

U.S. NUCLEAR REGULATORY COMMISSIONTENNESSEE VALLEY AUTHORITYWATTS BAR NUCLEAR PLANTDOCKET NO. 50-390ISSUANCE OF DIRECTOR'S DECISION UNDER 10 CFR 2.206

Notice is hereby given that the Director, Office of Nuclear Reactor Regulation (NRR), has taken action on a Petition of February 14, 1996 (Petition), for action under Section 2.206 of Title 10 of the CODE OF FEDERAL REGULATIONS (10 CFR 2.206) filed by Ms. Faith Young (Petitioner) of Dixon Springs, Tennessee. The Petitioner asks that the NRC rescind Watts Bar's license to operate until the alleged issue of increased radioactive contamination of the plant's emission is resolved.

Petitioner believes that the lake containing the water used to cool Watts Bar's core contains sediment previously contaminated by radioactive material. Over the lifetime of Watts Bar's operation, according to Petitioner, uncontrolled access to the lake will disturb this sediment, which will in turn contaminate water drawn into the plant's cooling system. Petitioner believes that the issue of heightened radioactive contamination of nuclear power plant emissions has not been previously addressed. The Notice of Receipt of Petition Under 10 CFR 2.206 was published in the Federal Register on April 4, 1996 (61 FR 15151).

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The Director of NRR determined that the Petition should be denied for the reasons explained in the "Director's Decision under 10 CFR 2.206" (DD-96-10), the complete text of which follows this notice and is available for public inspection at the Commission's Public Document Room at 2120 L Street, NW., Washington, D. C., and at the Local Public Document Room for the Watts Bar Nuclear Plant at the Chattanooga-Hamilton County Library, 1001 Broad Street, Chattanooga, Tennessee.

A copy of this Director's Decision will be filed with the Secretary of the Commission for the Commission's to review in accordance with 10 CFR 2.206(c). As provided by this regulation, this Decision will constitute the final action of the Commission 25 days after the date of issuance, unless the Commission, on its own motion, institutes a review of the Decision within that time.

Dated at Rockville, Maryland, this 9th day of July 1996.

FOR THE NUCLEAR REGULATORY COMMISSION



William T. Russell, Director
Office of Nuclear Reactor Regulation

The Director of NRR determined that the Petition should be denied for the reasons explained in the "Director's Decision under 10 CFR 2.206" (DD-96-10), the complete text of which follows this notice and is available for public inspection at the Commission's Public Document Room at 2120 L Street, NW., Washington, D. C., and at the Local Public Document Room for the Watts Bar Nuclear Plant at the Chattanooga-Hamilton County Library, 1001 Broad Street, Chattanooga, Tennessee.

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Dated at Rockville, Maryland, this 9th day of July 1996.

FOR THE NUCLEAR REGULATORY COMMISSION

Original Signed By
WILLIAM T. RUSSELL

William T. Russell, Director
Office of Nuclear Reactor Regulation

Distribution:
See attached list

DOCUMENT NAME: G:\M94838.FRN

OFFICE	LA:PDII-3	PM:PDII-3		D:PDII-3	SPLB	
NAME	BClayton	AMartin		FHebdon		
DATE	6/28/96	6/28/96		1/96	1/96	
OFFICE	PERB	OGC	DD:DRPE	D:DRPE	ADPR:NRR	D:NRR
NAME	TEssig*	MRafky	JZwolinski	SVarga	RZimmerman	WRussell
DATE	06/25/96	06/12/96	7/2/96	6/13/96	7/5/96	7/8/96

Petitioner's request for action pursuant to 10 CFR 2.206, as specifically stated in the letter of February 14, 1996, is denied.

A copy of this Final Director's Decision will be filed with the Secretary of the Commission for the Commission's review in accordance with 10 CFR 2.206(c). This Decision will become the final action of the Commission 25 days after issuance unless the Commission, on its own motion, institutes review of the Decision within that time.

FOR THE NUCLEAR REGULATORY COMMISSION

Original Signed By
WILLIAM T. RUSSELL

William T. Russell, Director
Office of Nuclear Reactor Regulation

Dated at Rockville, Maryland,
this 9th day of July 1996

DOCUMENT NAME: G:\WBN\YOUNG.DEC

*SEE PREVIOUS CONCURRENCE

OFFICE	LA:PDII-3	✓	PM:PDII-3		TECH ED		D:PDII-3		SPLB*	
NAME	BClayton		RMartin		RSanders*		FHebdon*			
DATE	6/28/96		7/12/96		06/17/96		06/05/96		06/21/96	
OFFICE	PERB*		OGC		DD:DRPE		D:DRPE		ADPR:NRR	W Russell
NAME	TEssig		MRafky*		JZwolinski		SVarda		RZimmerman	
DATE	06/25/96		06/12/96		07/02/96		7/2/96		7/5/96	7/18/96

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May 29, 1996

Distribution
Docket File
EPA Rdg.
LWiens
BClayton

DOCKET NO(S). 50-390 and
50-391

SEE ATTACHED LIST

SUBJECT: TENNESSEE VALLEY AUTHORITY - WATTS BAR NUCLEAR PLANT, UNITS 1&2

The following documents concerning our review of the subject facility are transmitted for your information.

✓	DESCRIPTION OF DOCUMENT	DATED
	Notice of Receipt of Application	
	Draft/Final Environmental Statement	
	Notice of Availability of Draft/Final Environmental Statement	
	Safety Evaluation Report, or Supplement No. _____	
	Environmental Assessment and Finding of No Significant Impact	
	Notice of Issuance of Environmental Assessment	
	Notice of Consideration of Issuance of Facility Operating License or Amendment to Facility Operating License	
	Biweekly Notice; Applications and Amendments to Operating Licenses Involving No Significant Hazards Conditions See Page(s) _____	
	Exemption	
	Construction Permit No. CPPR- _____, Amendment No. _____	
	Facility Operating License No. _____, Amendment No. _____	
	Order	
	Monthly Operating Report for _____ transmitted by Letter	
X	Annual/Semi-Annual Report: Radiological Environ Operating Report 1995 _____ transmitted by Letter	
	Other _____	

Office of Nuclear Reactor Regulation
Project Directorate II-3
Division of Reactor Projects - I/II

Enclosures:
As Stated

cc:

OFFICE ▶	...PD.II-3...						
SURNAME ▶	ASanders						
DATE ▶	05/29/96						

Chief
Division of Habitat Conservation
U. S. Fish and Wildlife Service
U. S. Department of the Interior
Washington, D. C. 20240

Dr. William Cunningham
FDA Research Chemist
National Institute of Standards
and Technology
Reactor Building 235, Room B-108
Gaithersburg, Maryland 20899

U. S. Environmental Protection Agency
Radiation Management, 3-AIR
345 Courtland Street NE
Atlanta, Georgia 30365



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

February 6, 1996

MEMORANDUM FOR: Chairman Jackson
Commissioner Rogers

FROM: James M. Taylor *James M. Taylor*
Executive Director for Operations

SUBJECT: WATTS BAR FULL-POWER OPERATING LICENSE [REISSUED TO CORRECT QUESTION 3 AND TO CLARIFY ATTACHMENT 3]

In response to Chairman Jackson's memorandum dated February 1, 1996, the staff has prepared the following responses to the specific questions. The staff also requested that TVA independently respond to the questions (except for Question 3). The staff's request (Attachment 1) and TVA's response (Attachment 2) are attached.

In addition, the staff has reviewed the transcript of the Watts Bar Commission meeting held on January 31, 1996. Attachment 3 provides the questions asked by the Commission, and the staff's response to each question. The staff has concluded that the answers provided are responsive and accurate, with one response benefiting from some clarification. Mr. Russell's comment (transcript Page 71, line 20) that the Commission requires that an applicant identify differences between their application and the Standard Review Plan (SRP) was intended as a comment about the licensing process in general. The specific requirement, contained in 10 CFR 50.34(g), requires that applications for operating licenses docketed after May 17, 1982, include an evaluation of the facility against the SRP. Thus, this requirement does not apply to Watts Bar because its operating license application was submitted on September 27, 1976. Deviations from Regulatory Guides to which TVA is committed are documented as described during the Commission meeting.

QUESTION 1: How does the reliability of the Watts Bar radiation monitors compare with the reliability experienced in the industry?

RESPONSE: Radiation monitor failures have occurred since system turnover. For monitors addressed in the Offsite Dose Calculation Manual (ODCM), the majority of out-of-service conditions resulted from maintenance activities to locate and correct excessive system electrical noise. TVA believes that they have corrected these problems. TVA and the staff expect the reliability of the radiation monitors to increase as problems are identified and resolved.

Contact: Frederick J. Hebdon, NRR
301/415-1468

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The staff does not require licensees to trend the availability of radiation monitors nor is the staff aware of any industry-wide data base on the availability of radiation monitors. In addition, the staff does not trend the availability of radiation monitors.

However, in response to this question, the staff requested that the resident inspectors at four sites in Region II conduct an informal survey of radiation monitor availability. The four sites surveyed were McGuire, Crystal River, Harris, and Turkey Point. Three of the four sites use primarily Sorrento detectors, the same manufacturer as Watts Bar. Due to variation among licensees regarding the definition and tracking of unavailability, the staff found that the information gathered was not directly comparable to Watts Bar.

Nevertheless, in the judgment of the staff experienced in this area, the availability of the radiation monitors at Watts Bar has been consistent with the availability seen in the industry. TVA's response to this question is in Attachment 2.

QUESTION 2: What is the inventory of spare parts and how easy is maintaining this inventory (i.e, are the parts still available from the manufacturer)?

RESPONSE: The staff conducted inspections in October and November 1995, and during the week of January 22, 1996, that included the Watts Bar spare parts program. These inspections verified that the spare parts inventory was based originally on engineering reviews of Nuclear Plant Reliability Data System (NPRDS) and Reliability Centered Maintenance (RCM) data. The current program has established minimum and re-order part quantities based on vendor recommendations and industry experience. TVA indicated that based on actual operating experience at Watts Bar, the current spare parts inventory is expected to be modified further. From the review of equipment lists, operability data and discussions with Watts Bar staff, regarding out-of-service equipment, the inspector determined that spare parts have been available and have not affected system availability.

Numerous parts have been ordered and received from the vendor over the last year. TVA has additional parts on order.

TVA has provided more detailed information on the quantity of spare parts onsite and on order (Attachment 2).

QUESTION 3: Can the staff give assurance that the allegations in the 2.206 petition and referenced deviations do not contain any health and safety or regulatory concerns that would affect granting a full power operating license?

RESPONSE: The staff has reviewed all of the allegations that are still open on Watts Bar in accordance with NRC Management Directive 8.8, Management of Allegations; and concluded that, if true, the allegations are not material to the licensing decision and do not affect the staff's recommendation to issue the full-power license. In addition, the staff has inspected each allegation, and found no information that would affect the staff's recommendation to issue the full-power license.

The Commissioners

- 3 -

Because the 2.206 petition indicates an apparent misunderstanding about the conclusions reached in SSER 16 about the licensing basis of the radiation monitoring system, the staff plans to supplement that evaluation in SSER 20 to clarify any misunderstanding.

The staff is continuing to process the 2.206 petition. The staff has not identified any technical issues that would warrant immediate revocation or suspension of the Watts Bar Unit 1 low-power license; or would, if true, affect the staff's recommendation to issue a full-power license. The staff is preparing an initial response to the 2.206 petition.

In general, the review of requested deviations is conducted as part of the review of an overall program in a given area (e.g., fire protection). The staff considers the nature and scope of the approved deviations, both individually and collectively, as part of its assessment of the acceptability of the program. In addition, each request by TVA for a deviation or exception was reviewed by the staff and, where justified, approved. The basis for the justification for each deviation is documented in the SSERs.

Finally, the memo requested assurance that TVA has committed to accelerate the implementation of the vehicle bomb rule. Based on the information provided in Attachment 2, TVA has begun efforts to accelerate implementation of the vehicle bomb rule and expects to complete implementation by February 17, 1996.

Attachments: 1. Ltr fm NRC to TVA, 2/2/96
2. Ltr fm TVA to NRC, 2/3/96
3. Excerpts from Watts Bar Commission Meeting on 1/31/96

cc w/attachment: SECY OGC OCA OPA

The Commissioners

- 3 -

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cc w/attachment: SECY OGC OCA OPA

Docket No. 50-390

Distribution Docket File WBN Rdg. File EDO Reading

DOCUMENT NAME: G:\CHRMQ&A.WP *see previous concurrence

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NAME	BClayton	PTam	FHebdon	JZwolinski	SVarga
DATE	02/05/96	02/05/95	02/ /96	02/05/96	02/05/96
OFFICE	ADP*	NRR <i>WR</i>	EDO		
NAME	JZimmerman	WRussell	JTaylor		
DATE	02/05/96	02/ 6 /96	02/ /96		

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

February 2, 1996

Mr. Oliver D. Kingsley, Jr.
President, TVA Nuclear and
Chief Nuclear Officer
Tennessee Valley Authority
6A Lookout Place
1101 Market Street
Chattanooga, TN 37402-2801

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION - WATTS BAR NUCLEAR PLANT UNIT 1

Dear Mr. Kingsley:

During the Commission Meeting held on January 31, 1996, concerning the readiness of the Watts Bar Nuclear Plant Unit 1 for a full power operating license, Chairman Jackson raised questions related to the radiation monitoring system availability and spare parts inventory, and the status of implementation of the vehicle bomb rule. These questions are contained in the enclosed memorandum from Chairman Jackson to Mr. James M. Taylor, dated February 1, 1996. With regard to Question 1, you are requested to address the availability of the Watts Bar radiation monitors compared with the industry experience. Please respond to each of the questions, except for Question 3.

Sincerely,

A handwritten signature in cursive script that reads "Roy P. Zimmerman".

Roy P. Zimmerman
Associate Director for Projects
Office of Nuclear Reactor Regulation

Docket No. 50-390

Enclosure: Memorandum

cc w/enclosure: See next page

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CHAIRMAN

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

February 1, 1996

MEMORANDUM TO: James M. Taylor

FROM: Shirley Ann Jackson *Shirley Ann Jackson*

SUBJECT: SECY-96-019, WATTS BAR NUCLEAR PLANT, UNIT 1 -
READINESS TO RECEIVE A FULL-POWER OPERATING
LICENSE

Before voting in this matter I request that the staff provide a written response to the questions that I posed in the January 31, 1996 Commission meeting. In addition I request written answers to three additional questions which follow. Please provide this information by Monday, February 5, 1996.

1. How does the reliability of the Watts Bar radiation monitors compare with the reliability experienced in the industry?
2. What is the inventory of spare parts for the radiation monitors and how easy is maintaining this inventory?
3. Can the staff give assurance that the allegations in the 2.206 petition and referenced deviations do not contain any health and safety or regulatory concerns that would affect granting a full power operating license?

Finally, I would like assurance that TVA has committed to accelerate the implementation of the vehicle bomb rule.

cc: Commissioner Rogers
SECY
OGC

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ENCLOSURE

Mr. Oliver D. Kingsley, Jr.
Tennessee Valley Authority

cc:

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Mr. D. E. Nunn, Vice President
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WATTS BAR NUCLEAR PLANT

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Senior Resident Inspector
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The Honorable Garland Lanksford
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Ms. Beth Zilbert, Energy Campaigner
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Mr. James P. Riccio
Public Citizen
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Atlanta, GA 30338



Tennessee Valley Authority, Post Office Box 7007, Spring City, Tennessee 37381-2000

John A. Scalfce
Vice President, Watts Bar Nuclear Plant

FEB 03, 1996

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

Gentlemen:

In the Matter of
Tennessee Valley Authority

)
)
Docket Nos. 50-390

WATTS BAR NUCLEAR PLANT (WBN) UNIT 1 - REQUEST FOR ADDITIONAL
INFORMATION IN SUPPORT OF ISSUANCE OF FULL POWER LICENSE

By letter dated February 2, 1996, NRC requested TVA to provide answers to questions posed by Chairman Jackson in support of her review of TVA's request for a license authorizing full power operation at Watts Bar Unit 1. The questions and TVA's responses are provided below.

Question 1. How does the reliability of the Watts Bar radiation monitors compare with the reliability experienced in the industry?

Response:

Watts Bar Nuclear Plant has placed a high priority on the radiation monitoring system and tracks the availability of the permanently installed radiation monitors. This reflects our commitments to high standards of performance and the careful approach to power operation being taken at Watts Bar. As was noted in our recent

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submittals, overall system availability at WBN is 95.4 percent. This consists of Technical Specification Monitor availability of 96.9 percent and availability of the Offsite Dose Calculation Manual (ODCM) monitors 93.4 percent. However, two ODCM monitors were out of service for an extended period of time, contributing to this level. These problems have been corrected and, as a result, the availability of the ODCM monitors, as well as the system as a whole, is expected to increase.

To aid in preparing this response, INVO identified nine utilities that were considered to have good system performance tracking capabilities. TVA attempted to contact all nine of these utilities but was unsuccessful in reaching four. TVA performed an informal telephone survey of the remaining five utilities. As would be expected in the absence of specific numerical standards for availability of radiation monitors, there was no standard methodology for determining availability among the utilities surveyed. One utility does not formally calculate availability, but does track monitor performance by logging out-of-service time. This data, however, is not easily retrievable and no target for monitor performance has been established. Another utility tracks results of quarterly Technical Specification surveillances by recording the number of monitors that pass and fail. A third utility does track reliability, but excludes down time for planned maintenance and minor problems, making comparison with Watts Bar experience impractical.

The remaining two utilities have a formal availability tracking program that is similar to that at WBN. These utilities have an availability target of 95 percent for those monitors within the scope of the maintenance rule. They track the availability of all monitors, not just those subject to the rule. The availability information obtained from these utilities showed that the systems at these two plants perform slightly better than the 95.4 percent system value for Watts Bar. TVA has concluded that the radiation monitors at Watts Bar are performing well in comparison with the utilities surveyed and Watts Bar is tracking system performance to provide assurance that the system will continue to perform well.

Question 2. What is the inventory of spare parts for the radiation monitors and how easy is maintaining this inventory?

Response:

The current inventory at WBN consists of over 500 line items, with a value greater than \$1M. This includes spare parts from Sorrento Electronics/General Atomics, Eberline Instruments, and Kurz Instruments. A review of those spare parts considered most critical (such as spare detectors, preamplifiers, power supplies, and pumps) confirmed that adequate spare parts are available in TVA inventory. There is currently \$375K of spare parts on order from Sorrento Electronics, with delivery expected no later than March 1, 1986. The large inventory of similar spare parts at Sequoyah and Browns Ferry provides additional assurance that items will be

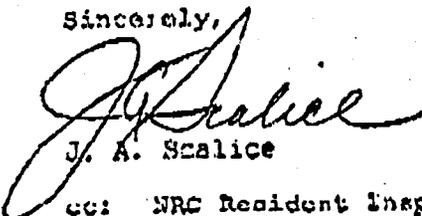
available when needed. Since turnover of the radiation monitoring system to plant operations, the unavailability of spare parts has not been an issue in maintaining and repairing system equipment.

A majority of the spare parts are provided by Sorrento Electronics, an affiliate of General Atomics established in 1979. Sorrento Electronics is a world-wide provider of radiation monitoring systems. Domestically, Sorrento Electronics has radiation monitoring systems installed in approximately 85 percent of all nuclear power plants. With this breadth of exposure in the nuclear industry, Sorrento Electronics is clearly positioned to be a long-term supplier of spare and replacement parts.

The NRC memorandum which was attached to NRC's February 2, 1996, letter, also requested "assurance that TVA has committed to accelerate the implementation of the vehicle bomb rule." TVA is committed to and has initiated acceleration of its implementation activities. Adverse weather currently being experienced at the site has impacted work. If this weather improves by early next week, as predicted, TVA expects to be able to complete physical work associated with implementation of the rule by February 9, 1996. All reviews (including appropriate verifications) and completion of related documentation will be completed by February 17, 1996. TVA's original commitment was to complete this work by February 27, 1996.

If you should have any questions, please contact me at
(423) 365-8767.

Sincerely,



J. A. Scalice

cc: NRC Resident Inspector
Watts Bar Nuclear Plant
1260 Nuclear Plant Road
Spring City, Tennessee 37301

Mr. P. S. Tam, Senior Project Manager
U.S. Nuclear Regulatory Commission
One White Flint North
11555 Rockville Pike
Rockville, Maryland 20852

U.S. Nuclear Regulatory Commission
Region II
101 Marietta Street, NW, Suite 2900
Atlanta, Georgia 30323

EXCERPTS FROM THE TRANSCRIPT OF THE COMMISSION
MEETING DISCUSSION ON THE FULL POWER OPERATING LICENSE
FOR WATTS BAR
JANUARY 31, 1996

[CLARIFICATIONS TO THE TRANSCRIPT ARE SHOWN IN BOLDFACE BRACKETS]

1. (p 60, l 16)

CHAIRMAN JACKSON: You said 22 at Department of Labor and five, that's 27.

MR. JAUDON: And one in the final closure process, five plus one. One is back with the enforcement and investigation coordination staff and they are drafting the final letter to the allegor.

CHAIRMAN JACKSON: That's 28. Isn't there one other?

MR. JAUDON: And one in NRR. May I have Slide 5, please[?]

MR. JAUDON: In summary, Watts Barr operations since the issuance of a low power license have been conservative and acceptable. Their performance is typical, in my experience, of a newly licensed plant. We shall continue to inspect them closely. In addition to the coverage provided by the residents and normal regional support, we plan to do a team assessment during the power ascension, if a full power license is granted. Are there any questions about the inspection activity?

2. (p 61, l 12)

COMMISSIONER ROGERS: I have one question about the control rod position indicators. Are there any other reactors that use this particular system?

MR. JAUDON: It is my understanding that other reactors that have the heavy jack shafts and the boron carbide have gone to a digital rod position indication as part of the changeout. Watts Barr elected to keep the original rod position indication, and that made them unique.

COMMISSIONER ROGERS: I see.

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3. (p 61, l 21)

CHAIRMAN JACKSON: Have you reviewed the maintenance backlog, and are there any items in that backlog that, in your opinion, need to be worked before the granting of the full power license?

MR. JAUDON: I am going to ask our senior resident for operations to answer that, if I can. Mr. Van D[o]orn.

MR. VAN D[O]ORN: Yes. Kim Van D[o]orn, senior resident inspector. We selectively look at those backlogs and certainly look at all the things that are carried on the POD on a regular basis, on a daily basis. More indirectly, what we do is evaluate as well their process of evaluating and see what effect they have on systems and how they prioritize them, and that is really more effective for us, I think, rather than look[ing] at [e]very backlogged item. We approach it with sampling [and] to assure ourselves that they are effectively evaluating and putting the right priority on those issues. We have attended meetings, and they take a very conservative approach.

CHAIRMAN JACKSON: How do you do your sampling?

MR. VAN D[O]ORN: Well, obviously we have system knowledge, and we can pretty much tell [~~them~~] from the types of issues that are being discussed in the plan of the day, and we also, obviously, regularly tour the plant and we look for equipment problems that we see out there. If we see anything that is an anomaly, of course, we validate that they are tracking it, and we look into specific aspects of that. So it is just from our normal knowledge of what is going on in the plant, and what we see them addressing in the morning meetings, and how management is reviewing that, and what those issues are.

4. (p 63, l 4)

CHAIRMAN JACKSON: Have you reviewed any operator workarounds, or control room deficiencies, and are there any that should or could be corrected before exceeding 5 percent power?

MR. VAN D[O]JORN: The definition of operator workaround is a difficult one. I think TVA is still working on what that exact definition is. Certainly, there are --

CHAIRMAN JACKSON: Do you have a definition?

MR. VAN D[O]JORN: My definition would be, if it drives them out of being able to comply with the procedure, if it make[s] something inoperable and they have to take something like compensatory actions to meet a tech spec[; things] such as that, other than provided for compensatory actions, like there are in rad monitors, if there is something special that has to be done and they have to put -- ~~[for instance, assisting, an operator have a valve to make sure that it would close in an event, or something like that]~~ [for instance, a work around exists where the automatic operation of a valve is in a degraded or non-conforming condition and manual operator action is required to compensate]. Those types of things I would consider operator workarounds, and we know of none.

However, there are, obviously, some control room [an]nunciation things which TVA talked about. Those aren't good but, in a practical sense, there are going to be some of those, and we look at those daily. We walk the boards, and see what tape record[er]s are out of service, and so forth.

[See also questions 5 and 13]

5. (p 64, 1 3)

CHAIRMAN JACKSON: Do we have any standards relative to control room [an]nunciators? This goes back to Commissioner Rogers['] question [that] he posed to TVA, or is it that we just monitor and look at what is?

MR. VAN D[O]JORN: I don't think we have prescriptive regulatory standards.

MR. RUSSELL: The requirements that are imposed are imposed on individual systems as it relates to operability of those systems, particularly those that are called out with procedures that relate to, for example, technical

specifications.

CHAIRMAN JACKSON: When you are looking at things like [an]unciators, you are looking at it relative to [w]hat?

MR. RUSSELL: Relative to regulatory requirements because there are [an]unciators in the control room that are not related directed to regulatory requirements. So, if there is an [an]unciator out, it makes it difficult for them to follow an alarm response procedure, and that alarm response procedure is required, where they, instead of using that [an]unciator, have to use the plant process computer, that would be a workaround. We have recently put out some guidance, and a workaround to the Staff is a degraded or nonconforming condition for which you are still operable, but you substitute some type of human performance for that degraded or nonconforming condition where you are not within the specific actions where there are previously approved compensatory actions.

CHAIRMAN JACKSON: And so, following on his comment, you have identified none?

MR. RUSSELL: I have not personally reviewed [operator workarounds at Watts Bar]. I am responding generically. Based upon what he described, based upon that, there would be no workarounds at this point in time.

MR. EBNETER: I should probably tell you, we discussed this at the public meeting last week, and whatever definition you use, I am quite sure you will find there are some workarounds at Watts Bar, and there are a number of workaround definitions. Every station I go to has a different definition. We are working on one internally, and I believe INPO is working on one, but I don't know of any standard definition. But I think the general definition, if I had to describe it real quick, I would say it is anything that puts an additional burden on the operators that shouldn't be there because you are [not in compliance] or in a degraded condition. But I think the simple answer is, there are probably some workarounds at TVA Watts Barr no matter how you define it. I think there

are some at every plant.

CHAIRMAN JACKSON: But you are satisfied yourself that there are none that we should particularly --

MR. EBNETER: I don't know of any. I have relied primarily on the resident staff for that. That is one of the things that I have listed here as an area that needs improvement when I get to my section. One of them was listed as, there is a need to clarify the concept of workarounds and compensatory measures in the total scope of [a] maintenance and corrective action program.

6. (p 67, l 16)

CHAIRMAN JACKSON: You have "meets," are those the regulatory requirements [slide 6 with respect to fire protection]?

MR. HEBDON: Those are the regulatory requirements.

[See also question 12]

7. (p 71, l 8)

CHAIRMAN JACKSON: -- have there been any exemptions with respect to the actual regulatory requirements?

MR. HEBDON: There have been no exemptions in the area of the radiation monitors. There have been some deviations to Reg Guide 1.97. I believe there are five deviations to Reg Guide 1.97.

CHAIRMAN JACKSON: And they have all been documented?

MR. HEBDON: They are documented in the SER. They are reviewed by the Staff, and five have been approved.

CHAIRMAN JACKSON: Do you have any questions?

MR. RUSSELL: If I could just provide one process piece of information, the Commission, by rule, requires that an applicant identify differences between their application and criteria and standards that are described in the standard review plan that is in effect for licensing of that plant. This is an aid to Staff to focus on those areas of the

application where they are taking positions that are different than generically approved positions. That does not imply that because they are different they are less safe or they are not acceptable. The generic approval is one way of meeting the regulations. Where they deviate from that, there may be a case specific reason that the licensee has. But we review that to make a determination as to whether it provides the necessary commitments to meet the regulations. Each of those deviations is typically documented in our safety evaluation in the application first and then in the safety evaluation.

CHAIRMAN JACKSON:

I want to thank you for that lesson, Mr. Russell. The point is simply that the regulatory basis is clear; what the licensee has committed to is clear; that if there are exemptions from the regulatory requirements, they have been so documented and granted; that if there are deviations, that they have been evaluated and so noted in the SERs or supplemental SERs. And you are telling me that all of that is true?

MR. RUSSELL:

That's correct.

8. (p 74, l 25)

COMMISSIONER ROGERS:

Just say a little bit about that. The slide says the State of Tennessee participation.

MR. HEBDON:

Right. There is a requirement in the regulation that TVA conduct a full participation exercise, [that] any licensee applicant conduct a full participation exercise within two years of issuance of the full power license. The last full participation exercise by TVA was in November of 1993, so the two years had essentially expired. As a result, they had to conduct another full participation exercise, and the State of Tennessee, through TVA, had requested that they not do the ingestion pathway portion of that exercise because they had done it in the earlier exercises and they had also exercised those capabilities because the Sequoyah plant is also located in Tennessee, and so they had requested that and the Staff had approved that.

COMMISSIONER ROGERS: I see. All right. Thank you.

9. (p 75, l 17)

CHAIRMAN JACKSON: Are there any emergency preparedness issues or concerns from FEMA or any other state or local agency with respect to Watts Bar?

MR. EBNETER: Not to my knowledge.

MR. HEBDON: No. We have received from FEMA the finding that they are required to make on the offsite emergency planning, the reasonable assurance finding, and that [had] been completed after the exercise in November.

CHAIRMAN JACKSON: Okay.

10. (p 76, l 4)

CHAIRMAN JACKSON: Let me ask you one last thing with respect to radiation monitoring. I know there were some preoperational tests done, and they were at an approved vendor facility; is that correct?

MR. HEBDON: There was some calibration of some of the individual detectors that were done. Some of those are done on site and some of those are done at vendor facilities using the geometries that different detectors are calibrated in different ways.

CHAIRMAN JACKSON: Do you require any power ascension testing in the sense that you have these in a vendor facility, obviously you are not in a radiation environment.

MR. JAUDON: Let me answer that. What Reg Guide 1.21 states and what TVA plans to do, as they have told us, and are writing procedures to do[,] is to take grab samples once they get a source term, and compare those to the monitor readings[. That] is a program that goes on throughout the life of the plant, really, to validate that.

MR. EBNETER: We have the inspector here, George [Kuzo], who will be monitoring this throughout, if you would like to hear from him?

CHAIRMAN JACKSON: Sure.

MR. [Kuzo]: I am George [Kuzo], senior radiation specialist from Region II. And if you will just ask your questions, I will be happy to answer them. Do you want me just to summarize my findings?

Regarding the calibrations, one of the first things that I looked at, at Watts Bar, because [~~of~~] some of the earlier problems did involve calibrations and the loss of some records mainly, I reviewed the vendor documents to make sure that the calibrations were done properly at the vendor facilities, or [that] they had done some calibrations onsite for some of the iodine monitors.

Another area that was of importance to review [~~is~~] specifically for some of the sample lines [,] was the construction and the installation of the equipment. On all those, initially, approximately one year ago, we had some findings. You referenced some of the violations that [were] in that inspection report. Management paid a lot of increased attention to that overall system, System 90. They have an independent review that was done, led by TVA but many outside contractors from Bechtel, Stone and Webster, went through, reevaluated all the monitors, walked down the lines, reviewed the calculations, reviewed all the procedures that go with the calculations, and I subsequently came in and reviewed that review to verify that they did cover all the monitors. That appeared to be a very thorough, very professional job.

Then I was present for much of the preoperational testing. Your question regarding the preoperational testing[:] the monitors have been set up right now as they will work during operations. There will be some changes to the setpoints because of changing background levels for some of the monitors during power ascension, possibly, and further [~~into~~] after they receive an operating license. There will be some changes to some of the monitors, but many of them already have fixed setpoints. So that has been established, and we will be monitoring that, modifying the systems, where

applicable, during the power ascension, I am sure.

I have verified the training for personnel that deal with the system. [This] involved a complex group of people from operations to chemistry to the health physics personnel. They have all been well-trained. Where they have found problems, they have addressed it. They have addressed all those through increased coordination. There were some problems originally on some of the set up of the monitors for some of the filter paper[;] that problem was due to some misunderstanding between groups of who was responsible. That has been addressed properly now. Management has increased the attention to, I think, the daily review of the system through the plan of the day[. D]iscussions have proven very fruitful [in] addressing a lot of the problems that we saw actually one year ago.

CHAIRMAN JACKSON: Okay.

11. (p 79, l 11)

CHAIRMAN JACKSON: Before you go on, let me ask one other inspection question. We have inspected [Thermo-Lag] and seal penetrations, were there any --

MR. JAUDON: Yes, we have, extensively. I don't have Mr. Miller here who was the inspector in that area, and I don't think Mr. Madden is here either who was the NRR representative who assisted him, but we looked at their configurations, we looked at what they installed. Mr. Madden, I think, went down and witnessed the testing, some of the testing in the laboratory when they were qualifying the configurations of [Thermo-Lag].

MR. EBNETER: I can tell you personally I know that I sent the Staff my own note on the [Thermo-Lag] installations, on the materials and the qualifications of that material. When I toured the plant, I talked with the installers, and they commented to me that the NRC inspector is around regularly to see them on the installation. The NRR Staff actually

did the qualification of the configuration, and Mr. Madden did those inspections.

CHAIRMAN JACKSON: Okay.

MR. RUSSELL: The testing that was witnessed involved both [Thermo-Lag] testing and the fire penetration seal testing that was done recently, and that is documented in the Staff's safety evaluation report.

CHAIRMAN JACKSON: I think there is someone who wants to speak.

MR. WEST: I am Steven West, the chief of the fire protection section in NRR. Mr. Madden is in my section and I can just add a little bit more. They did a total of 14 fire protection inspections at Watts Bar, and with respect to the [Thermo-Lag] installations and the penetration seals, they did detailed inspections[,] beginning [with a] kind of cradle to grave review of the test plans before tests were conducted at the test laboratories, witnessed the qualification tests[,] and made several inspections to witness installations and followup inspections.

12. (p 80, l 23)

CHAIRMAN JACKSON: Since I have you here, and Mr. Hebdon, will you just reiterate for the Commission the regulatory basis for the Watts Barr fire protection program?

MR. HEBDON: I believe that was on Slide 5, if we could have that back, please.

MR. HEBDON: Would you like to discuss some of those? I am sorry, that was Slide 6.

MR. WEST: Yes. Just quickly, if you look at the bullet that says "Meets," and then there are four sub-bullets under that, the actual regulatory requirements would be General Design Criterion 3, and 10 CFR Sections 50.48, and it would be Paragraphs [(a) and (e)]. And then the two following dashed bullets, the Appendix A to the Branch Technical Position and the sections that are listed [in]

Appendix R would be the licensee commitments they made to meet the regulatory requirement.

CHAIRMAN JACKSON: Okay. Thank you.

13. (p 85, l 25)

CHAIRMAN JACKSON: I just have one comment, and then I will let Commissioner Rogers ask his questions. You know, you talk about taking grab samples in lieu of the working radiation monitor. In general, that is an operational methodology and this is probably more to TVA than it is to you. It doesn't seem like a good thing.

MR. EBNETER: And I would agree with you, and particularly if you don't watch it. You may be able to live with one grab sample, but you certainly don't want to have two or three stations that you need to take grab samples, particularly during an emergency, the staff won't be able to respond.

CHAIRMAN JACKSON: Right. So I would not like to see us in a position where, because there is some wiggle room, that there is some cumulative effect of having a number of radiation monitors not working. You were about to say something, Mr. Taylor?

MR. TAYLOR: No. I agree with all that has been said. When it comes to operator workarounds, you almost have to look at the whole plant where the[y] operations are going on and where we have seen problems is where there is an accumulation where equipment is operable but in some type of condition which requires specific operator actions to keep the equipment running.

A lot of the equipment has automatic features. That is the best way to run the plant, to be basically [in] automatic. In many cases, due to problems, you will see people lose the automatic feature, but still [be] able to operate the plant manually. This is particularly true in balance of [plant], heaters, [and] heater drains.

The reason we have talked a lot about operator workarounds is because we have seen

stations where events are complicated because when the plant trips and there are transients, there are just too many places where the operators have been forced to be, say, on manual [,] which do cause problems. So I think it is one of those terms that is getting more and more used, and I think the industry is become more and more conscious -- I am not speaking specifically to TVA, but across the board -- at what it means to operators when equipment isn't in automatic as it should be, and then the responsibilities of operators, particularly in transients, accumulate and sometimes they are not fast enough to keep up with everything. Do you agree with that?

MR. RUSSELL:

Yes. In fact, let me illustrate with one example that is probably fairly significant.

The steam tunnel area of a boiling water reactor has a ventilation system to keep the temperature down, and temperature monitors in that room are one of the systems that are used to initiate protection for a potential steamline break. Some facilities on loss of that ventilation have as short a time as 15 minutes for operators to take action to verify that there is not a steamline break and to bypass that automatic system or you can get the mainsteam isolation valves automatically closing as a result of a ventilation problem. It is particularly acute in the summertime when temperatures are higher and you need ventilation.

Those types of things, which are, in some cases, related to balance of plant equipment or nonsafety equipment, when the failure of that equipment impacts other equipment where rapid operator action has to be taken, those kinds of things are the kinds of things we are looking [~~for~~] to identify and correct.

MR. EBNETER:

Your concern is justified, I think, if you look back at plants that we have had trouble with [in] the past from our meeting this morning. The ones who get on the plant list typically have a large number of so-called "workarounds."

CHAIRMAN JACKSON: Right, and if there is an incident and you were worried about the radiation increasing in an area, one wouldn't have to be sending somebody to that area to grab a sample, right?

MR. EBNETER: Certainly.

14. (p 88, l 24)

COMMISSIONER ROGERS: I think both presentations have been quite complete. I think we have had a good opportunity to ask questions, but I would like to just raise the question with you once again, and that is, how confident are you that the resolution of the allegations received to date has gotten to the point [w]here you can rule out safety issues as delaying a full power license?

MR. EBNETER: I am pretty confident of it, but I will let Mr. Jaudon elaborate some on it since he monitors the plant close[ly].

MR. JAUDON: I have looked at these, I have had inspectors go out and look at them. I look at them in two levels. First is, without looking at the issue or any specifics, if the issue is true, what kind of a problem does that cause. And then, second, after we have inspectors look at them and what do we find, and do we think it is correct or is it fully substantiated, partially substantiated or not substantiated. So we look at them in two different ways. I am confident that even if they were all full[y] substantiated, there wouldn't be a safety issue, and most of them are not substantiated or not fully substantiated, only at best partially.

COMMISSIONER ROGERS: And one can say that about all 29 allegations?

MR. RUSSELL: The point that I have been emphasizing in the various meetings is to make sure that we follow the agency procedures for handling any late filed allegations. That is not to say that while the Commission is deliberating on what action the Commission should take that we won't receive additional allegations. If

we do, we will promptly inform the Commission while this is pending with the Commission and we will follow the agency procedures.

We do have one issue that is currently pending before the Commission that the Commission could decide to pass back to the Staff to handle in accordance with 10 CFR 2.206 relating to information that is currently before the Commission. We are working with the [G]eneral [C]ounsel's office and, as you have heard, we have inspections that are underway that are addressing some of these issues.

I have not yet seen, for the one that is in NRR, the package, should we handle this as a 2.206, which would address the notification that would be published in the Federal Register, along with the determination as to why immediate action is not taken. Well, that is essentially the same as completing the late filed allegation process. That is, if true, would there be an impact, et cetera. That aspect needs to be completed.

As you have heard, the inspection is nearing completion, work is going on within the Staff, but that is not yet completed. So, were the Commission to vote to authorize the Staff to proceed with licensing, I would want to at least make sure that aspect is completed before authorizing a license, that is, at least the notification as it relates to the petition.

This is not a requirement. This is more as it relates to the late filed allegation process to look at those, to make judgments as to whether there is anything which would be significant or be a bar to licensing. That is because the petition requests action be taken against the low power license which would, in fact, be superseded if a full power license were to be issued.



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

February 1, 1996

MEMORANDUM TO: James M. Taylor

FROM: Shirley Ann Jackson *Shirley Ann Jackson*

SUBJECT: SECY-96-019, WATTS BAR NUCLEAR PLANT, UNIT 1 -
READINESS TO RECEIVE A FULL-POWER OPERATING
LICENSE

Before voting in this matter I request that the staff provide a written response to the questions that I posed in the January 31, 1996 Commission meeting. In addition I request written answers to three additional questions which follow. Please provide this information by Monday, February 5, 1996.

1. How does the reliability of the Watts Bar radiation monitors compare with the reliability experienced in the industry?
2. What is the inventory of spare parts for the radiation monitors and how easy is maintaining this inventory?
3. Can the staff give assurance that the allegations in the 2.206 petition and referenced deviations do not contain any health and safety or regulatory concerns that would affect granting a full power operating license?

Finally, I would like assurance that TVA has committed to accelerate the implementation of the vehicle bomb rule.

cc: Commissioner Rogers
SECY
OGC

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