

March 11, 2004

Mr. Robert J. Agasie, Reactor Director
Nuclear Reactor Laboratory
Room 130 Mechanical Engineering Building
1513 University Avenue
Madison, WI 53706-1572

SUBJECT: UNIVERSITY OF WISCONSIN - REQUEST FOR ADDITIONAL INFORMATION
RE: LICENSE RENEWAL (TAC NO. MA8930)

Dear Mr. Agasie:

We are continuing our review of your renewal request for Amended Facility License No. DPR-4 for the University of Wisconsin Nuclear Reactor which you submitted on May 9, 2000. During our review of your 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. In accordance with 10 CFR 50.30(b), your response must be executed in a signed original under oath or affirmation. Following receipt of the additional information, we will continue our evaluation of your amendment request.

If you have any questions regarding this review, please contact me at (301) 415-1019.

Sincerely,

Patrick J. Isaac, Project Manager
Research and Test Reactors Section
New, Research and Test Reactor Program
Division of Regulatory Improvement Programs
Office of Nuclear Reactor Regulation

Docket No. 50-156

Enclosure: Request for Additional Information

cc w/enclosure: Please see next page

University of Wisconsin

Docket No. 50-156

cc:

Mayor of Madison
City Hall
Madison, WI 53705

Chairman, Public Service
Commission of Wisconsin
Hill Farms State Office Building
Madison, WI 53702

REQUEST FOR ADDITIONAL INFORMATION
UNIVERSITY OF WISCONSIN NUCLEAR REACTOR
DOCKET NO. 50-156

1. SAR Section 1.4, "Shared Facilities and Equipment," page 1-6. What are the safety implications of the shared facilities and equipment mentioned in Section 1.4 of the SAR?
2. SAR Section 1.6, "Summary of Operations," page 1-6. What operational schedule is expected during the term of the renewed license? What operational schedule is assumed for the safety analysis in the SAR?
3. SAR Section 1.8, "Facility Modifications and History," page 1-9. Please describe the original purpose of the "electronic scram capability of the safety amplifier" and discuss how its elimination affects safety.
4. SAR Section 2.1.1.1, "Specification and Location," page 2-1. Please update population data to 2000 census statistics.
5. SAR Section 2.1.1.2, "Boundary and Zone Area Maps," page 2-1. Please show the operations and site boundary on maps. Also, clearly show what areas are under the reactor license.
6. SAR Section 3.5, "Systems and Components," page 3-2. Please discuss the design basis of the reactivity control system and the safety system instrumentation that would detect out of specification reactor parameters and scram the reactor in response.
7. SAR Section 4.2.1, "Reactor Fuel," page 4-8. The writeup refers to Figure 4-1. Shouldn't it say Figure 4-2?
8. SAR Section 5.2, "Primary Coolant System," page 5-1. Please discuss the design basis of the primary coolant system including the construction materials of components, description of radiation, and temperature monitors incorporated in the system and coolant quality requirements.
9. SAR Section 13.1/2.8, "External Events", page 13-13. The "truck bomb" evaluation is discussed. Is there a report that can be referenced and reviewed?
10. SAR Chapter 16, "Other License Considerations," page 16-1. Please discuss the integrity of the facility relative to the ability to safely operate for the 20 years of the renewal period. Include in the discussion aging of the pool, reactor fuel, components, and equipment.
11. T.S. 3.4, "Containment or Confinement," page 14-19. Please explain which configuration is appropriate for the UWNR facility, confinement or containment.
12. T.S. 3.5, "Ventilation Systems," page 14-20. Please justify not specifying that the ventilation shall be in operation during fuel movement.

13. T.S. 4.1(6), "Reactor Core Parameters; Fuel Parameters," page 14-26. It appears that measuring instrumented elements is not required as long as they remain in the core. Please explain the frequency of measurement of length and sagitta for instrumented elements.
14. T.S. 4.2(5)(b), "Reactor Control and Safety Systems," page 14-27. It is not clear if a semi-annual channel test must be performed only on items 5 and 6 or each item in table 3.2.4. Please clarify.
15. T.S. 6.5(2), "Experiment Review and Approval," page 14-36. It is suggested that electrical interaction with reactor instrumentation be included as a valid consideration in experimental evaluation.
16. UWNR 004, "University of Wisconsin Nuclear Reactor Operator Proficiency Maintenance Program." How do you ensure that the individual preparing the requalification examinations, therefore exempted from taking the examinations, is not the same individual year after year?

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