



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

DEC 13 1983

MEMORANDUM FOR: Brian W. Sheron, Chief, Reactor Systems Branch, DSI

FROM: Robert B. A. Licciardo, Nuclear Engineer
Reactor Systems Branch, DSI

SUBJECT: MCGUIRE TECHNICAL SPECIFICATION ISSUES AND
WESTINGHOUSE SAFETY PARAMETER DISPLAY SYSTEM (SPDS)

Reference: (a) Memorandum to R. B. A. Licciardo from B. W. Sheron,
dated December 9, 1983 on the subject of McGuire
Technical Specification Issues.

Please be advised by this memorandum that I am proceeding formally with my "Differing Professional Opinions" (DPOs) dated December 7, 1983 relating to both the "Westinghouse Safety Parameter Display System" (SPDS), and the "McGuire Technical Specification Issue" which was the subject of your memo to reference (a). These DPOs were initially submitted to N. Lauben, Section Leader of Section A, on November 7, 1983, at which time I was requested to defer said DPOs to a later date. I consider it in the best interests of public health and safety to proceed with the method of resolution as identified in each of the DPOs.

Robert B. A. Licciardo, Nuclear Engineer
Section A
Reactor Systems Branch, DSI

cc: N. Lauben

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
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ENCLOSURE 3

DEC 15 1983

MEMORANDUM FOR: Roger J. Mattson, Director, Division of Systems Integration

FROM: R. Wayne Houston, Assistant Director for Reactor Safety, DSI

SUBJECT: COMMENT ON DIFFERING PROFESSIONAL OPINION BY R. B. A. LICCIARDO
ON MCGUIRE UNIT 2 TECHNICAL SPECIFICATIONS

Reference: Memorandum dated as of December 7, 1983, from R. B. A. Licciardo
to G. Norman Lauben

The following comments are made pursuant to the provision of NRC Appendix 4125 G.2.6 and should be appended to the transmittal of the referenced DPO to the Office Director.

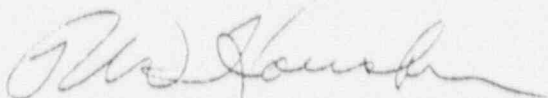
Although not explicitly stated by the originator, the management decision with which he disagrees appears to me to be that which resulted in the issuance of the operating license for McGuire Unit 2 in May 1983 with its accompanying Technical Specifications. To the best of my knowledge, his concerns for this decision were not clearly articulated until recent weeks when he made it known to his management that he was considering the submittal of a DPO. In the months prior to the issuance of the McGuire Unit 2 license, Mr. Licciardo had been given an assignment to review the proposed Technical Specifications (based upon the W Standard Tech. Specs.) for matters relevant to the Reactor Systems Branch scope of review responsibility. I have known for a number of months that his evaluation was reviewed by but not concurred in by his supervisor. In a lengthy discussion with Mr. Licciardo on December 8, 1983, regarding his concern, I was advised that he had discussed his problems with the proposed Tech. Specs. for McGuire with the Standard Tech. Spec. Section of the Division of Licensing and that he was advised that they would not consider his views without concurrence of his management. He has taken no initiative to bring his views to my attention except through the DPO mechanism.

With respect to the procedures set forth in NRC Appendix 4125, specifically in Part C, "Content of a Written Statement of Differing Professional Opinion," I note that the originator's statement is exceedingly brief, couched in only very general terms, and does not adequately describe any specifics as to how his views differ from those that have been taken by the staff. Clearly, the merits of his views cannot be weighed unless and until such specifics are provided. To the best of my knowledge, Mr. Licciardo's only request for assistance or use of agency resources pursuant to NRC Appendix 4125, B. has been for the typing of his memorandum.

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There is a very current effort related to the originator's concern, although I have no reason to believe that either he or his supervisor have had prior familiarity with it. I refer to the work of the Task Group on Technical Specifications Report, NUREG-1024 (November 1983), "Technical Specifications Enhancing the Safety Impact," and the follow-up effort to develop a plan to implement the recommendations of that Task Group (memorandum from W. J. Dircks to Harold Denton, dated November 14, 1983, and memorandum from Harold Denton to others, dated December 9, 1983). The Task Group's Recommendation No. 5 deals specifically with the safety basis for Standard Tech. Specs.



R. Wayne Houston, Assistant Director
for Reactor Safety,
Division of Systems Integration

cc: R. B. A. Licciardo
G. N. Lauben
B. Sheron
T. Novak
E. Adensam
R. Birkel

JAN 26 1984

MEMORANDUM FOR: Lake H. Barrett, Deputy Program Director
TMI Program Office, NRR

FROM: Robert B. A. Licciardo, Reactor System Branch
DSI, NRR

SUBJECT: DIFFERING PROFESSIONAL OPINION - MCGUIRE TECHNICAL
SPECIFICATIONS *see rpt.*

On December 7, 1983, I submitted my DPO (Attachment 1) concerning disparities between the McGuire technical specifications and the FSAR safety analyses. Since that time, I have met several times with you to discuss my DPO and am documenting the following further description and elaboration of my DPO in accordance with the guidance of paragraph C.2 of Manual Chapter 4125, Differing Professional Opinions.

The DPO contains multiple complex issues of various types and subgroups. The first type of issues are technical based on some McGuire FSAR safety analyses differing in various respects from the McGuire proof and review technical specifications such that parts of the technical specifications are non-conservative or contradictory. These issues, which can be divided into four subgroups are typified as follows:

1) Boron limits

The FSAR analyses states that the reactor coolant system is borated to cold shutdown concentrations prior to cooling below 557°F whereas the technical specifications requires only a boron concentration necessary to provide a minimum normal shutdown margin of 1.6% delta k/k; i.e., a boron concentration that is lower than cold shutdown. This lower boron concentration may not be adequate to assure fuel protection under non LOCA events; e.g. main steam line break. I propose that the FSAR higher boron limits be used in the technical specifications, or that analyses be performed to assure that adequate fuel protection will be maintained under accident conditions with the lower boron concentration requirements in the technical specifications.

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2) ECCS Pump Operability Requirements

The FSAR analyses (and staff SER) establishes the ECCS pump operability requirements after careful consideration of sufficient capacity for decay heat removal and boration while assuring adequate overpressure protection when the RCS is cooled down. The McGuire technical specifications do not fully reflect these ECCS operability considerations because they require HPSI and charging pump operability contrary to the FSAR analyses which state that these pumps are non-operable because of overpressure considerations. This contradiction may lead to operator confusion and/or improper plant procedures.

3) Reactor Trip Instrumentation and ESF Actuation Response Times and ESF Actuation Set Points

The FSAR analyses assume certain response times and set points for various reactor trip and ESF actuation instrumentation. The McGuire technical specifications specify various response times and set points that are sometimes different from the FSAR analyses which could result in a reduced level of protection for the reactor. I propose that the FSAR response times and set points be used in the technical specifications or that analyses be performed to assure that adequate reactor protection is provided by the technical specifications.

4) ESF Actuation Instrumentation

The FSAR analyses assume that certain ESF actuation instrumentation; e.g., High Containment Pressure and Main Steam Line Isolation in Mode 4, is operable. The McGuire technical specifications do not require these instruments operable in the modes addressed in the FSAR. I propose that the mode addressed in the FSAR be included in the technical specifications or analyses performed to assure that they are not necessary for safety.

The second type of concern is more judgemental in nature in that I submit that 10 CFR 50.36, Technical Specifications, requires that the McGuire technical specifications contain more safety restrictions; e.g. LCOs, than is presently incorporated in the McGuire or Westinghouse Standard Technical Specifications. I submit that a thorough review of the McGuire FSAR "analyses of record" would establish more restrictions; e.g. LCOs, and that those restrictions should be in the McGuire technical specifications or that analyses should be performed (specifically for McGuire or generic enveloping analyses) to provide the legal/technical basis that the present technical specifications are adequate and appropriately implement 10 CFR 50.36, 50.46, and the GDC (Appendix A). Examples of FSAR limitations that should be so addressed are as follows:

1) Control Rod Insertion and Reactor Trip System Operability Limits

FSAR analyses assume certain control rod positions and reactor protection system availability when in modes 3 through 5. The McGuire technical

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specifications do not impose any limitations on control rod position during these modes. Therefore, the positions of the McGuire control rods could be different from those used in the FSAR analyses and could result in less conservative reactor protection for non LOCA events. I propose that the McGuire technical specifications include either limitations on control rod positions or a revision and re-validation of the availability of the reactor protection system, during modes 3 through 6.

2) RCS Loop Operability Limits

The FSAR analyses requires that an RCS loop be available when the plant is in mode 4 to assure decay heat removal during a single failure event; i.e. an RCS/decay heat removal system isolation valve. The McGuire technical specifications do not require an RCS loop to be operable in this mode (4). I propose to determine the need for RCS loop(s) operability by reviewing and/or performing analyses of accidents during cooldown to establish a more reliable basis than is currently available in the FSAR for the current LCOs in the technical specifications.

3) Thermal-Hydraulic Limits

The FSAR specifies certain thermal hydraulic parameters; e.g., RCS pressure, temperature and pressurizer water level, as initial conditions for various accident analyses. The McGuire technical specifications do not adequately specify these conditions. There is a need to clarify and verify the present specifications which could allow reactor conditions that could be less conservative than the design basis. I propose that Table 3.2-1 and Section 2 need to be revised to more accurately reflect the FSAR programmed operating conditions and eliminate ambiguities.

The third type of concern involves internal staff practices for reviewing and issuing the technical specifications when licensing a reactor. Based on my McGuire experience, I submit that the "safety review" of the RSB section of the "proof and review" technical specifications, which permitted start up of the plant by others, was inadequate and not properly justified and documented as required by 10 CFR. My review shows that a thorough review of the McGuire FSAR "analyses of record" indicates significant inconsistencies with the McGuire technical specifications (and its parent Westinghouse Standard Technical Specifications). I propose that responsible technical branches work more closely with the SSPB/DL group during the entire licensing review period, and that the staff adopt improved internal administrative procedures to document reviews that justify the adequacy of the final issued technical specifications. I suggest that the staff internally use a 10 CFR 50.59 methodology for its technical specification reviews to confirm that the technical specifications maintain the reactor within the FSAR safety analysis envelope and clearly articulate and justify the rationale for any less restrictive criteria.

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I believe my above description describes how my December 7, 1983 DPO differs from the existing staff positions concerning the RSB Section of McGuire proof and review technical specifications. Supporting documents are attached as follows:

Attachment 2: My draft SER for the McGuire Technical Specifications (dated June 15, 1983)

Attachment 3: My proposed McGuire Technical Specifications (dated June 15, 1983)

Original signed by:

Robert B. A. Licciardo
Reactor System Branch
DSI, NRR

Attachments:
As Stated

cc wo/attachments:

- H. Denton F. Miraglia
- N. Lauben C. Thomas
- T. Novak
- E. Adensam
- R. Mattson
- D. Eisenhut
- B. Cotter
- A. Rosenthal
- R. Birkel

cc w/attachments:

- R. Licciardo DPO File
- B. Sheron
- R. Houston
- R. Brinkman

Distribution

- Central File ✓
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- RLicciardo R/F
- RLicciardo

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