

SUMMARY OF THE NUCLEAR REGULATORY COMMISSION'S LICENSE RENEWAL REGULATORY GUIDE WORKSHOP

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Prepared by:

SCIENCE AND ENGINEERING ASSOCIATES, INC.

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**SUMMARY OF THE UNITED STATES
NUCLEAR REGULATORY COMMISSION'S
LICENSE RENEWAL REGULATORY GUIDE WORKSHOP**

The United States Nuclear Regulatory Commission (NRC) conducted a public workshop on October 29, 1996 to discuss implementation of the nuclear power plant license renewal rule, Title 10 of the Code of Federal Regulations, Part 54 (10 CFR Part 54) "Requirements for Renewal of Operating Licenses for Nuclear Power Plants." Information was provided on the staff's Draft Regulatory Guide, the guideline prepared by the Nuclear Energy Institute (NEI), and observations and lessons learned from the NEI sponsored demonstration program. This workshop, attended by approximately 115 people from the NRC, the nuclear power industry and supporting contractors, the Department of Energy (DOE), national laboratories, state government agencies, and the interested public, was organized and conducted by the NRC with a dual purpose to (1) provide the public with an overview of the license renewal rule, implementing guidance, and the license renewal demonstration program, and (2) to obtain comments and input from the workshop attendees related to the efficacy and adequacy of the regulatory guide. The workshop was the latest of many NRC actions to provide industry and the public a forum to discuss their views and concerns relating to the requirements and implementation methods for license renewal of nuclear power plants which provide approximately 20 percent of the electric power produced in the United States. It is but one of a series of NRC actions during the past several years relative to the license renewal process, a process which could renew the operating license of

a nuclear power plant for up to an additional 20 years after the expiration of the current license term of 40 years.

BACKGROUND

The Atomic Energy Act of 1954 and NRC regulations permit operating licenses for nuclear power plants to be renewed, thus extending the term of the license beyond the original 40 years. In 1990 the NRC published a proposed rule that established the procedures, criteria, and standards governing license renewal. A Draft Regulatory Guide, DG-1009, "Standard Format and Content of Technical Information for Applications to Renew Nuclear Power Plant Operating Licenses", was developed which provided guidance on implementing the license renewal rule, 10 CFR Part 54. After review and public comment it became apparent that changes were needed; a revised version of the license renewal rule was adopted by the Commission, and became effective in January 1992. However, several provisions in that rule regarding the interpretation and required implementation actions raised significant issues in the nuclear power industry. In particular, the nuclear power industry requested that many of their actions associated with other rules, for example, the maintenance rule (10 CFR 50.65), be credited for meeting requirements associated with managing and preventing functional degradation of certain systems, structures, and components due to aging. After reviewing public comments, conducting workshops, and extensive consideration of these issues, the Commission amended the license renewal rule on May 8, 1995, revising the requirements an applicant must meet to obtain a renewed operating license. Therefore, the guidance contained in the then extant Draft Regulatory Guide, DG-1009, no longer

adequately reflected the current requirements for renewing nuclear power plant operating licenses.

As a result, starting in the summer of 1995 the staff initiated development of new implementing guidance: NRC Draft Regulatory Guide DG-1047, "Standard Format and Content for Applications to Renew Nuclear Power Plant Operating Licenses." This Draft Regulatory Guide, issued for public comment in August 1996, is designed to provide a format and content acceptable to the NRC staff for structuring and presenting the information submitted in an application for the renewal of a nuclear power plant operating license. Complementing this Draft Regulatory Guide, the NEI prepared an implementing guidance document, NEI 95-10, "Industry Guideline for Implementing the Requirements of 10 CFR Part 54 – The License Renewal Rule," Revision 0, March 1996. The NRC's Draft Regulatory Guide DG-1047 proposes to endorse NEI 95-10, Revision 0, as an acceptable method for complying with the requirements of the license renewal rule.

In addition, the NEI sponsored a demonstration program that is assessing the effectiveness of guidance contained in the NEI Guideline for implementing the license renewal rule. Five licensees, Baltimore Gas and Electric Company, Duke Power Company, Georgia Power Company, Wisconsin Electric Power Company, and PECO Energy Company, volunteered to participate in this program to develop sample license renewal application materials, a Final Safety Analysis Report (FSAR) supplement, and on-site supporting technical information. This program tested the ability of the participants to understand and use the guidance contained in NEI 95-10. The NRC staff's involvement in this demonstration program consisted of site visits to each of the volunteering licensee's facilities and the

preparation of a trip report summarizing their observations developed during the visit. These staff visits were not intended to assess the accuracy of the information developed in the demonstration, nor did they determine whether that information was adequate to satisfy the requirements of the license renewal rule.

As previously stated, the October 29, 1996 public workshop was held primarily to allow the NRC staff to present information on, and to receive comments relating to the Draft Regulatory Guide, DG-1047, the NEI implementing guideline, NEI 95-10, and the results and lessons learned from the demonstration program. Since the draft guide has not received final staff review, and as such does not represent an official NRC position, input from this workshop from industry and the general public is very important in molding the final form and content of both the NRC's regulatory guide and the NEI Guideline.

The Nuclear Regulatory Commission staff delivered all but one of the presentations at the workshop. The staff discussed the content of the license renewal rule, the Draft Regulatory Guide, the Industry Guideline, gave an overview of the license renewal demonstration program, and summarized the demonstration program lessons learned, from the NRC's point-of-view. A presentation by NEI was also made regarding the lessons learned, from an industry viewpoint, during the recently completed demonstration program. Past activities were reviewed and lessons learned were discussed. The questions and issues that arose at the workshop dealt not with perceived flaws in the license renewal rule, but rather were probing for further information on methods of complying with the implementing guidance.

The NRC repeatedly stressed their intent that the continued development, refinement, and elaboration of the guidance documents be conducted with maximum public participation.

COMMENTS BY THE UNITED STATES NUCLEAR REGULATORY COMMISSION

The Nuclear Regulatory Commission presented an overview of the license renewal rule and guidance.

License Renewal Rule

After briefly reviewing the history of the development of the license renewal rule, the NRC noted the current rule is a more focused rule than the earlier version; one that gives credit to current licensee programs and establishes both technical and administrative requirements. The underlying principles of license renewal were presented as follows:

- With the possible exception of the detrimental effects of aging on the functionality of certain plant systems, structures, and components in the period of extended operation, and possibly a few other issues related to safety only during the period of extended operation, the regulatory process is adequate to ensure that the licensing bases of all currently operating plants provides and maintains an acceptable level of safety.
- The plant-specific licensing basis must be maintained during the renewal term in the same manner and to the same extent as during the original licensing term.

Thus, the focus of license renewal must develop methodologies to evaluate, and eliminate or control, the detrimental effects of aging on the functionality of certain plant equipment during the extended period of operation. The scope of the rule includes specific

safety related systems, structures and components, non-safety related systems, structures, and components whose failure could prevent the proper functioning of the safety equipment, and systems, structures, and components relied upon for compliance with regulations relating to fire protection, environmental qualification, pressurized thermal shock, anticipated transients without scram (ATWS), and station blackout.

When applying for a commercial nuclear power plant license renewal, the licensee must develop and submit, or retain for review as needed, sufficient information for the NRC staff to make the determination that appropriate actions have been identified and implemented to provide reasonable assurance that the continued activities authorized by the extended license will continue to be conducted in accordance with the current licensing basis (CLB). In order for the staff to make such a determination, the contents of a renewal application must contain an integrated plant assessment that identifies the structures and components subject to an aging management review. A key point here is that for these structures and components the licensee must demonstrate that the effects of aging will be adequately managed in the extended period of operation.

The rule also requires the applicant to provide a list of time-limited aging analyses (TLAAs) and demonstrate they will remain valid, or otherwise show that the effects of aging will be adequately managed, during the extended operating period. Additional information that must accompany an application includes a FSAR supplement, Technical Specification Changes, and an Environmental Report supplement.

It was reiterated that the thrust of the review the NRC will perform for license renewal evaluation is to ensure there is sufficient information to provide reasonable assurance

that activities in the extended period of operation will continue to be conducted in accordance with the CLB.

Draft Regulatory Guide

After an overview of the license renewal rule, the NRC staff discussed the associated Draft Regulatory Guide, DG-1047 and the Industry Guideline, NEI 95-10. The staff stressed that the purpose of the regulatory guide is to establish the format and content needed for license renewal applications. A standard format will simplify both the preparation of the license renewal application by industry and the staff review of the submitted information. The staff stated that regulatory guides are not regulatory requirements. They are merely guidance on a particular way that is acceptable to the NRC to address an issue, in this case, the information content and format needed for license renewal applications.

Other processes may be used by a licensee; the staff will review proposed alternates and determine if they present an acceptable approach. With the goal of endorsing the Industry Guideline, NEI 95-10, in the Draft Regulatory Guide, the Nuclear Regulatory Commission and the Nuclear Energy Institute engaged in extensive comment and revision activities concerning the scope and content of NEI 95-10. Consequently, the Draft Regulatory Guide DG-1047 proposes to endorse the Industry Guideline, NEI 95-10, as an acceptable method for implementing the license renewal rule. However, there will be further revisions to NEI 95-10 before the final regulatory guide is issued. The NRC also warned that Appendix C of NEI 95-10 contains examples to demonstrate the license renewal process. The

Draft Regulatory Guide clarifies that those are not to be misunderstood to be complete demonstrations or complete aging management reviews. They merely illustrate the process.

Areas that need clarification or additional guidance beyond that contained in the Industry Guideline will be incorporated into the regulatory guide.

The Draft Regulatory Guide currently addresses two topics that the staff believes would be better to clarify in the regulatory guide rather than to incorporate them into the Industry Guideline. First, the Draft Regulatory Guide provides clarification regarding current operating issues that may be identified during the license renewal review which must be addressed under the current operating license. If these conditions continue into the extended period of operation, they must also be addressed for the extended period of operation in the application for renewal. Similarly, on-going aging management programs in effect during the normal term are not automatically acceptable for license renewal. If the scope of the aging management program involves structures and components, and affects their intended functions during the period of extended operation, the license renewal rule requires a demonstration to show that the aging effects will be adequately managed in the extended period of operation.

The second area where additional guidance is provided in the Draft Regulatory Guide addresses the resolution of current generic issues. Although NEI 95-10 addresses four options for handling existing generic issues in license renewal applications, it does not address the case where during a renewal review a situation is identified that appears to be applicable to more than one plant but is not yet in the formal generic issue process. The Draft

Regulatory Guide discusses the need for an applicant to address the issue in the license renewal application.

NEI Guideline 95-10

The NRC next discussed the information contained in the NEI Guideline 95-10. It was noted that there is an extensive amount of detailed information in the guideline relating to the content and format of a license renewal application. It was impractical to attempt to address all of this material in this workshop; however, the major points were briefly discussed.

The guideline is intended to maximize the use of existing industry programs. In particular, provisions of the license renewal rule may be satisfied by actions taken to comply with the maintenance rule. However, the staff cautioned that although there are similarities between the two rules, differences exist; therefore, maintenance rule activities must be reviewed for compliance with the license renewal rule.

The NEI Guideline was developed based on a system level or major structure level approach to scoping, i.e., first determining which systems or structures in the plant are within the scope of license renewal review and their intended functions. The structures and components within the major structure or system that are required to perform the structure or system's intended function are then identified along with their intended functions. Where beneficial, an applicant may create commodity groupings of like structures or components based on similar design, materials, aging management practices, or environment to disposition the entire group with a single aging management review. The guideline presents three approaches for aging management review: referencing previous reviews, demonstrating that

the effects of aging are managed for specific structures or components, and crediting existing performance or condition monitoring programs.

Time-limited aging analyses (TLAA) and exemptions were discussed. Industry Guideline NEI 95-10 lists the six criteria that must be satisfied for an analysis to be defined as a TLAA for license renewal. The NRC stated that although under certain circumstances a TLAA evaluation may be deferred until after the license renewal application is submitted, the staff's intent is that normally a TLAA evaluation will be performed and submitted with the application. If the TLAA is deferred, the application should describe the methodology that will be used in the future for the evaluation, acceptance criteria, corrective actions that could be performed, and identification of when the evaluation will be performed.

An extensive amount of information must be developed to support a license renewal application. However, not all of that data needs to be submitted with the application. The information not required to be submitted must be retained on-site for NRC review during inspections for a license renewal review.

Section 6 of the NEI Guideline addresses the format and content of the license renewal application. It contains general guidance concerning the information that should be included in the application, the FSAR supplement, and technical specification changes.

Final guidance on three topics was deferred until after the demonstration program. These topics are: level of detail for the content of an application and FSAR supplement, the proper method to integrate the use of pre-approved topical reports, and the possible need to increase the level of detail in the NEI Guideline. The NRC stated they would probably be improving the level of guidance on these subjects in Section 6 of the guideline.

A commentor from the workshop audience urged the NRC to bring issues to the ASME Section XI committee on license renewal where Section XI may not be adequate as a current licensing basis or for aging management, so that they can be addressed in an open consensus environment. The NRC agreed to keep the Section XI Committee apprised of any important information gleaned from the license renewal reviews.

DEMONSTRATION PROGRAM OVERVIEW

Following the workshop presentations detailing the contents of DG-1047 and NEI 95-10, documents which provide guidance relating to the content and format of information required for staff review in the license renewal process, the NRC briefly described the NEI license renewal demonstration program. To assess the effectiveness of the guideline, NEI 95-10, the Nuclear Energy Institute conducted a demonstration program with participation by five volunteer licensees: Baltimore Gas and Electric Company, Duke Power Company, Georgia Power Company, Wisconsin Electric Power Company, and PECO Energy Company. For this demonstration each participant prepared technical information relating to eight systems, and two components per system, to demonstrate the utility of NEI 95-10 in developing information for license renewal. Each participant developed sample license renewal application materials, renewal FSAR supplement, and on-site supporting information. Critical objectives of this program included an assessment of the participant's understanding and implementation of the guidance in a manner that was consistent with the license renewal rule and their use of scoping, aging management reviews, and time-limited aging analyses evaluation processes. Other objectives were to evaluate the level of detail required in these

aging management reviews, TLAAs and FSAR supplements, and to assess the applicants proper use and integration of topical reports into the information presented in a license renewal application. The final objective was to identify whether or not NEI 95-10 needed to be revised.

The NRC staff's involvement in this demonstration program included site visits to each of the participant's facilities. During these visits the staff discussed issues and problems relating to the license renewal demonstration program with the licensee's technical staff. After each visit the staff developed a trip report that summarized their observations during the visit. All five trip reports have been placed in the Public Document Room and are available for public review.

DEMONSTRATION PROGRAM LESSONS LEARNED – NRC

The NRC staff presented the highlights of their observations and lessons learned during the site visits to the five licensees participating in the NEI sponsored demonstration program. In general, NEI 95-10 appears to contain adequate guidance for scoping, screening, identifying aging effects, developing aging management programs, and evaluating TLAAs. However, there were areas where the staff site visit teams identified needed improvement, either in the guideline, or the participant's interpretation of the required information; these are summarized below.

Use of Generic Reports: Each participant demonstrated the use and integration of topical reports; however, some did not adequately demonstrate the applicability of those reports to their specific plant.

Evaluation of Generic Safety Issues: Generic safety issues (GSI) must be considered when determining the scope of aging management reviews and TLAA evaluations. However, GSIs designated as low priority issues were not being considered by one participant. The site visit team did not agree with this limited review.

The Scoping Process: The participants used two steps to identify and screen those systems and structures requiring an aging management review. The approaches presented by the participants appeared to be consistent with the guidance in NEI 95-10.

The Screening Process: In general, the screening process presented by participants appeared to be consistent with NEI 95-10 guidance. However, the site visit team did identify one concern relating to the requirement for applicants to identify and list all structures and components requiring an aging management review. To meet this requirement, the site visit teams expected participants to include a description of the commodity groups that bound and identify the components within the group.

Aging Management Reviews: Some of the aging management programs presented by the participants appeared to be consistent with the guidance in NEI 95-10. However, the site visit team expressed concern in that some participants (1) used existing aging management programs to determine that aging effects were not applicable in the extended term, (2) used component failure detection as a means to manage some aging, and (3) did not adequately demonstrate that the effects of aging will be managed during the period of extended operation.

Time-Limited Aging Analyses: In general the content of the TLAA evaluations presented by participants appeared to be consistent with the guidance of NEI 95-10.

However, some of the participants indicated their intent to defer many of the TLAA evaluations until after they have submitted the license renewal application. The site visit team emphasized that TLAA evaluations should normally be submitted with the application.

FSAR Supplements: The sample FSAR supplements presented did not all contain an adequate description of the license renewal programs and activities. Also, the guidance in NEI 95-10 did not ensure that participants will submit descriptions that contain the information needed in the FSAR supplement.

In summary, NEI 95-10 appeared to contain the general guidance needed to develop a license renewal application. A few areas needing improvement were identified; and the staff will work to develop and implement the needed improvements.

DEMONSTRATION PROGRAM LESSONS LEARNED – NEI

The spokesman for the NEI thanked all participants, both government and industry, who participated in the recent demonstration program. He stated that from industry's perspective, the demonstration program undertaken by volunteer licensees, and supported by the NRC staff, produced valuable results that will allow both industry and the NRC to move forward in a productive manner; and hopefully, result in a stable and predictable regulatory process for license renewal.

As a result of the demonstration program, the NEI believes the guidance in NEI 95-10 was, in general, adequate for the intended purpose. But there are some areas where additional guidance would be beneficial. Because of this the NEI will very shortly initiate

efforts with the NRC to develop guidance in these areas. The primary observations resulting from the demonstration program, as viewed by the NEI, are summarized below.

Scoping, Screening, and Intended Functions: The guidance applicable to this area was determined to be adequate.

Aging Management: There may be some confusion concerning the information that must be developed to support a license renewal application, and what is summarized in the application vice that which is retained on-site or in corporate offices. Additional guidance is needed and will be a primary focus in the near term.

Topical Reports: The NEI determined that topical reports can be useful in license renewal applications. There are some points, such as the applicability to a specific nuclear power plant, that must be addressed; but in general, topical reports can be used.

Other Observations: There are questions concerning how operating experience is to be addressed. Also gaskets and seals can be considered a consumable, a subject not addressed in the rule. Guidance is needed that relates to how gaskets and seals are handled during repair and replacement operations. Additionally, there is some concern regarding the review required for unresolved safety issues/generic safety issues (USI/GSI). The NEI has just recently submitted a letter to the NRC addressing this issue.

During the license renewal demonstration program, NEI developed several lessons learned that they believe will be useful to nuclear utilities that may be considering license renewal. First, since there are similarities in the scoping requirements of the maintenance rule and the license renewal rule, actions taken to comply with the maintenance rule are a good starting point for license renewal scoping efforts. Secondly, information

needed to describe an aging management review can be effectively presented in tabular format. The third item, and the one the NEI considers the most important lesson learned, is this: Since there is a fairly long window between the time a utility makes the decision to apply for license renewal and the current license expires, the applying utility should look for opportunities during that period to inspect and evaluate long-lived passive structures and components. Proper planning and use of maintenance activities, including inspections, during the years preceding application for license renewal can mitigate some of the potential burdensome activities associated with license renewal. The final lesson learned by the NEI during the demonstration program is one that was mentioned earlier by both the NRC and the NEI. Topical reports can be very helpful, but a utility using such reports in a license renewal application must ensure they are applicable. The underlying assumptions must be understood, and be appropriate to the specific plant applying for license renewal.

The NEI spokesman stated that the most valuable lesson resulting from the demonstration program is this: Get started on the license renewal application early. License renewal is an involved effort.

CONTINUING GUIDANCE DEVELOPMENT TOPICS

Based on experience to date associated with the license renewal program, the NRC staff and NEI have identified several topics that could benefit from additional guidance in either NEI 95-10 or the Draft Regulatory Guide DG-1047. During the public comment period that is currently ongoing, both the NRC and the NEI will initiate efforts to develop additional guidance as required.

Many of these issues have been discussed earlier in this workshop summary. They are listed here again for emphasis, and to assemble them in one section.

- What is required to demonstrate the effectiveness of aging management programs? There are different levels of experience and evidence for existing programs versus new programs.
- What is the content and level of detail required for a license renewal application?
- What is the content and level of detail required for the FSAR supplement?
- What is sufficient to meet the license renewal rule requirement to list structures and components subject to an aging management review?
- What should be the scope of generic safety issue reviews? The NEI recently submitted information on this subject which will be reviewed by the NRC staff.
- What is the appropriate timing for TLAA evaluations? Can TLAA evaluations be delayed until after the license renewal application is submitted or a renewed license issued?
- Is there a need for a plant specific methodology, or can NEI 95-10 be credited as the plant specific methodology required by 10 CFR 54.21(a)(2) for controlling the program on site?
- How much credit can be given to existing licensee programs that look at plant-specific and industry operating experience for complying with the rule since the scope of the programs did not originally include consideration of aging effects for the extended period of operation?
- Are Appendix B structures and/or components such as electric heaters, transformers, recombiners, heat tracing, and gaskets, packing, and seals subject to an aging management review?

The NRC reiterated that this process of guidance development is a public process, and they encouraged all interested parties to participate in the public meetings and to provide

comments. The NRC emphasized that some of these issues are difficult, but the goal throughout this guidance development process is to ensure the requirements are clear.

Following this discussion of topics that need further, or continuing, guidance development, there were several questions, or issues, from the workshop audience. One that generated considerable discussion questioned the necessity of identifying the intended functions of active components during the scoping process when this class of components is ultimately eliminated as part of the screening process from the list of components requiring an aging management review. The staff acknowledged this as a possibility and that identifying intended functions for active components required expenditure of resources. The staff stated that unless all intended functions of a component are identified, how would an applicant know whether an apparent active component did not also have a passive function. The NRC staff said they would welcome ideas or methods in this matter to enhance the guidance and make the process more efficient in identifying boundaries, screening, and scoping. Another question addressed the need for, or timing of, TLAA's relating to environmentally qualified equipment, and asked if a categorical exemption was being considered. The NRC stated that environmental qualification is controlled by 10 CFR 50.49 and there are programs currently in place at plants to ensure that electrical equipment is qualified. This topic is being evaluated by the staff for license renewal and they plan to address it more fully in the Final Regulatory Guide. There are no plans for a categorical exemption.

Another workshop attendee asked the NRC to identify, based upon their experience in the demonstration program, stumbling blocks or hurdles a utility might encounter in preparing an acceptable license renewal application. The staff commented that

there seems to be difficulty in providing sufficient information for an aging management demonstration. Also, there were consistent problems regarding the content of the FSAR supplement.

There was a discussion regarding aging management for the containment area. The NRC responded that part of this has recently been addressed in the final rule for IWE/TWL. However, some concerns persist. The NRC commented that perhaps a further look is warranted to evaluate what needs to be done, particularly in terms of license renewal activities.

The final issue dealt with the use of objective evidence versus engineering judgment in the demonstration of aging management programs. The NRC noted that engineering judgment is a very general term. Although the NRC does not arbitrarily exclude engineering judgment – sometimes it can be quite effective – there must be a sound basis for it to be accepted.

SUMMARY AND CONCLUSIONS

In summarizing the workshop, and indeed the entire guidance development effort and demonstration program, the NRC staff stated that the whole process has been very beneficial. The staff received good input from industry, and gained much greater appreciation and understanding of the approaches used by industry. The process identified some implementation issues, and even areas that had not been previously examined – areas that need guidance. This process has also resulted in the identification of policy issues that must be addressed by the staff.

The guidance contained in DG-1047 and NEI 95-10 was applied during the demonstration. In general, that guidance was validated, subject to a few needed improvements that have been identified.

The NRC again stated their interest in having public involvement in this process to develop clear and effective implementing guidance for the license renewal rule, and welcomed comments from all interested parties. Efforts aimed at continuing guidance development are ongoing. There may be a meeting between the staff and NEI in November; if so, it will be public, and associated documents will be placed in the Public Document Room (PDR) when they are prepared or received.

Both the NRC and NEI will issue lessons learned reports based upon information gained during the demonstration program. Currently the NRC's lessons learned report is in draft form undergoing final review. The NEI is planning to issue their companion report near the end of November. Both reports will be placed in the PDR and will be publicly available.

The public comment period ends November 29, 1996. After the NRC receives comments from the public, the staff will assess them and determine the portions of the implementing guidance that require change. The staff will summarize the resolution of the comments received when it issues the Final Regulatory Guide. A similar process to that used for developing the Draft Regulatory Guide will be used to develop the Final Regulatory Guide. The staff will provide comments to the NEI to update NEI 95-10 with the intent of endorsing the guideline, if found acceptable, in the Final Regulatory Guide. As appropriate, the staff may incorporate additional guidance in its regulatory guide.

The NRC has a target date of August 1997 to issue the Final Regulatory Guide.

LIST OF ATTENDEES

NRC LICENSE RENEWAL REGULATORY GUIDE WORKSHOP

LICENSE RENEWAL REGULATORY GUIDE WORKSHOP
Attendance Roster - October 29, 1996

NAME	ORGANIZATION	ADDRESS	TELEPHONE
Anand, Raj	NRC	M/S 0WfN-11D23; Washington, DC 20555	(301) 415-1146
Arey, Melvin	Duke Power Co.	P. O. Box 1006; Charlotte, NC 28201	(704) 382-8619
Austin, Paula	SAIC	Suite 500; 555 Quince Orchard Rd.; Gaithersburg, MD 20854	(301) 924-6140
Baker, R. D.	Southern Company	P. O. Box 1295; Birmingham, AL 35201	(205) 992-7367
Banic, Merilee	NRC	M/S: 0-DE/EMCB; Washington, DC 20555	(301) 415-2771
Batch, Stan	ANO/IC	610 Cliff Road; Russellville, AR 72801	(501) 858-4727
Beaty, Randall E.	SEA, Inc.	7918 Jones Branch Dr.; Suite 500; McLean, VA 22102	(703) 761-4100
Borsum, R.	FTI	1700 Rockville Pike; Suite 525; Rockville, MD 20852	(301) 230-2100
Brinkman, C. B.	ABB-CE	12300 Twinbrook Parkway; Suite 330; Rockville, MD	(301) 881-7040
Carey, John J.	EPRI	3412 Hillyview Avenue; Palo Alto, CA 94303	(415) 855-2105
Carson, Alice	Bechtel	9801 Washington Blvd.; Gaithersburg, MD 20878	(301) 417-4212
Chase, Stephen	DGE	1000 Independence Ave., S.W.; (DP-45 Rm. GA-073); Washington, DC 20585	(202) 586-3789
Clohecy, David	PECo Energy	965 Chesterbrook Blvd.; Wayne, PA	(610) 640-6472
Colaanni, R. Paul	Duke Power Co.	400 S. Church St.; Charlotte, NC 28201-1006	(704) 382-5632
Colhing, Leslie J.	ABB-CE	12300 Twinbrook Pkwy.; Suite 330; Rockville, MD 20852	(301) 881-7040
Comes, Laura	SEA, Inc.	7918 Jones Branch Dr.; Suite 500; McLean, VA 22102	(703) 761-4100
Connor, Lynn	STS	P.O. Box 34; Cabin John, MD 20818	(301) 229-0933
Cox, Terry	Duke Power Co.	P. O. Box 1006; EC12R; Charlotte, NC 28201-1006	(704) 382-6122
Davis, Jim	Southern Company (SNC)	40 Inverness Ctr. Pkwy.; Birmingham, AL 35242	(205) 992-7692
Doroshuk, Barth	Baltimore Gas & Electric	Calvert Cliffs Parkway; Lusby, MD 20657	(410) 495-4803
Droggitis, Spiro	NRC/OSP	Washington, DC 20555	(301) 415-2367
Eggett, Don	Commonwealth Edison	1400 Opus Place, Suite 900; Downers Grove, IL 60515	(630) 663-7216
Evers, R.F.	GPU Nuclear, Inc.	1 Upper Pond Road; Parsippany, NJ 07054	(201) 316-7216
Fenton, Brook	NRC/DRPM	Washington, DC 20555	(301) 415-1163
Firth, David J.	FTI	3315 Old Forest Road; P.O. Box 10935; Lynchburg, VA 24506-0935	(804) 632-3635

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Austin, Paula	SAIC	Suite 500; 555 Quince Orchard Rd.; Gaithersburg, MD 20854	(301) 924-6140
Baker, R. D.	Southern Company	P. O. Box 1295; Birmingham, AL 35201	(205) 992-7367
Banic, Merilee	NRC	M/S: 0-DE/EMCB; Washington, DC 20555	(301) 415-2771
Batch, Stan	ANO/ICE	610 Cliff Road; Russellville, AR 72801	(501) 858-4727
Beaty, Randall E.	SEA, Inc.	7918 Jones Branch Dr.; Suite 500; McLean, VA 22102	(703) 761-4100
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Colhing, Leslie J.	ABB-CE	12300 Twinbrook Pkwy.; Suite 330; Rockville, MD 20852	(301) 881-7040
Comes, Laura	SEA, Inc.	7918 Jones Branch Dr.; Suite 500; McLean, VA 22102	(703) 761-4100
Connor, Lynn	STS	P.O. Box 34; Cabin John, MD 20818	(301) 229-0933
Cox, Terry	Duke Power Co.	P. O. Box 1006; EC12R; Charlotte, NC 28201-1006	(704) 382-6122
Davis, Jim	Southern Company (SNC)	40 Inverness Ctr. Pkwy.; Birmingham, AL 35242	(205) 992-7692
Doroshuk, Barth	Baltimore Gas & Electric	Calvert Cliffs Parkway; Lusby, MD 20657	(410) 495-4803
Droggitis, Spiro	NRC/OSP	Washington, DC 20555	(301) 415-2367
Eggett, Don	Commonwealth Edison	1400 Opus Place, Suite 900; Downers Grove, IL 60515	(630) 663-7216
Evers, R.F.	GPU Nuclear, Inc.	1 Upper Pond Road; Parsippany, NJ 07054	(201) 316-7216
Fenton, Brook	NRC/DRPM	Washington, DC 20555	(301) 415-1163
Firth, David J.	FTI	3315 Old Forest Road; P.O. Box 10935; Lynchburg, VA 24506-0935	(804) 832-3635

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Flanders, Scott	NRC	Washington, DC 20555	(301) 415-1172
Frahn, Ron, Jr.	NRC/NRR-HOMB	OWFN-9A1; Washington, DC 20555	(301) 415-2986
Frithsen, Jeffrey B.	Versar, Inc.	9200 Rumsey Road; Columbia, MD 21045	(410) 740-6112
Funk, Dan R.	DOE	NE-50; Germantown, MD 20874	(301) 903-3845
Gan, Boris	GPU Nuclear, Inc.	1 Upper Pond Road; Parsippany, NJ 07054	(201) 316-7280
Gerber, Dave	Structural Integrity Assoc.	3315 Almaden Expy; Suite 145; San Jose, CA 95118	(408) 978-8200
Gessler, Joshua	JEPC	1120 Connecticut Ave. NW; Suite 1070; Washington, DC 20036	(202) 955-5610
Gill, Robert	Duke Power Co.	P. O. Box 1006; Charlotte, NC 28201	(704) 382-3339
Gregor, Frank	LCM ENG, PLLC	29200 Southfield Road; Southfield, MI 48076	(810) 559-7955
Gurican, Greg	GPU Nuclear, Inc.	1 Upperpond Road; Parsippany, NJ 07054	(201) 316-7972
Hale, Stephen T.	Florida Power & Light	P. O. Box 14000; 700 Universe Blvd.; Juno Beach, FL 33408	(561) 694-3507
Hancock, Jim	Balch & Bingham	P. O. Box 306; Birmingham, AL 35201	(205) 226-3418
Harding, Roy	GPU Nuclear, Inc.	1 Upper Pond Road; Parsippany, NJ 07054	(201) 316-7258
Harrison, Dennis	DOE	NE-50; Washington, DC 20585	(301) 903-2884
Hart, Kathleen	McGraw-Hill	1200 G St., NW; 1100 Washington, DC 20005	(202) 383-2161
Henig, Michael W.	Virginia Power	5000 Dominion Blvd.; Glen Allen, VA 23060	(804) 273-2237
Heroux, Tricia	EPRI	6419 22nd Street; Arlington, VA 22205	(703) 536-9655
Hill, Earl	Sciencetech/NUS	11140 Rockville Pike; Rockville, MD 20852	(301) 468-6425 x545
Hoffman, Steve	NRC	Washington, DC 20555	
Hornbuckle, Jon	Southern Nuclear	40 Inverness Center Parkway; Birmingham, AL 35742	(205) 992-7974
Hostetler, David	Framatome Tech	8001 Whittington; Richmond, VA 23235	(804) 330-8046
Hwang, Kyeong-Mo	Korea Power Engineering Co.	Kusung-Myou Mabuk-Ri, Kyunggi-Do; Korea	82-0331-289-4287
Jackson, Debbie	NRC	Washington, DC 20555	(301) 415-5887
Jancik, Lori	FEPC	1901 L Street, N.W.; Suite 600; Washington, DC 20036	(202) 466-6781
Johnson, Richard E.	NRC/RES	M.S. T-10 E 10; Washington, DC 20555	(301) 415-6758
Kellahan, Rounette	Duke Power Co.	Oconee Nuclear Station; Seneca, SC 29679	(864) 850-0887

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Kim, Jong-Seog	Korea Electric Power Corp	1402 Stonecliffe Drive; Monroeville, PA 15146	(412) 372-0203
Kingseed, Jeb	American Electric Power	500 Center Drive; Buchanan, MI 49107	(616) 697-5106
Kotnill, Laurence	PNC	2600 Virginia Ave., NW; Suite 715; Washington, DC 20037	(202) 338-3770
Kowalski, Mary	PECo Energy	965 Chesterbrook Blvd.; Wayne, PA 19087	(610) 640-6448
Krause, Chuck	Wisconsin Electric	231 West Michigan; Milwaukee, WI 53201	(414) 221-2001
Kuo, P.T.	NRC/NRR-PDLR	OWFN-11D23; Washington, DC 20555	(301) 415-3147
Lee, Sam	NRC	OWFN-11D23, NRC; Washington, DC 20555	(301) 415-3109
Loomis, Tom	PECo Energy	965 Chesterbrook Blvd.; Wayne, PA	(610) 640-6793
Mackey, William	Entergy	GSB 3WSR 333; Russellville, AR 72801	(501) 858-4458
Martin, Tim	NRC	Washington, DC 20555	
Masiero, David	GPU Nuclear, Inc.	1 Upper Pond Road; Parsippany, NJ 07054	(201) 316-7121
McAllister, Beth A.	GE	175 Curtner Ave.; San Jose, CA	(408) 925-6957
McDowell, Marcia	SEA	7918 Jones Branch Drive; Suite 500; McLean, VA 22102	(703) 761-4100
McLean, Rich	MD-PPRP	Tawes Building; B-3; Annapolis, MD 21401	(410) 974-2261
Meyer, Charles	Westinghouse ECE 4-22	4350 Northern Pike; Monroeville, PA 15146	(412) 374-5027
Meyer, Ted A.	Westinghouse/W06	P.O. Box 355; Pittsburgh, PA 15230	(412) 374-4587
Miller, D.E.	GPU Nuclear, Inc.	1 Upper Pond Road; Parsippany, NJ 07054	(201) 316-7147
Miranda, Ron	GPU Nuclear, Inc.	1 Upper Pond Road; Parsippany, NJ 07054	(201) 316-7372
Mizuno, Geary S.	NRC/OGC	Washington, DC 20555	(301) 415-1639
Mortonson, John	Wisconsin Public Service	600 N. Adams; Green Bay, WI 54307-9002	(414) 433-5545
Mosher, Natalie	Entergy - ANO	14485 State Road 333; Russellville, AR 72801	(501) 858-4635
Mosier, Don	Carolina Power & Light	412 S. Wilmington St.; OHS-7; Raleigh, NC 27601	(919) 546-5243
Moulton, John	NRC/NRR-PDLR	OWFN-11D23; Washington, DC 20555	(301) 415-1106
Mulvehill, Jeff	Southern Nuclear	P.O. Box 2625; Birmingham, AL 35202	(205) 992-6752
Murphy, Michael P.	PADEP	92 Eddington Ave.; Harrisburg, PA 17111	(717) 787-2163
Myers, Cheryl	SEA	7918 Jones Branch Drive; Suite 500; McLean, VA 22102	(703) 761-4100

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Newberry, Scott	NRC	Washington, DC 20555	(301) 415-1183
Newton, Roger	WEPCo	231 W. Michigan St.; Milwaukee, WI 53201	(414) 221-2002
Ott, Tom	Entergy	Russellville, AR 72801	(501) 858-4534
Park, Jun H.	Korea Electric Power Corp.	4203 Stonecliff Drive; Monroeville, PA 15146	(412) 374-3781
Polaski, Frederick W.	PECo Energy	965 Chesterbrook Blvd.; 63 B-3; Wayne, PA 19087	(610) 640-6488
Prato, Bob	NRC	OWFN; Washington, DC 20555	(301) 415-1147
Preke, Charles	Southern Nuclear	P. O. Box 1260; Birmingham, AL 35242	(205) 992-7872
Ramsey, D.	Duke Power Co.	400 S. Church St.; Charlotte, NC 28201-1006	(704) 382-3920
Raske, David	Argonne National Lab.	9700 S. Cass Ave., Building 308; Argonne, IL 60439	(630) 252-5687
Rathbun, Gene	Wolf Creek Nuclear Op. Corp.	P. O. Box 1498; Burlington, KS 66839	(316) 364-8831 x8988
Regan, Chris	NRC/PDLR	Washington, DC 20555	(301) 415-1179
Remshaw, Richard	Con Edison	4 Irving Place, Rm. 1325; New York, NY 10019	(212) 460-2727
Richard, Ian	ABB CENO	Windsor Court	(860) 285-9678
Rinckel, Mark A.	Framatome Tech.	3315 Old Forest Road; Lynchburg, VA 24502	(804) 832-3053
Robison, Gregory D.	Duke Power Co.	422 S. Church St.; Charlotte, NC 28242	(704) 382-8685
Roth, David	Virginia Power	5000 Dominion Blvd.; Glen Allen, VA	(804) 273-2220
Roulett, George	American Electric Power	500 Circle Drive; Buchanan, MI 49107	(616) 697-5123
Sacco, V.	GPU Nuclear, Inc.	1 Upper Pond Road; Parsippany, NJ 07054	(201) 316-7789
Sardashti, Kaveh	Entergy Oper. Inc.	1448 S. R. 333; Russellville, AR 72801	(501) 858-4339
Schlaseman, Caroline	MPR Associates, Inc.	320 King Street; Alexandria, VA 22314	(703) 519-0200
Semmler, M.G.	Duke Power Co.	400 S. Church St.; Charlotte, NC 28201-1006	(704) 382-5847
Shaw, Don	Baltimore Gas & Elec.	Calvert Cliffs Parkway; Lusby, MD 20657	(410) 495-4028
Shermanski, Paul	NRC	M/S OWFN-11D23; Washington, DC 20555	(301) 415-1377
Sherwell, John	MD-DNR/PPRP	Tawes Building; B3; Annapolis, MD 21401	(410) 974-2261
Smith, Al	Northern States Power	414 Nicollet Ave.; Minneapolis, MN	(612) 388-1121 x4338
Stevens, Gary	Structural Integrity Assoc., Inc.	3315 Almaden Expressway; Suite 24; San Jose, CA 95118	(408) 978-8200

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Sutton, Kathryn	Winston & Strawn	1400 L St., N.W.; Washington, DC 20007	(202) 371-5738
Taylor, Don	NRC HQMB	OWFN 9A18; Washington, DC 20555	(202) 739-8093
Vora, Jit	NRC	TWFN; Washington, DC 20555	(301) 415-5833
Vytlačil, Gordon	Westinghouse ECE 4-22	4350 Northern Pike; Monroeville, PA 15146	(412) 374-2563
Walker, Robert	Samanda	419 4th Avenue; Washington Grove, MD	(301) 990-1666
Walters, Doug	NEI	1776 Eye St., N.W.; Suite 300; Washington, DC 20006	
Wary, H.B.	NRC	Washington, DC 20555	(301) 415-2958
Whitaker, Everett	Tennessee Valley Auth.	1101 Market Street; Chattanooga, TN 37402	(423) 751-6369
Wilson, David	Rochester Gas & Elec. Corp	89 East Avenue; Rochester, NY 14699	(716) 771-3154
Wilson, James	NRC/DRPM	Washington, DC 20555	(301) 415-1108
Winston, Liu	NRC	Washington, DC 20555	(301) 415-3148
Young, Garry G.	Carolina Power & Light	412 S. Wilmington St., OHS-9; Raleigh, NC 27601	(919) 546-4420

Georgia Power Company
40 Inverness Center Parkway
Post Office Box 1296
Birmingham, Alabama 35201
Telephone 205 992-7122

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Georgia Power
the southern electric system

C. K. McCoy
Vice President, Nuclear
Vogtle Project

November 27, 1996

Docket Nos. 50-321 50-424
50-366 50-425

HL-5268
LCV-0922

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

ATTN: Rules Review and Directives Branch

Comments on
Draft Regulatory Guide DG-1047 "Standard Format and Content for Applications to
Renew Nuclear Power Plant Operating Licenses"
(61 Federal Register 43792 dated August 26, 1996)

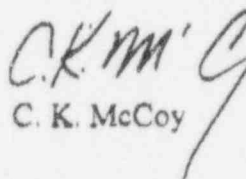
Dear Sir:

Georgia Power Company (GPC) has reviewed the draft Regulatory Guide DG-1047 "Standard Format and Content for Applications to Renew Nuclear Power Plant Operating Licenses," published in the Federal Register on August 26, 1996. In accordance with request for comments, Georgia Power Company is in total agreement with the NEI comments which are to be provided to the NRC.

In general, GPC commends the NRC in its aggressive development of the guidelines in conjunction with NEI. However, GPC has concerns that the current implementation environment for the renewal rule may not result in the stable, efficient and predictable process envisioned. Thus, GPC is enclosing additional comments which recommend changes to the Regulatory Guide and NEI Guideline to clarify the implementation requirements for Applications to Renew Nuclear Power Plant Operating Licenses.

Should you have any questions, please advise.

Respectfully submitted,


C. K. McCoy

CKM/JTD
Enclosure

cc: Georgia Power Company
J. T. Beckham, Jr., Vice President - Plant Hatch
J. B. Beasley, General Manager - Vogtle Electric Generating Plant
H. L. Sumner, Jr., General Manager - Plant Hatch

U. S. Nuclear Regulatory Commission, Washington, DC
K. N. Jabbour, Licensing Project Manager - Hatch
L. L. Wheeler, Licensing Project Manager, Vogtle

U. S. Nuclear Regulatory Commission, Region II
S. D. Ebner, Regional Administrator
B. L. Holbrook, Senior Resident Inspector - Hatch
C. R. Ogle, Senior Resident Inspector - Vogtle

Enclosure

Comments on the Draft Regulatory Guide DG-1047

"Standard Format and Content for Applications to Renew Nuclear Power Plant Operating Licenses"

Georgia Power Company (GPC) is submitting the following comments for consideration on the Draft Regulatory Guide DG 1047 and the Nuclear Energy Institute NEI 95-10 Revision 0, *Industry Guideline for Implementing the Requirements of 10 CFR Part 54 - The License Renewal Rule* which is being endorsed by DG-1047.

This enclosure recommends changes to selected sections of NEI 95-10. As an administrative matter, GPC recognizes that these comments, if accepted, can be incorporated into NEI 95-10 or within the regulatory guide, as appropriate.

Draft Regulatory Guide DG-1047 Comments.

Section 2 endorses NEI 95-10, Revision 0, but with the following qualifier: "The examples should not be considered sufficient for demonstrating that the effects of aging for the components discussed will be adequately managed for the period of extended operation." Either the Regulatory Guide should provide examples that the NRC deems adequate for demonstrating that the program is managing aging effects or NEI 95-10 should be revised to include acceptable examples.

Section 3.1 on "Matters Not Subject to a Renewal Review" states "Conversely, 10 CFR 54.30 does not support the position that, because aging is a continuous process, aging management being performed on structures and components within the scope of license renewal during the current term is acceptable for the period of extended operation. The demonstrations required by the license renewal rule must still be provided for these aging management programs." Georgia Power Company agrees that the demonstration must be made for programs that manage aging. This wording implies that programs in the current term are presumed inadequate until proven to be otherwise. The sentences should be revised as follows:

"Section 54.30 does support the position that, because aging is a continuous process, aging management being performed on structures and components within the scope of license renewal during the current term may be acceptable for the period of extended operation. However, the demonstration required by the license renewal rule must still be provided for these aging management programs."

Nuclear Energy Institute NEI 95-10, Revision 0, Comments

Section 2.0 "Overview of Part 54" requires clarification.

Based on Georgia Power Company's participation in the NEI License Renewal Working Group, the License Renewal Demonstration Program (LRDP), and our involvement with other license renewal industry efforts, it appears that the NRC staff has imposed a "new" standard in the implementation of NEI 95-10. This different standard, presumably, relates to some change in the "burden of proof" imposed on the licensee in order to provide reasonable assurance as specified in 10 CFR 54.29.

The staff has, on several occasions during the LRDP and during meetings that discussed license renewal (LR), stated that there is a new standard for establishing reasonable assurance for the renewal term that is different from the standard in the current term. However, Georgia Power Company does not believe that there is a new standard for the renewal term. If there is a new standard, it needs to be clearly defined in Section 2.0 of NEI 95-10. Such a standard is an important foundation upon which the rest of NEI 95-10 should be based. However, Georgia Power Company does not believe that there is a new standard for the renewal term. Georgia Power Company recognizes that any new regulation brings with it new requirements. The issue is whether the new requirements constitute a new standard that would imply that some programs considered acceptable in the current term to manage a specific aging effect are not considered acceptable in the renewal term to manage the same aging effect. Georgia Power Company does not believe that the regulatory basis for the acceptance of programs should be any different in the renewal term than in the current term. If a program designed to specifically manage certain aging effects, such as the BWR Vessel and Internals Project, is found to be acceptable in the current term the program should also be considered acceptable for managing the same aging effect in the period of extended operation.

Consequently, Georgia Power Company proposes that, the language of Section 2.0 be revised to clearly state, based on the appropriate sections of the SOC, that the license renewal process does not involve a new standard for providing the reasonable assurance required in 10 CFR 54.29.

The following comments expand on, and provide background for the above proposal:

In the current term, a licensee may develop many programs to manage aging effects using a qualitative approach. These programs could include performance monitoring programs which monitor for overall functionality. However, for renewal programs, the NRC staff has said that they require "proof" using quantifiable data which establishes "objective evidence" that programs manage aging consistent with the

CLB. This requirement for "proof" tends to ignore the NRC regulatory oversight process that continues into the period of extended operation, as sanctioned by the SOC at 60 FR 22475.

In developing the original rule, the NRC determined, in NUREG-1412, that the Commission's "regulatory oversight programs ensure that the licensing basis is modified as appropriate to reflect significant new information on technical topics, including the effects of age-related degradation affecting the design or operation of the licensed plant so that the licensing basis continues to provide an acceptable level of safety." Thus, new programs are currently being incorporated into the licensing basis, when appropriate, which reflect the result of NRC's regulatory oversight process. For the period of extended operation, the "Commission has concluded that existing programs and regulatory requirements that continue to be applicable in the period of extended operation and provide adequate aging management for systems, structures, and components should be credited for license renewal. Accordingly, the amendment to the license renewal rule focuses the renewal review on plant systems, structures, and components for which current activities and requirements may not be sufficient to manage the effects of aging in the period of extended operation" (60 FR 22469). The SOC continues to develop a discussion regarding the implementation of the maintenance rule and the adequacy of the regulatory process to manage aging effects, with a conclusion for active components, at 60 FR 22471, that "...the Commission believes that with the additional experience it has gained with age-related degradation reviews and with the implementation of the maintenance rule, there is a sufficient basis for concluding that current licensee programs and activities, along with the regulatory process, will be adequate to manage the effects of aging on the active functions of all systems, structures, and components within the scope of license renewal during the period of extended operation so that the CLB will be maintained." The SOC continues, at 60 FR 22474, to develop the focus of the rule on maintaining the function of systems, structures, and components, with discussion of two key issues considered by the Commission in developing the final rule:

1. "...whether or not a focus on ensuring a system's, structure's or component's function through performance or condition monitoring is a sufficient basis for concluding that the CLB will be maintained throughout the period of extended operation," and
2. "...whether the regulatory process and a focus on functionality during the license renewal review for the period of extended operation are sufficient to provide reasonable assurance that an acceptable level of safety (i.e., the CLB) will be maintained."

The ensuing discussion then ended at 60 FR 22475, with "...the Commission concludes that a specific focus on functionality is appropriate for performing the license renewal review. Reasonable assurance that the function of important systems, structures, and components will be maintained throughout the renewal period, combined with the rule's stipulation that all aspects of a plant's CLB (e.g., technical

specifications) and the NRC's regulatory process carry forward into the renewal period, are viewed as sufficient to conclude that the CLB (which represents an acceptable level of safety) will be maintained."

Georgia Power Company believe the continuing themes throughout the SOC discussions of focus on functionality and continuation of the NRC's regulatory process emphasize the Commission's intent that the same standard for determining reasonable assurance that exists in the current term continues into the period of extended operation. It follows then that aging management programs which are specifically designed to manage aging effects in the current term should continue to provide a reasonable assurance of safety in the period of extended operation. Thus, as stated above, Georgia Power Company proposes that section 2.0 of NEI 95-10 be revised to explicitly state the intent of the rule, as concluded at 60 FR22475 (see above).

Section 3.3 "Documenting the Scoping Process" should be revised to provide flexibility on the QA Program used to document the scoping. The following sentence should be changed from:

"The applicant should use the quality assurance program in effect at the plant when documenting the results of the scoping process."

to:

"A 10 CFR 50 Appendix B approved quality assurance program should be used to document the results of the scoping process.."

Within the structure of a nuclear utility, there may be several QA programs. Plant and corporate may have separate QA programs and contractors may have separate QA programs. License renewal activities may be conducted within any approved QA program.

Section 4.1 "Identification of Structures and Components Subject to an Aging Management Review and Intended Functions" should be revised to clarify the types of equipment lists which are required to be developed and maintained by the applicant. Specifically, the guideline should expand on the definition and intended use of commodity groupings in fulfilling the intent of the Rule.

Add the following sentences at the end of Section 4.1:

"Commodity groupings may consist of items such as cable, terminations, cable tray supports, pipe supports, etc., which are of the same type of construction and are subject to the same types of environmental stress and aging effects in the plant. A commodity group may be considered one element in the list of structures and components subject to an aging management review."

This principle is employed in other areas such as environmental qualification, where cables are grouped according to manufacturer and model, and qualification is established for all plant cables in the group which are subject to similar environments. The SOC at 60 FR 22466, endorses this concept of commodity groupings, which states that "Licensees may rely upon their listing of 10 CFR 50.49 equipment, as required by 10 CFR 50.49(d), for the purposes satisfying 10 CFR 54.4 with respect to equipment within the scope of 10 CFR 50.49."

Section 4.2.1.3 "Demonstration That the Effects of Aging Are Managed" should be revised to clarify the recommended elements for an appropriate review checklist.

The following element should be revised from:

"The aging effect(s) are detected by one or more of the credited programs before there is a loss of the structure's or component's intended function."

to:

"The aging effect(s) are detected by one or more of the credited programs before there is a degradation of the structure's or component's intended function such that the system's intended function could be lost."

The SOCs are clear that the evaluations which assure intended functions are maintained must not rely on aspects of redundancy. However, even without taking credit for redundancy, an evaluation can demonstrate, in many instances, that the system or structure's intended functions are maintained even when an individual component(s) is experiencing degradation. This is contemplated in Section 3.2 of the guideline by the component intended function being derived from the system intended function. The current wording of the NEI Guideline does not sufficiently credit the concept that a structure or component's intended function is a function that supports the system intended function.

Section 4.2.1.3 also states that one of the factors that should be considered when selecting an appropriate program enhancement is "The risk significance of the structure or component." Georgia Power Company used this provision for Suppression Pool Temperature Monitoring during the LRDP and was told by the NRC staff that the approach was not satisfactory. Additional guidance is needed in this section to explain how considering risk significance when selecting program enhancements can be acceptably implemented.

Section 4.2.3 should be revised to provide specification of an appropriate demonstration for performance monitoring.

The amended license renewal rule requires, for each structure and component identified in Section 54.21(a)(1), a demonstration that the effects of aging will be adequately managed so that the intended function(s) will be maintained consistent with the CLB for the period of extended operation. One of the primary methods used today to assure continued compliance with the requirements of the CLB is performance monitoring. The industry uses performance and condition monitoring programs extensively, usually as prescribed by regulatory requirements, codes, and standards, and believes that these programs fulfill the requirements of the aging management reviews so that the CLB is maintained as outlined in 10 CFR 54.21. The NRC makes this determination in the SOC (pages 60 FR 22474 to 22475). Section 4.2.3 of NEI 95-10 Rev. 0, incorporates this philosophy and describes the process for using performance and condition monitoring in the aging management review. In addition, the guideline also provides some criteria for determining when it is appropriate to credit these programs for managing aging effects.

Section 4.2.3 of NEI 95-10, Rev. 0, identifies that a demonstration is required without describing the requirements for making this demonstration. Georgia Power Company believes that the demonstration should be made consistent with the discussions in the SOC; i.e. if the performance monitoring program readily reveals the degradation, then reasonable assurance is established that the CLB (pages 60 FR 22474 to 22475) is maintained such that a focus on design parameters (e.g. pipe wall thickness, design loadings, etc.) is unnecessary. Thus, the focus on functionality allows an applicant to deal with qualitative data and apply engineering judgment to address maintenance of the CLB in the period of extended operation just as in the current term. NEI 95-10 should provide these specifications of an appropriate demonstration for performance monitoring.

Duke Power Company
P.O. Box 1006
Charlotte, NC 28201-1006

M. S. TUCKMAN
Senior Vice President
Nuclear Generation
(704) 382-2200 Office
(704) 382-4360 Fax



DUKE POWER

November 27, 1996

Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Subject: Comments on Draft Regulatory Guide DG-1047
"Standard Format and Content for Applications to Renew Nuclear Power
Plant Operating Licenses,"
(61 Federal Register 43792 dated August 26, 1996)

Duke Power appreciates the opportunity to provide comments on the draft Regulatory Guide, DG-1047, "Standard Format and Content for Applications to Renew Nuclear Power Plant Operating Licenses," which was published in the Federal Register on August 26, 1996. As you know, Duke Power has been an active participant in several industry organizations involved in the process to develop a stable and predictable license renewal process. The comments we are providing are based on the experience that we have gained to date in using NEI 95-10, Revision 0, which is incorporated into DG-1047. We continue to believe that the experience gained during the Oconee site demonstration during April 1996, as well as the current activities associated with NRC review of our submittal of July 31, 1996 and follow-up meetings, have been very beneficial in gaining a further understanding of the license renewal process as reflected in NEI 95-10 and DG-1047.

Duke Power has two general comments to make. First, we have confidence in the existing regulatory process and strongly support the affirmation provided by the Commission in endorsing the first principle of license renewal, particularly with respect to the statement that "the regulatory process is adequate." It appears, however, that in some instances, there seems to be less support of the existing regulatory process by the NRC staff. Second, we believe that based on the experience with using NEI 95-10, more guidance should be contained in the document and more examples need to be provided to demonstrate the guidance. We will continue supporting the NEI activities in this area to make NEI 95-10 an even more effective guidance document.

Comment #1 - Implementation Plan (DG-1047, Section C.1, on page 7)

The following comments are provided on the description of an implementation plan:

Item #1 should be deleted because the statement 'list of commitments described in the license renewal application' is overly broad. It seems to overlap the request

contained in Item #3, which requests a list of tasks and it seems to overlap that information which will be contained in the Updated Final Safety Analysis Supplement (UFSAR), which is required to contain summary descriptions of programs and activities needed to manage the effects of aging.

Item # 2 seems to apply to existing activities and should be reflected in the document where the commitments reside. The administrative controls for these aging management programs may already be included in the UFSAR or could be added as part of the supplement provided with the application. It is recommended that Item #2 be deleted but that the intent be reflected in Section 6.3 of NEI 95-10.

Item #3 should be revised to read: 'A list of tasks pertaining to ...

Item #4 should be revised to read: 'A schedule for the specific tasks listed in #3 above...

By making the above suggested changes, the implementation plan would become a valuable document for both the licensee and the NRC and not overlap commitments contained in the UFSAR.

Comment #2 - Generic Safety Issues

The NRC has an existing regulatory process which is described in NUREG-0933, "A Prioritization Generic Safety Issues." NUREG-0933 documents both the process and the results of NRC review of many generic issues. These reviews determine actions required by operating plants when appropriate based on rigorous review and cost-benefit analysis. The staff has recently expanded the generic safety issue review process to explicitly evaluate the prioritization of generic issues for the period of extended operation to determine if the priority should be changed.

Yet in draft regulatory guide, DG-1047, an activity is included (Section 3.2) where the NUREG-0933 process is circumvented for generic issues that are known but not yet in NUREG-0933. These generic issues would only need to be addressed by applicants for a renewal license. The staff has not provided a justification as to why the existing process to handle generic safety issues is not adequate and why certain items which are not of high priority today are of concern only for the period of extended operation. It seems that additional discussion is needed in DG-1047 to clarify under what conditions an issue must be addressed only by a renewal license applicant, and not by current operating plants.

We support the industry comment that Section 1.5 of NEI 95-10 should be revised to identify those generic issues which must be addressed by renewal license applicants. Providing this additional detail in Section 1.5 of NEI 95-10 will improve the effectiveness of the guidance.

Comment #3 - Identification of Applicable Aging Effects

Additional guidance is required in Section 4.2 of NEI 95-10 to address the appropriate process to identify the aging effects applicable for license renewal. In some instances, the staff has been using operating experience as the primary means to identify aging effects applicable to license renewal. There are existing regulatory processes to identify operating experience events that are of concern to operating nuclear power plants. The Events Assessment and Generic Communications Branch has programs and activities that assess and screen power reactor operating experience to identify significant events; interfaces with the Analysis and Evaluation of Operational Data; and develops generic guidance from analysis of operating and vendor reports. Details of this existing regulatory process are contained in NRR office Letter No. 503, dated December 27, 1995. Duke believes that this regulatory process is an effective process to identify all matters that may be of concern to operating nuclear power plants.

Yet during the review of the BWOG / GILRP Pressurizer Topical Report, the staff determined that clad cracking of the pressurizer was an aging effect of concern for the period of extended operation because clad cracking had been found in 1990 as a result of an event that occurred at an operating plant. Our reviews of NRC generic communications found nothing associated with this plant operating event. The staff believes that a visual inspection of the clad of the pressurizer should be performed near or prior to the period of extended operation. The staff has not provided the basis for the decision that this event is only of concern for license renewal, but not of concern today.

We continue to believe that the existing regulatory process that reviews operating experience is effective and that as events occur, they will be properly assessed and communicated to all operating plants for appropriate actions. We believe that NEI 95-10 should be revised to further clarify the use of operating experience in the identification of aging effects applicable for license renewal.

Comment #4 - Existing Aging Management Programs

Section 4.2 of NEI 95-10 describes the general approach for performing aging management reviews. Based on our experience with NEI 95-10, we believe that there are three types of aging management programs: preclusionary, condition monitoring, and performance monitoring. Preclusionary programs include those programs that by design preclude an aging effect from occurring and include chemistry programs and coating programs. Condition monitoring programs include visual inspections and non-destructive examinations such as inservice inspections and erosion-corrosion monitoring. Performance monitoring programs look at the ability of the system or structure to perform its intended function and include ventilation testing programs and heat balances on heat exchangers. We believe that NEI 95-10 needs to be revised to specifically recognize these different types of aging management programs.

There are several existing regulatory processes that oversee these existing operating plant programs. NRC Inspection and Enforcement programs and activities cover a substantial

number of aging management programs that have been in existence for many years. The staff has stated that in order to provide a demonstration that these programs are effective, objective evidence needs to be provided. In many cases, this review for license renewal constitutes a re-licensing of these existing programs and activities. Many of these programs are required by regulations, Commission Orders, Operating License Conditions or Technical Specifications. In addition, there are several programs and activities that have been implemented at operating nuclear power plants in response to NRC Generic Communications such as bulletins and generic letters.

Duke Power believes that the existing regulatory process that oversees our implementation of many of these programs is effective today, and should be considered effective for the period of extended operation, unless there is some aging effect that is of concern only during the period of extended operation. By performing a detailed review of existing programs, the staff seems to be calling into question the adequacy of the existing regulatory oversight process providing inspection and enforcement.

The guidance in NEI 95-10 should be revised in Section 6.2 to clarify the level of detail to be contained in the application for those aging management programs that are well established and have effective regulator oversight. In addition, specific examples need to be included that are considered to be at an acceptable level of detail.

In addition, Section 6.3 of NEI 95-10 should be revised to provide additional guidance for the summary descriptions that are required to be included in the UFSAR Supplement. Examples of summary descriptions at an acceptable level of detail for several programs should also be provided in NEI 95-10.

Comment #5 - Establishing Requirements Beyond ASME Boiler & Pressure Vessel Code, Section XI

The NRC has a regulatory process that periodically reviews and endorses a version of the ASME Code Section XI for use by operating plants. In addition, the staff participates in the code development process. Yet, the staff has determined that in some instances the Code does not fully cover certain items. For example, the staff believes that hydrostatic testing of small bore piping is not enough and that volumetric examinations of some piping should be performed only by renewal license applicants.

Duke Power is concerned that the staff has not utilized the existing regulatory processes to pursue changes to the ASME Code in this instance. Duke Power believes that the existing regulatory oversight process is effective. No justification has been provided to support that this is only an aging concern for renewal license applicants.

We believe that DG-1047 should be revised to clarify the process to be used when existing aging management programs, that are required by regulations, Commission Orders, Operating License Conditions or Technical Specifications, need to be revised to address aging effects that are applicable during the license renewal period.

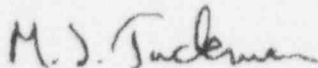
Comment #6 - Applications of Inspections for License Renewal

Section 4.3 of NEI 95-10 provides guidance for the application of new inspections for license renewal. Duke Power believes that additional guidance is necessary to clarify the level detail required at the time of application as compared to the level of detail that may be appropriate at the time the actual inspection is to be performed. For example, using specific requirements from the ASME Code version approved for use today by NRC may not be applicable for inspections to be performed 10-15 years in the future when a more current version of the ASME Code may be approved. We believe that additional guidance is required in this section and that an example should be provided in NEI 95-10 of an acceptable description of a new inspection which would be included in an application for a renewal license.

Conclusion

In conclusion, Duke Power commends the efforts of the NRC for its development of this draft regulatory guide. We believe that substantial progress has been made over the past several years in reducing that uncertainty associated license renewal. Much has been accomplished and we need to continue our efforts to further clarify the expectations associated with the license renewal review process.

Very truly yours,



M. S. Tuckman

cc:

Director, Rule Review and Directives Branch
Division of Freedom of Information and Publications Services
Office of Administration
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Doug Walters
Nuclear Energy Institute
Suite 400
1776 I Street
Washington, DC 20006-3708



NUCLEAR ENERGY INSTITUTE

Ralph E. Boodin

VICE PRESIDENT AND
GENERAL COUNSEL
NUCLEAR ENERGY INSTITUTE

November 27, 1996

Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, DC 20555

SUBJECT: Comments on Draft Regulatory Guide DG-1047
"Standard Format and Content for Applications to Renew
Nuclear Power Plant Operating Licenses,"
(61 *Federal Register* 43792 dated August 26, 1996)

In response to the August 26, 1996 *Federal Register* notice, the Nuclear Energy Institute¹ is providing the enclosed industry comments on the draft Regulatory Guide DG-1047 "Standard Format and Content for Applications to Renew Nuclear Power Plant Operating Licenses" and NEI 95-10, "Industry Guideline for Implementing the Requirements of 10 CFR Part 54 The License Renewal Rule."

License renewal is an important issue for the nuclear power industry. The industry's objective is to achieve a stable, efficient, and predictable license renewal process. We believe the NRC had a similar objective in mind when it revised the license renewal rule. The development of NEI 95-10 provided a starting point for the industry and the NRC to share ideas on how to implement the license renewal rule.

The NEI 95-10 demonstration program was another step in support of the objective. It offered an opportunity to refine the interpretations as well as identify the sections of NEI 95-10 that may need improvement.

As observed in the demonstration program, implementation of the license renewal rule is complex and dependent on how the regulation and NEI 95-10 are interpreted. The industry and NRC have different views on some aspects

¹ NEI is the organization responsible for establishing unified nuclear industry policy on matters affecting the nuclear energy industry, including regulatory aspects of generic operational and technical issues. NEI's members include all utilities licensed to operate commercial nuclear power plants in the United States, nuclear plant designers, major architect/engineering firms, fuel fabrication facilities, materials licensees, and other organizations and individuals involved in the nuclear energy industry.

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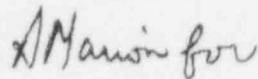
November 27, 1996

Page 2

of how to implement the rule. However, we are confident that through continued interactions with the NRC staff we can resolve our differences and arrive at the stated objective of a stable, efficient, and predictable license renewal process. It is in this context that we offer the enclosed comments.

Please call Doug Walters (202/739-8093) if you have any questions.

Sincerely,

A handwritten signature in cursive script, appearing to read "R. Beedle for".

Ralph E. Beedle

DJW/dw
Enclosure

c: Mr. Carlton C. Kammerer, NRC

Enclosure

1. Draft Regulatory Guide DG-1047 Comments

A. Section C.1 Contents of an Application

Comments: On Page 7, Line 8, suggest the sentence that reads "...to issuance of the license or when..." be rewritten to read "...to issuance of the **renewal operating** license..."

Also on Page 7, Line 10, suggest the words for the period of extended operation be added at the end of the sentence.

The second paragraph on Page 7 notes the format and content of the environmental report is delineated in Regulatory Guide 4.2, "Preparation of Environmental Reports for Nuclear Power Stations." Based on SRM 96-190 dated October 18, 1996, the NRC staff has been directed to develop a plan and schedule for development of a regulatory guide and environmental standard review plan for implementing Part 51. This could mean that Regulatory Guide 4.2 is supplemented or a new regulatory guide is written. This should be reflected in Regulatory Guide DG-1047.

In the section that describes an implementation plan:

Item #1 should be deleted because the statement 'list of commitments described in the license renewal application' is too broad. It seems to overlap the request contained in Item #3, which requests a list of tasks and it seems to overlap that information which will be contained in the Updated Final Safety Analysis Supplement (UFSAR), which is required to contain summary descriptions of programs and activities needed to manage the effects of aging.

Item # 2 seems to apply to existing activities and should be reflected in the document where the commitments reside. The administrative controls for these aging management programs may already be included in the UFSAR or could be added as part of the supplement provided with the application. It is recommended that Item #2 be deleted but that the intent be reflected in Section 6.3 of NEI 95-10.

Item #3 should be revised to read: "A list of tasks pertaining to ..."

Item #4 should be revised to read: "A schedule for the specific tasks listed in #3 above..."

B. Section C.2 Endorsement of NEI Guideline

This section endorses NEI 95-10, Revision 0, with the following qualifier:
"The examples should not be considered sufficient for demonstrating that the effects of aging for the components discussed will be adequately managed for the period of extended operation."

Comment: The sentence should be revised because in many of the NEI 95-10 demonstration program visits and in public meetings, the NRC staff cited Example 2 as an acceptable model for demonstrating the effects of aging are being adequately managed. Further, we will continue working with the NRC staff to gain acceptance of the other examples in NEI 95-10.

C. Subsection C.3.1 Matters Not Subject to a Renewal Review

This section states "Conversely, 10 CFR 54.30 does not support the position that, because aging is a continuous process, aging management being performed on structures and components within the scope of license renewal during the current term is acceptable for the period of extended operation. The demonstrations required by the license renewal rule must still be provided for these aging management programs."

Comment: The wording in this section infers that programs in the current term are presumed inadequate until proven to be otherwise. This section is not intended to address the acceptability of aging management programs. As noted, this section merely describes the licensee's responsibilities for addressing safety matters under its current license that are not within the scope of license renewal. The licensee's obligation under Part 54 is to demonstrate that aging effects are managed for license renewal period. This demonstration must be made whether the program exists in the current term or is a new program developed specifically for renewal.

Therefore, we recommend the sentences be revised as follows:

"Section 54.30 does support the position that, because aging is a continuous process, aging management being performed on structures and components within the scope of license renewal during the current term may be acceptable for the period of extended operation. However, the demonstrations required by the license renewal rule must still be provided for these aging management programs."

2. Nuclear Energy Institute NEI 95-10, Revision 0, Comments

A. General Comments

NEI completed a demonstration program that tested the usability of NEI 95-10 and identified places in the guideline that may need to be changed. As was done in the initial development of NEI 95-10, the industry will propose revisions and submit them to NRC for review and comment. This is still the approach we plan to use; however, we have not yet finalized the proposed revisions. The following is a summary of the parts of NEI 95-10 being considered for change.

1. NEI recently sent a letter to NRC documenting our review of USIs and GSIs. Depending on the outcome of the NRC staff's review, Section 1.5 may be modified and a new appendix may be added to NEI 95-10.
2. Section 3.1 provides guidance for determining which systems, structures, and components are in the scope of the rule. We are considering the addition of clarifying language to assure that all intended functions and the appropriate evaluation boundaries are identified.
3. Verbiage may be added to section 4.1 that addresses the listing of structures and components within a commodity group.
4. Subsection 4.2.1.1 discusses the use of operating experience for identifying and assessing aging effects. We are considering a generic review of industry operating experience to determine trends in aging effects.
5. Two important observations generated from the demonstration program deal with the level of detail in the application and the FSAR supplement, and the demonstration required by Section 54.21(a)(3).
 - ◊ Level of detail is a question as to how much and what type of information is included in the license renewal application and the FSAR supplement. For example, when a qualitative versus a quantitative judgment is necessary. We agree that additional guidance is needed in Section 6.0 of NEI 95-10.
 - ◊ The demonstration required for license renewal is focused on aging management and the demonstration that aging effects are

adequately managed in the period of extended operation. This is a complex topic that covers a number of issues. We are considering guidance to clarify how to make this demonstration. This includes expanding the existing guidance in Section 4.0 on use of performance and condition monitoring programs.

6. Section 5.1.4 may require revision to further discuss when the evaluation of time-limited aging analyses can be delayed until after submittal of the renewal application. Such TLAA's that are already part of existing regulation, e.g., 10 CFR 50.49 evaluations dealing with equipment qualified life, should be allowed to be performed in accordance with that existing regulation under already established programs.
7. Appendix B of NEI 95-10 identifies typical structure, component and commodity groupings and a determination as to whether they are active or passive. Several items in the appendix are not classified because the industry and NRC did not agree on the active/passive determination. We plan to revisit these items and add items as necessary.

B. Specific Comments

1. Section 2.0 Overview of Part 54

This section discusses the various elements of 10 CFR Part 54. One significant change made in Revision 0 is the inclusion of the phrase "in accordance with the plant-specific CLB." This wording appears in a few sentences to stress the fact that plant structures and components must meet their CLB requirements even in the period of extended operation. The language is not intended to imply that the CLB for a specific component or structure needs to be reconstituted for license renewal.

Section 2.0 also discusses in general terms the demonstration that must be made for license renewal including the information that is included in the application and FSAR supplement.

In essence, this section describes the standard that must be satisfied by a licensee pursuing license renewal.

Comment: Based on observations from the NEI license renewal demonstration program and our involvement with other license renewal industry efforts, there appears to be some confusion with respect to the standard for reasonable assurance specified in 10 CFR 54.29.

NEI agrees that a new regulations may establish new requirements. In the case of Part 54, we recognize that §54.29 delineates new requirements that must be satisfied for NRC to issue a renewed license.

Within section 54.29; however, it appears the specific requirements are being interpreted as new standards. For example, 54.29(a) states the Commission must find that "Actions have been identified in Paragraphs (a)(1) and (a)(2) of this section, such that there is reasonable assurance that the activities..." The standard is identifying actions and providing reasonable assurance. Confusion seems to exist on the interpretation of what constitutes reasonable assurance. If a program which manages a specific aging effect provides reasonable assurance today it also provides reasonable assurance in the period of extended operation. The standard of reasonable assurance which is relied on in the current term should not be a different for license renewal.

Another example is §54.29(a)(1) which discusses managing the effects of aging during the period of extended operation. The standard is managing the effects of aging. In the current term, a licensee may have many acceptable programs to manage aging effects using a qualitative approach. These programs could include performance monitoring programs which monitor for overall functionality. However, for license renewal purposes, we have heard in our interactions with the staff and in public meetings during the demonstration program, that these programs are not acceptable because the standard is "proof" using quantifiable data which establishes "objective evidence" that programs manage aging consistent with the CLB. The requirement for "proof" is an interpretation within section 54.29(a)(1) that tends to ignore the NRC regulatory oversight process that continues into the renewal term, as sanctioned by the SOC at 60FR22475.

We recommend working with the NRC staff to clarify Section 2.0 relative to the standard for reasonable assurance in 10 CFR 54.29. We propose that the clarifications be based in part on the portion of the SOC that states:

For the renewal term, the "Commission has concluded that existing programs and regulatory requirements that continue to be applicable in the period of extended operation and provide adequate aging management for systems, structures, and components should be credited for license renewal. Accordingly, the amendment to the license renewal rule focuses the renewal review on plant systems, structures, and components for which current activities and requirements may not be sufficient to manage the effects of aging in the period of extended operation" (60FR22469).

2. Subsection 3.3 *Documenting the Scoping Process*

This section states "The applicant should use the quality assurance program in effect at the plant when documenting the results of the scoping process."

Comment: Within the structure of a nuclear utility, there may be several QA programs. Plant and corporate may have separate QA programs and contractors may have separate QA programs. License renewal activities may be conducted within any approved QA program. Therefore we recommend the sentence be revised as follows:

"A 10 CFR 50 Appendix B approved quality assurance program should be used to document the results of the scoping process.."

3. Subsection 4.1 *Identification of Structures and Components Subject to an Aging Management Review and Intended Functions*

This section briefly describes the concept of commodity groupings and lists.

Comment: The guideline should expand on the definition and intended use of commodity groupings in fulfilling the intent of the Rule.

Suggest incorporating the following sentences at the end of Section 4.1:

"Commodity groupings may consist of items such as cable, terminations, cable tray supports, pipe supports, etc., which are of the same type of construction and are subject to the same types of environmental stress and aging effects in the plant. A commodity group may be considered one element in the list of structures and components subject to an aging management review."

This principle is employed in other areas such as environmental qualification, where cables are grouped according to manufacturer and model, and qualification is established for all plant cables in the group which are subject to similar environments. The SOC at 60FR22466, endorses this concept of commodity groupings, which states that "Licensees may rely upon their listing of 10 CFR 50.49 equipment, as required by 10 CFR 50.49(d), for the purposes satisfying 10 CFR 54.4 with respect to equipment within the scope of 10 CFR 50.49."

4. Subsection 4.2.1.3 *Demonstration That the Effects of Aging Are Managed*

This subsection states that one of the factors that should be considered when selecting an appropriate program enhancement is "The risk significance of the structure or component."

Comment: Additional guidance is needed in this section to explain how considering risk significance when selecting program enhancements can be acceptably implemented.

5. Subsection 4.2.3 *Application of Existing Performance and/or Condition Monitoring Programs*

This subsection is part of the section on aging management reviews. This subsection discusses how existing performance and/or condition monitoring programs may be used as aging management programs.

Comment: Recommend this subsection be revised to clearly define how performance and/or condition monitoring programs can be credited as aging management programs.

The amended license renewal rule requires, for each structure and component identified in Section 54.21(a)(1), a demonstration that the effects of aging will be adequately managed so that the intended function(s) will be maintained consistent with the CLB for the period of extended operation. One of the primary methods used today to assure continued compliance with the requirements of the CLB is performance monitoring. The industry uses performance and condition monitoring programs extensively, usually as prescribed by regulatory requirements, codes, and standards during the current operating term, and believes that these programs fulfill the requirements for adequately managing the effects of aging so that the CLB is maintained as outlined in 10 CFR 54.21. The NRC makes this determination in the SOC (pages 60 FR 22474 to 22475). Section 4.2.3 of NEI 95-10 Rev. 0, incorporates this philosophy and describes the process for using performance and condition monitoring in the aging management review. In addition, the guideline also provides some criteria for determining when it is appropriate to credit these programs for managing aging effects.

Section 4.2.3 of NEI 95-10, Rev. 0, identifies that a demonstration is required without describing the requirements for making this demonstration. The demonstration should be made consistent with the discussions in the SOC; i.e. if the performance monitoring program readily reveals the degradation, then reasonable assurance is established that the CLB (pages 60FR22474 to

22475) is maintained such that a focus on design parameters (e.g. pipe wall thickness, design loadings, etc.) is unnecessary. Thus, the focus on functionality allows an applicant to deal with qualitative data to address maintenance of the CLB in the renewal term just as in the current term. Therefore, NEI 95-10 section 4.0 should be revised to provide these specifications of an appropriate demonstration for performance monitoring.

BWR OWNERS' GROUP

Kevin P. Donovan, Chairman
Tel: (216) 280-5345
Fax (216) 280-8001

c/o Centerior Energy • Perry Nuclear Power Plant • Mail Code R210 • 10 Center Road • Perry, OH 44081

BWROG-96137
November 27, 1996

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

Attn: Rules Review and Directives Branch

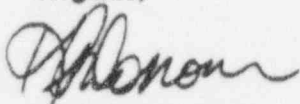
Subject: BWR Owners' Group Comments on Draft Regulatory Guide DG-1047,
"Standard Format and Content for Applications to Renew Nuclear Power
Plant Operating Licenses"

Attached, for your consideration, please find BWR Owners' Group comments on the subject draft Regulatory Guide. The BWR Owners' Group commends the NRC for their aggressive development of the revised License Renewal Rule and this draft Regulatory Guide. In addition, we appreciate the continuing efforts on the part of the NRC to work with NEI, the BWR Owners' Group and the industry in the development of the license renewal guidance.

The BWR Owners' Group continues to believe that a stable, efficient and predictable Rule is paramount and absolutely necessary for the future viability of nuclear generation in this country. We also believe that certain interpretations of the Rule which are currently developing may not produce that stable, efficient and predictable process that we envision. As a result, we are providing the attached comments to raise our concerns and request that the NRC give these comments careful consideration. We also endorse the comments provided by NEI on this Draft Regulatory Guide.

The BWR Owners' Group License Renewal Committee will be pleased to discuss these comments at your convenience.

Regards,



KP Donovan, Chairman
BWR Owners' Group

cc: TJ Rausch, BWROG Vice Chairman
JH Wilson, NRC
CR Pierce, SNC
KK Sedney, GE
BWR Owners' Group License Renewal Committee

**Boiling Water Reactor Owners' Group
License Renewal Committee**

**Comments on Draft Regulatory Guide DG-1047
Standard Format and Content for Applications to Renew
Nuclear Power Plant Operating Licenses**

As an administrative matter, the BWROG recognizes that these comments, if accepted, can be incorporated into NEI 95-10 or the regulatory guide, as appropriate. We have anticipated that the NRC would work with the industry to affect the necessary changes to NEI 95-10. Therefore, some of these comments recommend changes to selected sections of NEI 95-10.

1. Section B (Page 4, Last Paragraph) and Section C.2. (Page 8)

It was evident during the NEI Demonstration Program that further improvement in the regulatory guide and NEI Guideline 95-10 is needed to limit the regulatory complexity introduced during the interpretation of the methods described in the guideline. The areas of the regulatory guide and NEI Guideline that require improvement are described in Attachment A to these comments. Without improvement in these areas, the BWROG believes the implementation of the guidance still results in significant regulatory risk and uncertainty.

The issues addressed in Attachment A essentially result from the NRC Staff's verbally stated position that the license renewal rule establishes a "new standard" for compliance. Apparently, this position results from the Staff's interpretation of the first principal of the rule [Statement of Considerations Section III.b.(i)].

"...with the possible exception of the detrimental effects of aging on the functionality of certain plant systems, during extended operation, the regulatory process is adequate..."

The Staff's position has essentially been manifested through their desire for the aging management reviews to demonstrate a "level of proof" (versus "reasonable assurance" as required by the rule) that the intended functions will be maintained during the period of extended operation consistent with the current licensing basis. This has resulted in the Staff's continuing requests during the Demonstration Program and their review of the Owners' Group topical reports for more detail and reliance on quantitative approaches for the aging management reviews.

If it is accepted that the rule has established a "new standard," then the guidance in the regulatory guide and/or Section 2.0 of the NEI guideline should be expanded to specifically describe and define the "new standard" so that it is clear as to the criteria the NRC will use in making their findings. However, the BWROG does not believe the rule establishes a "new standard." There is ample evidence throughout the Statement of Considerations (SOC) that

**Boiling Water Reactor Owners' Group
License Renewal Committee
Comments on Draft Regulatory Guide DG-1047**

the intent is to continue the use of the current licensing basis and, for the most part, the current plant programs during the extended period of operation. For example, in Section III.b.(i) of the SOC, the second principal of license renewal is,

"...that the plant-specific licensing basis must be maintained during the renewal term in the same manner and to the same extent as during the original licensing term."

In Section III.e.(ii),

"...the Commission concludes that a specific focus on functionality is appropriate for performing the license renewal review. Reasonable assurance that the function of important systems, structures, and components will be maintained throughout the renewal period, combined with the rule's stipulation that all aspects of a plant's CLB (e.g. technical specifications) and the NRC's regulatory process carry forward into the renewal period, are viewed as sufficient to conclude that the CLB (which represents an acceptable level of safety) will be maintained. Functional capability is the principal emphasis for much of the CLB and is the focus of the maintenance rule and other regulatory requirements to ensure that aging issues are appropriately managed in the current license term."

In Section III.f.(ii) of the SOC, the Commission agrees with a DOE comment,

"...that the IPA process is not intended to demonstrate absolute assurance that structures or components will not fail, but rather that there is reasonable assurance that they will perform..."

Therefore, BWROG believes the IPAs and TLAA's required by the rule ensure that the effects of aging and time limited aging issues will have been appropriately reviewed with respect to the extended operating period. The "standard" used in the current operating period to measure the effectiveness of plant programs and actions can be used by the Staff to make their findings that there is reasonable assurance that intended functions will be maintained. This standard is established by the current regulations that require licensees to develop and implement programs that ensure that conditions adverse to quality, including degraded system, structure, or component function, are properly identified and corrected.

2. Section C.2. (Page 8)

The third sentence states that the examples in Appendix C should not be considered sufficient for demonstrating that the effects of aging for the components discussed will be adequately managed for the period of extended operation. The NRC has now had the opportunity to review additional examples resulting from the aging management reviews performed by the utilities that participated in the NEI Demonstration Program. With this experience, the BWROG believes the Appendix C examples should be revised to include specific examples of

**Boiling Water Reactor Owners' Group
License Renewal Committee
Comments on Draft Regulatory Guide DG-1047**

aging management reviews that the NRC has found to be acceptable and technically adequate. Such examples need to be included in the guidance. The BWROG recommends that the industry and the NRC form a working group to improve the existing examples.

3. Section C.3.2 (Page 9)

The current regulatory process and plant administrative procedures require utilities to review industry operating experience and evaluate its applicability to their plant. Therefore, the BWROG believes the additional guidance in Section C.3.2 is unnecessary and should be removed.

**Boiling Water Reactor Owners' Group
License Renewal Committee**

**Comments on Draft Regulatory Guide DG-1047
Standard Format and Content for Applications to Renew
Nuclear Power Plant Operating Licenses**

ATTACHMENT A

A. Defining Intended Functions at the System/Structure and Structure/Component Levels

The NEI Guideline in Sections 3.0 and 4.0 requires that intended functions be defined at both the system/structure level and the structure/component level. In most cases, one or more of the functions at the system/structure level is the basis for including systems, structures or components within the scope of license renewal. These functions are therefore the intended functions of the systems, structures, and components.

A structure or component function(s) is typically defined relative to its relationship to the system or structure function. However, this concept is being lost through the interpretation of NEI Guideline, such as Section 4.2.1.3, where the second item of the checklist states: "The aging effect(s) are detected by one or more of the credited programs before there is a loss of structure or component intended function." As a result, the use of the "intended function" terminology is being extended to the structure/component level in all cases.

This approach is not required by the rule and unnecessarily increases the level of effort required to demonstrate that the effects of aging are managed. The "relative significance or importance" of the structure or component to the system/structure is not being recognized. That is, for most of the systems/structures within the scope of license renewal, the design basis of the system/structure ensures that a structure or component function may be compromised (i.e., local leakage, failure, etc.[Sec 10 CFR 50.55a(c)(2)]) without affecting the system/structure intended function. Such provisions are also acknowledged in the NRC's regulations (e.g., 10 CFR 50) used to establish the plant's current licensing basis (CLB). By not considering these matters, the current approach inappropriately, in most cases, focuses the demonstration required by the rule on assuring structure/component level functions. The focus should be on maintaining the system/structure intended function.

The BWROG believes that it is appropriate, prudent, and technically correct to use system/structure level intended functions to define the measures necessary to manage

**Boiling Water Reactor Owners' Group
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the effects of aging for systems, structures and components where the system/structure level intended function is the basis for including those particular systems, structures or components within the scope of license renewal. In such cases, demonstrating that the aging effects are managed such that the system/structure level intended functions will be maintained is sufficient. This assures that the CLB will be maintained during the extended operating period. The rule expressly provides that intended functions resulting in the inclusion of systems, structures or components ("SSCs") within license renewal may be defined on a system, structure or component basis, as follows:

"The intended functions that these systems, structures and components must be shown to fulfill in § 54.21 are those functions that are the bases for including them within the scope of license renewal as specified in paragraphs (a)(1)-(3) of this section [10 CFR § 54.4(b)]."

In addition, each of the bases set forth in § 54.4(a)(1)-(3) for inclusion of SSCs within the scope of license renewal are defined in terms of "systems, structures and components." The BWROG believes that it is clear that the rule identifies that "intended function" can be applied at either the system, structure or component level.

Therefore, the NEI guideline (Sections 3.0 and 4.0) needs to be changed to allow utilities to define the intended functions at an appropriate level by considering the bases for including the system, structure, or component within the scope of the rule and the relative significance of the structure(s)/component(s) in supporting system/structure level functions. This will allow utilities to practically and efficiently meet the requirements of the rule and to establish a useful correlation between the provisions required to manage the effects of aging and the requirements that need to be assured to maintain the CLB.

B. Use of Current Regulations, Codes and Standards in the Integrated Plant Assessment

The current licensing basis (CLB) represents the set of requirements and commitments for a specific plant that are modified as necessary over the life of a plant to ensure continuation of an adequate level of safety. Regulation, codes and standards, are used, for the most part, to define the requirements in the plant's CLB. These codes and standards are the basis for many of the current inspection, testing and surveillance programs used in nuclear plants. The requirements in these codes and standards represent the experience and consensus of all interested parties including the industry and regulatory authorities. As new experience is gained, these codes and standards groups act to revise or initiate additional requirements. The NRC requires or endorses the requirements of these codes and standards in regulatory documents (such as 10 CFR 50.55a). The regulatory process provides the means by which the adequacy of and compliance with the CLB is continually assessed. In accordance with the second

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principal of license renewal, the plant specific CLB will be maintained during the renewal period in the same manner and to same extent as during the original licensing period.

The NRC Staff has indicated during the Demonstration Program that it does not consider the provisions of some of these programs (e.g., leakage detection for small bore piping) to be adequate to demonstrate that effect of aging will be managed during the extended operating period. Through the process described above, the requirements for these programs have been designed to focus appropriate levels of attention on the various areas of the plant and to verify and restore, if necessary, CLB conditions, whether the degraded condition has resulted from aging or other factors, such as event driven transients. These requirements would also apply during the extended operating period.

The rule (10 CFR 54) requires a demonstration that the effects of aging are managed so that intended functions will be maintained "consistent with the CLB." Since the requirements for these programs are subject to regulations used to establish the CLB and affect all nuclear plants, the BWROG believes that the additional provisions suggested by the NRC Staff, or when identified by a utility, should be submitted to the originating codes and/or standards organization. If necessary, and as a result of this process, the NRC can then affect changes to the appropriate regulatory requirements and the plants would be required to incorporate these changes in their CLB.

To appropriately recognize this process for license renewal, the BWROG believes that additional guidance is needed in the regulatory guide that considers and credits the underlying basis and experience, and the process for affecting changes, to plant programs developed in accordance with codes and standards required or endorsed by the NRC in regulations.

C. Use of Performance and Condition Monitoring Programs to Demonstrate that the Effects of Aging are Managed

Utilities are extensively using performance and condition monitoring programs in their plants. These programs are, in most cases, prescribed by regulatory requirements, codes and standards. As such, their scope and content are very similar throughout the industry and produce testing and inspection data. The BWROG believes these programs can be used in the aging management review required by 10 CFR 54.21 to demonstrate, with reasonable assurance, that the detrimental aging effects affecting the passive structures and components will be detected and timely corrective action will be implemented to maintain the intended function(s) consistent with the CLB during the extended period of operation. The NRC also makes this determination in the SOC (III.e.[ii] [pages 60 FR 22474 to 22475]).

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"... In developing the final rule, a key issue that the Commission considered was whether or not a focus on ensuring a system's, structure's or component's function through performance or condition monitoring is sufficient for concluding that the CLB will be maintained throughout the period of extended operation..."

"...As a plant ages, a variety of aging mechanisms are operative, including erosion, corrosion, wear, thermal and radiation embrittlement, microbiologically induced aging effects, creep, shrinkage, and possibly others yet to be identified or fully understood. However, the detrimental effects of aging mechanisms can be observed by detrimental changes in the performance characteristics or condition of systems, structures, and components if they are properly monitored."

"Aging can effect all systems, structures, and components to some degree. Generally, the changes resulting from the detrimental aging effects are gradual. Licensees have ample opportunity to detect this degradation through performance and condition monitoring programs, technical surveillances required by paragraph 50.36, and other licensee maintenance activities...Licensees are required by current regulations to develop and implement programs that ensure that conditions adverse to quality, including degraded system, structure, or component function, are properly identified and corrected. The licensee's programs include self-inspection, maintenance, and technical specification surveillance programs that monitor and test the physical condition of plant systems, structures, and components."

"...Once a detrimental performance or condition caused by aging or other factors is revealed, mitigating actions are taken to fully restore the condition to its original design basis. As a result of these programs, degradation due to aging mechanisms (detrimental aging effects) is currently being adequately managed, either directly or indirectly, for most systems, structures, and components."

"...When the design bases of systems, structures, and components can be confirmed either indirectly by inspection or directly by verification of functionality through test or operation, a reasonable conclusion can be drawn that the CLB is or will be maintained..."

"...the Commission concludes that a specific focus on functionality is appropriate for performing the license renewal review. Reasonable assurance that the function of important systems, structures, and components will be maintained throughout the renewal period, combined with the rule's stipulation that all aspects of a plant's CLB (e.g. technical specifications) and the NRC's

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regulatory process carry forward into the renewal period, are viewed as sufficient to conclude that the CLB (which represents an acceptable level of safety) will be maintained. Functional capability is the principal emphasis for much of the CLB and is the focus of the maintenance rule and other regulatory requirements to ensure that aging issues are appropriately managed in the current license term."

This philosophy was incorporated in Section 4.2.3 of the NEI 95-10 (Revision 0) industry guideline for implementing the requirements of the license renewal rule. The process for using performance and monitoring programs in the aging management review is described. In addition, the guideline also provides some criteria for determining when the applicant may attempt to use these programs in the review. During the Demonstration Program, several plants used this guidance and criteria and applied performance and condition monitoring programs in their review of selected systems and components.

The BWROG has observed, during the Demonstration Program, that the criteria in Section 4.2.3 of the NEI Guideline is too limiting and, despite the above philosophy, the NRC Staff, when interpreting the requirements of the rule and the NEI guideline, has taken the position that performance and condition monitoring programs are generally not acceptable for use in an aging management review. The Staff is apparently unwilling to accept that performance monitoring programs provide a level of reasonable assurance that the structures and components will operate as designed during design basis events (e.g. seismic events) even though these same programs provide the fundamental basis today for that "reasonable assurance" and in many cases, their scope and content are specified by regulatory (e.g., 10 CFR 50.55a) and code (e.g., ASME Section XI) requirements. In fact, the rule does not prohibit reliance on performance and condition monitoring programs for dispositioning long-lived, passive structures and components when performing an aging management review. The Staff's position also contradicts the provisions in NUREG-0800 for new plants with respect to applying performance and condition monitoring programs, such as leakage detection systems.

"The leakage detection system provided to detect leakage from components of the reactor coolant pressure boundary furnish reasonable assurance that structural degradation, which may develop in pressure-retaining components of the RCPB and result in reactor coolant leakage, will be detected on a timely basis, so corrective actions can be made before such degradation could become sufficiently severe to jeopardize the safety of the system, or before the leakage could increase to a level beyond the capability of the makeup system to replenish the coolant loss."

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Thus the BWROG believes Section 4.0 of the NEI guideline should be revised to further clarify the intent of the rule with respect to the use of performance and condition monitoring programs. More definite criteria can be developed by recognizing the various considerations already evaluated and/or described in the CLB. The recommended criteria are described below. Only one of the criterion needs to apply.

- (a) The degraded performance and/or condition of the passive structure or component is specifically considered in the CLB,
- (b) The mitigating features of a plant performance and condition monitoring program identified in the CLB (e.g., secondary water chemistry control) assure that the passive structure or component will not be adversely affected by aging,
- (c) The loading conditions specified in the CLB for the structure or component do not contain any dynamic loads, such as seismic, OR
- (d) The system intended function that the structure or component supports has a low risk significance ranking.

If one or more of the criteria is determined to apply, then the concern that the condition of the passive structure or component may be degraded by aging without detection by performance and condition monitoring programs is significantly diminished and the need for periodic inspections that verify structural integrity will not be necessary to ensure that intended functions will be maintained. As such, the aging management review may show that the attributes and periodicity of performance and condition monitoring programs, in such cases, provide early and adequate detection of the aging effects.

The guidance in NEI 95-16 should be changed to require the selection of an aging management review approach based on the above criteria. The four approaches, and the associated information that needs to be developed, are identified below.

- (1) Show that the degraded condition of the passive structure or component, while allowing the intended function(s) to be accomplished, is considered in the CLB. To establish this the applicant will need to develop the following information:
 - [a] Review the CLB and identify that the degraded performance or condition contemplated by the CLB considered the characteristics of the relevant aging effects,

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- [b] Perform an assessment of the aging effects, operating history, and attributes of the monitoring program and show that the degraded performance or condition will be manifested over a time period where the aging effects will be detected by the monitoring program activities, and
 - [c] Show that the considerations in the CLB are the basis for performance or condition monitoring criteria and that the criteria will result in timely corrective action so that the intended function(s) will be maintained.
- (2) Show that the mitigating attributes of a plant performance or condition monitoring program assures that the passive structure or component will not be adversely affected by aging. To establish this the applicant will need to develop the following information:
- [a] Perform an assessment of the aging effects and operating history and show that degraded age related conditions can be only caused by adverse process fluid chemical properties or surrounding environmental conditions,
 - [b] Review the attributes of the monitoring program and show that the program activities assure that the process fluid chemical properties and/or surrounding environmental conditions are maintained within the ranges or limits required to mitigate the relevant aging mechanism(s), and
 - [c] Show that the process fluid or environmental monitoring criteria will result in timely actions to restore properties and conditions to an acceptable range so that the structural integrity of the structure or component will be maintained.
- (3) Show that dynamic loads and loading conditions, such as seismic, were not considered in the CLB for the structure or component. To establish this the applicant will need to develop the following information:
- [a] Review the CLB and show that the design of the structure or component for normal, upset, emergency, and faulted conditions did not consider any dynamic loads,
 - [b] Perform an assessment of the aging effects and attributes of the monitoring program and show that the program activities ensure that aging effects (such as leakage) affecting condition will be detected,
 - [c] Show that the monitoring criteria will result in corrective action so that the intended function(s) will be maintained, and

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[d] Confirm that the operating history provides supporting justification for the conclusions that the monitoring program will detect the aging effects and result in timely corrective action.

- (4) Show that even though the effects of aging on the structural integrity of the structure or component can not be dismissed with respect to ensuring that the intended function(s) will be maintained, the system intended function that the structure or component supports has a low risk significance ranking. To establish this the applicant will need to develop the following information:

[a] Review the risk significance of the system and show that the system intended function that the structure or component supports was considered and that its contribution to risk is below an established risk significant threshold,

[b] Verify that the reliability assumptions used in establishing the risk significance have been adjusted, as necessary, for operating history and are appropriately considered in the monitoring criteria,

[c] Perform an assessment of the aging effects and operating history and show that the degradation of the passive structure or component is a progressive process over a significant time period,

[d] Review the attributes of the monitoring program and ensure that the program activities will detect the aging effects (such as leakage) that may affect performance or condition, and

[e] Show that the monitoring criteria will result in corrective action so that the system or structure intended function(s) will be maintained.

D. Evaluations of USIs and GSIs

The guidance in the regulatory guide and/or NEI guideline (Section 1.0) needs to recognize the generic evaluation of USIs and GSIs performed by NEI. The guidance should allow utilities to use the results of this evaluation to determine the USIs and GSIs that need to be specifically evaluated in their plant unique application.

E. Consideration of Design Loads in an Aging Management Review

During, and subsequent to, the Demonstration Program the NRC Staff has indicated that the documentation of the aging management reviews should include specific listings of the structure/component design loads and provide a correlation between the loads and the intended functions. The design loads of components were established as

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part of the original design process by considering the range of conditions for which the system must accomplish its functions. These conditions are typically called the "CLB design conditions." They identify the operating conditions (e.g., normal, emergency, or faulted) and associated acceptance criteria that were used in the design. The specified loads and load combinations were used in the qualification of the component designs. However, for the most part, the plant programs were established to verify and restore, if necessary, the capability of the components to support the "CLB design conditions" of the system. That is, design parameters such as wall thickness; process pressure, temperature, flow rate, and chemistry; area environment; evidence of degradation and/or degraded performance; etc., are identified and monitored. Verifying that these design parameters are within acceptable limits or ranges ensures that intended functions can be performed for all of the required CLB design conditions. If a parameter is not within acceptable limits, then the programs require corrective action. Root cause and other investigations are associated with the determination of the required corrective action. These investigations may involve analyses using the design loads to further quantify margins, predict failure probabilities, identify and evaluate alternative actions, etc. The investigations justified that either the current condition will not affect the capability of the structure or component to support intended functions during all of the required design conditions, or the structure or component is repaired, modified, etc.

In view of the above, the BWROG does not believe that correlating intended functions with design loads are meaningful or needed to perform an aging management review. The rule does not prescribe an approach for performing an aging management review, nor is it intended that these reviews be a reverification of the structure or component design basis, or that the review process needs to be the same for all structures and components. Examination of the design loads would be required if the aging management review relies on an analysis to demonstrate that the capability of the structure/component will be maintained during the extended operating period. However, the examination of the design loads is not necessary if the plant programs used in the aging management review contain acceptance criteria against which the need for corrective action will be evaluated, and will ensure that timely corrective action will be taken when these acceptance criteria are not met. The guidance in the NEI guideline (Section 4.0) needs to include these clarifications.

F. Level of Detail Required to Demonstrate that the Effects of Aging are Managed

The rule is silent regarding the level of documentation that must actually be contained in a submittal to satisfy the requirements of the rule. Guidance is provided in the NEI guideline. However, a result of the Demonstration Program visits is that the NRC Staff has generally concluded that the application of this guidance did not result in the level of detail the NRC believes is necessary to demonstrate that the requirements of the rule have been met.

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The BWROG believes the Staff is placing undue weight on the language of 10 CFR 54.21(a)(3) by requiring a specific "demonstration" that the effects of aging are adequately managed to ensure structure and component intended function during the period of extended operation. The BWROG also believes the Staff is placing undue emphasis on the language of 10 CFR 54.29 to require a showing of how specific "actions" adequately address aging effects. In particular, such a demonstration would have to provide reasonable assurance that an aging effect is being managed such that it *will not* lead to a loss of intended function. Demonstrating the negative -- that an effect *will not* lead to a loss of intended function -- can be a far more onerous task than the demonstration required by 10 CFR 54.21(a)(3).

As discussed on page 1 of these comments, the BWROG is concerned that the Staff has taken a position that an applicant must provide "proof" rather than "reasonable assurance" that the intended functions will be maintained. When the Staff combines "proof" with "will not lead to loss of intended function," the applicant is forced into making a demonstration that is not possible. The BWROG believes that it cannot be proven that the intended function of a system, structure, or component will never be lost during the renewal term.

The BWROG believes there are two principles that must be recognized by the NRC Staff before a reasoned approach to the level of detail/documentation required can be firmly established. First, the finding required to be made by the NRC under 10 CFR § 54.29 does not establish new criteria/standards that an applicant must meet in order to satisfy the rule. Thus, the BWROG believes the NRC is not required to seek additional information, beyond that necessary to demonstrate satisfaction of the requirements or the rule, principally under § 54.21, in order to make the finding under 10 CFR § 54.29.

Second, the amount of information required to support the application is governed by certain fundamental standards that allow the NRC, in making its findings, to rely not only upon information contained in the submittal but also information available for inspection and review at the plant. Thus, the BWROG believes the utility and NRC may rely on such information in reaching conclusions associated with the IPA and evaluation of the TLAs for systems, structures and components within the scope of the rule.

Each of these principles is further discussed in the following paragraphs.

NRC LICENSE RENEWAL FINDINGS: The existence of a specific finding section in the rule provides a mechanism whereby the NRC will formally conclude that the plant has satisfied the requirements of the rule. Satisfaction of those requirements will provide reasonable assurance that the aging effects will be managed so that the

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intended functions of the systems, structures, and components will be maintained consistent with the CLB in the extended operating period. No additional standards need be met. In particular, the existence of the findings provision does not create "new standards," separate and apart from the provisions of the rule itself. Accordingly, the BWROG believes the NRC may not use the findings provision to suggest that information in addition to that required by other elements of the rule must be provided.

NRC ADMINISTRATIVE RECORD: The BWROG understands that the NRC, as a federal administrative agency, is bound by certain legal constraints related to agency actions. Among those constraints is the requirement that its decisions be supported by substantial evidence. Further, a record of agency action must support the findings made in support of the decision. Not all information that the agency relies upon to make its findings need be contained in the application. The BWROG believes it may rely upon reasonable references to information that is typically docketed or other information that would typically be available for NRC review at the plant. The NRC may then review such information, and reflect its findings, either through an SER or inspection report.

The ultimate statutory standard that the NRC must satisfy is whether there is "substantial evidence" supporting the IPA or TLAA evaluation conclusions. This standard is the underlying standard by which a court must judge whether an agency decision may be sustained. Substantial evidence is a standard that affords an agency the discretion to reach a reasoned conclusion, even though other decisions may also be reasonable.

The BWROG believes there is an inherent standard of reasonableness that governs the NRC's expectations of formal documentation supporting an application. In other contexts, it may be possible to show that regulatory requirements for "lists", "demonstrations", or "identification" of particular information have been conducted in such a manner that all information need not be submitted with the application, but may be referenced and available for inspection by the agency, so long as the information (whether submitted directly or reflected in NRC inspections, or safety evaluations) supports the required findings. Thus the BWROG believes, where the information sought goes beyond what is necessary to satisfy 10 CFR § 54.21, utilities can assert to the NRC that such information is unnecessary or irrelevant.

PRACTICAL CONSIDERATIONS: The NRC also needs to maintain an understanding of the practical considerations that the BWROG believes is associated with the level of detail and documentation involved in a license renewal submittal. An area of particular significance is in the context of the NRC's consideration of existing programs that are mandated by existing NRC requirements or that have been the subject of NRC review and approval in the past and their current use for license renewal is consistent with the prior review. (Such programs may be referred to as

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"CLB programs" since they are generally part of the plant's current licensing basis.) The BWROG believes that reference to the program, its purposes, applicable regulatory requirements, prior NRC approvals and particular factors of significance to the license renewal issues arguably should be sufficient for NRC purposes in the context of license renewal. The full scope and content of such programs should not be open to review, and possible litigation, in license renewal proceedings. This is consistent with the First Principle of license renewal, which holds that the CLB is generally an adequate basis for renewal.

In addition, to the extent a CLB program is mandated by NRC regulation, the BWROG believes the regulation and program should generally be insulated from challenge under 10 CFR § 2.758. Programs that have not been reviewed and approved previously by the NRC, however, may fairly be viewed as warranting additional detail, while recognizing that the utilities may rely upon information and documentation that is available in other contexts for NRC review.

To address the current uncertainty with respect to the level of detail required to demonstrate that the requirements of the rule have been met, the BWROG believes that additional guidance is needed in the regulatory guide that incorporates the discussions and arguments provided above. In addition, it very important that the NEI Guideline include specific examples of aging management reviews that the NRC has found to be acceptable and technically adequate.



American Electric Power
Carolina Power & Light
Commonwealth Edison
Consolidated Edison
Duquesne Light
Duke Power
Georgia Power
Florida Power & Light

Houston Lighting & Power
New York Power Authority
Northeast Utilities
Northern States Power
Pacific Gas & Electric
Public Service Electric & Gas
Rochester Gas & Electric
South Carolina Electric & Gas

Southern Nuclear
Tennessee Valley Authority
TU Electric
Union Electric
Virginia Power
Wisconsin Electric Power
Wisconsin Public Service
Wolf Creek Nuclear

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OG-96-099

November 27, 1996

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

ATTN: Rules Review and Directives Branch

Comments on
Draft Regulatory Guide DG-1047 "Standard Format and Content for Applications to Renew
Nuclear Power Plant Operating Licenses"
(61 Federal Register 43792 dated August 26, 1996)

Dear Sir:

The Westinghouse Owners Group (WOG) Life Cycle Management/License Renewal Working Group has reviewed the draft Regulatory Guide DG-1047 "Standard Format and Content for Applications to Renew Nuclear Power Plant Operating Licenses," published in the Federal Register on August 26, 1996. In accordance with the request for comments, the WOG is pleased to provide the enclosed comments and is in agreement with the NEI comments which are to be provided to the NRC.

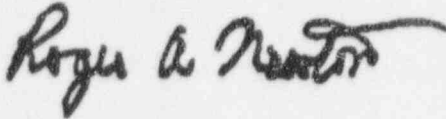
License renewal remains an important objective for the WOG and the nuclear power industry. The objective continues to be a stable, efficient, and predictable license renewal process. The development of NEI 95-10 has provided the starting point for the industry and the NRC to demonstrate the process for implementing the license renewal rule. The result of this effort is the draft Regulatory Guide DG-1047. The WOG commends the NRC for its aggressive development of the draft regulatory guide and for working with the industry and the public in the license renewal demonstration program.

As observed during the demonstration program, implementation of the license renewal rule is complex and can vary depending on how one interprets the regulation and NEI 95-10 guidance. However, WOG believes recent exchanges between the NRC and participants in the NEI 95-10 demonstration program have raised concerns that the NRC and the industry have differing views on

the implementation requirements of many important aspects of the license renewal rule. Much of this difference is created by the evolving philosophy of the NRC on implementing Part 54 and the NRC perceived level of detail needed to address the requirements of Part 54. Thus, the WOG is enclosing additional comments which expand on the areas of concern expressed in the NEI letter.

If you have any questions regarding the enclosed comments, please contact either Tom Green, WOG Chairman, Georgia Power Company at (205) 992-7103, or myself at the Wisconsin Electric Power Company at (414) 221-2002.

Very truly yours,



R.A. Newton, Chairman
Regulatory Response Group / Issues Review Group
Westinghouse Owners Group

Enclosure

cc: Primary Representatives (1L, 1A)
Steering Committee (1L, 1A)
LCM/LR Working Group (1L, 1A)
A.P. Drake (1L, 1A)
T.A. Meyer (1L, 1A)

Comments on the Draft Regulatory Guide DG-1047

"Standard Format and Content for Applications to Renew Nuclear Power Plant Operating Licenses"

The Westinghouse Owners Group (WOG) is pleased to submit the following comments on the Draft Regulatory Guide DG 1047 and the Nuclear Energy Institute NEI 95-10 Revision 0, *Industry Guideline for Implementing the Requirements of 10 CFR Part 54- The License Renewal Rule*, which is being endorsed by DG-1047.

This enclosure recommends changes to selected sections of NEI 95-10. As an administrative matter, the WOG recognizes that these comments, if accepted, can be incorporated into NEI 95-10 or within the regulatory guide, as appropriate.

Draft Regulatory Guide DG-1047 Comments.

Section 2 endorses NEI 95-10, Revision 0, but with the following qualifier:

"The examples should not be considered sufficient for demonstrating that the effects of aging for the components discussed will be adequately managed for the period of extended operation."

Either the Regulatory Guide should provide examples that the NRC deems adequate for demonstrating that the program is managing aging effects or NEI 95-10 should be revised to include acceptable examples. In either case, the examples should be agreed upon by both the NRC and the industry.

Section 3.1 on "Matters Not Subject to a Renewal Review" states:

"Conversely, 10 CFR 54.30 does not support the position that, because aging is a continuous process, aging management being performed on structures and components within the scope of license renewal during the current term is acceptable for the period of extended operation. The demonstrations required by the license renewal rule must still be provided for these aging management programs."

The WOG agrees that the demonstration must be made for programs that manage aging during the period of extended operation. However, this wording implies that programs in the current term are presumed inadequate until proven to be otherwise. The sentences should be revised as follows:

"Section 54.30 does support the position that, because aging is a continuous process, aging management being performed on structures and components within the scope of license renewal during the current term should be acceptable for the period of extended operation. However, the demonstration required by the license renewal rule must still be provided for these aging management programs. The rigor of the demonstration may vary depending on such factors as whether the program is a new or existing program and if it is an existing program, whether or not it is included in the CLB. Risk significance and other factors may also influence the rigor required for the demonstration"

Nuclear Energy Institute NEI 95-10, Revision 0, Comments

Section 2.0 "Overview of Part 54" requires clarification.

Based on WOG members participation in the NEI License Renewal Working Group, the License Renewal Demonstration Program (LRDP), and our involvement with other license renewal industry efforts, it appears that the NRC staff has imposed a "new standard" in the implementation of NEI 95-10. This different standard, presumably, relates to some change in the "burden of proof" imposed on the licensee in order to provide reasonable assurance as specified in 10 CFR 54.29.

The staff has, on several occasions during the LRDP and during meetings that discussed license renewal (LR), stated that there is a standard of reasonable assurance for the renewal term that is different from the standard in the current term. If there is a "new standard", then it needs to be clearly defined in Section 2.0 of NEI 95-10. Such a "new standard" is an important foundation upon which the rest of NEI 95-10 should be based, otherwise it will be difficult to demonstrate compliance with Part 54. However, the WOG does not believe that there is a "new standard" for the renewal term. The WOG recognizes that with any new regulation it brings new requirements. The issue is whether the new requirements constitute a "new standard" that would imply that some programs considered acceptable in the current term to manage a specific aging effect are not considered acceptable in the renewal term to manage that same aging effect. The WOG does not believe that the regulatory basis for the acceptance of programs should be any different in the renewal term than it is in the current term. If a program designed to specifically manage certain aging effects is found to be acceptable in the current term, the program should also be considered acceptable for managing the same aging effect in the renewal term. As an example, containments with post construction tensioned tendons have tendon surveillance programs. This is an existing program that manages the effects of aging during the current term that should also be acceptable for managing the effects of aging during the period of extended operation.

Consequently, the WOG proposes that the language of Section 2.0 be revised to clearly state, based on the appropriate sections of the SOC, that the license renewal process does not involve a "new standard" for providing the reasonable assurance required in 10 CFR 54.29.

The following comments expand on, and provide background for the above proposal:

In the current term, a licensee may develop many programs to manage aging effects using a qualitative approach. These programs could include performance monitoring programs which monitor for overall functionality. However, for renewal programs, the NRC staff has said that they require "proof" using quantifiable data which establishes "objective evidence" that programs manage aging consistent with the CLB. This requirement for "proof" tends to ignore the NRC regulatory oversight process that continues into the renewal term, as sanctioned by the SOC at 60 FR 22475.

In developing the original rule, the NRC determined, in NUREG-1412, that the Commission's "regulatory oversight programs ensure that the licensing basis is modified as appropriate to reflect significant new information on technical topics, including the effects of age-related degradation affecting the design or operation of the licensed plant so that the licensing basis continue to provide an acceptable level of safety." Thus, new programs are currently being incorporated into the licensing basis, when appropriate, which reflect the result of NRC's regulatory oversight process. For the renewal term, the "Commission has concluded that existing programs and regulatory requirements that continue to be applicable in the period of extended operation and provide adequate aging management for systems, structures, and components should be credited for license renewal. Accordingly, the amendment to the license renewal rule focuses the renewal review on plant systems, structures, and components for which current activities and requirements may not be sufficient to manage the effects of aging in the period of extended operation" (60 FR 22469). The SOC continues to develop a discussion regarding the implementation of the maintenance rule and the adequacy of the regulatory process to manage aging effects, with a conclusion for active components, at 60 FR 22471, that "...the Commission believes that with the additional experience it has gained with age-related degradation reviews and with the implementation of the maintenance rule, there is a sufficient basis for concluding that current licensee programs and activities, along with the regulatory process, will be adequate to manage the effects of aging on the active functions of all systems, structures, and components within the scope of license renewal during the period of extended operation so that the CLB will be maintained." The SOC continues, at 60 FR 22474, to develop the focus of the rule on maintaining the function of systems, structures, and components, with discussion of two key issues considered by the Commission in developing the final rule:

1. "...whether or not a focus on ensuring a system's structure's, or component's function through performance or condition monitoring is a sufficient basis for

concluding that the CLB will be maintained throughout the period of extended operation," and

2. "...whether the regulatory process and a focus on functionality during the license renewal review for the period of extended operation are sufficient to provide reasonable assurance that an acceptable level of safety (i.e., the CLB) will be maintained."

The ensuing discussion then ended at 60 FR 22475, with "...the Commission concludes that a specific focus on functionality is appropriate for performing the license renewal review. Reasonable assurance that the function of important systems, structures, and components will be maintained throughout the renewal period, combined with the rule's stipulation that all aspects of a plant's CLB (e.g., technical specifications) and the NRC's regulatory process carry forward into the renewal period, are viewed as sufficient to conclude that the CLB (which represents an acceptable level of safety) will be maintained."

The WOG believes the continuing themes throughout the SOC discussions of focus on functionality and continuation of the NRC's regulatory process emphasize the Commission's intent that the same standard for determining reasonable assurance that exists in the current term continues into the renewal term. It follows then that aging management programs which are specifically designed to manage aging effects and provide reasonable assurance of safety in the current term should continue to provide a reasonable assurance of safety in the renewal term. Thus, as stated above, the WOG proposes that section 2.0 of NEI 95-10 be revised to explicitly state the intent of the rule, as concluded at 60 FR22475 (see above).

Section 3.3 "Documenting the Scoping Process" should be revised to provide flexibility on the QA Program used to document the scoping. The following sentence should be changed from:

"The applicant should use the quality assurance program in effect at the plant when documenting the results of the scoping process."

to:

"A 10 CFR 50 Appendix B approved quality assurance program should be used to document the results of the scoping process."

Within the structure of a nuclear utility, there may be several QA programs. Plant and corporate may have separate QA programs and contractors may have separate QA programs. License renewal activities may be conducted within any approved QA program.

Section 4.1 "Identification of Structures and Components Subject to an Aging Management Review and Intended Functions" should be revised to clarify the types of

equipment lists which are required to be developed and maintained by the applicant. Specifically, the guideline should expand on the definition and intended use of commodity groupings in fulfilling the intent of the Rule.

Add the following sentences at the end of Section 4.1:

"Commodity groupings may consist of items such as cable, terminations, cable tray supports, pipe supports, etc., which are of the same type of construction and are subject to the same types of environmental stress and aging effects in the plant. A commodity group may be considered one element in the list of structures and components subject to an aging management review."

This principle is employed in other areas such as environmental qualification, where cables are grouped according to manufacturer and model, and qualification is established for all plant cables in the group which are subject to similar environments. The SOC at 60 FR 22466, endorses this concept of commodity groupings, which states that:

"Licensees may rely upon their listing of 10 CFR 50.49 equipment, as required by 10 CFR 50.49(d), for the purposes satisfying 10 CFR 54.4 with respect to equipment within the scope of 10 CFR 50.49."

Section 4.2.1.3 "Demonstration That the Effects of Aging Are Managed" should be revised to clarify the recommended elements for an appropriate review checklist.

The following element should be revised from:

"The aging effect(s) are detected by one or more of the credited programs before there is a loss of the structure's or component's intended function."

to:

"The aging effect(s) of structures or components are detected by one or more of the credited programs before there is a degradation in the capability to fulfill its intended function such that the system's intended function is maintained."

The SOC's are clear that the evaluations which assure intended functions are maintained must not rely on aspects of redundancy. However, even without taking credit for redundancy, an evaluation can demonstrate, in many instances, that the system or structure's intended functions are maintained even when an individual component(s) is experiencing degradation. This is contemplated in Section 3.2 of the guideline by the component intended function being derived from the system intended function. The current wording of the NEI Guideline does not sufficiently credit the concept that a structure or component's intended function is a function that supports the system intended function.

Section 4.2.3 should be revised to provide guidance for what constitutes an appropriate demonstration for performance monitoring.

The amended license renewal rule requires, for each structure and component identified in Section 54.21(a)(1), a demonstration that the effects of aging will be adequately managed so that the intended function(s) will be maintained consistent with the CLB for the period of extended operation. One of the primary methods used today to assure continued compliance with the requirements of the CLB is performance monitoring. The industry uses performance and condition monitoring programs extensively, usually as prescribed by regulatory requirements, codes, and standards, and believes that these programs fulfill the requirements of the aging management reviews so that the CLB is maintained as outlined in 10 CFR 54.21. The NRC makes this determination in the SOC (pages 60 FR 22474 to 22475). Section 4.2.3 of NEI 95-10 Rev. 0, incorporates this philosophy and describes the process for using performance and condition monitoring in the aging management review. In addition, the guideline also provides some criteria for determining when it is appropriate to credit these programs for managing aging effects.

Despite the above philosophy, the WOG has observed that the NRC staff, when interpreting the requirements of the license renewal rule and the NEI guideline during the NEI 95-10 Demonstration Program, has taken the position that performance and condition monitoring programs are generally not acceptable for use in an aging management review as an acceptable program that manages the effects of aging during the renewal term. The NRC staff is apparently unwilling to accept that condition and performance monitoring programs provide a level of reasonable assurance that structures and components will operate as designed during design basis events, e.g., seismic events, even though these same programs provide the fundamental basis today for that "reasonable assurance" and in many cases their scope and content are specified by regulatory codes and requirements.

Section 4.2.3 of NEI 95-10, Rev. 0, identifies that a demonstration is required without describing the requirements for making this demonstration. The WOG believes that the demonstration should be made consistent with the discussions in the SOC, i.e., if the performance monitoring program readily reveals the degradation, then reasonable assurance is established that the CLB (pages 60 FR 22474 to 22475) is maintained such that a focus on design parameters (e.g. pipe wall thickness, design loadings, etc.) is unnecessary. Thus, the focus on functionality allows an applicant to deal with qualitative data and apply engineering judgment to address maintenance of the CLB in the renewal term just as in the current term. NEI 95-10 should provide these specifications of an appropriate demonstration for performance monitoring.