



Tennessee Valley Authority, Post Office Box 2000, Spring City, Tennessee 37381-2000

APR 05 2002

10 CFR 50.9

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D. C. 20555

Gentlemen:

In the Matter of)
Tennessee Valley Authority)

Docket No.50-390

SUBJECT: WATTS BAR NUCLEAR PLANT - REQUEST FOR ADDITIONAL
INFORMATION (RAI) REGARDING TRITIUM PRODUCTION - INTERFACE ISSUE
NUMBER 2 - PROCUREMENT AND FABRICATION ISSUES (TAC NO. MB1884)

The purpose of this letter is to provide information regarding
NUREG1672, Interface Issue Number 2, "Procurement and Fabrication
Issues," that was requested to be docketed by NRC Project Manager,
Mark Padovan.

Initial information related to this interface issue was supplied
by TVA on May 1, 2001, and with the license amendment request
dated August 20, 2001. The enclosures to this letter provide both
the request and the TVA response with the appropriate supporting
document excerpts.

1030

U.S. Nuclear Regulatory Commission
Page 2

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There are no regulatory commitments made by this letter. If you have any questions about this letter, please contact me at (423) 365-1824.

Sincerely,



P. L. Pace
Manager, Site Licensing
and Industry Affairs

Enclosures

cc: See page 3

Subscribed and sworn to before me
on this 5th day of April 2002

E. Jeannette Long
Notary Public

My Commission expires May 21, 2005

U.S. Nuclear Regulatory Commission
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APR 05 2002

cc (Enclosures):

NRC Resident Inspector
Watts Bar Nuclear Plant
1260 Nuclear Plant Road
Spring City, Tennessee 37381

Mr. L. Mark Padovan, Senior Project Manager
U.S. Nuclear Regulatory Commission
MS 08G9
One White Flint North
11555 Rockville Pike
Rockville, Maryland 20852-2738

U.S. Nuclear Regulatory Commission
Region II
Sam Nunn Atlanta Federal Center
61 Forsyth St., SW, Suite 23T85
Atlanta, Georgia 30303

ENCLOSURE 1
TENNESSEE VALLEY AUTHORITY
WATTS NUCLEAR PLANT (WBN)
UNIT 1
DOCKET NO. 390
INTERFACE ITEM NUMBER 2
PROCUREMENT AND FABRICATION ISSUES

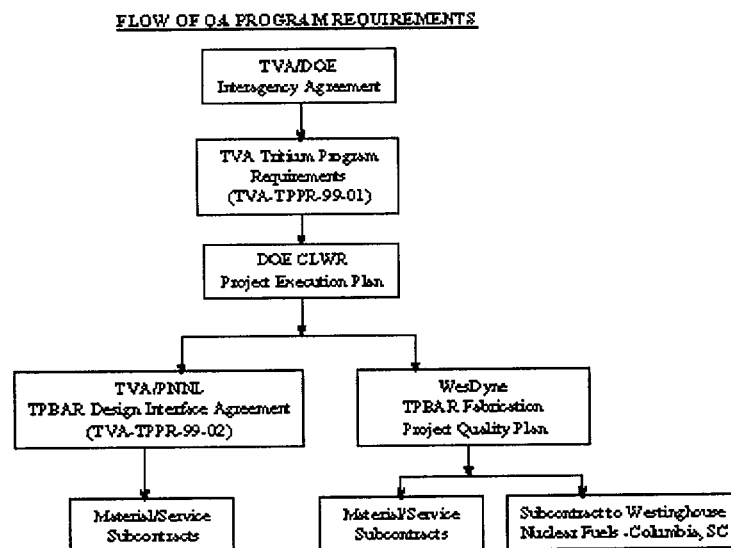
NRC REQUEST

NRC needs "evidentiary material" from TVA that the manufacturers of the tritium assemblies (including subcontracted components/subassemblies) have quality assurance programs that comply with Appendix B requirements. Please discuss how TVA imposes QA requirements on the suppliers (probably through the procurement documents) and provide evidence of same. Also, please provide assurance that the suppliers have adequately implemented QA programs in conformance with Appendix B. (Is this accomplished through NUPIC audits or, for the special case of tritium, through supplier audits TVA conducts?). Please send us the audit reports and supplementing information which would support a conclusion that the suppliers have established and implemented QA programs in conformance with Appendix B requirements. Supplementary information might include supplier exceptions to TVA QA program or additional commitments to national standards by the supplier, which go beyond TVA's QA program in areas such as subcontracting, design, or manufacturing.

TVA Response: (Note: Some enclosures only contain excerpts from referenced documents) TVA has no direct procurement document with any of the material, service, or component suppliers of TPBARs. TVA has an Interagency Agreement with the Department of Energy (DOE) (Enclosure 2) that requires DOE to flow down TVA requirements to suppliers and which requires the major DOE direct suppliers to be on the TVA acceptable supplier list (ASL). The TVA technical, functional, and quality requirements for the design, procurement, and fabrication of TPBARs are contained in a TVA Tritium Production Program Requirements Document (TVA-TPPR-99-01) (Enclosure 3). There are currently two DOE direct suppliers involved in the supply of TPBARs. The Pacific Northwest National Laboratory (PNNL), a DOE owned site operated by the Battelle Memorial Institute, performs TPBAR design and procurement activities. WesDyne International LLC performs procurement and fabrication activities. Both of these suppliers are on the TVA ASL for their respective current scopes of work.

DOE identifies the TVA requirements to project participants in section 5.2.1 of the CLWR Project Execution Plan (Enclosure 4). Evidence of project participant implementation of the TVA requirements is demonstrated through a TPBAR Design Interface Agreement between TVA and PNNL (Enclosure 5) and the WesDyne Project Quality Plan for TPBAR Fabrication (Enclosure 6). Sub-suppliers are required to meet the applicable QA program requirements as determined by the procuring organization (i.e. PNNL or WesDyne). The DOE direct suppliers have been audited by TVA to ensure compliance with Appendix B requirements. PNNL was initially placed on the TVA ASL under the Lead Test Assembly Project and maintained on the ASL through annual evaluations and triennial audits (Enclosure 7). WesDyne was recently placed on the TVA ASL after completion of an initial qualification audit (Enclosure 7).

The following diagram depicts a summary view of the flow of QA program requirements.



Quality oversight (such as program reviews, source surveillances and audits) of material, service, and subcomponent suppliers are the responsibility of the procuring organization (i.e. PNNL or WesDyne) with periodic participation by a TVA observer. The majority of initial material and subcomponent procurements are being performed by PNNL. The PNNL QA program meets 10CFR50 Appendix B requirements. PNNL requires their material, component, and service suppliers to establish and implement QA programs that meet the requirements of 10CFR50, Appendix B. These programs are audited by PNNL with periodic participation by a TVA observer. Because some of the suppliers are still establishing their manufacturing processes and are not currently producing parts or

providing services which will be used in production TPBARs, the QA programs are not fully implemented at all PNNL suppliers at this time. A listing of major suppliers for production TPBARs is shown in the table below.

SUPPLIER	PRODUCT/SERVICE	QA PROGRAM STATUS	QSL ¹ STATUS
Carpenter Special Products	SS Cladding Tubes	Established and Implemented	Approved
Carpenter Advanced Ceramics	LiAlO ₂ Pellets	Established and Implemented	Approved
Superior Tube Company	Getter, Spacer and Liner Tubes (Zirconium)	Established and Implemented	Approved
Hohman Plating and Mfg.	Plating of getter tubes and spacers	Established and Implemented	Approved with restrictions
Hitemco	Coating of Cladding Tubes	Established - not yet implemented	Approved with restrictions

TPBAR assembly and some procurement (e.g. end plugs and spring clips) are being performed by WesDyne. The WesDyne TPBAR Fabrication Project Quality Plan commits to compliance with the QA program requirements using the latest revision of the NRC approved Westinghouse Quality Management System (QMS) that meets 10CFR50, Appendix B requirements. WesDyne requires their subcontractors and suppliers to implement QA programs that meet the applicable 10CFR50, Appendix B requirements as well as applicable requirements from the TVA requirements document. WesDyne has subcontracted TPBAR assembly to the Westinghouse Nuclear Fuels in Columbia, SC and has developed an interface agreement with Westinghouse Nuclear Services for support services. TVA has audited WesDyne and placed WesDyne on the TVA ASL with some restrictions (Enclosure 7). Actual TPBAR assembly has not yet commenced. Copies of audit reports, QA Programs, Project Quality Plans, contracts, etc. have not been provided due to the voluminous nature of these documents. Full copies of these documents are available for NRC review at the appropriate TVA facility.

Enclosure No. Contents (Excerpts from documents)

- | | |
|---|--|
| 2 | Section F.3 from TVA/DOE Interagency Agreement DE-AI02-99DP00315 |
| 3 | TVA-TPPR-99-01, Revision 2 |
| 4 | DOE CLWR Project Execution Plan, Rev.3 |
| 5 | TVA-TPPR-99-02, Revision 0 |
| 6 | WesDyne's TPBAR Fabrication Project Quality Plan, Rev. 3 |
| 7 | TVA ASL data on Battelle (PNNL) and WesDyne |

¹QSL = PNNL's Qualified Supplier List

ENCLOSURE 2
TENNESSEE VALLEY AUTHORITY
SECTION F.3 FROM TVA/DOE INTERAGENCY AGREEMENT
DE-A102-00DP00315

**INTERAGENCY AGREEMENT
BETWEEN
THE UNITED STATES DEPARTMENT OF ENERGY
AND
THE TENNESSEE VALLEY AUTHORITY
FOR IRRADIATION SERVICES**

This Interagency Agreement (Agreement) is effective as of January 1, 2000, by and between the UNITED STATES DEPARTMENT OF ENERGY (DOE) and the TENNESSEE VALLEY AUTHORITY (TVA) for the provision by TVA of services for the irradiation of Tritium Producing Burnable Absorber Rods (TPBARs).

RECITALS

WHEREAS, DOE, as part of its defense mission, has an obligation to obtain tritium to refresh and maintain the nation's nuclear weapons stockpile;

WHEREAS, TVA, a corporate agency and instrumentality of the United States, was created by Congress to foster regional development and to aid in fostering the national defense;

WHEREAS, TVA, among other things, generates power through Reactors at its Watts Bar Nuclear Plant (WBN) and its Sequoyah Nuclear Plant (SQN);

WHEREAS, if TPBARs are inserted into a Reactor containing fuel with appropriate fuel enrichment, the Reactor can be used to produce power while also producing tritium in the TPBARs as a joint product;

WHEREAS, the Secretary of Energy, by a December 22, 1998 letter, asked TVA to produce tritium in its operating Reactors under 31 U.S.C. §1535 (1994), which statute is referred to as the "Economy Act"; and

WHEREAS, the Chairman of TVA's Board of Directors, by a December 22, 1998 letter, agreed to support the national defense by irradiating TPBARs;

NOW, THEREFORE, under the authority of the Economy Act, TVA agrees to provide DOE irradiation services at TVA's Reactors and DOE agrees to pay TVA for the cost of providing DOE such services, as described in this Agreement:

DOE shall pay the costs of the mediator, TVA's internal costs, and TVA's reasonable outside counsel expenses so long as (a) TVA uses outside counsel for over two-thirds (2/3s) of its legal services (this will be determined based upon a comparison of hours worked by outside counsel and hours worked by inside counsel), (b) TVA provides DOE with notice of this potential use of outside counsel and the name of outside counsel, forty-five (45) days in advance of beginning to use such outside counsel, and, (c) TVA provides DOE an opportunity to consult with TVA for up to forty-five (45) days in advance about the use of such outside counsel. Except for outside counsel expenses, TVA shall be responsible for third party costs it incurs under this section.

Some sections in this Agreement expressly provide that disputes between TVA and DOE shall be resolved according to this section. The procedures established in this section apply to any dispute between TVA and DOE regardless of whether an express provision is made to this section or not.

F.2 Audit

DOE and TVA will arrange biennial audits by a team including representatives from DOE and TVA, respectively. The audit will begin no later than six (6) months after the end of the two-year period being reviewed. The audit scope shall be limited to those activities and costs that were not included in the fixed payments per Section B.3.a. and that occurred after the preceding audit. A party has one hundred eighty (180) days after receiving the audit report to object to an audit finding. Unless the parties disagree, adjustments in charges or payments required as a result of the audit shall be made promptly upon receipt of the report for the period in question.

F.3 Technical, Functional, and Quality Requirements

TPBARs are safety-related basic components. As such, TPBARs and related services shall be supplied in accordance with a quality assurance program that complies with 10 CFR 50, Appendix B in a method described in USNRC Regulatory Guide 1.28, latest revision. 10 CFR 21 applies to TPBARs and related services furnished under this Agreement. TPBAR design, analysis, and fabrication suppliers shall meet the requirements of the document entitled "TVA Tritium Production Program Requirements" and be listed on TVA's "Acceptable Suppliers List".

TVA shall be provided right of access to TPBAR and related service supplier facilities and records at all tiers for inspection and audit by TVA and/or other parties authorized by TVA.

DOE shall require contractors and suppliers at all tiers to comply with the requirements in the document entitled "TVA Tritium Production Program Requirements". A certificate of compliance (COC) shall be provided for each TPBAR batch, lot, or shipment certifying that design and fabrication complies with these requirements. TVA reserves the right to reject TPBARs for insertion in a TVA Reactor in which an activity or item is determined to not comply with the requirements in the document entitled "TVA Tritium Production Program Requirements".

ENCLOSURE 3
TENNESSEE VALLEY AUTHORITY
TRITIUM PRODUCTION PROGRAM REQUIREMENTS
TECHNICAL, FUNCTIONAL, & QUALITY REQUIREMENTS FOR TPBARs
TVA-TPPR-99-01



TRITIUM PRODUCTION PROGRAM REQUIREMENTS

Technical, Functional, & Quality Requirements for TPBARs

TVA-TPPR-99-01

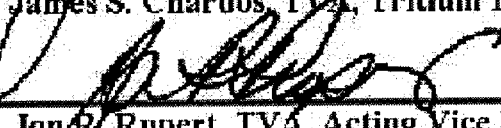
Rev. No. 2

August 27, 2001

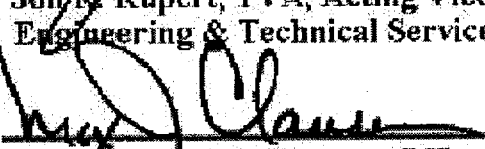
APPROVAL:

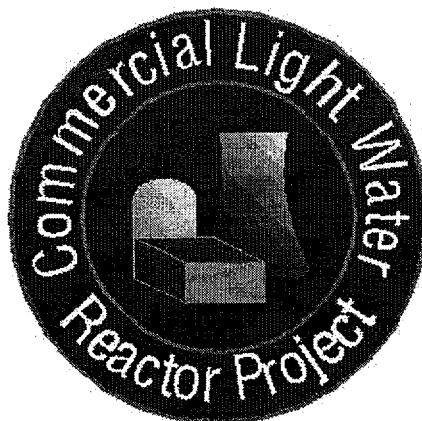

James S. Chardos, TVA, Tritium Program Manager

APPROVAL:


Jon R. Rupert, TVA, Acting Vice President,
Engineering & Technical Services

CONCURRENCE:


Max J. Clausen, Director, Office of CLWR Production, NA-125.1,
U. S. Department of Energy



1.0 GENERAL

This document has been developed pursuant to Section F.3 "Technical, Functional, and Quality Requirements" of Interagency Agreement No. DE-AI02-00DP00315 between TVA and DOE.

1.1 PURPOSE

The purpose of this document is to describe requirements established by the Tennessee Valley Authority which are applicable to tritium producing burnable absorber rods that will be irradiated in a TVA nuclear reactor. This document includes the technical, functional, and quality requirements associated with design, analysis, materials, fabrication, and delivery of tritium producing burnable absorber rods for insertion into host fuel assemblies.

TVA's nuclear facilities are licensed by the Nuclear Regulatory Commission under the Code of Federal Regulations 10CFR50. TPBARs are safety-related basic components that provide an element of reactivity control in the reactor and are considered important to the safe and reliable operation of the facility. Therefore these components must comply with established requirements or they will not be accepted for use in a TVA reactor.

1.2 APPLICABILITY

The requirements established in this document apply to suppliers of design, materials, fabrication, pre-irradiation shipping, and any related services associated with TPBARs that will be irradiated in a TVA reactor unless specific authorization is received from TVA stating otherwise.

2.0 QUALITY REQUIREMENTS

TVA's Nuclear Quality Assurance Plan (TVA-NQA-PLN89-A) has been accepted by the NRC. TVA's NQAP includes provisions for TVA to specify the applicable QA requirements for items or services supplied by others. The QA Program licensing basis was established with NRC approval of TVA's Watts Bar Unit 1 Operating License Amendment No. 8. TVA requires that TPBARs be designed, fabricated, and delivered in accordance with a quality assurance program that complies with 10CFR50, Appendix B; complies with the methods of the Basic and Supplementary Requirements of ASME NQA-1-1994; and complies with the regulatory positions in USNRC Regulatory Guide 1.28, Revision 3.

Per the DOE/TVA Interagency Agreement, TPBARs are supplied as "Government Furnished Property". In lieu of TVA qualifying DOE as a supplier, TVA has elected to qualify selected DOE suppliers as though those suppliers were direct suppliers to TVA. There are no procurement documents directly between TVA and these DOE Suppliers, therefore DOE shall flow down TVA requirements to the respective suppliers.

DOE Direct Suppliers for TPBAR Design, TPBAR Material Procurements, and TPBAR Fabrication shall submit their QA Programs to TVA for acceptance as identified in Table 2.1-1. Direct Suppliers shall maintain and implement their TVA accepted QA program for

all activities associated with TPBARs that will be delivered for irradiation in a TVA reactor. Sub-supplier QA programs shall be evaluated for acceptability by the Direct Supplier in accordance with the Direct Supplier's TVA accepted QA program. Upon TVA acceptance of a Direct Supplier's QA program the Direct Supplier will be placed on TVA's Acceptable Suppliers List (ASL).

In addition to the quality assurance program requirements established above, TPBAR materials and components shall also comply with quality requirements specified or referenced in design output documents such as drawings, specifications, and technical reports.

3.0 TECHNICAL AND FUNCTIONAL REQUIREMENTS

TPBARs shall be designed and fabricated to ensure the technical and functional requirements listed in Table 3.1-1 are met. The design organization shall obtain specific design inputs from TVA as well as TVA's applicable Fuel Vendor for the respective reactor site and shall establish controls to ensure use of the latest information. Preliminary, unreviewed, or unverified information shall be appropriately identified and controlled.

The TPBAR design must be accepted by TVA. TVA's acceptance will be based on participation in design review board activities, review of selected design output documents, results of QA audits/assessments, and review of design certificates of compliance.

During design, procurement, fabrication, and delivery of TPBARs, requests for design changes must be submitted to and approved by the design authority. Deviations associated with TVA requirements must be submitted to TVA for acceptance. Deviations include nonconformance dispositions of repair or accept-as-is as well as design outputs that do not comply with the TVA technical and functional requirements.

Commercial grade items (see 10CFR21 for definition) may not be dedicated for use in TPBARs unless written authorization is obtained from TVA.

4.0 QA RECORDS

Quality Assurance records associated with TPBARs shall be generated, maintained, stored, and retained in accordance with the DOE Direct Supplier's or Sub-Supplier's accepted QA program. Retention times for QA records, unless otherwise specified in a document approved or accepted by TVA, shall be in accordance with the retention times specified in USNRC Regulatory Guide 1.28, Revision 3, Section C. Regulatory Position 2. Provisions shall be made to ensure TVA is given the opportunity to modify retention times or take possession of QA records prior to disposal of such records. QA records required to be submitted to TVA are identified in Table 4.1-1.

5.0 INTERFACE CONTROLS

Interface controls shall be established between the TPBAR design organization, TPBAR materials procurement organization, TVA, DOE NA-125.1, the TPBAR fabricator, and the

applicable fuel vendor. These controls are necessary to ensure the latest design and licensing requirements are adhered to during design, procurement, fabrication, and delivery of TPBARs to TVA's Fuel Vendors. Each organization depicted in Table 5.1-1 shall designate an appropriate point of contact authorized to request and receive technical information from the other interfacing organizations. As the TVA Tritium Production Program progresses, changes to the involved organizations and points of contact may occur. All parties shall be notified of changes. Established interface controls should be delineated in controlled documents by the appropriate parties.

Figures 5.1 through 5.3 identify the interfaces, the flow of information and required approvals necessary to ensure accurate technical information is incorporated into the design of the Production TPBARs for acceptable TVA use and the development of license amendments for TVA nuclear plants. This document is not intended to conflict with or supersede any DOE established requirements. Compliance with TVA requirements however, must be adequately demonstrated in order for TVA to accept TPBARs for use in a TVA reactor.

6. REPORTING REQUIREMENTS

The requirements of Title 10 of the Code of Federal Regulations, Part 21 (10 CFR 21), apply to contracts and subcontracts associated with tritium producing burnable absorber rods (TPBARs). In all cases for which a supplier suspects that there is or has been a "defect", as defined in 10 CFR 21, or a failure to comply with the Atomic Energy Act of 1954, as amended, or any applicable rule, regulation, order or license of the Nuclear Regulatory Commission relating to a "substantial safety hazard", as defined in 10 CFR 21 relative to TPBARs, the supplier shall promptly notify the Tennessee Valley Authority. In the event a supplier reports any information to the NRC pursuant to 10 CFR 21 relative to TPBARs, the supplier shall contemporaneously report such information to TVA, both orally and in writing (including copies of related documentation). Notifications/reporting under 10 CFR 21 shall be submitted to TVA as identified in Table 4.1-1. TVA will notify DOE NA-125.1 of any notifications/reporting received under 10 CFR 21 regarding TPBARs. TVA notifications to DOE NA-125.1 do not relieve any supplier or sub-supplier from notification required by 10 CFR 21 or their contractual documents with DOE.

Organizations performing design or design analysis shall provide notification, with supporting documentation, to TVA of any errors, noncompliance, or changes identified and/or made in analyses or calculations that could potentially impact TVA and/or TVA Fuel Vendor technical documents.

TVA may request information submittals from time to time in support of developing license amendment requests and responses to regulatory inquiries or request for additional information. Information submitted to TVA shall be complete, accurate, and timely. Information submittals shall be requested and submitted in accordance with Section 8 "Correspondence Control".

7. RIGHT OF ACCESS

TVA shall be provided right of access to TPBAR and related service supplier facilities and records at all tiers for inspection and audit by TVA and/or other parties authorized by TVA. For access to supplier facilities and/or records containing classified information, TVA and/or TVA representative personnel shall possess the proper level of DOE security clearance and have a "need to know" prior to being granted such access.

8. CORRESPONDENCE CONTROL

Correspondence controls shall be established between parties as part of the interface controls described in Section 5.0 "Interface Controls".

TVA requests for information shall be in writing from the TVA Tritium Program Manager and will include the appropriate DOE personnel on distribution as required by the Interagency Agreement between TVA and DOE. Responses and submittals to TVA shall be addressed to the TVA Tritium Program Manager and shall include the same DOE personnel on distribution as identified in the request.

Correspondence transmitted between CLWR Project participants that contains information pertaining to TVA activities, requirements, facilities, or licenses shall include the TVA Tritium Program Manager on distribution.

ENCLOSURE 4
TENNESSEE VALLEY AUTHORITY
EXCERPT FROM DOE'S
CLWR PROJECT EXECUTION PLAN

COMMERCIAL LIGHT WATER REACTOR

PROJECT EXECUTION PLAN

CLWR-PLN-96-5681(08)-01
Rev: 3



**U. S. Department of Energy
National Nuclear Security Administration
Office of Defense Programs
1000 Independence Ave, SW
Washington, DC 20585**

April 7, 2000

5.2 Major Contracts

The CLWR Project will establish three major contracts which will control the operation of major portions of the CLWR Tritium Production System. These contracts form part of the CLWR Project baseline and configuration management procedures must be followed if the contracts are to be revised in any way.

5.2.1 DOE-TVA Interagency Agreement

This agreement, which went into effect on January 1, 2000, established the terms under which TVA will irradiate TPBARs and provide related services to DOE and under which DOE will pay TVA for the cost of those services. The contract describes the actions which TVA and DOE will take during the four phases of the contract, as described in chapter 4 of this PEP. The contract specifies required reports and deliverables. The interagency agreement specifies, by name, the individuals who have official functions under the agreement. The agreement calls for TPBAR design, analysis, and fabrication suppliers to meet the requirements of a document entitled *TVA Tritium Production Program Requirements*.

5.2.1.1 TVA Tritium Production Program Requirements

This document, developed by TVA and concurred in by the CLWR Project Director, describes requirements established by TVA which are applicable to TPBARs which will be irradiated in a TVA reactor. This document includes the technical, functional, and quality requirements associated with design, analysis, materials, fabrication, and delivery of TPBARs for insertion in a host reactor. Because the reactors are licensed by the NRC and because TPBARs are designated as safety-related basic components, TPBARs must comply with established requirements or they will not be accepted for use in a TVA reactor.

5.2.2 TPBAR Fabrication Services Contract

This contract, based on the DOE Request for Proposals, dated November 17, 1999, will control all actions taken to establish long-term capabilities for the manufacture of TPBARs.

There will be two phases under this contract. For the Phase I work, the selected contractor will assemble and complete the fabrication of 6,000 TPBARs in accordance with the requirements established by DOE. For Phase I, DOE will provide as Government-Furnished Property (GFP) the major TPBAR and classified components for assembly by the contractor(s) into finished TPBARs. The Phase I contractor, as requested by DOE, may also be called upon to provide technical assistance from time-to-time to DOE to support ongoing TPBAR production improvements and cost reduction activities. During Phase I, the selected contractor will be required to submit a cost proposal for the Phase II performance.

ENCLOSURE 5
TENNESSEE VALLEY AUTHORITY
EXCERPT FROM PNNL/TVA DESIGN INTERFACE AGREEMENT
TVA-TPPR-99-02, REVISION 0



**TRITIUM PRODUCTION
PROGRAM REQUIREMENTS**

**TPBAR Design Interface Agreement
Between
Tennessee Valley Authority
And
Pacific Northwest National Laboratory**

**TVA-TPPR-99-02
Rev. No.: 0
November 30, 1999**

APPROVAL: James S. Chardos 12/2/99
James S. Chardos, TVA Tritium Program Manager

APPROVAL: Cheryl Thornhill 12/2/99
Cheryl Thornhill, PNNL-TTQP Project Manager

I. PURPOSE

This design interface agreement has been established as required by 10CFR50 Appendix B, Criterion III, which states: "Measures shall be established for the identification and control of design interfaces and for coordination among participating design organizations. These measures shall include the establishment of procedures among participating design organizations for the review, approval, release, distribution, and revision of documents involving design interfaces". Also, NQA-1 Requirement 3 "Design Control" states: "Design interfaces shall be identified and controlled and the design efforts shall be coordinated among the participating organizations. Interface controls shall include the assignment of responsibility and the establishment of procedures among participating design organizations for the review, approval, release, distribution, and revision of documents involving design interfaces. Design information transmitted across interfaces shall be documented and controlled." As required, PNNL has issued TTQP-1-021, "Control of Design Interfaces".

The general purpose of this agreement is to identify the controls associated with PNNL obtaining and using TVA and TVA Fuel Vendor technical information in Production TPBAR design. As noted above, these controls are required to ensure compliance with 10 CFR 50, Appendix B and NQA-1. Specifically this agreement identifies:

- designated organizational points of contact (POC)
- assignment of responsibility for each organization and appropriate staff
- requirements for the review, approval and release of design information between organizations
- requirements for revising design information and providing updated design information, when required, by each design participant
- process to identify preliminary, unreviewed or unverified design information
- requirements associated with handling the design information including the controls associated with classified material or proprietary information
- formal transmittal and request requirements
- process by which the design information is confirmed/transmitted in a formal manner after informal communication of design information has occurred
- controls for identifying status of information

II. APPLICABILITY

This agreement applies to the exchange of design information between PNNL and TVA and TVA's Fuel Vendors regarding PNNL's design of production TPBARs for use in a TVA reactor.

III. RESPONSIBILITIES

A. PNNL is responsible for:

1. Assuring that the TPBAR design complies with the functional, technical and quality requirements delineated in TVA-TPPR-99-01, latest revision, as well as the Commercial Light Water Reactor's Project Execution Plan.
2. Requesting from TVA design and technical information needed for use as design inputs including information needed from TVA's Fuel Vendors.

B. TVA is responsible for:

1. Providing verified and accurate information when requested by PNNL for use as design inputs in Production TPBAR design including information obtained from TVA's Fuel Vendors.
2. Accepting the Production TPBAR Design prior to insertion of Production TPBARs into a TVA reactor for irradiation.

IV. POINTS OF CONTACT AND LEVELS OF AUTHORITY

- A. The PNNL Project Manager, Tritium Target Qualification Project is the PNNL Point of Contact (POC) authorized to submit technical information requests to the TVA POC.
- B. The TVA Tritium Program Manager is the TVA POC authorized to provide responses to the PNNL POC.

V. LINES OF COMMUNICATION

- A. Informal communications between TVA and PNNL personnel regarding the Production TPBAR design is encouraged to facilitate understanding of the design. Informal communications include information exchanged via telephone calls, electronic mail, facsimiles, etc. that do not contain the signature of the designated Point of Contact. All information obtained through informal communications and used by PNNL in preparing TPBAR design shall be controlled and clearly identified as preliminary, unreviewed, or unverified.
- B. Formal communications between TVA and PNNL shall be between the designated points of contact (POC). Information transmitted and/or requested under this agreement shall be processed via formal transmittal letter. The POC's signature on the transmittal letter indicates the information has been reviewed and approved for release and use and complies with this agreement. Copies of formal communications between PNNL and TVA under this agreement shall be provided to the DOE CLWR Project Office.
- C. If there are any unique requirements associated with the information transmitted and/or requested, the unique requirements shall be noted in the transmittal letter. Additionally, if the information is classified or proprietary, it shall be handled in accordance with the appropriate controls and noted on the transmittal letter.

VI. TVA is committed to respond to information requests and document reviews in a timely fashion.

VII. Representatives from TVA may participate in the PNNL Design Review Board (DRB) for TPBAR designs.

VIII. TVA may audit PNNL TPBAR design activities upon a mutually agreeable schedule.

ENCLOSURE 6
TENNESSEE VALLEY AUTHORITY
EXCERPT FROM WESDYNE'S
TPBAR FABRICATION PROJECT QUALITY PLAN

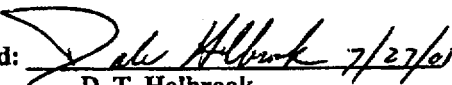
WesDyne International LLC

Tritium Producing Burnable Absorber Rod (TPBAR) Fabrication
Contract DE-AC02-00DP00229
for the U. S. Department of Energy

Project Quality Plan

Rev: 3

July 31, 2001

Approved:  7/27/01
D. T. Holbrook
President

Approved:  7/27/01
M. L. Travis
Project Manager

Approved:  7/27/01
M. C. Weatherly
Quality Assurance Supervisor

1.0 Introduction:

The Tritium Producing Burnable Absorber Rod Fabrication (TPBAR) Contract (DE-AC02-00DO00229) between the U.S. Department of Energy (DOE) and WesDyne International (WesDyne) is a contract for performing classified work. The contract imposes special requirements to protect government classified documents and hardware that are used and generated during the performance of the contract and the contract imposes quality assurance program requirements.

This Project Quality Plan (PQP) defines the WesDyne Quality Assurance Program that will be used for all activities on the TPBAR Fabrication Contract. TPBAR Fabrication activities will be performed in accordance with the contract, DOE security requirements, and this Project Quality Plan.

The TPBAR Fabrication contract requires WesDyne to fabricate TPBARs using mostly government furnished components (GFC). Eventually, DOE plans to transfer responsibility for procuring all TPBAR components under this contract. Additionally, the government will eventually transfer design responsibility for the TPBARs to WesDyne. Additional Tritium Program related classified activities may also be contracted to WesDyne and this PQP may be used for those activities.

WesDyne has a DOE approved Special Security Agreement that allows WesDyne to be awarded classified government contracts. In the case of the TPBAR fabrication contract, a majority of the work is subcontracted to Westinghouse Nuclear Fuels (NF), which cannot be awarded a classified contract. The government imposed security requirements which have been passed onto NF may cause NF to modify some procedures or generate new procedures for the TPBAR Fabrication program.

2.0

Quality Program Requirements

The requirements of the Quality Assurance Program have been established by the U. S. Department of Energy (DOE) Commercial Light Water Reactor (CLWR) Project and the Tennessee Valley Authority's (TVA's) Tritium Production Program Requirements-Technical, Functional and Quality Requirements for TPBARs (TVA-TPPR-99-01). The requirements contained in TVA-TPPR-99-01 apply to the activities performed under this Project Quality Plan (PQP), even if those requirements are not specifically repeated here.

The requirements impose compliance with 10CFR50, Appendix B using the methods of ASME NQA-1-1994, Basic and Supplementary Requirements and compliance with the regulatory positions of USNRC Regulatory Guide 1.28, latest revision.

WesDyne is committed to complying with the requirements using the latest revision of the NRC Approved Westinghouse Quality Management System. The QMS provides NRC accepted alternatives to some of the listed criteria.

The TPBAR fabrication contract involves the use of classified documents and hardware. The completed TPBARs are classified and some of the components are classified. A security plan has been prepared which meets the requirements of DOE Order 470.1 and WesDyne and NF will both work to that security plan. Some procedures required modification so the program would be in compliance with DOE security regulations. As WesDyne does not yet have responsibility for the TPBAR design, the design procedures have been omitted from this version of the PQP. These will be added at an appropriate time, prior to WesDyne's taking responsibility for the TPBAR design.

WesDyne has imposed the applicable QA Program Requirements on Westinghouse Nuclear Fuels (NF) through a purchase order. NF will implement the Westinghouse QMS using NF procedures. WesDyne also uses support services from Westinghouse Nuclear Services (NS) under an Interface Agreement. Those services provided by NS are accomplished in accordance with NS procedures that comply with the Westinghouse QMS.

WesDyne activities are performed in accordance with either Westinghouse procedures or WesDyne specific procedures as delineated in Section 3.0 of this PQP.

ENCLOSURE 7
TENNESSEE VALLEY AUTHORITY
EXCERPT FROM TVA'S ACCEPTABLE SUPPLIER LIST (DATABASE)
ON BATTELLE AND WESDYNE

ASL QA PROGRAM, RESTRICTIONS, REMARKS

Date/Time: 04/02/2002 13:23:40

☐ Audits☐ Contracts☐ Mail List☐ Main Menu**Process**

Vendor No: 000170446 01

Vendor Name: BATTELLE MEMORIAL INSTITUTE

Status: Y

Mailing Address

PACIFIC NORTHWEST

P.O. BOX 999

RICHLAND WA 993520999

Street Address

902 BATTELLE

RICHLAND WA 99352

Supervisor: JSW

QA Program	Expiration	Manual	Revision Level
APPX.	07/29/2002	04/21/2000	

Restrictions**Remarks**NO MAIL LISTS APPLICABLE. ACCEPTABLE FOR TRITIUM
QUALIFICATION PROJECT (TTQP) ONLY.

ASL AUDITS
10:53:20

Date/Time: 11/07/2001

Vendor No: 000170446 01 Vendor Name: BATTELLE MEMORIAL INSTITUTE

QA Contact: STEVE BALES Phone: (509)372-6172

☐ Program Data ☐ Contracts ☐ Mail List ☐ Main Menu



Audit/Survey Number and Date/Rims Number

97V-20/032797 W43 970416 801
99V-18/043099 W43 990526 800

ASL QA PROGRAM, RESTRICTIONS, REMARKS

Date/Time: 03/25/2002 10:18:29

☐ Audits☐ Contracts☐ Mail List☐ Main Menu

Vendor No: 000183035 01

Vendor Name: WESDYNE INTERNATIONAL LLC

Status: Y

Mailing Address Street Address

P. O. BOX 409

MADISON PA 15663

Supervisor: JSW

QA Program	Expiration Date	Manual Date	Revision Level
APPX.B/10CFR50	11/30/2003	07/31/2001	3

Restrictions**CONTRACT MUST STATE:**

1. APPROVAL IS LIMITED TO SUPPLYING TRITIUM PRODUCING BURNABLE ABSORBER RODS (TPBARS) AND RELATED SERVICES.
2. NOT APPROVED FOR DESIGN OR ENGINEERING SERVICES.
3. NOT APPROVED FOR COMMERCIAL GRADE ITEM DEDICATION WITHOUT PRIOR WRITTEN TVA APPROVAL.
4. CONTACT TVA VAS AT 423/751-2725 TO SCHEDULE SURVEILLANCE PRIOR TO PERFORMING ANY QA SAFETY RELATED PRODUCTION FABRICATION ACTIVITIES AT COLUMBIA, SC FACILITY. SURVEILLANCE REQUIRED TO VERIFY IMPLEMENTATION OF QA PROGRAM REQUIREMENTS AT COLUMBIA FACILITY. (WESDYN-MAPA1)

Remarks

NO MAILING LIST IS APPLICABLE. USE OF THIS SUPPLIER IS LIMITED TO SUPPORTING THE TVA TRITIUM PRODUCTION PROGRAM. REFERENCE TVA TRITIUM PRODUCTION PROGRAM REQUIREMENTS DOCUMENT TVA-TPPR-99-01, LATEST REVISION FOR QA PROGRAM REQUIREMENTS. SUPPLIER IS QUALIFIED FOR TPBAR MATERIAL & SERVICES PROCUREMENTS, TPBAR FABRICATION OVERSIGHT, AND RELATED SERVICES. THE SUPPLIERS PROJECT QUALITY PLAN COMMITS TO COMPLIANCE WITH THE WEC QMS. CURRENTLY QMS IS AT REVISION 4 DATED JAN. 15, 2001 LOCATIONS APPROVED INCLUDE WESDYNE'S BLUFF ROAD, COLUMBIA, SC FACILITY.

ASL AUDITS 10:45:40	Date/Time: 11/07/2001
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Vendor No: 000183035 01 **Vendor Name:** WESDYNE INTERNATIONAL LLC

QA Contact: MARK C. WEATHERLY **Phone:** (712)722-5250

☐ **Program Data** ☐ **Contracts** ☐ **Mail List** ☐ **Main Menu**



Audit/Survey Number and Date/Rims Number

2001V-04/113000 W43 010725 801