



U.S. Department of Energy
Office of River Protection

P.O. Box 450
Richland, Washington 99352

02-OSR-0287

Mr. Ron F. Naventi, Project Manager
Bechtel National, Inc.
3000 George Washington Way
Richland, Washington, 99352

Dear Mr. Naventi:

CONTRACT NO. DE-AC27-01RV14136 – OFFICE OF SAFETY REGULATION (OSR)
APPROVAL OF BECHTEL NATIONAL, INC (BNI) AUTHORIZATION BASIS CHANGE
NOTICES 24590-WTP-ABCN-ESH-01-004, REV. 1, AND 24590-WTP-ABCN-ESH-02-001,
REV. 0

- References:
1. BNI letter from A. R. Veirup, BNI, to M. K. Barrett, ORP, "Transmitted for Approval: Contract Deliverable "Revised Standards Approval Package– Update" and Revision 1 to Associated Authorization Basis Change Notices in Support of the "SRD Standards Approval Package Submittal," CCN 028977, dated March 22, 2002.
 2. BNI letter from A. R. Veirup, BNI, to M. K. Barrett, ORP, "Closeout Comments on Low Activity Waste Construction Authorization Requests," CCN 033570, dated June 11, 2002.
 3. BNI letter from A. R. Veirup to M. K. Barrett, ORP, "Transmitted for Approval: Authorization Basis Change Notices 24590-WTP-ABCN-ESH-02-001, Revision 0, 24590-WTP-ABCN-ESH-02-010, Revision 0, 24590-WTP-ABCN-ESH-02-013, Revision 0, and 24590-WTP-ABCN-ESH-02-015, Revision 0," CCN: 029186, May 1, 2002.

The U.S. Department of Energy, Office of River Protection, OSR has reviewed Authorization Basis Change Notice (ABCN) 24590-WTP-ABCN-ESH-01-004, Revision 1, submitted to OSR in Reference 1, and ABCN 24590-WTP-ABCN-ESH-02-001, Revision 0, submitted to OSR in Reference 3. The proposed changes consist of the following:

ABCN 24590-WTP-ABCN-ESH-01-004, Revision 2, proposes changes to the Safety Requirements Document (SRD) and Integrated Safety Management Plan (ISMP), consisting of the following: (1) revising the Implementing Codes and Standards sections for SRD Safety Criterion 9.2-1 through 9.2-6; and (2) updating ISMP Section 3.3.1.4. These changes pertain to Technical Safety Requirements. Questions were asked of BNI associated with this ABCN, and acceptable answers were transmitted to OSR by Reference 2.

ABCN 24590-WTP-ABCN-ESH-02-001, Revision 0, proposes revising ISMP Section 3.12. "Human Factors," to clarify the RPP-WTP project approach for addressing human factors, including specifically referencing the previously selected standard, a tailored version of IEEE-Std-1023. The IEEE standard, "IEEE Guide for the Application of Human Factors Engineering to Systems, Equipment, and Facilities of Nuclear Power Generating Stations" is the Project implementing standard identified in the SRD for incorporation of Human Factors into the RPP-WTP design, as well as for RPP-WTP operations planning.

OSR has concluded that there is reasonable assurance that the health and safety of the public and the workers, and the environment will not be adversely affected by those changes, and that they comply with applicable laws, regulations, and RPP-WTP contractual requirements. Based upon these evaluations, the OSR has found the proposed changes to be acceptable. Attached is OSR's Safety Evaluation Report for the proposed changes.

As part of the amendment implementation process, please submit within 14 days of receipt of this letter the revised pages of the SRD, identifying all revisions to date. This amendment is effective immediately and shall be fully implemented within 30 days, i.e., the provisions of the amendment may be used immediately; within 30 days, controlled copies of the SRD, and subordinate documents must be modified to reflect the changes associated with this amendment.

If you have any questions please contact Mr. Neal Hunemuller, of my staff, (509) 376-6727. Nothing in this letter should be construed as changing the Contract, DE-AC27-01RV14136. If, in my capacity as the Safety Regulation Official, I provide any direction that your company believes exceeds my authority or constitutes a change to the Contract, you will immediately notify the Contracting Officer and request clarification prior to complying with the direction.

Sincerely,

Robert C. Barr
Safety Regulation Official
Office of Safety Regulation

OSR:WJP

Attachment

**Safety Evaluation Report (SER)
Of Proposed Authorization Basis Change Notices
24590-WTP-ABCN-ESH-01-004, Revision 1
24590-WTP-ABCN-ESH-02-001, Revision 0
For the River Protection Project-Waste Treatment Plant
By the Office of Safety Regulation**

1.0 INTRODUCTION

The River Protection Project-Waste Treatment Plant (RPP-WTP) authorization basis is the composite of information, provided by the Contractor in response to radiological, nuclear, and process safety requirements, that is the basis on which the Office of Safety Regulation (OSR) Safety Regulation Official grants permission to perform regulated activities. The authorization basis includes that information requested by the Contractor for inclusion in the authorization basis and subsequently accepted by OSR. The authorization basis for the RPP-WTP includes the Safety Requirements Document (SRD) and the Integrated Safety Management Plan (ISMP). The SRD contains the approved set of radiological, nuclear and process safety standards and requirements, which if implemented, provide adequate protection of workers, the public, and the environment against the hazards associated with the operation of the facility. The ISMP contains the safety management practices developed specifically for the project in the areas of design, construction, commissioning, and operation. By letter dated March 22, 2002, and responses to questions by letter dated June 11, 2002, Bechtel National, Inc., (the Contractor) submitted proposed changes to the SRD and ISMP in areas involving SRD Safety Criteria 9.2-1 through 9.2-6 and ISMP Section 3.3.1.4 regarding Technical Safety Requirements (TSR). By letter dated May 1, 2002, the Contractor submitted proposed changes to the ISMP Section 3.12, "Human Factors." This SER documents OSR's evaluation of these changes proposed by the Contractor.

2.0 BACKGROUND

The SRD contains the set of radiological, nuclear, and process safety standards necessary to ensure adequate protection of the health and safety of workers, co-located workers, the public, and the environment from radiological, nuclear, and process hazards. The SRD standards are developed via an iterative process. Included in the development process is a continuing review of industry practices, particularly those referenced in the SRD, and review of the results of the process hazards and accident analyses as they evolve with the design of the facility for potential impacts on the SRD standards used to ensure protection of the public, workers, and the environment.

The ISMP documents the processes by which laws, regulations, and standards applicable to the nuclear, radiological, and process safety aspects of the Project are incorporated into programs for facility design, construction, commissioning, operation, and deactivation to ensure adequate safety of workers and the public and protection of the environment. The ISMP also describes how the safety management practices will be followed and further developed during the later phases of the Project.

In ABCN 24590-WTP-ABCN-ESH-01-004, Revision 2, the Contractor has proposed changes to the SRD and ISMP, consisting of the following: (1) revising the Implementing Codes and Standards sections for SRD Safety Criterion 9.2-1 through 9.2-6; and (2) updating ISMP Section 3.3.1.4. These changes pertain to Technical Safety Requirements (TSR).

In ABCN 24590-WTP-ABCN-ESH-02-001, Revision 0, the Contractor has proposed revising ISMP Section 3.12. "Human Factors," to clarify the RPP-WTP project approach for addressing human factors, including specifically referencing the previously selected standard, a tailored (in accordance with Sections 2.6 and 6.7 of Appendix B to the SRD) version of IEEE-Std-1023 (i.e., the IEEE standard, "IEEE Guide for the Application of Human Factors Engineering to Systems, Equipment, and Facilities of Nuclear Power Generating Stations"). IEEE-Std-1023 is the Project implementing standard identified in the SRD for incorporation of Human Factors (HF) into the RPP-WTP design, as well as for RPP-WTP operations planning. The Contractor has proposed revising ISMP Section 3.12. "Human Factors."

3.0 EVALUATION

3.1 24590-WTP-ABCN-ESH-01-004, Revision 1

3.1.1 Proposed change to SRD Safety Criterion 9.2-1:

Description of Change:

Under the Implementing Codes and Standards section, delete, "24590-WTP-ISMP-ESH-01-001, Integrated Safety Management Plan Section: 1.3.15 Operations [and] Section 3.3.1.4 Technical Safety Requirements (TSR)," and add, "10 CFR Part 830, *Nuclear Safety Management*, [Subpart B, *Safety Basis Requirements*] Paragraph 830.205, "*Technical Safety Requirements*," items (a)(1) and (a)(2) [and] Subpart B, *Safety Basis Requirements*, Appendix A, "General Statement of Safety Basis Policy," section G, items 1, 3, 4, and 5."

Evaluation: (Acceptable)

The proposed revision is acceptable because the TSR-related requirements from 10 CFR Part 830, Subpart B, provide the implementation requirements for use in developing TSRs for DOE facilities regulated under 10 CFR Part 830, *Nuclear Safety Management*. The specific citations are those that apply to Safety Criterion 9.2-1. The proposed change is not a reduction in commitment or effectiveness.

3.1.2 Proposed change to SRD Safety Criterion 9.2-2:

Description of Change:

Under the Implementing Codes and Standards section, delete, "24590-WTP-ISMP-ESH-01-001, Integrated Safety Management Plan Section: Section 3.3.1.4 Technical Safety Requirements (TSR) [and] Section 4.2.3.4 Technical Safety Requirements and Licensee Controlled Requirements," and add, "10 CFR Part 830, *Nuclear Safety Management*, [Subpart B, *Safety Basis Requirements*] Paragraph 830.205, "*Technical Safety Requirements*," items (a)(1) and (a)(2) [and] Subpart B, *Safety Basis Requirements*, Appendix A, "General Statement of Safety Basis Policy," section G, items 1, 3, 4, and 5."

Evaluation: (Acceptable)

The proposed revision is acceptable because the TSR-related requirements from 10 CFR Part 830, Subpart B, provide the implementation requirements for use in developing TSRs for DOE facilities regulated under 10 CFR Part 830, *Nuclear Safety Management*. The specific citations are those that apply to Safety Criterion 9.2-2. The proposed change is not a reduction in commitment or effectiveness.

3.1.3 Proposed change to SRD Safety Criterion 9.2-3:

Description of Change:

Under the Implementing Codes and Standards section, delete, “24590-WTP-ISMP-ESH-01-001, Integrated Safety Management Plan Section: Section 3.3.1.4 Technical Safety Requirements (TSR),” and add, “10 CFR Part 830, *Nuclear Safety Management*, Subpart B, *Safety Basis Requirements*, Appendix A, “General Statement of Safety Basis Policy,” section G, items 4 and 6.”

Evaluation: (Acceptable)

The proposed revision is acceptable because the TSR-related requirements from 10 CFR Part 830, Subpart B, provide the implementation requirements for use in developing TSRs for DOE facilities regulated under 10 CFR Part 830, *Nuclear Safety Management*. The specific citations are those that apply to Safety Criterion 9.2-3. The proposed change is not a reduction in commitment or effectiveness.

3.1.4 Proposed change to SRD Safety Criterion 9.2-4:

Description of Change:

Under the Implementing Codes and Standards section, delete, “24590-WTP-ISMP-ESH-01-001, Integrated Safety Management Plan Section: Section 3.3.1.4 Technical Safety Requirements (TSR) [and] Section 4.2.3.4 Technical Safety Requirements and Licensee Controlled Requirements,” and add, “10 CFR Part 830, *Nuclear Safety Management*, Subpart B, *Safety Basis Requirements*, Appendix A, “General Statement of Safety Basis Policy,” section G, item 5.”

Evaluation: (Acceptable)

The proposed revision is acceptable because the TSR-related requirements from 10 CFR Part 830, Subpart B, provide the implementation requirements for use in developing TSRs for DOE facilities regulated under 10 CFR Part 830, *Nuclear Safety Management*. The specific citation is that which applies to Safety Criterion 9.2-4. The proposed change is not a reduction in commitment or effectiveness.

3.1.5 Proposed change to SRD Safety Criterion 9.2-5:

Description of Change:

Under the Implementing Codes and Standards section, delete, “24590-WTP-ISMP-ESH-01-001, Integrated Safety Management Plan Section: Section 3.3.3 Changes to Safety Documentation,” and add, “10 CFR Part 830, *Nuclear Safety Management*, [Subpart B, *Safety Basis Requirements*] Paragraph 830.205, “*Technical Safety Requirements*,” item (a)(2) [and] Subpart

B, *Safety Basis Requirements*, Appendix A, “General Statement of Safety Basis Policy,” section G, items 5 and 6.”

Evaluation: (Acceptable)

The proposed revision is acceptable because the TSR-related requirements from 10 CFR Part 830, Subpart B, provide the implementation requirements for use in developing TSRs for DOE facilities regulated under 10 CFR Part 830, *Nuclear Safety Management*. The specific citations are those that apply to Safety Criterion 9.2-5. The proposed change is not a reduction in commitment or effectiveness.

3.1.6 Proposed change to SRD Safety Criterion 9.2-6:

Description of Change:

Under the Implementing Codes and Standards section, delete, “24590-WTP-ISMP-ESH-01-001, Integrated Safety Management Plan Section: 1.3.15 Operations[,] Section: 3.3.1.4 Technical Safety Requirements (TSR)[,] Section: 4.2.3.4 Technical Safety Requirements and Licensee Controlled Requirements[, and] Chapter: 8.0 Document Control and Maintenance,” and add, “10 CFR Part 830, *Nuclear Safety Management*, Subpart B, *Safety Basis Requirements*, Appendix A, “General Statement of Safety Basis Policy,” section G, item 5.”

Evaluation: (Acceptable)

The proposed revision is acceptable because the TSR-related requirements from 10 CFR Part 830, Subpart B, provide the implementation requirements for use in developing TSRs for DOE facilities regulated under 10 CFR Part 830, *Nuclear Safety Management*. The specific citation is that which applies to Safety Criterion 9.2-6. The proposed change is not a reduction in commitment or effectiveness.

3.1.7 Proposed changes to the ISMP Section 3.3.1.4, Technical Safety Requirements (TSR):

Description of Change:

The text is updated to make the ISMP text consistent with the SRD.

Evaluation: (Acceptable)

The proposed changes are acceptable because they provide clarifications that maintain consistency between the SRD and the ISMP. The proposed changes are also consistent with the Contract and the TSR-related requirements from 10 CFR Part 830, Subpart B. The proposed changes do not reduce commitments in the authorization basis or effectiveness of any procedure, program, plan, or management process described in the authorization basis.

3.2 24590-WTP-ABCN-ESH-02-001, Revision 0

3.2.1 Proposed changes to the ISMP Section 3.12, “Human Factors”:

Description of Change:

The text is updated to the following:

- Change the existing first paragraph of the current ISMP Section 3.12 into a proposed revised first paragraph describing the HF approach for the design and content of controls and displays (both hardware and software generated) and use of HF support in design reviews. This proposed first paragraph change for addressing HF in controls and displays replaces a specific commitment to confirm instrument placement in control rooms using physical or computer mockups with the use of Design Reviews.
- Replace "HF specialists" with "HF specialist" in the existing second paragraph and restructure and remove some specific commitments of that current paragraph text relative to background and qualifications of HF specialists, the use of interviews, lessons learned information, and incident databases at facilities similar to the WTP.
- Consolidate specific HF interfaces and task analysis approaches with design processes in the existing third paragraph, as provided with an expanded second paragraph in the proposed text update.
- Remove, altogether, the specific commitment in the existing fourth paragraph that defines expectations for personnel with regard to safety functions, as these expectations are addressed broadly in the proposed new fourth paragraph, relative to HF approach used in training and procedures.
- Move the engineering design interface with HF in the existing fifth paragraph into the third paragraph in the proposed text update.
- Capture HF integration (through interactions in task analysis, training, and operating procedure development) found in the existing sixth paragraph into the new fourth paragraph in the proposed text update.
- Provide additional discussion on the Project HF implementing standard (i.e., IEEE-std-1023) in a new, last (fifth) paragraph in the proposed text update.

Evaluation: (Acceptable)

The proposed changes are acceptable because, although the proposed ISMP changes do reduce some specific prior commitments, the overall HF process safety management commitments continue to comply with contractual and regulatory requirements. No deletion or modification to the HF-related implementing standard is proposed. Also, there are no proposed changes to the SRD sections related to requirements for Human Factors. The proposed ISMP changes do not reduce the effectiveness of any HF procedure, program, plan, or management process, as there were no specific HF procedures, programs, plans or processes previously described in the ISMP. The proposed changes to the ISMP do not affect the SRD safety criteria or change the overall ISMP approach to address human factors in the design and operation planning for the WTP. The proposed approach continues to comply with the applicable laws and regulations (e.g., 10 CFR 830, Subpart B), and continues to conform with top-level safety standards for human factors (i.e., RL-REG-96-0006, Sections 4.1.1.6 and 4.2.6). The proposed change continues to support the implementation of HF practices to support adequate safety.

4.0 CONCLUSION

Based on OSR's evaluation of the proposed changes, described above, OSR has found the proposed changes to be acceptable, and has concluded that there is reasonable assurance that the health and safety of the public and the workers, and the environment will not be adversely affected by the proposed changes. Furthermore, OSR has determined that the proposed changes comply with applicable laws, regulations, and RPP-WTP contractual requirements.