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Mr. Samuel J. Chilk
Secretary of the Commission
U. S. Nuclear Regulatory Commission
Washington, DC 20555

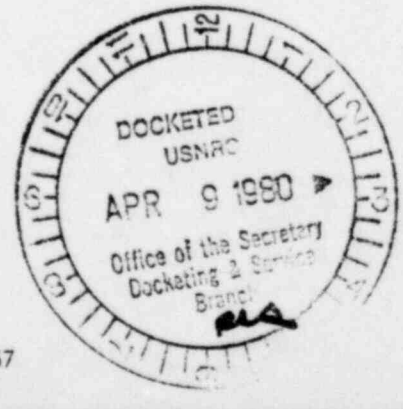
Attention: Docketing and Service Branch

Dear Sir:

The advance notice of proposed rulemaking published in the January 30, 1980 Federal Register invited comments regarding operational data gathering. The specific proposal is that NRC regulations be amended to require that participation in the Nuclear Power Reliability Data System (NPRDS) be made mandatory for power reactor licensees. This letter transmits Babcock & Wilcox comments on the proposed rulemaking.

The basic question seems to be, would the industry like to obtain significant failure experience data at the expense of NRC-enforced reporting requirements? At present the wide disparity of inputs gives uneven value to the data. The number of component engineering reports per plant ranges from 6 to 6763, with an average of 2960. The number of failures reported ranges from 0 to 156 per reactor year, with an average of 22. This would seem to indicate inconsistent reporting in a voluntary system rather than actual differences in plant experience.

By required failure reports and approval of the system and component lists to be entered into NPRDS, the NRC could force the NPRDS input data to be consistent and uniform, thus making the output statistically more meaningful. However we feel that the industry can achieve the same consistency on a voluntary basis. The participation has been improving consistently over the six year life of NPRDS, and the new NSAC and INPO organizations can coordinate utility efforts toward consistency. The initial efforts of some participants may have been tentative trials, and with more time they can reach a standard level of about 3000 component reports. B&W suggests that action on the proposed rule be postponed for about 18 months. In late 1981, the degree and consistency of participation can then be reassessed to see whether a mandatory participation rule is necessary.



Acknowledged by card 4-9-80

The NPRDS system is a reliability-oriented data collection and reporting system for selected components and systems related to nuclear safety. The data is intended to support the analyst performing system and component evaluations. Failure statistics can be used to improve protection system reliability, increase plant availability, optimize surveillance and test schedules, provide manufacturers with field performance data, identify failure trends and wearout patterns, and aid in maintenance management, parts inventory control, and purchasing evaluations.

B&W now uses equipment outage data to assess component performance and availability. We would like to have valid failure data available to improve the quality of accident analysis assumptions - for example, are some failure modes occurring which have been thought to be improbable; do multiple failures occur with an unacceptable frequency; are assumptions concerning equipment reliability appropriate? We are also developing realistic accident analyses to generate data for reactor operators, evaluate actual plant events, and expand certain areas of current accident analysis. Reliability data can influence realistic accident analysis by permitting: identification of the most probable equipment failures and the most likely event trees the reactor operator will encounter; determination whether events could reasonably be worsened by equipment failures of moderate probability; identification of failure trends for preventative measures, and assurance that more probable realistic accidents are analyzed.

Babcock & Wilcox feels that participation in NPRDS is necessary in order to make significant failure experience data available, but it need not be mandated by an NRC rule. Our comments in response to the list of 21 specific questions are included as Attachment A.

Very truly yours

J. Wayne for

J. H. Taylor
Manager, Licensing

JHT/fw
cc: R. B. Borsum - B&W Bethesda Office

Attachment A

1. How should NPRDS effort be apportioned between improving plant availability and improving plant safety? Where should the emphasis be?

   The NPRDS system was designed to collect reliability data on safety related components and systems. It should remain as solely a data source. These facts may be used for many purposes, including improvements to plant safety and plant availability.

2. How should NPRDS data be used by industry, the public and the NRC to achieve this empahsis? What other uses, if any, should be made of NPRDS data?

   The NPRDS data is only one input to the process of analysis and design which could improve plant safety and availability. The choice of tools and techniques should be left to the individual designers.

3. How should NPRDS data be gathered and analyzed to facilitate recommended uses?

   The existing NPRDS data collection system is adequate and should not be changed. The only fault is with inconsistent input to the system by operating plants, and this can be corrected without a mandatory participation rule. The analysis of the data should be left to the individual users, but NSAC, INPO, and the NRC-AEOD office are expected to provide assistance.

4. Who should alert appropriate persons concerning problems uncovered from analysis of NPRDS data? Who should initiate design, maintenance, or operating improvements?

   Analysis of NPRDS data may reveal symptoms of problems which require investigation or analysis. Advice regarding such problems can be disseminated by the analyzing organization, using the NSAC SEEIN network or 10 CFR 21 requirements as appropriate.

5. What systematic analysis is conducted currently by licensees and the public? To what extent and for what purpose should each licensee, the NRC and the public analyze data?

   It should be unnecessary for each licensee to independently review operating experience at all plants. Utility sponsored organizations such as NSAC and INPO can screen available data and advise each licensee of significant events and remedies which may be applicable. NSSS suppliers will also inform licensees of generic problems.

6. If NPRDS reporting is made mandatory, what form of NPRDS management (i.e., industry, NRC or joint industry/NRC) will best lead to fully responsive reporting and to meaningful analysis?

7. To what extent, if any, should the NRC manage NPRDS reporting and data analysis?

   6&7. If NPRDS reporting becomes mandatory the current management of NPRDS by industry, with NRC participation, would still be adequate. Management of the system does not require analysis of the data - only the accumulation of proper data on a consistent basis for subsequent analysis by others.

8. If NPRDS reporting is made mandatory, how should the NRC inspect and enforce mandatory licensee participation? Should licensees be subject to enforcement penalties for noncompliance with NPRDS requirements?

   NRC approval of each licensee's scope list prior to filing NPRDS Reports of Engineering Data would assure consistent participation, although the utilities could achieve this on a voluntary basis. NRC residents at each site can verify adequate and consistent Reports of Failure during their normal monitoring of maintenance records. The risk of audit findings is sufficient incentive for compliance, and there is no need to establish specific enforcement penalties.

9. What improvements should be made to the NPRDS Manual or other guiding vehicle to enhance uniformity of reportable scope, completeness and accuracy of reporting, and usability of the data?

   To obtain uniformity, the NPRDS mananul should be revised to better define the reportable scope for the utilities. Typical lists of aystems and components for each PWR and PWR system is one possible approach.

Attachment A

10. Any data-gathering system needs feedback to maintain and upgrade system capability in the face of changing events, methodological advances, and other factors. Feedback is particularly necessary to modify data-gathering activity upon which the whole analytical system rests. What feedback features, if any, should be addressed by rulemaking.

    Feedback to the ANSI committee by the users will follow as the system is used. There is no need for rulemaking regarding feedback.

11. Should the NPRDS and LER systems be restructured to avoid overlapping data-gathering requirements or should present system formats be retained?

12. In the event you recommend eliminating duplication between LER and NPRDS reporting, how would you restructure each systems's reporting requirements? Comment specifically on the idea expressed in summary paragraph 8. of limiting LER reporting to items of major safety significance. Should such restructuring be done simultaneously with making NPRDS reporting mandatory or should ongoing NPRDS and LER upgrading efforts continue separately?

    11&12 - There are overlapping reporting requirements in the current NPRDS and LER systems, and the LER requirements pertaining to single component failures should be eliminated (reference Reg. Guide 1.16 Section C.2.a.5). A common form for LER and NPRDS report of failure could be devised to be compatible with both systems and it would minimize duplication of reporting.

13. Do you agree with the summary paragraph 2 estimate of a minimum of 3500 components as an appropriate scope? Assuming a reportable scope of 3500 components, how many NPRDS failure reports should be expected per month per operating plant?

    Among current NPRDS participants, the component reports average 2960 per plant and the failure reports average 22 per plant per year. An arbitrary minimum of 3500 components should not be necessary, but approximately 3000 components should adequately cover most plants. There should be no quota established for failure reports, but they may be expected to average two per month at each plant.

14. Should the scope of systems and components presently summarized by the NPRDS Manual be expanded or contracted and, if so, in what areas?

    No comment.

Attachment A

15. Do the costs of preparing and submitting failure reports differ between the LER and NPRDS systems? What do you estimate these costs to be?

No comment.

16. Are the per-plant figures of $75,000 to $200,000 for one-time development of NPRDS engineering data and $50,000 for annual NPRDS reporting considered valid or are these figures understated or overstated?

No comment.

17. What alternatives to mandatory reporting would provide the data necessary for complete and accurate reliability analyses and at what level of assurance?

There is no substitute for industry-wide participation in a consolidated reliability data base. NPRDS is presently the best hope for such a standard and industry should be eager to participate. An eighteen month postponement of the proposed rule would allow the utilities time to achieve consistent participation, with the aid of NSAC and INPO.

18. Do the benefits to the utility and the public of improved availability and increased reactor safety warrant the cost of NPRDS or is there a less costly way to realize equivalent benefits in regulatory action?

The potential for increased availability and safety more than justifies the cost of NPRDS participation. Based upon the item 16 figure of $200,000 development cost and $50,000 per year for reporting, the cost of NPRDS participation is justified if the program prevents only a few hours of shutdown each year.

19. How should the NPRDS be funded? Should industry fund fully or should the NRC contribute funds to support the industry system?

The NPRDS funding should continue in the same manner as at present.

20. Should the six early-design plants, excluded when the NPRDS commenced, continue to be excluded or should all plants be required to participate?

The six early plants should yield valuable information regarding mid and end-of-life performance of components. If they are so unique that they would bias the data from other plants, perhaps they could be combined in a separate mini-data base.

21. Certain operator errors must now be reported within the scope of the LER system. Furthermore, NPRDS reports sometimes include corresponding human error information. To what extent, if any, should an improved NPRDS collect man-machine interface data and perform reliability analyses which consider human factors.

NPRDS is designed to collect failure data on equipment, and some failures may be attributed to human errors in operation or maintenance. Human errors which do not result in equipment failures should not be entered into the NPRDS data base.