



U.S. Department of Energy
Office of River Protection

P.O. Box 450
Richland, Washington 99352

02-OSR-0049

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 APPROVAL OF AUTHORIZATION BASIS CHANGE NOTICE 24590-WTP-ABCN-ESH-01-030, ADD REBAR PRE-ASSEMBLY AND HIGH MAST LIGHTING TO LCAR

Reference: BNI letter from A. R. Veirup to M. K. Barrett, ORP, "Transmitted for Approval – Authorization Basis Change Notice 24590-WTP-ABCN-ESH-01-030, Revision 0, Add Rebar Pre-assembly to LCAR and Add High Mast Lighting," CCN 027630, dated January 31, 2002

This letter approves the Authorization Basis Change Notice (ABCN) submitted by Bechtel National, Inc. (BNI) in the reference. The ABCN revises the River Protection Project – Waste Treatment Plant (RPP-WTP) Limited Construction Authorization Request (LCAR) to include fabrication and pre-assembly of forms, rebar and embedments, and installation of permanent outdoor lighting.

The OSR review and approval of the ABCN is documented in the attached safety evaluation. The activities added to the LCAR by this ABCN will not adversely affect the environment or the health and safety of the public and workers. The proposed changes comply with applicable laws, regulations, and requirements, and are in conformance with DOE-stipulated safety standards and principles. BNI justified the additional limited construction scope as a reasonable method to reduce cost, accelerate facility construction, and ultimately accelerate disposal of tank waste. Therefore, performance of the additional limited construction activities is in the best interest of DOE.

BNI revised Tables 1-1 and 1-2 on Activity 006 of the LCAR to include basemat rebar pre-assembly for pretreatment, in addition to HLW and LAW vitrification. In discussion with BNI on February 12, 2002, BNI stated this was an error and pre-assembly of rebar for pretreatment was not intended to be included as a LCAR activity at this time. BNI should modify Tables 1-1 and 1-2 accordingly. Please submit the revised LCAR within 14 days of receipt of this letter.

Mr. Ron F. Naventi
02-OSR-0049

-2-

In the referenced letter, BNI stated the LCAR changes will require an update to the Limited Construction Authorization Agreement (LCAA). However, proposed LCAA revisions were not provided with this ABCN. After evaluation of the proposed LCAR changes and the existing LCAA, the OSR concluded that revision of the LCAA is not required.

Please direct any questions to Mr. R. A. Gilbert of my staff, (509) 376-2310. 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:RAG

Attachment

**Safety Evaluation by the DOE Office of Safety Regulation
Of Proposed Authorization Basis Change Notice
24590-WTP-ABCN-ESH-01-030,
Add Rebar Pre-assembly and
High Mast Lighting to LCAR**

1.0 Introduction

The River Protection Project – Waste Treatment Plant (RPP-WTP) is a project to construct a facility to treat and immobilize High-Level (radioactive) Waste (HLW) contained in underground tanks at the Hanford Site. The regulatory process associated with the RPP-WTP requires Bechtel National, Inc. (the Contractor), assigned to design and build the facility, to maintain updated authorization basis documents. Authorization basis documents constitute the information provided by the Contractor to the DOE Office of River Protection, Office of Safety Regulation (OSR) that describe radiological, nuclear, and process safety requirements that form the bases for regulatory authorization of the related activities.

The Limited Construction Authorization Request (LCAR) is one of the authorization basis documents. The Contractor is required to update the LCAR whenever the scope of work described in the LCAR changes and request OSR approval of the changes. This safety evaluation of proposed changes to the LCAR scope is based on information provided by the Contractor in Authorization Basis Change Notice (ABCN) 24590-WTP-ABCN-ESH-01-030.

2.0 Background

The LCAR defines the work to be performed by the Contractor during limited construction. This work includes activities to prepare the site, complete major excavation, place mudmats, and prepare temporary and permanent facilities needed to support construction of primary process facilities. Important-to-safety (ITS) activities included in the LCAR are limited to control of survey activities, inspection of subgrade compaction for the primary process facilities, receipt and storage of ITS items, and remediation of small quantities of contamination and waste that may be encountered during limited construction.

ORP/OSR-2001-11, *Safety Evaluation Report of Contractor's Limited Construction Authorization Request (LCAR)*, concluded the activities covered by the LCAR will provide adequate safety for facility workers, co-located workers, the public, and the environment, as part of the proposed WTP construction, testing, and operations. The Contractor justified the limited construction authorization as a reasonable method to accelerate disposal of the tank waste, while ensuring adequate radiological, nuclear, and process safety.

The Contractor proposed to add fabrication and pre-assembly of forms, rebar, and embedments and add installation of permanent outdoor lighting to the scope of work described in the LCAR in ABCN 24590-WTP-ABCN-ESH-01-030.

3.0 Evaluation

3.1 Applicable Requirements

RL/REG-97-13, Regulatory Unit Position on Contractor-Initiated Changes to the Authorization Basis

Limited Construction Authorization Request (LCAR), 24590-WTP-LCAR-ESH-01-001, Revision 1

3.2 Authorization Basis Deviations

3.2.1 Fabrication and Pre-assembly of Forms, Rebar, and Embedments

The Contractor proposed adding as a limited construction activity pre-assembly of forms, rebar, and embedments for the vitrification facilities to the scope of the LCAR. Forms, rebar, and embedments will be pre-assembled and stored on Low Activity Waste (LAW) and HLW vitrification facility mudmats. Pre-assembly will be limited to connecting material into large units to facilitate future installation into final locations. Pre-assembled forms, rebar, and embedment sections will not be placed in their final locations or permanently installed until after Partial Construction Authorization Request approval and authorization. Should the design change, pre-assembled forms, rebar, and embedment sections will be accessible for re-assembly, if required. The Contractor stated early pre-assembly of forms, rebar, and embedments is required to support their schedule to initiate basemat construction in April 2002. The specific activities included are:

- Fabrication and pre-assembly of reinforcing steel for the HLW and LAW vitrification structures;
- Fabrication and pre-assembly of materials to be embedded in the concrete, including conduit, ductwork, miscellaneous steel, and pipe;
- Unload, shake-out, and pre-assemble forms, form accessories, and hardware; and
- Fabrication and pre-assembly of reinforcing steel and embedded item support false-work, including items that will remain within the concrete.

The LAW vitrification facility structure is classified as safety design significant because failure of the structure, as a result of a natural phenomenon hazard event, could reduce the functioning of safety design class (SDC) systems and components contained with or supported by the structure. The LAW facility structure will be designed to seismic category III (SC-III) / performance category 2 (PC-2) requirements. LAW vitrification facility rebar and embedments will apply Safety Requirements Document (SRD) Volume II, Safety Criterion (SC) 4.1-4 structural design requirements. Quality Level 2 requirements will apply to the LAW vitrification facility structure.

The HLW vitrification facility structure is classified as SDC because it provides secondary confinement of liquids, anchorage of process equipment, and protection of embedded process systems. The HLW facility structure will be designed to SC-I/PC-3 requirements. HLW vitrification facility rebar and embedments will apply SRD Volume II, SC 4.1-3 structural design requirements. Quality Level 1 requirements will apply to the HLW vitrification facility structure.

BNI revised Tables 1-1 and 1-2 on Activity 006 of the LCAR to include basemat rebar pre-assembly for pretreatment, in addition to HLW and LAW vitrification. In discussion with BNI on February 12, 2002, BNI stated this was an error and pre-assembly of rebar for pretreatment was not intended to be included as a LCAR activity at this time. BNI stated Tables 1-1 and 1-2 would be modified accordingly.

The Contractor stated they followed their Integrated Safety Management process to determine required codes and standards. These codes and standards are consistent with applicable laws and regulations and will ensure adequate safety. No changes to the applicable codes or standards in the SRD are required for this change.

3.2.2 Installation of Permanent Outdoor Lighting

The Contractor proposed adding as a limited construction activity installation of permanent outdoor lighting to the scope of the LCAR. Outdoor lighting will utilize high-pressure sodium lamps mounted on 40- and 100-foot tall poles/masts. This lighting is required for roadways, parking lots, walkways, and other pedestrian access and is not ITS. Installation of portions of the permanent lighting system will preclude the need for some temporary construction lighting.

Poles/masts will be located such that they are away from above ground structures, systems, and components that have been identified as ITS to avoid impact should a pole fall. Therefore, the lighting does not present a radiological or chemical hazard associated with the facility. If in the future an ITS structure, systems, or component is located within the falling radius of a light, further analysis will be required.

The Contractor stated outdoor lighting is not ITS and there are no applicable SRD design criteria. Outdoor lighting will be constructed according to applicable industry standards.

4.0 Conclusions

On the basis of the considerations described above, the OSR has concluded that there is reasonable assurance that the environment and the health and safety of the public and the workers will not be adversely affected by the proposed amendment to the LCAR. The proposed changes comply with applicable laws, regulations, and requirements, and are in conformance with DOE-stipulated safety standards and principles.

The Contractor justified the additional limited construction scope as a reasonable method to reduce cost, accelerate facility construction, and ultimately accelerate disposal of tank waste.

Therefore, performance of the additional limited construction activities is in the best interest of DOE.

This review concludes that the proposed changes to the LCAR would not adversely affect the objectives of the RPP-WTP authorization basis in terms of the criteria delineated above.

5.0 References

RL/REG-97-13, Regulatory Unit Position on Contractor-Initiated Changes to the Authorization Basis, Rev. 7, U.S. Department of Energy, Office of River Protection, 2000.

Limited Construction Authorization Request (LCAR), 24590-WTP-LCAR-ESH-01-001, Revision 1, Bechtel National, Inc., 2001.

Authorization Basis Change Notice 24590-WTP-ABCN-ESH-01-030, Revision 0, Add Rebar Pre-assembly to LCAR and add High Mast Lighting,” CCN 027630, dated January 31, 2002.

ORP/OSR-2001-11, Safety Evaluation Report of Contractor’s Limited Construction Authorization Request (LCAR), Revision 0, dated August 15, 2001.

24590-WTP-SRD-ESH-01-001-02, Safety Requirements Document, Rev. 0, dated October 4, 2001.