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March 27, 1980

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

Attention: Docketing and Service Branch

Subject: Advanced Notice of Rulemaking -
Domestic Licensing of Production
and Utilization Facilities; Opera-
tional Data Gathering

Dear Sir:

The subject notice was published in the
Federal Register on January 30, 1980, 45 Fed. Reg.
6793.

Attached are comments which we feel should
be considered if rulemaking is initiated. The Authority
appreciates your consideration in this matter.

Very truly yours,

Charles M. Pratt
Assistant General Counsel
Power Authority of the State of New York

Atts.

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COMMENTS OF THE POWER AUTHORITY OF THE STATE OF NEW YORK ON
THE NUCLEAR PLANT RELIABILITY DATA SYSTEM

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

The present voluntary NPRDS incorporates only safety related systems and components. This primary emphasis on plant safety should be maintained and its scope at present should not be expanded to non-safety related systems and components.

Since a considerable data base already exists with respect to safety related systems and components, the principal costs in preparing the proposed NPRDS data base relates to non-safety related systems. Prior to initiating a mandatory system incorporating both safety and non-safety related systems and components, the impact of the existing scope [i.e. safety related systems and components only] of the NPRDS should be evaluated. It is suggested that with the present narrower scope the full impact of the program on plant safety can be evaluated. In addition an evaluation of the effects of the proposed NPRDS on safety related systems and components availability can be performed within a workable data base. This evaluation could then be used to determine if the NPRDS does have an impact on plant availability sufficient to warrant inclusion of non-safety related systems and components. Any revisions necessary to improve its function in this regard could also be determined.

The Authority feels that this approach will provide for an orderly evaluation of the NPRDS and optimize the safety and economic benefits of the program.

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

As indicated in the response to item 1, the Authority envisions a two-step approach to the NPRDS. It is clear that under the first step the already existing data base on safety related systems would immediately enable the industry to identify failure trends and thereby improve reliability and inventory management. It would also be immediately available to the Nuclear Regulatory Commission ("NRC") to identify possible future safety problems and thereby better direct their efforts.

In addition, under the Authority's proposal, the use of data under step one could be evaluated to determine the benefits to be derived by instituting step 2 [i. e. incorporating non-safety related systems and components]. Moreover, this evaluation could determine the most efficient and useful format for inclusion of this entirely new data base into the program.

With respect to the use of the NPRDS data to the public, its role may be secondary. However, it will be useful in informing the public of the efforts by the industry and the NRC in providing for plant safety.

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

While the present system of data gathering at the power plant level should be retained, it is not possible to fully comment on the question presented. Prior to any proposed rulemaking, workshops composed of NRC Staff and industry technical level representatives familiar with the present NPRDS should be held. The workshops should be geared toward a technical evaluation of the system and an agenda should be established to insure that NRC Staff and participants are prepared to discuss relevant concerns and problem solutions. These workshops could then ascertain the strong and weak areas of the present NPRDS and tailor any proposed changes in the NPRDS to incorporate or avoid such areas.

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

Plant specific safety related system and component failures are currently reported to the NRC via Licensee Event Reports ("LER") and 10 CFR Part 21 notification. The results of analysis of these failures are monitored by the NRC and in such cases NRC notification of possible defects is appropriate. Where problems are not reportable under existing regulations are uncovered during a general analysis by licensees or industrial organizations, the analysis should be referred to broad-based industrial groups to establish the extent of the problem on a generic basis.

Initiation of design, maintenance or operating improvements can be accomplished in several ways. Where significant safety factors are involved the licensee and NRC should coordinate plant specific improvements while the NRC, utility organizations and the public could investigate generic solutions. With regard to reliability and non-safety related areas, the individual licensees and utility organizations should ascertain the best course of action on a plant specific and generic basis respectively. In addition, the safety and non-safety related concerns uncovered from analysis of NPRDS data can be used as one input into any necessary revisions to technical standards and codes.

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?

These questions imply some type of mandatory analysis of data is being considered. The Authority views this approach to be counter-productive to the aims of the program. The ability of NRC licensee and the public to ascertain their particular needs and requirements at any given time would be severely restricted by predetermined and inflexible analysis requirements. Ultimately, NRC, licensee and public resources necessary to meet urgent problems will be squandered on unnecessary analyses.

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?

Joint industry/NRC management as is presently the case would optimize the benefits to be obtained from this program. Such an approach allows the organizations [i.e. industry] responsible for meeting much of the reporting requirements and performing much of the analyses to have input in directing the program to critical areas and in streamlining the reporting requirements based upon their experience. Moreover, the NRC, as joint manager, can evaluate the performance of the program and with industry revise it on an ongoing basis to efficiently meet existing concerns.

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

The NRC should only manage NPRDS reporting in the context of existing regulatory requirements. That is, if it is the intent to offer licensees an alternative to present reporting requirements [e.g. LERs] the NRC would have primary responsibility for specifying the nature of reporting such information. Hopefully, reporting of such information would be consistent with overall NPRDS reporting. In all other areas the NRC should be accorded the participatory status it presently has to avoid regulatory rigidity within the program.

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 non-compliance with NPRDS requirements?

An adequate framework for inspection exists in the present NPRDS. Through evaluation of NPRDS contractor reports, the NRC can determine the status of licensee participation. Individual inspections of licensee participation would not only be a useless drain on licensee and NRC money and manpower but would also be considerably less reliable than analyzing the overview presented by the system contractor, presently Southwest Research, Inc. If problems are evidenced by this review of the contractor's reports the NRC could then schedule individual licensee inspections as part of its routine inspection process.

Adequate penalties already exist under the regulations for actions violative of the safety considerations inherent in the Atomic Energy Act and NRC regulations. Where existing reporting requirements are incorporated into the NPRDS, penalties applicable to such requirements already exist. Penalties should not be imposed for non-reporting of conditions not currently required to be reported under existing law or regulations. At a minimum, before penalties are considered, the performance of the participants and the actual benefits accrued from the mandatory program should be determined at an appropriate time after its implementation. Without such evaluation, the determination of extent and need for penalties would be arbitrary at best and at worst completely counter-productive to the aim of meeting constantly changing conditions reflected by the program. In addition it should be recognized that the NPRDS should be used in supplementing and reinforcing other NRC activities [e.g. plant licensing and rule-making] as such the program should not be used as a mechanism in and of itself to create new regulatory requirements.

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

With respect to items 9 and 10 any short discussion of the questions presented would not do justice to the scope of the

issues presented. As indicated in response to item 3, workshops should be initiated to fully explore the issues presented and the technical solutions thereto.

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 system'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?

The existing NPRDS and the LER systems each have different structures and different goals. The initial processing of identified failures at the plants do, however, have a commonality.

The NPRDS goal is to establish a long term reliability data base and quantitative history with the goal of upgrading and possible standardization of functional component specifications and operating characteristics based upon maintainability, availability and reliability. As such, the process is not geared for immediate response to failure reports.

The LER system goal is to provide quick notice that specific failures or failure modes have happened at specific power plant locations and must be investigated and corrective action, if necessary, be instituted for these identified latent defects. It also provides a speedy mechanism to put other utilities and specific component manufacturers on notice of specific failures.

While the identification of items reportable under the LER and NPRDS programs can be made concurrently, the goals of both programs (e.g. reporting time) dictate a simultaneous but different reporting scheme for items falling into the LER category. The manner and time frame in which LER items are reported concurrently to the NRC and in the NPRDS should be one of the topics of the workshops suggested above.

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?

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

Determination of reportable scope should await completion of the evaluation currently being performed by the ANSI N18-20 Subcommittee. With the results of that Subcommittee's evaluation a more reasoned approach to scoping can be made.

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?
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?

Since a data-base has to be established and specific coding requirements exist under the NPRDS, this system is considerably more expensive than the LER system.

The costs presented in item 16 are not considered representative. From the Authority's own experience in establishing reportings under NPRDS it is estimated that base-data generation costs would range from \$25,000 (for a facility with an existing complete data base) to \$750,000 (for a facility with inadequate or no base data). In addition, the annual cost of manpower and equipment to the licensee is estimated to be \$80,000 to \$150,000. This figure does not include costs imposed for NPRDS contractor's fees, increase in NRC licensing fees or increased fees to utility groups arising from implementation of the system as proposed.

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

As indicated by the questions presented in item 21, the level of assurance provided by mandatory reporting is far from clear. At present the NRC has many divergent sources of information on plant reliability. This includes information gathered in licensing and rulemaking proceedings, reports mandatory under the regulations and analyses periodically performed [e.g. - Gray book and licensee evaluation reports]. It may be more appropriate to examine presently available information sources to establish the need for, scope of, and approach to implementation of the NPRDS as proposed.

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?

It is obvious that if the scope and aims of the program are realistic it can be useful instrument. Since an evaluation of the costs and benefits of the system as proposed has not been performed, it is impossible to respond to item 18. Part of the rulemaking should involve an initial determination of the cost of the proposed program and the expected benefits. Under the approach suggested in response to items 1 and 2 an evaluation of the suggested more limited scope could be performed at a reasonable time following its implementation to examine whether the costs and expected benefits have been realized. With the knowledge that such an evaluation is to take place, information geared to facilitate that evaluation could be accumulated. Such an evaluation could then refine anticipated costs and benefits prior to initiating step 2. With this information, a decision can be made on whether the system should be maintained, revised or suspended.

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

Funding of the NPRDS should come primarily from the utilities as is presently the case. It is reasonable, however, to assume that the NRC will contribute manpower and funds in areas peculiar to its own interests. For example, the costs of revisions to the system to expedite handling of internal NRC programs should be shared. Likewise, the costs of any public participation should be shared by the NRC, utilities and the individual participants.

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 Authority has no first-hand knowledge of the facilities in question. It would seem, however, that a cost/benefit balance would weigh heavily against their inclusion.

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?

As indicated in response to item 3 this issue should be addressed in workshops prior to issuing a proposed rule.