

MDC

MULTIPLE DYNAMICS CORPORATION

29200 SOUTHFIELD ROAD, SUITE 103/SOUTHFIELD, MI 48076/(313) 557-7766

TELECOPIER (313) 557-8786

'90 OCT 17 P2:45

FRANK E. GREGOR, P.E.
PRESIDENT

October 5, 1990
MDC-01-11606

OFFICE OF SECRETARY
DOCKETING & SERVICE
BRANCH

Secretary of the Commission
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Attention: Docketing and Service Branch

Subject: Submittal of Comments on the Proposed Rule for
"Nuclear Power Plant License Renewal", 10CFR2,50,54

To Whom It May Concern:

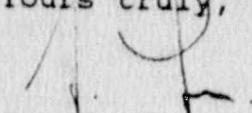
Multiple Dynamics Corporation (MDC) is a small engineering consulting firm involved with nuclear power plant life extension and license renewal. Over the last six years, we have studied the technical and economic feasibility, as well as the prudence of relicensing or license extension of nuclear power plants located in the U.S. and overseas. Our work, studies and results have been extensively published in reports (EPRI, Sandia, ORNL, NUMARC), seminars, conferences and workshops.

From this perspective, we welcome and support the timely promulgation of the subject rule and consider the action absolutely necessary. Life extension and license renewal, if implemented for U.S. nuclear power plants, would increase the electrical energy supply by an equivalent of 50 large nuclear or coal-fired plants, but more importantly, it would ensure a continued safe, clean and economic energy supply, given the lack of planned new capacity.

We have reviewed the proposed rule in detail and with interest, and recognize that it cannot be perfect. Our comments are principally of technical nature and concerns for practicality of implementation. Each comment refers to the base document, section or article, then synthesizes the issue at hand and finally proposes a resolution.

We hope that these comments are useful in enhancing the value and methods proposed in the rule and we are available for any questions or clarification you may have.

Yours truly,


Frank E. Gregor
President

9010230308 901005
PDR PR
2 55FR29043 PDR

Enc: Comments

DS10

Comments on Proposed Rule
for Renewal Licensing
Prepared by Multiple Dynamics Corp.

A. SUPPLEMENTARY INFORMATION

1. Paragraph IV.a(i)

Comment: Recognizing maintenance of the current licensing basis (CLB) as a "second and equally important principle" in the regulatory philosophy for license renewal applies too much weight to this matter. Maintaining the CLB is a "business as usual matter". Giving it any more recognition will lead to resources being spent needlessly on a paper accounting mission, rather than on technically and physically managing aging in the plant. The principles of the regulatory philosophy for license renewal should clearly focus priorities on matters that will maintain acceptable levels of safety.

Resolution: The second principle should solely address the need to perform an integrated assessment and institute the required aging management measures for the systems, structures, and components that are important to maintain an acceptable level of safety.

2. Paragraph IV.a(v)

Comment: Reference to or consideration of the Systematic Evaluation Program in the License Renewal Rule is not appropriate and would substantially erode the justification for the first principle of the regulatory philosophy and approach. General topics such as this and other Unresolved Safety Issues should not be introduced in the Renewal Process. These are applicable and enforceable, as the case may be, to all operating plants, regardless of their desire to life extend.

Resolution: Delete paragraph IV.a(v).

Comments on Proposed Rule
for Renewal Licensing
Prepared by Multiple Dynamics Corp.

3. Paragraph IV.a(vii)

Comment: A probabilistic risk assessment is only one of several possible ways, or combinations of methods, to achieve insights into plant design. Therefore, even though the discussion is filled with "mays, coulds", etc., the discussion gives an inappropriate emphasis to the probabilistic risk assessment method.

Resolution: Delete paragraph IV.a(vii).

4. Paragraph IV.a(ix)

Comment: Disagree that this principle is a necessary complement to the first principle. In fact, the discussion supports Comment #1 that maintenance of the CLB is just "business as usual".

Resolution: Rewrite paragraph IV.a(ix) to provide supporting discussion for the proposed resolution to Comment #1.

5. Paragraph IV.b(i)

Comment: The explanation of the current licensing basis (CLB) is not adequate and leaves substantial freedom of interpretation. Open-ended wording "... includes, but is not limited to..." and "... such as responses to ..." need to be deleted. The NRC must be able to completely define each regulation/document that they expect the utility to have a corresponding document that demonstrates compliance or establishes commitment. The burden should not be on the licensee to "define" what is regulation and what is guidance.

Resolution: The NRC should define the CLB, based on legal status of each type of licensing document. To be valid, the NRC must find a commitment or proposed action by

Comments on Proposed Rule
for Renewal Licensing
Prepared by Multiple Dynamics Corp.

the licensee to be acceptable. Only then is it added to the CLB. There is also value in defining specific exclusions, such as regulatory guides, IE notices, bulletins, circulars (these are only enforcing the CLB), NUREG's, etc. Specific documents included in the CLB are:

FSAR, USAR, AMENDMENTS, TECH SPECS
ORDERS, LICENSES, SHOW CAUSES
SER'S, NRC ACCEPTANCE LETTERS
RESOLUTION TO FINES, WAIVERS, EXEMPTIONS
ME-TOO-LETTERS (GENERIC CLOSEOUT)
ER, EMERGENCY, SECURITY PLANS

6. Paragraph IV.b(i), 2nd paragraph

Comment: Only the portion of the licensing basis that is relevant to license renewal/aging considerations is needed for the purpose stated.

Resolution: Change wording to make it clear that discussion applies to the relevant portion of the licensing basis.

7. Paragraph IV.b(i), last sentence

Comment: Sentence implies that older plants are excused from providing an acceptable level of safety. This is not true and contradicts the discussion preceding this sentence.

Resolution: Delete the last sentence.

8. Paragraph IV.b(ii)

Comment: The NRC apparently determined that the plant's CLB is required as a basis for the screening process of safety-related SSC's. This is not so and may be plant specific. Most plants have sophisticated data bases such as Q-lists, color coded P&ID's, or Master Parts Lists (MPL's) which sort for QA class, safety

Comments on Proposed Rule
for Renewal Licensing
Prepared by Multiple Dynamics Corp.

or non-safety, etc. In addition, the discussion under IV.b(iii) supports the viewpoint that the regulatory oversight programs are successful at ensuring that the plant's licensing basis is modified as appropriate to reflect new information. Therefore, since continuation of the oversight program is intended and prudent, there is no need to comply a CLB listing for licensing renewal.

Resolution: Delete references to the need of the CLB for the screening of SSC's, e.g., remove last paragraph of Section IV.b(ii).

9. Paragraph IV.c, seventh paragraph, last sentence

Comment: The last sentence may result in a continuous challenge by the licensee to demonstrate that the use of PRA is not appropriate. The technical community and industry forums are the proper place for making this determination. When consensus is achieved in this arena, then the rule can be appropriately changed.

Resolution: Delete the last sentence.

10. Paragraph IV.f

Comment: This may not be the appropriate location for the comment, but an escape clause should be addressed in this section and the actual rule, Part 54, to allow an applicant for license renewal to withdraw his application at any time during the proceedings, including ACRS, public hearings, ASLB, etc., without any consequence or effect on his existing, current license. This is of particular importance when the proceedings question the CLB and thereby may jeopardize the existing operating license. Additionally, the costs of the proceedings and required commitments may render the

Comments on Proposed Rule
for Renewal Licensing
Prepared by Multiple Dynamics Corp.

renewal license uneconomic or the
schedule of implementation unacceptable.

Resolution: Add a new paragraph after IV.f,
"Withdrawal of Applications", to read as
follows:

"The application for a renewal license
may be withdrawn by the applicant at any
time and without cause, subject only to
payment of required fees. Such
withdrawal will not affect any valid
licenses held by the applicant at the
time of the withdrawal."

11. Paragraph IV.i, last paragraph

Comment: The discussion implies that it will
only be possible to add new measures,
programs, procedures, actions, etc. The
door should also be open to optimize or
reduce the scope of existing programs if
the integrated evaluations find that an
SSC is being effectively managed, and
included in the plant's current programs
are efforts that produce questionable or
no predictive information for use in
management of aging/safety margins.
Continuation of these efforts dilutes
the focus of valuable resources.
Furthermore, there are ample cases where
the current programs are the principal
aging causes, such as fast diesel
testing.

Resolution: Revise discussion to indicate that the
applicant's actions can include
optimization of current plant programs,
procedures and Technical Specifications,
where it can be justified.

12. Paragraph IV.k

Comment: The explanation for when the staff would
elect to prepare a backfit analysis and
when it would not leaves substantial
freedom of interpretation. Very clear

Comments on Proposed Rule
for Renewal Licensing
Prepared by Multiple Dynamics Corp.

and bounded definitions of the terms "age-related requirements" and "current licensing basis" would be needed. As described in earlier comments, CLB is not a clearly defined term in the rule. In addition, as stated under IV.b(iii), the regulatory oversight programs are already successfully ensuring that the plant's licensing basis is modified as appropriate to reflect new information. Therefore, the staff will not need to institute any new measures or requirements (age-related or otherwise) to ensure that a plant will operate in conformance with the CLB. With respect to the term "age-related requirements", the rule defines the provisions for the integrated evaluation required to support the license renewal application. If the staff's requirements are outside the scope of the evaluation required by these provisions, then a backfit analysis should be required.

Resolution: Delete reference to CLB in this discussion and clarify the terminology "All age-related requirements...". Perhaps delete the word "All" and say "Any age-related requirement within the scope of the evaluation required by the provisions of the rule...". Wording is needed that provides a bounding definition of age-related requirements that the staff can impose without the requirement of a backfit analysis.

B. PART 54 RULE

1. Part 54, paragraph 54.3(a)

Comment: For a plant program to be considered an "established effective program", there is no need to confirm that failure could prevent successful accomplishment of a safety function by another system, structure or component. This is a CLB issue and has been already addressed by

Comments on Proposed Rule
for Renewal Licensing
Prepared by Multiple Dynamics Corp.

the plant in its design and compliance with applicable regulations. The statement implies the adequacy of the CLB would need to be evaluated for license renewal. In addition, the statement is not in context with the license renewal evaluation philosophy. That is, for a program to be considered effective, the elements of the programs cannot allow age-related degradation to proceed to failure.

Also, it is not clear how to interpret the words "sufficient reliability" in the phrase "...will continue to function with sufficient reliability to maintain the licensing basis". The issue addressed by the first phrase is addressed by the plant Technical Specifications. Continuing to comply with the plant Technical Specifications is all that is necessary.

Resolution: Delete the phrase "...will not fail in such a way that is could prevent successful accomplishment of a safety function by another system, structure or component; and will continue to function with sufficient reliability to maintain the licensing basis."

2. Part 54, paragraph 54.3(a)

Comment: The definition of "Established effective program" needs some minor additions to facilitate a wider use of these programs during the screening process. It was generally found during the lead plant screening that many programs are "Almost" effective and that minor enhancements, procedure changes or documentation needs are required to fully qualify the programs as effective for the purpose of aging management. Such minor adjustments should not disqualify these programs.

Comments on Proposed Rule
for Renewal Licensing
Prepared by Multiple Dynamics Corp.

Resolution: Change the definition, second sentence to read: "This program shall include as appropriate, but is not limited to, inspection, surveillance, maintenance, trending, testing, recordkeeping, replacement, refurbishment, the assessment of operational life and any enhancements thereto as committed in the application for the purpose of timely mitigation of the effects of aging degradation.

Change paragraph (i) to read: "Be documented in the FSAR, approved by onsite review committees, and implemented, or committed to be implemented by the facility operating procedures."

3. Part 54, paragraph 54.3(a)

Comment: Item (ii) is not consistent with the NUMARC methodology document. The words "...but is not limited to..." and "...such as..." are not appropriate in item (ii). Over and above SSC's defined by item (i), item (ii) should be very specific with respect to regulation matters that need to be addressed. ATWS, station blackout and fire protection are the only matters that need to be listed here. Pressurized thermal shock is a degradation mechanism that would be addressed in the evaluation of the reactor vessel. Item (i) ensures that reactor vessel will be in the evaluation scope. Environmental qualification is a method for managing aging mechanisms. Plants will be continuing their programs throughout the license renewal term.

Item (iv) is not consistent with the NUMARC methodology. The monitoring equipment that is needed for SSC's to remain functional will be identified in item (i). Other monitoring equipment should not be included in the license

Comments on Proposed Rule
for Renewal Licensing
Prepared by Multiple Dynamics Corp.

renewal evaluation. Unless otherwise justified, current programs to operate and maintain these devices would continue during the license renewal period.

Resolution: Delete item (iv) and rewrite item (ii) to say, "All systems, structures, and components used in evaluations to show compliance with the Commission regulations on ATWS, station blackout and fire protection."

4. Part 54, paragraph 54.17

Comment: As discussed in Comment A.10, an escape clause needs to be added in this section.

Resolution: It is recommended to insert a paragraph after 54.17(3) with the wording as shown under Comment A.10.

5. Part 54, paragraph 54.21

Comment: See Comment A.8.

Resolution: See Resolution A.8.

6. Part 54, paragraph 54.21(a)

Comment: This paragraph makes reference to use of the CLB in the definition of safety-related SSC's. No such method is required as a sole source. There are many alternatives and it is therefore too prescriptive. See also Comment A.8.

Resolution: Delete fifth sentence starting with "Each applicant shall review the...".

7. Part 54, paragraph 54.21(c)

Comment: The description of proposed plant modifications should also specifically include any changes to the Technical Specifications.

Comments on Proposed Rule
for Renewal Licensing
Prepared by Multiple Dynamics Corp.

Resolution: Change (c) to read: "A description of any proposed modifications to the facility, the Technical Specifications or its administrative control procedures..."

C. NUREG-1362

1. Appendix D, Section D.2.1, page 6 and Table D-3

Comment: Although cited as "representative" and "typical", it is inappropriate for this document to list candidate ISTM enhancements. Such listings create perceptions or expectations that will prejudice the review of a utility's integrated plant assessment. It may also unnecessarily focus industry and research resources on these issues, and negate the development and application of technologies which may be more effective.

Resolution: Delete Table D-3 and reword Section D.2.1. A more appropriate listing of potential ISTM activities would be the findings of the BWR and PWR pilot plant studies provided in EPRI Reports NP-5181, 5836, 6541, 5002 and 5289.