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SUBJECT: Forwards comments on Vol 4 of Regulatory Review Group
 Rept re change in regulatory process.

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July 28, 1993

Mr. Frank P. Gillespie
Regulatory Review Group
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. Gillespie:

Comments on the Regulatory Review Group Report

On May 28, 1993, the NRC made the subject report available for public comment. Wisconsin Public Service Corporation (WPSC) appreciates the opportunity to review this report and has provided specific comments to Volume 4 of the report in the attachment to this letter. Overall the subject report serves as an excellent voice for change in the current regulatory process. Wisconsin Public Service Corporation firmly supports the conclusions made by the Regulatory Review Group.

If you have any questions, we would be glad to discuss our comments with you or a member of your staff at your convenience.

Sincerely,

Charles A. Schrock
Manager - Nuclear Engineering

PMF/cjt

Attach.

cc - US NRC Senior Resident Inspector
US NRC Region III
US NRC Document Control Desk

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ATTACHMENT 1

Wisconsin Public Service Corporation

Comments on Volume 4 of the

Regulatory Review Group Report

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Attachment 1, Page 1

I. Overall Comment:

Overall this document serves as an excellent voice for change in the current regulatory process. Wisconsin Public Service Corporation (WPSC) firmly supports the conclusions made by the Regulatory Review Group (RRG). Currently probabilistic risk assessment (PRA) insights are used only to add requirements in the nuclear industry; however, as the RRG states often in their report, PRA-based insights also need to be used to reduce regulatory burden when it is shown that such a reduction does not reduce the safety envelope of the plant. In fact, graded type approaches to issues such as that outlined for Quality Assurance (QA) by the RRG can actually improve the overall safety of nuclear plants by allowing utilities and NRC to focus their resources on equipment, systems, programs, etc. that truly impact the health and safety of the public.

The RRG discusses the flexibility that presently exists within the regulatory environment to improve plant safety while reducing undue regulatory burden. The flexibility referred to by the RRG may exist in a few select groups whom report to high levels at the NRC, but it does not exist at the working level in the NRC staff. The RRG recognizes this as evidenced by the candor expressed in this document and the public meetings that they have held over the past several months. One example of the absence of flexibility on the part of the NRC staff took place in a meeting between the Cooperative Efforts Group (a group of 4 utilities who share resources when possible in dealing with issues that are of mutual concern) and the NRC staff on June 7, 1993.

The Cooperative Efforts Group presented a graded approach for the testing of motor operated valves (MOV) in response to Generic Letter 89-10. The intent of the graded approach for MOV testing was developed to more effectively use resources to protect the health and safety of the public. The approach developed by the Cooperative Efforts Group combined deterministic and probabilistic analyses along with testing results and maintenance histories for each valve currently being tested in the respective utility's MOV programs to determine the appropriate level of testing for each valve. Although NRC personnel applauded the efforts made by the Cooperative Efforts Group, they were unwilling to allow for flexibility in responding to this regulatory requirement.

This example is provided to make an important point which is that an endorsement by the Commissioners and/or senior NRC staff for developing or allowing flexibility in regulations does not mean that this flexibility will ever make its way into the manner utilities are regulated. This is because when specific programs, rules, etc. are debated, the staff members responsible for each area will argue that their areas are safety-related and that we cannot "compromise" safety. The point that we must all try to remember is that there are different degrees of safety-related which must be taken into account when issues are regulated. The concept of something being safety-related or not safety-related ignores this continuum of safety and greatly impairs the staff's flexibility. The program outlined by the RRG in applying a graded approach to QA recognizes this fact and it is for that reason that we are optimistic that change is possible.

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The RRG report references the conclusions made in a 1989 Nuclear Energy Agency report. In summary the four conclusions are:

- The application of PRA provides plant management with a tool that generates insights not readily available from the traditional deterministic safety and licensing analyses.
- The existence of a PRA capability within a plant operator's organization provides for a logical framework of regulatory discussion and negotiation to be created.
- The benefits derived by plant operators are generally greatest when there is a full commitment to development and maintenance of an internal PRA capability, with minimal dependence on outside experts except for an initial technology transfer.
- The application of PRA to an existing plant has always resulted in the identification of effective ways of achieving plant safety, and has thus contributed to the overall effectiveness of plant operation.

The final conclusion made in the Nuclear Energy Agency report was that the implementation of PRA as an aid to plant safety management is directly beneficial to those implementing it in support of their plant designs or operations and to all those concerned with ensuring nuclear plant safety. We reiterate these conclusions because of our full agreement with them and to applaud the RRG for recognizing the insightfulness of these conclusions and the effort that they put forward in developing Volume 4 of this report. WPSC encourages an aggressive effort by the NRC and utilities in the recognition and implementation of these conclusions at all levels of their organization.

II. Specific Comments:

- A. WPSC feels that the category termed Group 3 in the report is one which is probably not worth directing any NRC resources into at the current time. As the RRG stated, the current state of PRA technology does not support on-line configuration control through the use of a "risk meter." We are aware that some domestic and foreign utilities are pursuing this type of tool; however, we would not feel comfortable basing operational decisions primarily on plant risk (core damage or containment failure) alone. There are too many other factors that need to be considered when making operational decisions. Instead PRA should be used as one of the factors in decision making, sometimes the driving factor. We feel that the current state of PRA technology supports this philosophy, as does the RRG.
- B. The RRG provides generic human reliability analysis (HRA) data for use in generic PRA applications. The purpose of supplying the generic data is to preclude the possibility of using inadequate HRA data which could erroneously

mask important sequences. We agree that HRA has a dramatic effect, and that careful attention needs to be given to it's effective use. We would recommend that the RRG consider modifying their recommended screening values to be more in line with what is typically calculated using current HRA methods. Namely, we would recommend a value of at least 1E-2 be used for pre-initiator human events, a value of at least 1E-2 be used for response type post-initiator human events, and a value of 0.1 be used for recovery type post-initiator human events. We believe that the bottom threshold value of 1E-3 for all post-initiator human events per accident sequence is appropriate. Typical post-initiator human event probabilities range from 0.1 to 1E-4; therefore, the use of 1E-2 for response type actions and 0.1 for recovery type actions seem appropriate. [Pages 4-32, 4-40]

- C. The RRG discusses how frequently PRA models need to be updated based on the type of applications the PRA is being used for. We feel that some combination of the outage driven and PRA driven update categories described is appropriate; however, clarification should be added on the extent of updating that is necessary. Items such as plant modifications, emergency operating procedure changes, Technical Specification changes, maintenance frequency changes, etc. need be incorporated per the outage driven or PRA driven categories depending on the application. However, the maintenance history database should not need updating on as frequent of basis. The primary reason for this is that component failure rates are typically not going to change significantly on a per year basis; therefore, the considerable personnel resource expenditure for updating equipment failure rates should be performed less frequently, for example every three years. [Page 4-30]
- D. When discussing the plant data analysis, a somewhat misleading statement is made that should be modified. The RRG document states that if adequate plant documentation exists, then plant-specific failure rates, etc. are computed; however, if inadequate plant documentation exists, "generic" data must be used. Typically, generic data is used because the plant being analyzed has not experienced a particular event or the specific piece of equipment in question has yet to experience a failure that rendered it inoperable. In these cases it is much more appropriate to use "generic" data, than to use an initiating event frequency of zero or a failure probability of zero. Therefore, using the terminology of inadequate plant documentation in the report is misleading. [Page 4-16]
- E. For the case of generic grouping the RRG initially recommends grouping plants in 5 categories of designs. The category that we are most familiar with is Westinghouse PWRs. This is a broad category, and it may be more appropriate to break the category down into plant size and/or vintage. One such category could be two loop Westinghouse PWRs. The four plants (6 units) that fall into this category are of very similar design allowing for easy comparisons for both the utilities and the NRC. From our perspective, a smaller category such as this would make projects/comparisons more manageable and easier to perform. This

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would increase the likelihood of utilities or small groups of utilities performing analyses, submitting regulatory burden requests, etc. without the need for contractor support. [Page 4-25]

- F. When discussing initiating event analysis, the RRG document states that typically initiating events are modeled by a single event. This is true for many events, but there is a category of initiating events that is typically modeled differently. Namely, support system failure initiating events such as loss of service water, instrument air, etc. are modeled as fault trees, not as point values. [Page 4-13]
- G. While making a point that certain deterministically important equipment is determined to be probabilistically unimportant, the RRG report uses the reactor pressure vessel as an example. We feel that this example may be inappropriate, at least for the Kewaunee PRA and certain others that we have reviewed. Failure of the reactor pressure vessel is modeled as an initiating event that leads directly to core damage and is not truncated from the final results. [Page 4-27]
- H. When discussing the advances of PRA technology, the RRG report states that much, if not all, of the analysis of internal events can be performed on personal computers. The analysis of external events could be added to that sentence. [Page 4-6]