which include:

- Identification and documentation.
- Status tracking and reporting.
- Change control.
- Configuration audit.

The present CM Plan is adequate as written in this area for this phase of the project, but as discussed in Section 1.2.2.2, the Contractor has identified several of these activities did not have adequate implementing procedures. Additionally, the CM Plan, as currently written, does not adequately describe the identification and documentation activity to support the commissioning phase of the project. This issue was self-identified by the Contractor. The Contractor's actions to modify the CM Plan are discussed below.

The inspectors interviewed the Commissioning and Test (C&T) Manager to determine his involvement and interface with the CM Plan development to address the weakness in the CM Plan which affected the commissioning phase. During the interview, the inspectors were informed plans were being developed for the details of configuration management in support of the commissioning phase (includes startup test, maintenance, surveillance, and operations) including the refinement of the identification and documentation of configured items (CI) including the subcomponent identification as needed. The C&T Manager informed the inspectors a Six Sigma Team project charter was being requested, to assist in the development of the CM Plan for the commissioning phase. Additional interviews were conducted with the Engineering Manager, the Process (and Deputy Process) Engineering Managers, the acting Systems Engineering Manager and the C&T Manager and confirmed the CM program was

currently under development for the commissioning phase, which would be included in the CM Program Path Forward and implemented in a future CM Plan revision. The inspectors reviewed the CM Program Path Forward, and verified the improvements to the CM Plan for the commissioning phase of the project were included. This will be tracked via Assessment Follow-up Item (AFI) A-03-OSR-RPPWTP-017-A01.

1.2.2.2 Implementing Procedures

The inspectors reviewed the Contractor's CM implementing procedures against the CM Standard, Section 4.2.1, which defined the four CM activities mentioned in Section 1.2.2.1. The inspector's review of the Contractor implementing procedures (see Section 3.4) identified three of the four areas did not have sufficient implementing procedures (change control being the exception). The Contractor had previously identified most of this problem during the performance of QA surveillance 24590-WTP-SV-QA-03-110 and issued CAR-QA-03-056, dated February 26, 2003. The CAR documented the failure to write implementing procedures for CM status tracking and reporting and configuration audit.

The inspector's review of the CM implementing procedures against the CM Plan determined the Contractor also did not provide a procedure for the selection process or criteria used for identification and documentation of CIs. The Contractor indicated a revision to the CM Plan was included in the CM Program Path Forward, and this would include a procedure for the selection criteria for determining the subset of structures, systems, and components (SSC) designated as CIs such that the CIs supported the commissioning phase as well as the current design and construction needs. The Contractor documented the need for a selection process and criteria for CI identification in the Quality Assurance Information System (QAIS) as 24590-WTP-RITS-QAIS-03-711. The inspectors concluded the current categories of identified CIs supported the WTP for the design and construction phase, however, the CI selection criteria process was inadequate to support the commissioning phase transition. The inspectors reviewed the CM Program Path Forward and verified the improvements to the CM Plan and procedures for the selection process and selection criteria for CIs were included in the Contractor's submittal. Completion of these improvements will be tracked via AFI A-03-OSR-RPPWTP-017-A01.

In addition a CAR-QA-03-144, dated July 3, 2003, was issued during the review of the CM Management Self Assessment (draft copy provided to inspectors). The CAR documented the lack of implementing procedure for the Component Identification System (CIS), however, it did not document the failure to have implementing procedures for identification and documentation, which includes the selection process and criteria for CIs. The Contractor acknowledged insufficient implementing procedures for identification and documentation of CI's for the selection of CI for the transition to the commissioning phase. This issue was previously discussed in Section 1.2.2.1 of this report. The inspectors reviewed the CM Program Path Forward, and verified the improvements to the CM Plan for implementing procedures for selection of CIs were included in the Contractor's submittal. Completion of these improvements will be tracked via AFI A-03-OSR-RPPWTP-017-A01.

The inspectors also reviewed the Contractor implementing procedures associated with inputting the design process changes to the CM Database (CONRAD). The Contractor had multiple CM implementing procedures describing processes such as design change control, document control, component numbering, etc. During the last CM inspection, the Contractor acknowledged the lack of and need for the refining some of the engineering procedures to clearly link CM information in CONRAD. These linkages were implemented in November 2002 and subsequently monitored for quality control purposes via a series of design change control document reviews conducted by the CM organization. The reviews were performed by a sampling of the CM-enabling change control documents over a six-month period. During these reviews the Contractor also identified and corrected programmatic and implementation problems associated with the entry and retrieval of information in the CM Database. The inspector's review of the Contractor's implementing procedures verified the existence of these linkages. The inspectors also used vertical slice reviews of three systems (HLW Vitrification Secondary Offgas Treatment, HLW Melter Offgas Melter 1 Secondary Offgas Treatment, and Fire Protection System Fire Water Main Loop System) to verify these linkages existed in CONRAD.

During the vertical slice review of the systems, the inspectors requested and received drawing 24590-BOF-M6-FSW-00001, *Piping & Instrument Diagram Fire Protection System Fire Water Main Loop System FSW, Revision 2*, without the associated approved design change documents affecting the drawing. This was the subject of a previous finding during the last CM inspection.² The inspectors interviewed the PADC Manager and determined the prints had been made and issued per the understood work function. The inspectors concluded, this was an isolated occurrence involving the loss of material during delivery to the inspectors. The inspectors reviewed the report of the previous readiness review for full construction authorization.³ Based on the review of this report, Finding IR-02-007-02-FIN is closed.

1.2.2.3 CM Training

The inspectors reviewed the CM training requirements for project personnel. Project personnel required to have an understanding of CM to perform their work, (as identified in their training profiles) were required to take computer based training course 24590-WTP-CBT-TRA-000400. Classroom training on CM management expectations was provided to engineering managers and supervisors through course 24590-WTP-CRM-TRA-000603. The inspectors reviewed the training material for both courses and found them adequate to cover the essentials of CM. The inspectors reviewed the training profiles for twenty engineers and managers and confirmed the required training had been completed. The inspectors also interviewed a sample of design engineers and engineering managers to assess the implementation of training in the area of CM. Personnel interviewed were knowledgeable regarding the elements of CM as it related to their job functions.

² CCN 036534. Letter, R.C. Barr, OSR, to R.F. Naventi, BNI, "Inspection IR-02-007-Configuration Management Inspection," dated July 8, 2002.

³A-03-OSR-RPPWTP-011, *Pretreatment Facility Construction Authorization Readiness Inspection Report for the Period March 3 – 13, 2003*, dated April 14, 2003, Section 1.10.

1.2.2.4 Effectiveness of CM Implementation at the Construction Site

The inspectors observed how design changes were posted across project organizational interfaces by reviewing a set of design prints both at PADC and at the Construction Site document control stick files.

The inspectors reviewed six drawings at the construction site "Controlled Sticks" (see Section 3.4 for listing) to determine the implementation by PADC to provide the current revision of documents. Concurrently, the inspectors checked CONRAD to obtain the design change documents associated with the earlier revisions of the same drawings to ensure the current revision of drawings reflected the appropriate design change documents.

The review concluded all affected documents were identified in CONRAD and were incorporated in the current revisions of the drawings. However, two of the drawings, 24590-PTF-DD-S13T-203 and HLW-DG-S13T-00064 did not include the latest revisions on the "Controlled Stick". These drawings were issued on July 17, 2003, which was in compliance with the Field Project Document Control procedure, 24590-WTP-GPP-CON-7107, Revision 2, *Controlled Sticks* (required stick files to be updated within 7 days of listing in CONRAD), but later than PADC management expectations (daily update). Hence, the project was in compliance with their procedures even though they did not meet management expectations.

The inspectors conducted an additional sampling of 10 drawings (see Section 3.4 for listing) to validate managements expectations were normally being met. The inspector's review determined the status in CONRAD was reflected both by prints issued by PADC and matched controlled sticks files in the field, including posted design changes. No problems were identified as a result of this sample analysis; therefore, the inspectors concluded no issue existed.

1.2.3 Conclusions

The inspectors concluded the Contractor had implemented the CM program by including all four activities required by the CM Standard in the CM Plan and noting insufficient implementing procedures in CAR-QA-03-056 and RITS 24590-WTP-RITS-QAIS-03-711, which were captured in the CM Program Path Forward. The Contractor's CM training was adequate to support design and construction activities for the project. The inspectors opened Assessment Follow-up Item (AFI) A-03-OSR-RPPWTP-017-A01 to follow-up the corrective actions committed in the CM Program Path Forward, which addressed the issues noted in CARs.

1.3 Application of CM to Subcontractors and Vendors

1.3.1 Inspection Scope

The inspectors reviewed the CM requirements, the CM Plan, and the implementing procedures to assess the adequacy of the Contractor's program for CM of procured material and services. The inspectors also interviewed Contractor management and staff, reviewed procurement documents,

and corrective action documents to verify Contractor implementation of the CM program for procured material and services.

1.3.2 Observations and Assessments

The inspectors reviewed both subcontractor and vendor CM in a three part analysis, which included (1) a program review (i.e. sufficient implementing procedures), (2) an implementation review (i.e. are the implementing procedures being followed, and (3) an oversight review (i. e. are the problems with implementation identified and documented by the Contractor). Since the contracts and subcontracts did not require the vendors and subcontractors to follow the BNI CM Plan, only the aspects described in the contracts with the vendors and subcontractors is discussed. The CM activity that applies to vendors and subcontractors is primarily design change control, which was the emphasis of the inspection.

1.3.2.1 Application of CM to RPP-WTP Material Vendors

1.3.2.1.1 Program Review

The inspectors examined the following procedures and plans to understand how CM requirements were imposed on material vendors:

- 24590-WTP-3DP-G06B-00001, *Material Requisitions*.
- 24590-WTP-3DP-G04B-00005, *Configuration Management*.
- 24590-WTP-PL-MG-01-002, *RPP-WTP Configuration Management Plan*.
- 24590-WTP-3DP-G04B-00063, *Supplier Deviation Disposition Request*.

Contractor procedure, *Material Requisitions*, required specifications and drawings providing requirements for materials to be included in Material Requisitions (MR) and Purchase Orders (PO) for procurement of materials. Contractor procedure, *Supplier Deviation Disposition Request*, required vendor requests for changes and deviations from specifications and drawings (design change control) be submitted and approved by the Contractor by means of Supplier Deviation Disposition Requests (SDDR). The procedures required Contractor Acquisition Services and Engineering personnel to process the SDDRs and change, if necessary, the drawings and specifications using the appropriate WTP CM process, i.e., drawing change, specification change, Field Change Request (FCR), Design Change Notice (DCN), or Specification Change Notice (SCN). The inspectors determined the Contractor had an adequate program for application of CM to vendors.

1.3.2.1.2 Implementation Review

The inspectors reviewed MR 24590-QL-POA-PPO2-00010, PO 24590-QL-POA-PPO2-00010, PO 24590-QL-POA-ADDH-00002, and PO 24590-QL-POB-MKAS-00001 to assess implementation of procedural requirements for the application of CM to vendors. The inspectors found the MR and POs appropriately implemented the procedural requirements for flow down of CM to vendors. The MR and POs specified the drawings and specifications for the material, and

required deviations from the drawings and specifications be submitted for Contractor approval by means of SDDRs.

The inspectors reviewed the following documents to determine if the CM electronic database management system (EDMS, CONRAD) input for the SDDRs (to establish the CM linkage) was maintained by linkage of the SDDRs with applicable design documents:

- SDDR 24590-WTP-SDDR-PROC-03-0154.
- SDDR 24590-WTP-SDDR-PROC-03-0058.
- SDDR 24590-WTP-SDDR-PROC-02-0028.
- SDDR 24590-WTP-SDDR-PROC-02-0025.
-

The inspectors observed SDDRs in general, were being linked with applicable design documents.

The inspectors discussed the CM data base information with PADC managers. The *Supplier Deviation Disposition Request* procedure required PADC to establish affected document links in the EDMS between the SDDR and the design documents identified in the “Documents Affected” box of the SDDR form. The procedure also required a link to be established with the purchase order identified in the “WTP-P.O. & Rev. No.” box.

1.3.2.1.3 Oversight Review

The inspectors reviewed the following oversight documents to assess the effectiveness of the Contractor oversight for implementation of procedural requirements for the application of CM to vendors:

- *Configuration Management Assessment – June 2003 DRAFT.*
- *Configuration Management Implementation Review of Acquisition Services, and QA Surveillance Reports.*
- Surveillance 24590-WTP-SV-QA-03-151.
- Surveillance 24590-WTP-SV-QA-03-160.

Surveillance 24590-WTP-SV-QA-03-151 was performed by QA to evaluate the effectiveness of the SDDR process and to close CAR 24590-WTP-CAR-QA-02-144 (this CAR identified deficiencies in the implementation of the SDDR process). This surveillance found 88 of 147 SDDRs reviewed were not appropriately processed. The surveillance concluded (1) SDDR dispositions were not incorporated into revised design documents, (2) incorporation of SDDRs identified deficiencies by reference of the SDDRs in the design documents had not been incorporated into the design documents, and (3) inadequate justification of SDDR dispositions. Based on this surveillance, QA issued CAR 24590-WTP-CAR-QA-03-104 to initiate corrective actions for the SDDR problems, and evaluated this to be a significant CAR, requiring a root cause investigation of the SDDR problems. At the time of the inspection, CAR 24590-WTP-CAR-QA-03-104 root cause investigation had not been completed, and the results of the investigation had not been approved. Some corrective actions had been initiated but not yet completed, and CAR 24590-WTP-CAR-QA-03-104 was still open. The inspectors discussed the

CARs with Contractor CM managers and were informed corrective action for the CARs and the root cause analysis would be included in the CM Path Forward document. The inspectors concluded oversight in this area was thorough. The inspectors opened Assessment Follow-up Item (AFI) A-03-OSR-RPPWTP-017-A01 to follow-up the corrective actions committed in the CM Program Path Forward, which addressed the issues noted in CARs.

1.3.2.2 Application of CM to WTP Subcontractors

1.3.2.2.1 Program Review

The inspectors reviewed the following documents to ascertain CM requirements were imposed on subcontractors:

- 24590-WTP-3DP-G06B-00002, *Subcontracts*.
- 24590-WTP-GPP-CON-4101, *Construction Subcontract Management*.
- 24590-WTP-GPP-CON-3103, *Field Change Requests (FCRs)/Field Change Notices (FCNs)*.
- 24590-WTP-3DP-G04B-00062, *Disposition of Field Change Request/Field Change Notice*.
- 24590-WTP-3DP-G04B-00005, *Configuration Management*.
- 24590-WTP-PL-MG-01-002, *WTP Configuration Management Plan*.
- 24590-WTP-3DP-G04B-00063, *Supplier Deviation Disposition Request*.

The Contractor procedure, *Subcontracts*, stated specifications and drawings specifying the requirements for subcontracted services will be included in Service Requisitions (SR) and Subcontracts for procurement of subcontracted services. Contractor procedures *Subcontracts* also required subcontractor requests for changes and deviations from specifications and drawings be submitted and approved by the Contractor by means of a “Subcontractor Request for Change” (SRC) form. Contractor’s Acquisition Services, Construction, and Engineering personnel were required to process the SRCs and change, if necessary, the drawings and specifications using the appropriate WTP CM process, i.e., drawing change, specification change, Field Change Request (FCR), Design Change Notice (DCN), or Specification Change Notice (SCN). Based on the above procedures, the inspectors determined the Contractor had an adequate program for application of CM to subcontractors. No issues were identified in this area.

1.3.2.2.2 Implementation and Oversight Review

The inspectors reviewed the following oversight documents to assess how well the Contractor had provided oversight in the area of implementation of procedural requirements for the application of CM to subcontractors:

- *Configuration Management Assessment – June 2003(Draft)*.
- *Configuration Management Implementation Review of Acquisition Services*.
- *QA Surveillance Report 24590-WTP-SV-QA-03-151*.
- *QA Surveillance Report 24590-WTP-SV-QA-03-160*.

QA Surveillance Report 24590-WTP-SV-QA-03-151 and 24590-WTP-SV-QA-03-160 also identified deficiencies in the use of Requests for Information (RFIs) by a subcontractor and the lack of requirements for the use of SDDRs in two subcontracts. The deficiencies were documented in CARs 24590-WTP-CAR-QA-03-076 and 24590-WTP-CAR-QA-03-107. At the time of the inspection, corrective action for the identified conditions had not yet been completed and the CARs were still open.

The inspectors discussed CARs 24590-WTP-CAR-QA-03-076 (CAR-076) and 24590-WTP-CAR-QA-03-107 (CAR-107) with Contractor Acquisition Services, Construction, and Engineering personnel. As part of the corrective actions, Revision 3 of the *Construction Subcontract Management* procedure deleted the use of RFIs and SDDR by subcontractors. The procedure changed the mechanism for subcontractor requests for changes to the new SRC form and process. However, the inspectors observed the recent procedure change had not yet been fully implemented. The CM Plan, section 4.2.7, still required proposed deviations from procurement documents (including drawings and specifications), to be documented by means of SDDRs without distinction for subcontractors. The inspectors reviewed Construction Subcontract 24590-QL-SRA-MTF5-00001 and SR (not yet awarded) 24590-CM-SRA-PY21-00003 00001 to assess implementation of procedural requirements for the application of CM to subcontractors. The inspectors found the subcontract and the SR specified the drawings and specifications for the material, and required deviations from the drawings and specifications to be submitted for Contractor approval by means of SDDRs. Subcontract 24590-QL-SRA-MTF5-00001, Exhibit "P" Attachment B, Subcontractor Submittal Requirements Summary for Quality Verification Documents, item 33 still required the use of SDDRs. Service Requisition (not yet awarded) 24590-CM-SRA-PY21-00003, Exhibit E, *Engineering Specifications*, Section 9.10, *Material Certificates/Statistics* still required the subcontractor to submit a SDDR for use of alternate materials in the design. The inspectors concluded the assessments and surveillances performed were thorough and complete with corrective actions defined. However, the corrective actions described in CAR -076 and CAR-177 (use the SRC instead of the RFI/SDDR) had not been implemented yet for all subcontractors. The Process Engineering Manager acknowledged this during an interview just prior to the exit for this inspection and indicated the Contractor was in the process of correcting the above inconsistencies. This was found acceptable by the inspectors.

1.3.3 Conclusions

The inspectors concluded the Contractor had adequately established procedures for the application of CM to subcontractors and vendors with program weaknesses identified in CARs. The Contractor had performed adequate surveillances and self-assessments, and identified and documented weaknesses in the implementation procedures establishing CM requirements for purchasing materials and services. The Contractor had not yet completed corrective actions for the CARs and the implementation deficiencies had not yet been corrected. The inspectors previously opened AFI A-03-OSR-RPPWTP-017-A01 to follow-up the corrective actions committed in the CM Program Path Forward, which addressed the issues noted in the CARs 24590-WTP-CAR-QA-03-076, CARs 24590-WTP-CAR-QA-03-104, and 24590-WTP-CAR-QA-03-107 discussed above.

1.4 Organization for Managing CM Program and Implementation (ITP I-102)

1.4.1 Inspection Scope

The inspectors reviewed the CM Plan and implementing procedures, organizational charts, surveillance reports and associated CARs; conducted interviews with BNI management and staff; and observed the CM program implementation across project organizational interfaces, to assess whether the Contractor CM organizational structure had sufficient independence and authority to achieve the required CM objectives and to provide effective implementation of the CM objectives throughout the project.

1.4.2 Observations and Assessments

The inspectors reviewed the organizational chart, the CM Plan and the CM implementing procedure 24590-WTP-3DP-G04B-0005, Rev. 2, dated July 1, 2003, and concluded major organizational changes had occurred to the CM program subsequent to the last inspection in July 2002. The inspectors interviewed the Project Director, who indicated the process of incorporating CM to the design and construction phase had taken too long and changes were needed to speed up the process. In the previous inspection,⁴ the Engineering Manager stated the Engineering organization did not have the authority or responsibility to oversee CM for the entire project, but rather, it only had the responsibility as the design authority for oversight of CM within the Engineering Department. During this inspection, the inspectors assessed the ability of the new Engineering Manager to demonstrate his responsibility and authority to oversee and manage CM for the project.

The inspectors reviewed two areas to better understand how the new Engineering Manager demonstrated his responsibilities and authorities to oversee and manage CM. The first involved the oversight for the overall Project. The inspectors reviewed all forms of oversight on the project to assess the authority, independence, and impact of the organizational changes implemented by the Engineering Manager. The inspector's review of the surveillance program indicated surveillances 24590-WTP-SV-QA-03-108 Rev. 0, dated February 21, 2003, and 24590-WTP-SV-QA-03-110 Rev. 1, dated March 31, 2003, had been performed in close proximity to the management changes. The CARs 24590-CAR-QA-03-056 and 24590-CAR-QA-03-057, issued as a result of these two surveillances set in motion a series of actions to implement change to the CM program. Included in these actions were the steps needed to develop missing implementing procedures necessary for the CM Plan to be properly implemented (previously discussed in Section 1.2.2.2 of this report). In addition, 24590-CAR-QA-03-057 defined a series of steps necessary to identify and rectify CM implementation problems.

The inspectors reviewed oversight and corrective action processes across project organizational interfaces to assess the CM program corrective action implementation. The inspectors reviewed numerous (51) QA CM surveillances, which identified weaknesses in the CM program and

⁴ ORP letter from R. C. Barr to R. F. Naventi, BNI, "Inspection IR-02-007 Configuration Management Inspection," 02-OSR-0270, dated July 8, 2002.

resulted in the initiation of CARs for the identified weaknesses (See Section 1.8). In addition, Engineering initiated six monthly assessments performed by the CM organization to identify, rectify, and improve PADC CM database (CONRAD) data quality (See Section 1.8). The assessments also provided a quality control (QC) process for continuing the input of quality data into CONRAD. The Engineering Manager also completed a major self-assessment on CM, which is discussed in Section 1.8.2. Through these combined efforts, the CM objectives of supporting implementing procedures, quality CM Databases, and accurate status of CM for design and field implementation were pursued to the end point of identifying and documenting corrective actions. The inspectors previously opened Assessment Follow-up Item (AFI) A-03-OSR-RPPWTP-017-A01 to follow-up the corrective actions committed in the CM Program Path Forward, which addressed the issues noted in the CARs 24590-CAR-QA-03-056 and 24590-CAR-QA-03-057.

The second area the inspectors evaluated involved how the Engineering Manager exercised his authority and responsibility to ensure organizational structure supported the CM program. As previously discussed in Section 1.1, the management chain of command for CM had been substantially altered with new personnel from the Project Manager through the CM Supervisor. In addition Engineering Manager had re-organized the PADC organization to report to Engineering since this organization is responsible for a major part of CM. The inspectors interviewed the new PADC Manager to assess the implementation of the CM responsibilities of PADC (responsible for receiving and linking CM data from Engineering and transmitting to construction) and to observe a demonstration of the CONRAD, the Contractor's CM electronic document management system, relative to the inter-linkage of design change documents to their associated design drawings. PADC acknowledged the responsibility for receiving design information transmitted from the Engineering organization, inputting, distributing, and maintaining this information for the project and referred to the measurable progress in the receiving and linkage of engineering CM data to CONRAD as indicated in the design change control reviews performed in the last six months (See Section 1.8). The PADC manager discussed her CM responsibilities and demonstrated her extensive nuclear background and knowledge of CM. The inspectors noted during the interview a new WTP CM Database, InfoWorks, was being brought into service by PADC in the near future.

1.4.3 Conclusions

The inspectors concluded the Contractor's CM organizational structure had sufficient independence and authority to achieve the required CM objectives and to provide effective implementation of the CM objectives throughout the project. The strong ownership of CM by the Engineering Manager resulted in effective project oversight identifying issues needing correction to achieve goals, and the effective implementation of CM in the CM Database supporting design and construction efforts. The inspectors previously opened AFI A-03-OSR-RPPWTP-017-A01 to follow-up the corrective actions committed in the CM Program Path Forward, which addressed the issues noted in the CARs 24590-CAR-QA-03-056 and 24590-CAR-QA-03-057.

1.5 Identification and Documentation (ITP I-102)

1.5.1 Inspection Scope

The inspectors reviewed the Contractor's process to select, identify, and document CI and configured documents (CD), including the numbering conventions used for the WTP to assess the effective implementation of the CM Standard. The inspectors reviewed the ownership and control of CM databases to assess the effective implementation of their use to support all phases of the project lifecycle.

1.5.2 Observations and Assessments

1.5.2.1 Configured Item Identification

The inspectors observed the CM Plan paralleled the CM Standard relative to specifying the conventions for uniquely numbering CIs and establishing relationships between the items, their associated CD, and changes to each. Numbering conventions were established for managing the following:

- The hierarchical (or subordinate) relationship between CIs.
- The hierarchical (or subordinate) relationship of components in each CI.
- The relationship between CIs and CDs.
- The relationship between CDs and changes to those documents.

The inspectors reviewed project procedures to determine if numbering conventions had been established for CIs (SSCs, interfaces, plant-installed software, and Authorization Basis (AB) documents. Procedure 24590-WTP-GPP-PADC-001, *RPP-WTP Document Numbering*, specified the conventions for numbering CDs, such as AB documents and interface control documents (ICDs); as well as design drawings, system descriptions, and specifications; etc. The inspectors reviewed several of these documents and confirmed they were uniquely numbered in accordance with the cited procedure.

The Contractor established numbering conventions for plant items/components in procedure 24590-WTP-3DP-G03B-00044, *Standard Component Numbering*. The Contractor assigned unique numbers to CIs through the Component Information System (CIS) software database for components other than instruments. CIS was complemented by and integrated with, INTTools, a software database used to assign unique numbers to instruments. CIS, INTTools, and the CONRAD electronic data management system comprised the "CM Database." CIS and INTTools were administered by Engineering while CONRAD was administered by PADC.

A Design Engineering supervisor and an engineering manager described the use of the CIS database to the inspectors and provided a demonstration of the operation. CIS contained a set of data for each component, which was entered by the responsible engineering discipline (there was no central control of the data, although there was central control of the program). However, a recent management assessment of CM reported some inconsistencies between the data in CIS

and the information provided by engineering for procurement activities. As a result of this, CIS was only used for generating component numbers at the time of this inspection.

Contractor surveillance, 24590-WTP-SV-QA-03-401, dated January 14, 2003 found similar inconsistencies in the INTools database, and the deficiencies were documented on CAR 24590-WTP-CAR-QA-03-008, Rev. 0. The corrective action for this CAR was to issue a database management plan. At the time of this inspection, the CAR was still open pending verification by QA of these actions.

The CM Management Assessment resulted in the issuance of CAR 24590-WTP-CAR-QA-03-144 (CAR-144) to address the absence of procedures for defining the minimum necessary information needed to manage the CI information in the CIS and INTools databases, as well as necessary processes to ensure the data is maintained in a quality fashion. The CM management assessment also resulted in the issuance of QAIS 24590-WTP-RITS-QAIS-03-711 relative to the need for procedures for the selection process and criteria for a CI (see Section 1.2.2.1). The improvements to the component database, the corrective actions for the CAR, and the corrective action for 24590-WTP-RITS-QAIS-03-711, were included in the CM Program Path Forward and will receive further review through the AFI A-03-OSR-RPPWTP-017-A01 discussed in Section 1.2.1 of this report.

The inspectors selected two ITS systems for detailed review against the numbering convention and the data captured in the CIS and INTools databases. Component numbers were consistent with the required numbering conventions and no discrepancies were identified when the information on the drawings (one ventilation system and one mechanical handling system) was compared to the information in CIS and INTools. The inspectors identified no discrepancies.

The Contractor stated refinement of CIs identification at the subcomponent and piece part level were included in the CM Program Path Forward and will receive further review through the AFI A-03-OSR-RPPWTP-017-A01 discussed in Section 1.2.1 of this report.

1.5.2.2 Configuration Documentation

The configuration of a system was defined by the CDs in the Technical Baseline. The Technical Baseline was defined in procedure, 24590-WTP-RPT-ENG-01-001, *Technical Baseline*. This procedure defined four classes of documents describing the configuration as follows:

- Documents containing top-level requirements – the Contract, the functional specification and the Operations Requirements Document;
- Authorization Basis Documents;
- Documents containing design requirements – Interface Control Documents, Basis of Design, etc.; and

- Technical Documents and Drawings describing the design - design and execution media such as primary drawings, system descriptions, specifications and material requisitions.

The Technical Baseline procedure required an annual review to assure the baseline was current. Once the configuration was fixed by the issuance of the numeric revision, the interrelationship of CDs was linked in CONRAD. Similarly, as changes were made, the change documents were linked to the base CDs. The inspectors reviewed the procedures associated with the design change process to determine how the documentation for CIs would be controlled to reflect the latest information. The inspectors reviewed the following procedures.

- 24590-WTP-3DP-G04B-00046, *Engineering Drawings*
- 24590-WTP-3DP-G04B-00049, *Engineering Specifications*
- 24590-WTP-3DP-G04B-00062, *Disposition of Field Change Request/Field Change Notice*
- 24590-WTP-3DP-G04B-00063, *Supplier Deviation Disposition Request*
- 24590-WTP-3DP-G04B-00061, *Disposition of Nonconformance Reports*
- 24590-WTP-3DP-G06B-00001, *Material Requisitions*

Each of the procedures above provided instructions to the PADC staff for establishing the document links within CONRAD from the change document to other appropriate design documents for the CIs. In addition, PADC created desk instructions for each CM design document type to provide guidance for PADC clerks on the handling and linking of the document to the required set of other CDs.

The inspectors interviewed a PADC supervisor and two data entry clerks to determine their understanding of handling CM documents. The PADC personnel indicated use of the checklists and desk guides improved the accuracy of document linking. The CM organization, in conjunction with PADC staff, established monitoring teams to check the accuracy of the entry of these linkages into CONRAD as a corrective action to CAR 24590-WTP-CAR-QA-03-057 and is discussed in further detail (design change control review audits) in Section 1.8.2.2.

The inspectors reviewed the implementation of the procedures associated with the design change control process relative to how the drawings reflected the latest information. The inspectors performed a vertical slice of seven primary systems drawings (two ventilation systems, four mechanical systems and one mechanical handling system). Also included in this review was one DCN in a reverse process to see how traceable the DCN was to the drawings it affected and if the drawings had been updated for the DCN. For each of these systems, CONRAD queries were performed to determine if selected documents were appropriately linked to their CIs, to related configuration documentation, and to applicable change documents. No issues associated with documentation linkages were identified. However, the review did reveal one deficient condition involving an inadequate safety evaluation 24590-WTP-SE-ENS-03-147, Rev. 0, which did not properly evaluate the change of safety classification and quality level for the design changes associated with the drawing 24590-PTF-M8-C5V-00001003, Rev. 1. This issue was previously identified in Finding A-03-OSR-RPPWTP-013. Based on this additional example, the

Contractor expanded the "extent of condition" on the CAR tracking resolution of the above finding.

1.5.2.3 Configuration Documentation Platform Change

CONRAD was the database platform for configuration documentation capture and linkages. The Contractor developed plans to replace this database with the proprietary InfoWorks platform. The inspectors determined this would be the first time this data base program (normally used for document control) included a CM module. The inspectors interviewed the PADC Manager and were informed precautions were in place to maintain the stability of InfoWorks in light of the large number of WTP users, the number of documents involved, and the requirements of the CM module. The data base change presented a high risk to the Project if not well maintained. The mitigation of the risk considered reverse migration and application switchback in the migration and implementation plan. The progress of the pilot program and the development of the migration and implementation plan will be monitored by ORP line management.

1.5.3 Conclusions

The inspectors concluded the Contractor's program for selection and identification of all SSCs as CIs was adequate for the current design and construction activities with the exception of deficiencies identified in the CAR 24590-WTP-CAR-QA-144 and 24590-WTP-RITS-QAIS-03-711 (for the selection of CIs based on a selection process and selection criteria to support the transition to the commissioning phase). The CM databases (CONRAD, CIS, and INTools) were generally adequate information technology (IT) platforms for numbering components and creating relationships between CIs, CDs, and configuration changes; however, CIS and INTools are not considered quality databases yet and needed further management attention to use for CM purposes as identified in CAR 24590-WTP-CAR-QA-03-144. The inspectors previously opened Assessment Follow-up Item (AFI) A-03-OSR-RPPWTP-017-A01 to follow-up the corrective actions committed in the CM Program Path Forward, which addressed the issues noted in CARs and RITS.

1.6 Change Control

1.6.1 Inspection Scope

The inspectors reviewed the requirements in the AB, the CM Standard, the Contractor implementing procedures and records, as well as conducted interviews with management and staff, to determine if the CM requirements established in the SRD associated with change control were being adequately implemented in accordance with the CM Plan.

1.6.2 Observations and Assessments

The team performed both a programmatic assessment and an implementation assessment of the Contractor's change control processes related to SSCs and configured interfaces.

Programmatic Assessment

The key project requirements associated with CM were established in SRD Appendix C, Section 1.0, which required a tailored implementation of *ISO Standard 10007, Quality Management – Guidelines for Configuration Management*. The project's implementation of this standard, and other pertinent requirements, were described in the Contractor's CM Plan. The inspectors reviewed engineering procedures, reviewed project records, and interviewed project personnel and determined the Contractor established adequate procedures for controlling changes to CDs and implementing design changes for configured SSCs and configured interfaces in accordance with applicable change control requirements. The Contractor had procedures for revising CDs, approving specific changes to CDs, and handling exceptions to CDs. The following were the key procedures associated with these processes:

- 24590-WTP-3DP-G04T-00901, *Design Change Control*
- 24590-WTP-3DP-G04T-00913, *Review of Engineering Documents*
- 24590-WTP-3DP-G04B-00046, *Engineering Drawings*
- 24590-WTP-3DP-G04B-00049, *Engineering Specifications*
- 24590-WTP-3DP-G04B-00061, *Disposition of Nonconformance Reports*
- 24590-WTP-3DP-G04B-00062, *Disposition of Field Change Request/Field Change Notice*
- 24590-WTP-3DP-G04B-00063, *Supplier Deviation Disposition Request*.

The inspectors noted project implementing procedures for design changes involving multiple CDs, did not require an explicit identification of all CIs or CDs affected by the change, prior to approving the design change. However, the CM Standard, Section 7.4.1, required all CIs and CDs associated with a design change be identified prior to approving changes. In addition, Section 7.4.4 of the CM Standard required implementation verification for approved changes. Project procedures did not have provisions for performing a specific design change verification following the approval of design changes.

The inspectors discussed this issue with Contractor engineering supervisory and management personnel associated with project's design and CM processes. Contractor management personnel informed the inspectors the process of performing multidisciplinary reviews of revisions to individual CDs or design change documents achieved the objective of identifying all CIs or CDs affected by the change. Also, Contractor management personnel stated the project's position that the verification process described in 24590-WTP-3DP-G04B-00027B, *Design Verification*, provided for the performance of a design verification of selected CIs for some design changes and addressed the objectives of performing implementation verifications for specific design changes. Contractor management personnel indicated this methodology was considered appropriate for the construction phase of the WTP, but a different process would be required for the operations phase.

As part of the change control implementation review (described below), the inspectors attempted to determine if configuration control was adequately maintained for complex design changes involving many CDs. Since the project did not document the relationships between the changes

made to multiple CDs associated with a specific design change, reviewing complex design changes was difficult. Consequently, the inspectors were not able to perform an extensive assessment in this area. The inspectors performed a limited review of design changes associated with DCA 24590-HLW-DCA-PR-01-002, which involved the replacement of the High Level Waste offgas system caustic scrubber with a silver mordenite adsorber. For the limited review performed, the inspectors did not identify any configuration control issues.

However, the inspectors found two examples, where project personnel raised issues related to implementing design changes that involved multiple CDs and CIs.

- CAR 25490-WTP-CAR-QA 03-149 identified a design change to line sizes on a Piping and Instrumentation Drawing (P&ID), which were not reflected in nozzle sizes in design and procurement documents associated with certain ITS tanks. This CAR was recently initiated and the extent of the condition had not yet been determined.
- QAIS item 25490-WTP-RITS-QAIS-03-553 documented a recommendation made by construction supervisors to provide documentation, which communicated design changes involving multiple design documents. This recommendation resulted from Management Assessment 24590-WTP-MAR-ENG-03-006 review of construction configuration management.

The inspectors opened AFI A-03-OSR-RPPWTP-017-A02 to review corrective actions for the CAR and RITS items described above and the implementation of complex design changes as part of an upcoming design process inspection.

Implementation Assessment

The inspectors reviewed drawing revisions, FCRs, DCNs, and Interface Change Forms (ICFs) to assess the implementation of project procedures and the CM Plan. The review concentrated on documents associated with the site fire protection mains and the HLW secondary offgas system. Documents from other aspects of the WTP were also reviewed. Specific documents reviewed are listed in Section 3.4.

From the sample reviewed, the inspectors determined knowledgeable and conscientious project personnel were performing CD revisions and design changes in accordance with relevant project procedures. No configuration management issues were identified associated with the review of these documents. The inspectors determined the overall quality and accuracy of documentation was significantly improved in comparison to similar documentation reviewed in the last configuration management inspection.

During the course of the above review, the inspectors requested and received HLW general arrangement drawing (24590-HLW-P1-P01T-00001). The inspectors noted Design Change Application (DCA) documents were attached to the drawing. Upon investigation, the inspectors determined CONRAD identified DCA documents as approved change documents for a number of CDs. Since DCAs were not considered design change documents, they should not be

identified in CONRAD as such. Also, these documents should not be attached to drawings supplied by PADC, since changes shown on DCAs did not accurately reflect the approved configuration. The inspectors discussed the condition with the Contractor and the Contractor stated references to DCAs as design changes in CONRAD would be purged and design document linkage to DCAs in CONRAD would be purged. The inspectors opened Follow-up Item AFI A-03-OSR-RPPWTP-017-A03 to verify references to DCAs, as approved design change documents, have been removed from CONRAD.

1.6.3 Conclusions

The Contractor had adequate procedures to implement change control requirements of the SRD, as described in the project CM Plan, in a manner appropriate for the early construction phase of the project. The inspectors also concluded these procedures were being adequately implemented. However, the following issues were identified during this portion of the inspection:

- (1) The inspectors identified an issue associated with the documentation and verification of complex design changes affecting multiple CDs and CIs. The inspection team determined the Contractor's design change process did not require an explicit identification of all CIs and CDs affected by a proposed change prior to approval of the change or a specific verification of the correct implementation of the change following its approval as specified in the CM Standard. The ORP will continue to evaluate the Contractor's implementation of design changes that involve multiple CDs and CIs during the upcoming design process assessment. In addition, the ORP will monitor the actions taken by the Contractor with regard to CAR 03-149 and RITS-QAIS-03-553, which are related to this issue. These activities will be tracked under AFI A-03-OSR-RPPWTP-017-A02.
- (2) The inspectors noted DCA documents were being attached to drawings issued by project document control with CONRAD identifying many DCAs as approved design change documents. Contrary to the information in CONRAD, DCAs are not approved design change documents. ORP will verify references to DCAs as approved design change documents have been removed from CONRAD during a future assessment. The Contractor informed the inspectors design document linkage to DCAs in CONRAD would be purged. The inspectors opened Follow-up Item AFI A-03-OSR-RPPWTP-017-A03 to perform future verification that references to DCAs as approved design change documents have been removed from CONRAD.

1.7 Status Tracking and Reporting (ITP I-102)

1.7.1 Inspection Scope

The inspectors reviewed the CM Plan and procedures and interviewed Contractor management and staff. The inspectors assessed the Contractor's implementation of CM status tracking and reporting requirements of the AB.

1.7.2 Observations and Assessments

The CM Standard, section 7.5, provided requirements for recording data and status of CIs. The CM Standard required issuance of reports of configuration data and status at intervals necessary for management purposes. The Contractor's CM Plan, section 3.2.3 described implementation of the CM Standard status tracking and reporting requirements. The CM Plan stated configuration data was entered in CONRAD and status information was available from CONRAD on demand. The CM Plan also stated no regular reports were required to facilitate CM but reports from CONRAD were available from PDC on demand.

The inspectors discussed the CM Standard requirements for CM status tracking and reporting with Contractor CM and PADC personnel. The PADC Manager and the CM Supervisor stated there are no specific reports required per the CM Plan to be issued by Contractor and reports were issued on a request basis. When it was pointed out by the inspectors the CM Standard Section 7.5 actually provides guidance for procedures and examples of types of recording and reporting including examples of types of reports for management issue, the CM and PADC management indicated they would consider this in the next revision to the CM Plan.

The inspectors reviewed Contractor's surveillances, audits, management self-assessments and Corrective Action Reports and interviewed management and staff regarding status tracking and reporting. The inspectors reviewed QA surveillance reports 24590-WTP-SV-QA-03-064, -03-110, -03-291, -03-297, and -03-414. The Contractor self-identified status tracking and reporting as a programmatic deficiency during QA surveillance 24590-WTP-SV-QA-110 and documented the deficiency in 24590-WTP-CAR-QA-03-056, dated February 26, 2003. The present action of defining the process and procedures by September 30, 2003 was noted in the report and considered adequate resolution at this time. Hence, the area is not considered an issue in this report.

In addition, the QA surveillance identified CM management was not doing effective trending of CM performance. Status reports and performance metrics necessary to establish CM performance trends had not been defined and issued on a regular basis. The inspectors noted initial status reports for SDDRs and FCRs had been issued, but implementing procedures and comprehensive reports had not been defined nor issued. The inspectors previously opened AFI A-03-OSR-RPPWTP-017-A01 to follow-up the corrective actions committed in the CM Program Path Forward, which addressed the issues noted in the CARs 24590-WTP-CAR-QA-056.

1.7.3 Conclusions

Although the Contractor addressed CM status tracking and reporting programmatically in the CM Plan, the Contractor did not have adequate procedures to support the plan in this area. The Contractor's QA organization identified the failure to meet CM status tracking and reporting requirements during performance of a surveillance of CM activities and issued CAR 24590-WTP-CAR-QA-056. The inspectors previously opened AFI A-03-OSR-RPPWTP-017-A01 to follow-up the corrective actions committed in the CM Program Path Forward, which addressed the issues noted in the CARs24590-WTP-CAR-QA-056.

1.8 Configuration Audit (ITP I-102)

1.8.1 Inspection Scope

The inspectors reviewed the CM Standard, the CM Plan, appropriate QA procedures, and selected QA audits and surveillances as well as line management self assessments to assess the Contractor's adherence to the auditing requirements defined in the AB. Interviews also were conducted with CM, Engineering, and QA management to assess their interpretation of the oversight necessary for CM.

1.8.2 Observations and Assessments

1.8.2.1 Configuration Audits

The CM Plan, Sections 3.2.4 and 4.4, provided for the conduct of configuration audits to determine whether a configured item conformed to its CDs. The plan described the following two types of configuration audits to be conducted.

- Function confirmation was accomplished by identifying the individual functional and performance requirements of a configured item, and subsequently confirming through review, inspection, and test records the requirements are achieved.
- Physical confirmation was accomplished by examining the physical or as-built and tested configured item for compliance to its CDs.

The CM Plan specified plans, procedures, and other project documents governing performance of configuration audits would be prepared as the project progressed into the latter stages of construction and commissioning.

The inspectors reviewed Contractor's surveillances, audits, management self-assessments and Corrective Action Reports and interviewed management and staff regarding CM audits. The Contractor self-identified configuration audit as a programmatic deficiency during QA surveillance 24590-WTP-SV-QA-110 and documented the deficiency in 24590-WTP-CAR-QA-03-056, dated February 26, 2003. The present action of defining the process and procedures by

September 30, 2003 was noted in the report and considered adequate resolution at this time. Hence, the area is not considered an issue in this report.

1.8.2.2 Configuration Management System Audits

The QA Manual, Policy Q-18.1, required "audits shall be performed to verify that performance criteria are met to determine the effectiveness of the program." The QA Manual stated, "...internal audits shall be scheduled at a frequency commensurate with the status and importance of the work."

The inspectors reviewed Contractor's surveillances, audits, management self-assessments and Corrective Action Reports and interviewed management and staff, to assess the implementation of the statement "internal audits being conducted a frequency commensurate with the status and importance of the work." The inspectors interviewed the Project Director, the QA Manager, and the Engineering Manager, who all provided a strong message that CM was important to the design and construction phases and was being emphasized for improvement.

The inspectors reviewed the surveillance program to assess how effectively this tool was being used to identify and follow-up the correction of problems in CM. The increased level of surveillances by QA was obvious based on the performance 84 surveillances, and the generation of 60 CM-related CARs, from May 20, 2002 till June 25, 2003. Initially, these surveillances focused on the identification and resolution of field project document control problems through November 2002. During this same period surveillances were conducted in the area of vendor and subcontractor use of SDDRs and this area was identified as a weakness in August 2002. The CM Databases INTools and CIS were reviewed in January 2003, with associated CARs generated. Overall CM Management, Site CM, and CM Plan implementation were topics of surveillance in February through April 2003. A major portion of the surveillance activity from March through June 2003 was the follow-up of corrective actions identified by the CARs generated by audit and surveillances. In general, all areas of CM were surveilled during this period and the order of surveillance activity emphasized the logical order of supporting field construction tools followed by refinements of support processes. The inspectors concluded the use of the surveillance was an effective tool for the identification and follow-up resolution of CM in all areas of the project.

The inspectors reviewed the use of audits as a tool to identify and correct program weakness in CM. The inspectors reviewed the design change control document review (6) audits conducted (see listing in Section 3.4) between November 2002 and April 2003, specifically designed to monitor and improve the quality of the CM Database (CONRAD). A total of 786 of 1006 change control documents (i.e. DCNs, SCNs, FCRs, FCNs, SDDRs, DCA, DCs, ICFs, and NCRs), which were generated during this period were audited. The audit identified missing links, inadequate procedures, programmatic issues (such as the misuse of incorporate by reference), and generated a correction curve showing percentage error decreasing with time. The curve presented documented proof of the correction of the CM database (CONRAD) quality problems and provided a basis for considering CONRAD a quality document. A memorandum dated May 21, 2003, CCN 058346, "Summary of Six change Control Document Reviews,"

summarized this effort and concluded: "The review by the CM Group has been successful in finding and correcting numerous discrepancies and concerns during the 6 months of the review process. However, most importantly, performance of this review and the subsequent reporting of discrepancies found, has led to an increased awareness of the change control process, both at PDC and in the field. This has directly contributed to the rapid decrease in discrepancies found, also at both PDC and in the field, as shown in Figures 1-3."

The QAM, Policy Q-18.3, required management assessments to assess the adequacy and effective implementation of their management processes. Management assessments are conducted at intervals not to exceed 12 months. These assessments are performed in accordance with 24590-WTP-GPP- MGT-002-1 *Project Management Assessment*. The inspectors reviewed a preliminary copy of the CM Program Path Forward. This assessment included:

- An assessment of process and procedures to implement CM using the DOE Inspection Procedure ITP-I-102 as a guide.
- A review of previously completed CM-related commitments as provided in "Construction Authorization Readiness in Consideration of Recent Assessments and Inspection of Engineering activities", and follow-up from ORP Inspection IR-02-007.
- A vertical assessment which evaluated a set of equipment systems (installed or nearly installed) to check configuration requirements implementation in the field.

The inspectors concluded this was a comprehensive and credible oversight by the Contractor of the CM program and procedures including implementation effectiveness review. The CARs and subsequent recommendations provided the input to the CM Program Path Forward, which addressed the issues noted in the CARs, which provided a listing of corrections for identified issues.

1.8.3 Conclusions

The inspectors concluded the CM program oversight was improved and effective based on the following:

- The Contractor significantly increased the number and substance of CM implementation assessments and surveillances.
- The Contractor assessments and surveillances proactively identified CM issues and documented the issues using CARs.
- CM ownership was evident in the commitment and attention management provided to the program.

Based on this, the previous inspector follow-up item IR-02-007-04-IFI (requested the inspectors review the CM program with respect to Contractor oversight) was closed. The inspectors

previously opened AFI A-03-OSR-RPPWTP-017-A01 to follow-up the corrective actions committed in the CM Program Path Forward, which addressed the issues noted in the CARs.

1.9 Adequacy of Closure of Inspection Items (IAP A-105 and A-106)

1.9.1 (Closed IR-02-007-02-FIN) Failure of PDC to utilize formal, approved procedures for processing quality related material into the CM database.

Finding IR-02-007-02-FIN identified the lack of a formal, approved project procedure or instruction for a Project Document Control (PDC) activity affecting quality – namely, the processing of CDs (generated by the Engineering organization in accordance with formal, approved procedures) into the CM database. The Contractor acknowledged the Finding and provided actions to correct the Finding in the following letters:

- BNI letter from R. F. Naventi to R. J. Schepens, ORP, "Hanford Tank Waste Treatment and Immobilization Plant-Construction Authorization Readiness in Consideration of Recent Assessments and Inspection of Engineering Activities," CCN 042775, dated October 30, 2002.
- BNI letter from R. F. Naventi to R. J. Schepens, ORP, "Revised Response to U.S. Department of Energy Inspection Report IR-02-007," CCN 048857, dated January 13, 2003.

Inspectors previously reviewed the adequacy of Contractor CM improvement corrective actions, including actions for Finding IR-02-007-02-FIN, and documented the review in inspection report A-03-OSR-RPPWTP-011. During that inspection, the inspectors determined the Contractor revised procedures and provided clear direction and management expectations for personnel entering data into CONRAD. Based on that report, the inspectors concluded Finding IR-02-007-02 is closed.

1.9.2 (Closed IR-02-007-03 a, b and c -FIN) Failure to follow certain procedure requirements related to configuration management change control.

This Finding cited three specific examples of failures to follow procedures as follows:

- (1) The Contractor failed to follow procedural requirements related to incorporating FCRs in revised design documents,
- (2) The Contractor failed to follow procedural requirements to document changes to revised CDs, and
- (3) The Contractor failed to follow procedural requirements to accurately document design inputs in a DIM associated with a configuration document.

The Contractor's response to the Finding was provided in the following documents:

1. BNI letter from R. F. Naventi to R. J. Schepens, "Hanford Tank Waste Treatment and Immobilization Plant – Construction Authorization Readiness in Consideration of Recent Assessments and Inspection of Engineering Activities," CCN-042775, dated October 30, 2002.
2. BNI letter from R. F. Naventi to R. J. Schepens, "Revised Response to U.S. Department of Energy Inspection Report IR-02-007," CCN-048857, dated January 13, 2003.

Letter 1 responded to ORP letter 02-ORP-0480, R. J. Schepens to R. F. Naventi, "Notification of Construction Authorization Request Readiness Assessment and Associated Concerns," dated October 4, 2002, which described ORP concerns regarding the performance of engineering work, including the issues identified in IR-02-007-03-FIN.

The following commitments resulted from the above correspondence.

- (1) Make revisions to incorporate FCRs identified in IR-02-007-03a and review and approve design changes identified IR-02-007-03a in using approved project procedures.
- (2) Revise DIM identified in IR-02-007-03c to include appropriate design input documents.
- (3) Perform a "Quality Stand Down" meeting with all engineering managers and supervisors to discuss quality requirements with the Project Manager and Engineering Manager.
- (4) Conduct management facilitated training sessions to reaffirm to engineering staff that safety and quality are higher priorities than cost and schedule, to provide lessons learned, and to review Corrective Action Report dispositions.
- (5) Conduct a 100% review of FCRs to ensure incorporation of FCR changes into design.
- (6) Perform Bimonthly management assessments of drawing and design input and change control processes through May 2003. Evaluate scheduling of additional assessments based on performance results.
- (7) Review all FCR/FCN/SDDR/NRC for adequacy of not to incorporate decisions.
- (8) Review lessons learned from Project Document Control by Process Assurance Group.
- (9) Configuration management group to perform a review and report on a sample of CM enabling change control documents monthly for six months. Reevaluate frequency of the review following the six-month period based on performance.

The inspectors found the issues associated with the Finding were initially documented by the Contractor in Corrective Action Report, 24590-WPT-CAR-QA-02-137, *Discrepancies between*

FCRs and Design Drawings," Rev. 0 (CAR-02-137), which was initiated on July 10, 2002, and was verified and closed by the Contractor on December 31, 2002.

The inspectors found the Contractor's Quality Assurance organization had also performed the following two Quality Assurance surveillances to follow-up on the corrective actions described in CCN-042775 as supplemented by CCN-048857. These documents followed up on several items, which were incomplete at the time CAR-02-137 was closed.

- 245900-WTP-SV-QA-03-059, *Review of Engineering Quality Action List*, Rev. 0.
- 245900-WTP-SV-QA-03-082, *Review of Engineering Quality Action List – Follow-up to 245900-WTP-SV-QA-03-059*, Rev. 0.

The Contractor's engineering organization conducted a Management Assessment, 245900-WTP-MAR-ENG-03-014, *Configuration Management Assessment – June 2003*, Rev. 0, which, among other things followed-up on the corrective actions associated with IR-02-007-03 as described in CCN-042775 and supplemented by CCN-048857.

Based on the review of CAR-02-137, the management assessment follow-up of corrective actions and the surveillances which also followed-up on corrective actions, the described above, and interviews with engineering personnel, the inspectors determined that this item is closed.

2.0 EXIT MEETING SUMMARY

The inspectors presented preliminary inspection results to members of the Contractor's management at an exit meeting held on July 25, 2003. The Contractor acknowledged the CM implementation information presented.

The inspectors asked the Contractor whether any materials examined during the inspection should be considered as limited rights data. No limited rights data were identified.

3.0 REPORT BACKGROUND INFORMATION

3.1 Partial List of Persons Interviewed

V. Adams, Engineering Supervisor
D. Adkisson, Deputy EPPP Manager
J. Betts, Deputy Project Director
N. Brosee, Manager of Commissioning and Training
M. Burnett, PDC Lead
J. Calvey, Field Subcontracts Manager
R. Claghorn, Acting Systems Engineering Manager
G. Cook, Purchasing Expediting Supervisor

P. Harrigan, Senior Engineer
J. Hummer, Configuration Management Supervisor
D. Johnson, Project Archives and Document Control Manager
J. Julyk, Area Discipline Supervisor
J. Kritzberg, Manager Business Applications Information Systems and Technology
A. Larson, Purchasing Sub Formation Manager
M. Meyer, Senior Engineer
S. McDowell, PDC Supervisor
C. McKnight, Fire Protection Supervisor, Design Engineering
L. Parker, PDC Clerk
M. Platt, Safety Programs Lead
S. Ramesh, Engineering Supervisor
O. Rosales, Senior Engineer
J. Roth, Engineering Processes, Procedures, & Personnel (EPPP) Manager
G. Shell, QA Manager
R. Simmons, Mechanical Engineer
C. Slater, Engineering Group Supervisor for Vessels and Heat Exchangers
S. Smith, Lead Engineer
R. Souther, Chief Information Officer
R. Stafford, Project Administrative Manager of Offices and Administrative Services
W. Thomas, Engineer
P. Tiffany, Field Subcontracts Supervisor
R. Tosetti, Engineering Manager
S. Turner, Data Management Coordinator
D. V. Wormer, Subcontracts Manager
M. Watts, Project Supplier Quality Manager
D. Wolfer, Purchasing Supervisor
J. Wright, Field Engineering Subcontracts Coordinator
M. Wright, Engineering Supervisor

3.2 Inspection Procedures Used

Inspection Technical Procedure I-102, Rev. 3, "Configuration Management "

3.3 List of Items Opened, Closed, and Discussed

Opened

A-03-OSR-RPPWTP-017-A01 - Assessment Follow-up Item Review completed "CM Path Forward" for CM Standard elements.
(Section 1.2)

A-03-OSR-RPPWTP-017-A02 - Assessment Follow-up Item - Evaluate the Contractor's implementation of design changes that involve multiple CDs and CIs during the upcoming design process assessment. (Section 1.6)

A-03-OSR-RPPWTP-017-A03 - Assessment Follow-up Item - Verify the removal of information in CONRAD indicating DCAs are approved design changes and linkage of DCAs as changes to design documents. (Section 1.6)

Items Closed

IR-02-007-02-FIN	Finding	Lack of a formal, approved project procedure or instruction for processing of CDs into the CM database.
IR-02-007-03 a, b and c –FIN		Failure to follow certain procedure requirements related to configuration management change control.

3.4 List of Documents Reviewed

Authorization Basis Documents

Quality Assurance Manual, 24590-WTP-QAM-01-001, Rev. 3, dated January 6, 2003.

Quality Management—Guidelines for Configuration Management, International Standard ISO 10007, 1995.

Safety Requirements Document 24590-WTP-SRD-ESH-01-001-02, Rev. 2h, Volume II, dated June 25, 2003.

Contractor Plans and Policies Reviewed

RPP-WTP Configuration Management Plan, 24590-WTP-PL-MG-01-002, Rev. 2, dated May 30, 2003.

WTP InfoWorks Validation Plan, 24590-WTP-PL-PADC-03-001, Rev. 0, dated June 3, 2003.

Technical Baseline, 24590-WTP-RPT-ENG-01-001, Rev. 1, dated April 16, 2003.

Component Identifiers List, 24590-WTP-RPT-ENG-02-010, Rev. 4, dated May 5, 2003.

WTP Document Numbering Tables and Codes, 24590-WTP-DNT-PADC-02-001, Rev. 1, dated May 22, 2003.

Contractor Procedures Reviewed

Authorization Basis Maintenance, 24590-WTP-GPP-SREG-002, Rev. 5, dated April 15, 2003.

Configuration Management, 24590-WTP-3DP-G04B-00005, Rev. 2, dated July 1, 2003.

Construction Subcontract Management, 24590-WTP-GPP-CON-4101, Rev. 3, dated July 21, 2003.

Controlled Sticks , 24590-WTP-GPP-CON-7107, Rev. 3, dated July 3, 2003.

Design Change Control, 24590-WTP-3DP-G04T-00901, Rev. 3, dated May 30, 2003.

Design Process, 24590-WTP-3DP-G03B-00001, Rev. 3, dated April 15, 2003.

Design Verification, 24590-WTP-3DP-G04B-00027B, Rev. 2, dated March 13, 2003.

Determination of Quality Levels, 24590-WTP-3DP-G04T-00905, Rev. 2, March 24, 2003.

Disposition of Field Change Request/Field Change Notice, 24590-WTP-3DP-G04B-00062, Rev. 4, dated February 7, 2003.

Disposition of Nonconformance Reports, 24590-WTP-3DP-G04B-00061, Rev. 4, dated May 19, 2003.

Engineering Drawing, 24590-WTP-3DP-G04B-00046, Rev. 5, dated April 15, 2003.

Engineering Interface Control, 24590-WTP-3DP-G04B-00025, Rev. 1, dated November 4, 2002.

Engineering Specifications, 24590-WTP- 3DP-G04B-00049, Rev.5, dated April 15, 2003.

Field Change Requests (FCRs)/Field Change Notices (FCNs), 24590-WTP-GPP-CON-3103, Rev. 2, dated December 19, 2002.

Material Requisitions, 24590-WTP-3DP-G06B-00001, Rev. 5, dated April 15, 2003.

Material Requisitions, 24590-WTP-3DP-G06B-00001, Rev.5, dated April 15, 2003.

Nonconformance Reporting and Control, 24590-WTP-GPP-CON-7104, Rev. 2, dated January 2, 2003.

Project Management Assessment, 24590-WTP-GPP-MGT-002-1, Rev. 2, dated January 10, 2003.

Review of Engineering Documents, 24590-WTP-3DP-G04T-00913, Rev.4, dated April 15, 2003.

RPP-WTP Document Numbering, 24590-WTP-GPP-PADC-001, Rev. 4, dated March 11, 2003.

Standard Component Numbering, 24590-WTP-3DP-G03B-00044, Rev. 2, dated February 7, 2003.

Subcontracts, 24590-WTP-3DP-G06B-00002, Rev.2, dated June 30, 2003.

Supplier Deviation Disposition Request, 24590-WTP-3DP-G04B-00063, Rev. 4, dated July 21, 2003.

Supplier Deviation Disposition Request, 24590-WTP-3DP-G04B-00063, Rev. 3, dated February 7, 2003.

P&IDs

PTF Plant Wash and Disposal System Effluent Collection Tree (Q), 24590-PTF-M6-PWD-00001, Rev. 0.

PTF Cesium Ion Exchange Process Vessels System (Q), 24590-PTF-M6-CXP-00001, Rev. 0.

LAW Melter Process System Melter 1 Agitation – Zone 1 & Zone 2 –24590-LAW-M6-LMP-00001, Rev. 0.

LAW Secondary Offgas/Vessel Vent Process System Melters Secondary Offgas Q –24590-LAW-M6-LVP-00001, Rev. 0.

Drawings reviewed for PADC versus Field Comparison

24590-PTF-DD-S13T-00201 Rev. 3 & 2
24590-PTF-DD-S13T-00203 Rev. 2 & 1
24590-PTF-DG-S13T-00008 Rev. 6 & 5
24590-PTF-DD-S13T-00025 Rev. 5 & 4
24590-HLW-DD-S13T-00002001 Rev. 9 & 8
24590-HLW-DG-S13T-00064 Rev. 9 & 8

24590-LAW-FSK-CON-L-02-070 Rev. 1 & 0
24590-LAW-FSK-CON-L-02-084 Rev. 1 & 0
24590-LAW-P3-CHW-WL03915002 Rev. 0
24590-LAW-P3-CHW-WL03915004 Rev. 0
24590-LAW-P3-ISA-GL01719005 Rev. 0

24590-LAW-P3-ISA-GL01719006 Rev. 0
24590-PTF-DG-S13T-00014 Rev. 7 & 6
24590-PTF-DG-S13T-00015 Rev. 6 & 5
24590-PTF-DD-S13T-00023 Rev. 6 & 5
24590-PTF-DD-S13T-00024 Rev. 7 & 6

V&IDs

HLW Vitrification Building System C3V Volumetric V&ID, C3 Cascade Sheet 1 of 2 – 24590-HLW-M8-C3V-000050001, 24590-LAW-M6-LVP-00001, Rev. 1.

HLW Vitrification System HEH Mechanical Handling Diagram Canister Export Handling System – 24590-HLW-M7-HEH-00001001, Rev.0, 24590-HLW-M7-HEH-00001002, Rev.0, 24590-HLW-M7-HEH-00001003, Rev.0, 24590-HLW-M7-HEH-00001004, Rev.0, 24590-HLW-M7-HEH-00001005, Rev.0, and 24590-HLW-M7-HEH-00001006, Rev.0.

HLW Vitrification Building General Arrangement Plan at El. -21'-0" , 24590-HLW-P1-G01T, Rev. 2.

Pretreatment Facility Volumetric V&ID C5 Exhaust System – 24590-PTF-M8-C5V-00001001, Rev. 1, 24590-PTF-M8-C5V-00001002, Rev. 1, 24590-PTF-M8-C5V-00001003, Rev. 1, and 24590-PTF-M8-C5V-00001004, Rev. 1.

PFDs

Fire Water Pump House Facility General Piping Plan, 24590-BOF-M9-FSW-00001, Rev. 0.

Fire Water Pump House Facility North Pump House Piping Floor Plan, 24590-BOF-M9-FSW-00002, Rev. 0.

Fire Water Pump House Facility South Pump House Piping Floor Plan, 24590-BOF-M9-FSW-00004, Rev. 0.

HLW General Arrangement Drawing, 24590-HLW-P1-P01T-00001, Rev. 0.

P&ID – Fire Protection System Fire Water Main Loop System FSW, 24590-BOF-M6-FSW-00001, Rev. 2.

P&ID – HLW Melter Offgas System Melter 1 Secondary Offgas Treatment, Sheets 1 and 2, 24590-HLW-M6-HOP-00003 and 00008, Rev. 0.

P&ID Fire Water Storage Tanks System, 24590-BOF-M6-FSW-00004, Rev. 0.

P&ID North Fire Water Pump House System, 24590-BOF-M6-FSW-00003, Rev. 0.

P&ID South Fire Water Pump House System, 24590-BOF-M6-FSW-00002, Rev. 0.

Process Flow Diagram HLW Vitrification Secondary Offgas Treatment System, 24590-HLW-M5-V17T-00004, Rev. 3.

Records

CAR 24590-WTP-CAR-QA-02-137, dated July 10, 2002.

CAR 24590-WTP-CAR-QA-03-008, dated January 14, 2003.

CAR 24590-WTP-CAR-QA-03-051, dated February 25, 2003.

CAR 24590-WTP-CAR-QA-03-056, dated February 26, 2003.

CAR 24590-WTP-CAR-QA-03-076, dated March 18, 2003.

CAR 24590-WTP-CAR-QA-03-104, dated April 14, 2003.

CAR 24590-WTP-CAR-QA-03-107, dated April 24, 2003.

CAR 24590-WTP-CAR-QA-03-143, dated June 25, 2003.

CAR 24590-WTP-CAR-QA-03-144, dated July 14, 2003.

CAR 25490-WTP-CAR-QA 03-149, dated July 17, 2003.

Construction Subcontract 24590-QL-SRA-MTF5-00001, Waste Feed Receipt Vessels, Rev. 0, dated January 9, 2002.

DCA - Replacement of the HLW Caustic Scrubber with a silver Mordenite System, 24590-HLW-DCA-PR-01-002, Rev. 0.

DCA, Feed Delivery Waste Routing for Potential New Facility, 24590-PTF-DCA-PR-02-003, Rev. 0.

DCA, Replacement of CXP Column Emergency Cooling with Emergency Elution, 24590-PTF-DCA-PR-03-003, Rev. 0.

DCN – Removal of C5 Filters Drain Line, 24590-HLW-DCN-PR-02-022, Rev. 1.

Field Change Request, 24590-WTP-FCR-P02-045, Rev. 0.

Field Change Request, 24590-WTP-FCR-P02-085, Rev. 0.

Field Change Request, 24590-WTP-FCR-P03-012, Rev. 0.

Field Change Request, 24590-WTP-FCR-P-03-015, Rev. 0.

Interface Change Form, 24590-WTP-ICF-ENG-03-002, Rev. 0.

Interface Change Form, 24590-WTP-ICF-M-01-001, Rev. 2.

Interface Change Form, 24590-WTP-ICF-MG-02-001, Rev. 1.

Interface Control Document, 24590-WTP-ICD-MG-01-001, *ICD 01- Interface Control Document for Raw Water*, Rev. 1, dated November 15, 2002.

MR 24590-QL-POA-PPO2-00010, Rev. 5, Premier Technology, Inc., dated June 18, 2002.

PO 24590-QL-POA-ADDH-00002, Rev. 0, Unidynamics, Inc., dated April 4, 2003.

PO 24590-QL-POA-PPO2-00010, Rev. 2, Premier Technology, Inc., dated May 29, 2002.

PO 24590-QL-POB-MKAS-00001, Rev. 1, Specialty Maintenance and Construction, Inc., dated May 21, 2003.

Report, RPT-W375SH-TE00006, *Evaluation of Alternatives for Radioactive Iodine Removal from the HLW and LAW Vitrification Offgas Streams*, Rev. 0, dated July 19, 2000.

SDDR 24590-WTP-SDDR-PROC-02-0025, dated May 29, 2002.

SDDR 24590-WTP-SDDR-PROC-02-0028, dated June 10, 2002.

SDDR 24590-WTP-SDDR-PROC-03-0058, dated February 24, 2003.

SDDR 24590-WTP-SDDR-PROC-03-0154, dated June 9, 2003.

Service Requisition (not yet awarded) 24590-CM-SRA-PY21-00003, Rev. 0, dated March 21, 2002, Design and Construction of Four Main Buildings Fire Sprinkler Systems.

Specification, 24590-BOF-3PS-PZ41-T0001, *Underground Fire Protection Piping Mains*, Rev. 3, dated October 16, 2002.

System Description, 24590-BOF-3YD-FSW-00001, *System Description for the Fire Service Water Storage & Distribution System*, Rev. 0, dated May 17, 2002.

System Description, 24590-HLW-3YD-HOP-00001, *HLW Melter offgas Treatment Process and Process Vent Extraction (HOP and PVV Systems)*, Rev. 0, dated May 14, 2002.

QA Surveillance Reports

24590-WTP-SV-QA-03-012, Rev.0, dated January 14, 2003.
24590-WTP-SV-QA-03-056, Rev. 0, dated February 26, 2003.
24590-WTP-SV-QA-03-057, Rev. 0, dated February 27, 2003.
245900-WTP-SV-QA-03-059, Rev. 0, dated January 29, 2003.
245900-WTP-SV-QA-03-082, Rev. 0, dated February 10, 2003.
24590-WTP-SV-QA-03-064, Rev. 0, dated April 15, 2003.
24590-WTP-SV-QA-03-106, Rev.0, dated February 20, 2003.
24590-WTP-SV-QA-03-108, Rev. 0, dated February 21, 2003.
24590-WTP-SV-QA-03-110, Rev.1, dated March 31, 2003.
24590-WTP-SV-QA-03-151, Rev. 0, dated April 10, 2003.
24590-WTP-SV-QA-03-160, Rev. 0, dated March 12, 2003.
24590-WTP-SV-QA-03-205, Rev. 0, dated April 8, 2003.
24590-WTP-SV-QA-03- 291, Rev, 0, dated April 25, 2003.
24590-WTP-SV-QA-03-297, Rev. 0, dated April 28, 2003.
24590-WTP-SV-QA-03-373, Rev. 0, dated May 7, 2003
24590-WTP-SV-QA-03-401, Rev. 0, dated January 14, 2003.
24590-WTP-SV-QA-03-414, Rev.0, dated May 20, 2003.

Other Documents Reviewed

24590-WTP-CBT-TRA-000400, Configuration Management Training, Rev. 2, dated March 15, 2003.

24590-WTP-CRM-TRA-000603, Configuration Management Expectations, Rev. 0, dated January 27, 2003.

24590-WTP-SE-ENS-03-147, Rev. 0, dated May 12, 2003.

Action Item, 25490-WTP-RITS-QAIS-03-553, *Develop Design Change Package Process/Procedures*.

BNI letter from J. P. Henschel to R. J. Schepens, ORP, "Transmittal of Configuration Management Path Forward – July 2003 Benchmark," CCN-065241, dated August 12, 2003.

Configuration Management Assessment, June 2003, 24590-WTP-MAR-ENG-03-014, DRAFT.

Design Guide for Component Identification System (CIS), 24590-WTP-GPG-M-046, Rev. 0, dated May 1, 2003.

Configuration Management Implementation Review of The Acquisition Services, CCN 042785, Attachment, dated November 25, 2002.

Engineering Design Change Control Process, Audit Report 24590-WTP-IAR-QA-02-006, dated September 4, 2002.

Individual Training Profiles for selected individuals.

Review of Construction Configuration Management, Management Assessment 24590-WTP-MAR-ENG-03-006, dated June 13, 2003.

RITS-QAIS-03-711, "Improved Definition of Item Under CM," dated July 30, 2003.

Summary of Six Change Control Document Monthly Reviews, CCN058346, dated May 21, 2003.

4.0 LIST OF ACRONYMS

AB	authorization basis
AFI	Assessment Follow-up Item
BNI	Bechtel National, Inc.
CAA	Construction Authorization Agreement
CAR	Corrective Action Report
CD	configured document
C&I	Controls and Instrumentation
CI	Configured Item
CIS	Component Information System
CM	Configuration Management
CONRAD	Contractor CM database
C&T	Commissioning and Testing
DCA	Design Change Authorization
DCN	Design Change Notice
DOE	U.S. Department of Energy
EDMS	Electronic Data Management System
FCR	Field Change Request
FCN	Field Change Notice
FIN	Finding
ICD	Interface Control Document

ICF	Interface Change Form
IR	Inspection Report
ISM	Integrated Safety Management
IT	information technology
ITP	Inspection Technical Procedure
ITS	important-to-safety
MR	material requisition
ORP	Office of River Protection
PADC	Project Archives and Document Control
P&ID	Piping & instrumentation diagram
PO	Purchase Order
QA	Quality Assurance
QAIS	Quality Assurance Information System
QAM	Quality Assurance Manual
QC	quality control
QL	Quality Level
RFI	Request for Information
RITS	Requirements Identification Tracking System
SCN	Specification Change Notice
SDDR	Supplier Deviation Disposition Request
SR	Service Requisition
SRC	Subcontractor Request for Change
SRD	Safety Requirements Document
SSC	systems, structures, and components
TB	Technical Baseline
V&ID	Ventilation and Instrumentation Drawing
WTP	Waste Treatment and Immobilization Plant