

August 3, 2000

Mr. John P. Claassen
Reactor Manager
Veterans Administration Medical Center
4101 Woolworth Avenue
Omaha, Nebraska 68105

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION (TAC NO. M88345)

Dear Mr. Claassen:

We are continuing our review of your request for renewal of Facility Operating License No. R-57 for the Omaha Veterans Administration Medical Center TRIGA Research Reactor which you submitted on May 10, 1993, as supplemented. During our review of your renewal request, questions have arisen for which we require additional information and clarification. Please provide responses to the enclosed Request for Additional Information within 60 days of the date of this letter. Following receipt of the additional information, we will continue our evaluation of your request.

In accordance with 10 CFR 50.30(b), your response must be executed in a signed original under oath or affirmation. If you have any questions regarding this review, please contact me at 301-415-1127.

Sincerely,

/RA/

Alexander Adams, Jr., Senior Project Manager
Events Assessment, Generic Communications and
Non-Power Reactors Branch
Division of Regulatory Improvement Programs
Office of Nuclear Reactor Regulation

Docket No. 50-131

Enclosure: Request for Additional Information

cc w/enclosure:
Please see next page

Veterans Administration
Medical Center

Docket No. 50-131

cc:

Mayor
City of Omaha
Omaha, NE 68102

Test, Research and Training
Reactor Newsletter
202 Nuclear Sciences Center
University of Florida
Gainesville, FL 32611

Cheryl Rogers, Program Manager
for Radioactive Materials
Department of Health and Human Services
P.O. Box 95007
Lincoln, NE 68509-5007

August 3, 2000

Mr. John P. Claassen
Reactor Manager
Veterans Administration Medical Center
4101 Woolworth Avenue
Omaha, Nebraska 68105

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION (TAC NO. M88345)

Dear Mr. Claassen:

We are continuing our review of your request for renewal of Facility Operating License No. R-57 for the Omaha Veterans Administration Medical Center TRIGA Research Reactor which you submitted on May 10, 1993, as supplemented. During our review of your renewal request, questions have arisen for which we require additional information and clarification. Please provide responses to the enclosed Request for Additional Information within 60 days of the date of this letter. Following receipt of the additional information, we will continue our evaluation of your request.

In accordance with 10 CFR 50.30(b), your response must be executed in a signed original under oath or affirmation. If you have any questions regarding this review, please contact me at 301-415-1127.

Sincerely,

/RA/

Alexander Adams, Jr., Senior Project Manager
Events Assessment, Generic Communications and
Non-Power Reactors Branch
Division of Regulatory Improvement Programs
Office of Nuclear Reactor Regulation

Docket No. 50-131

Enclosure: Request for Additional Information

cc w/enclosure:
Please see next page

DISTRIBUTION:

PUBLIC	REXB r/f	PDoyle	JLyons	SNewberry
TDragoun	MMendonca	AAdams	TMichaels	LMarsh
OGC	EHylton	SHolmes	CBassett	DMatthews
WEresian	Plsaac	GHill (2)		

ACCESSION NO: ML003735381

TEMPLATE #: NRR-056

OFFICE	REXB:LA	REXB:PM	REXB:BC/DBC
NAME	EHylton:rdr	AAdams	LMarsh/JLyons
DATE	07/ 31 /2000	07/ 31 /2000	08/ 03 /2000

C = COVER

E = COVER & ENCLOSURE
OFFICIAL RECORD COPY

N = NO COPY

VA OMAHA VETERANS ADMINISTRATION MEDICAL CENTER

DOCKET NO. 50-131

REQUEST FOR ADDITIONAL INFORMATION

Questions 1 - 39 below are related to your proposed Technical Specifications (TSs). A number of typographical errors were identified in your TSs. Please perform a detailed review of your TSs to ensure that all typographical errors have been identified and corrected.

1. The page numbering in your table of contents does not match your proposed TSs. Please correct.
2. Your definition section includes a definition for "containment." Is this definition needed given the fact that your reactor does not have a containment? Please review all of your proposed definitions for applicability to your reactor facility and TSs.
3. Your proposed definition of "experiment" refers to beamports. Is this part of the definition needed given the fact that your reactor design does not include beamports? Please review all of your proposed definitions to ensure that their wording is applicable to your reactor facility.
4. A standard definition in non-power reactor (NPR) TSs is "operating." Please include this definition in your proposed definitions or discuss why it is not needed. See ANSI/ANS-15.1-1990, "The Development of Technical Specifications for Research Reactors" (ANS-15.1) for a definition of "operating."
5. Your wording of the definition of "reactor shutdown" differs from that given in ANS-15.1. Please address.
6. Section 2.1 should be labeled as the safety limit. It should be made clear that the first paragraph of your basis refers to stainless-steel clad fuel. The discussion of loss of coolant analysis in the second paragraph of your basis is not applicable to the safety limit. Please expand your discussion in the basis to show that your selected safety limit protects the aluminum clad fuel from the temperature dependent phase change in the Zr-H that can damage the aluminum cladding.
7. Section 2.2 does not contain a basis. Please address.
8. Section 3.1.1, "Excess Reactivity." Your proposed TS states that the excess reactivity shall be limited to \$1.00. It would be clearer to state that the excess reactivity is less than \$1.00. Please address.

9. Section 3.1.2, "Shutdown Margin." Your TS refers to non-secured experiments. However, this term is not defined in your TS nor is any reactivity limit placed on this type of experiment. When stating the conditions of shut down margin, all moveable experiments should be in their most reactive states. Please address.
10. Section 3.1.3.1, "Core Configuration." The applicability and objective section refer to control rod removal. However, the specification contains no information on control rod removal. Please address.
11. Section 3.1.5, "Fuel Parameters." The basis of the TS discusses testing conducted by General Atomics. Are these tests applicable to both types (aluminum and stainless-steel clad) of TRIGA fuel used in your reactor or are they applicable to only stainless-steel clad fuel?
12. Section 3.2.1, "Operable Control Rods." The basis of the TS contains the phrase "\$2.00 of excess would." Are you referring to excess reactivity? Please clarify.
13. Section 3.2.2, "Reactivity Insertion Rates." TS 3.2.2(1) contains a reactivity addition rate of \$0.10 per second. What is the basis of this number? Is it related to control rod drive speed or controlling the reactor period?
14. Section 3.2.3, "Scram Channels." The basis contains a discussion of why a period scram is not needed. The basis should contain a discussion to support existing TSs. The fact that you have removed a requirement from the TSs for a period scram should be discussed and justified in the SAR. The last sentence of the basis refers to a 1.5 second Watchdog Timer. However, your SAR (pg. 4-8) refers to a 16.7 ms reset and a 1.5 s overrun timer. Which timer is the basis of the TS required scram?
15. Section 3.2.4, "Interlocks." Our understanding was that the period scram would be replaced with a short period interlock which you would discuss and justify in the SAR. However, Table 2 of required interlocks does not contain a short period interlock. Please explain. In the basis of the TS the second sentence is missing a period. In the last sentence of the basis reference is made to 3.2.4. Please clarify if this refers to TS 3.2.4.
16. Section 3.2.5, "Control Systems and Instrumentation Requirements of Operation." The specification states that "the reactor shall not be operable..." Should this say "the reactor shall not be operated..."? In table 3, please show the source of the startup measurement channel similar to that for the power level channel. The function of the period measuring channel refers to a period scram. However, our understanding was that the period scram would be replaced with a short period interlock which you would discuss and justify in the SAR. Please explain. The last two sentences in the basis discuss a recorder. No recorder is shown in Table 3. Please explain.
17. Section 3.3, "Coolant System." You have proposed a pool water pH range of 4 to 7.5. The normally accepted range is 5 to 7.5. If you want to propose this alternative range, please justify. Please explain the relationship of Specification (4) to other pool level TSs, for example, the pool level channel in Table 3.

18. Section 3.4, "Confinement System." Your objective is stated as "to control confines of the Nuclear Reactor." Please explain what you mean by the word "confines." Specification (2) discusses keeping the reactor laboratory at a slightly negative pressure. Please state what the negative pressure is in relation to.
19. Section 3.5, "Ventilation System." Specification (1) refers to an exhaust fan "with a flow rate of 2970 CFM..." Should this refer to an exhaust fan "with a flow rate of at least 2970 CFM..."? The specification requires the fans to be operable. Should this be operating? Specifications (3) and (4) appear to be design features which are normally discussed in Section 5 of the TSs. Please address.
20. Section 3.6, "Radiation Monitoring Systems." Footnote (1) to Table 4 contains the word "generally." Please choose and justify a firm period of time to which this footnote applies. As compared to an earlier version of the TS you have eliminated your proposed TS on effluents. Without specific TS limits, you are limited to regulatory limits and cannot take advantage of, for example, diffusion from isolated release points. Is this your intent? Any proposed TS wording should be supported by the analysis in your SAR.
21. Section 3.7.2, "Materials." In Specification (1) the word "material" needs to be added after the word "corrosive."
22. Section 3.7.3, "Failure and Malfunction." Reference is made in TS 3.7.3(1)b. to a filter for particles. However, the specification states that at least 10% of these vapors escape. Should this be 10% of the particles?
23. Section 4.1.4, "Fuel Element Inspection." On May 5, 2000, Amendment No. 10 to your facility license was issued to change the requirements for fuel element inspection. Do you want the wording of TS 4.1.4. to match the wording approved in Amendment No. 10? If so, please make the required changes. Should this TS be allowed to be postponed if the reactor is not operated as discussed in the beginning of TS 4.0? If so, please justify. If not, please propose wording that makes it clear that this TS should not be postponed if the reactor is shut down.
24. Section 4.2.4, "Scram and Measuring Channels." How will you ensure that these channels are tested for proper operation (and calibration) after repair? Should the channels in TS 3.2.5 also be tested? Do any of these channels (in addition to the thermal power calibration) require a periodic calibration in addition to a channel test?
25. Section 4.3.1, "Analysis of Coolants for Radioactivity." Should this TS be allowed to be postponed as discussed in TS 4.0? If so, please justify. If not, please propose wording that makes it clear that this TS should not be postponed if the reactor is shut down.
26. Section 4.3.2, "Conductivity and pH." Should this TS be allowed to be postponed as discussed in TS 4.0? If so, please justify. If not, please propose wording that makes it clear that this TS should not be postponed if the reactor is shut down.
27. Section 4.5, "Ventilation Systems." TS 4.5(2) refers to section 3.5(6). Is this TS 3.5(6)? However, there is no TS 3.5(6). Please address.

28. Section 4.6.1, "Monitoring Systems." TS 4.6.1(1) refers to the inline fission product monitor. However, TS 3.6 does not have this monitor listed as a required monitor for reactor operation. Please address. Should TS 4.6.1(2) be allowed to be postponed as discussed in TS 4.0? If so, please justify. If not, please propose wording that makes it clear that this TS should not be postponed if the reactor is shut down.
29. Section 5.1, "Site and Facility Description." Please consider describing the NRC licensed area in TS 5.1(1) by giving specific room numbers or by including a diagram in the TSs. TS 5.1(4) gives the minimum free volume of the reactor room as 25,000 ft³. Should this be 25,000 ft³?
30. Section 5.3.2, "Reactor Fuel." TS 5.3.2(1) refers to a nominal 20% enrichment. Please consider restating this as less than 20% to clearly show that the reactor is fueled by low-enriched uranium.
31. Section 5.3.3, "Control Rods," TS 5.3.3 refers to three compounds that can be used as the poison in control rods. TS 5.3.1 seems to indicate that the control rods are boron carbide only. Please discuss.
32. Section 6.1, "Organization." Reference is made in the TS to the Director/Reactor Supervisor. However, the organizational chart contains a Reactor Director/Supervisor and a Director Omaha VA Medical Center. Please clarify.
33. Section 6.1.3, "Staffing." Please clarify the meaning in TS 6.1.3(1)b. of "facility complex."
34. Section 6.2, "Review and Audit." Please consider adding a statement to the composition and qualifications section of the TS that the members of the committee shall collectively represent a broad spectrum of expertise in the appropriate reactor technology as discussed in ANSI/ANS 15.1 - 1990, "The Development of Technical Specifications for Research Reactors." TSs 6.2.3(4) and 6.2.4(1) refer to a charter. Please explain.
35. Section 6.4, "Procedures." TS 6.4(8) refers to security plans. You have requested that the requirement for a security plan be removed from your license. However, you will continue to have procedures to implement security at your facility. Please address. If byproduct material produced by operation of the reactor is to be used and/or shipped under the reactor license, there should be a requirement for procedures in the TSs. Please address. In the last two lines of the TS the Reactor Director/Supervisor is given a Level 3 designation and the Reactor Safeguards Committee has a Level 2 designation. Please explain.
36. Section 6.5, "Experiment Review and Approval." Reference is made in TS 6.5(1) to Regulatory Guides (RG) 2.2 and 2.4. Please review the use of these RGs as direct TS requirements. For example, RG 2.4 is directly related to an ANS standard that no longer exists.
37. Section 6.7, "Reports." Reference is made to reporting to Region IV. Full responsibility for the non-power reactor regulatory program has been transferred to NRC Headquarters. Please remove references to Region IV from the TSs. TS 6.7.2(1)

refers to a written report to the Document Control Desk. Please specify a time limit for submitting this report. TS 6.7.2(1)c.(v.) refers to containment boundary. Your facility does not have a containment. Please address.

38. Section 6.8, "Records." TS 6.8.1(1) refers to retaining supporting documents for one year. Because of your power level, you may not be inspected by NRC on an annual basis. Please retain these documents for one year or one inspection cycle, whichever is longer.
39. As discussed with you, please review your safety analysis report for typographical and technical errors paying particular attention to the appendixes. Please submit replacement pages and summarize any changes that you have made.