

DOCKET NUMBER  
PROPOSED RULE **PR-50**  
(50 FR 11882)

(18)



Westinghouse  
Electric Corporation

Water Reactor  
Divisions

Box 355  
Pittsburgh Pennsylvania 15230-0355

NS-NRC-3037  
DOCKETED  
MAY 30, 1985

'85 JUN -3 A11:41

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

OFFICE OF SECRETARY  
DOCKETING & SERVICE  
BRANCH

ATTENTION: Docketing and Service Branch

SUBJECT: Proposed Policy for Regulation of Advance Nuclear Power Plants,  
50 Fed. Reg. 11882, March 26, 1985

Dear Mr. Hoyle:

In response to the Commission's request for comments on the subject proposed policy statement, Westinghouse is providing the attachment "Comments on Proposed Policy Statement" for consideration.

We appreciate having the opportunity to comment on this important matter and are available to discuss our comments in more detail if you should so desire.

Very truly yours,

E. P. Rahe, Jr., Manager  
Nuclear Safety Department

/jag  
Attachment

8506050195 850530  
PDR PR  
50-50FR11882 PDR

DS10  
add Dennis K. Rathbun, H-1013  
James H. Beckley, H-1013

JUN 3 1985  
Acknowledged by card ..... pd

## Comments on Proposed Policy Statement

The Proposed Policy for Regulation of Advance Nuclear Power Plants (Fed. Reg. 11882, March 26, 1985) emphasizes the Commission's position of maintaining an improved licensing and regulatory climate for advanced power plant designs. The policy statement should recognize that future designs do not necessarily require significantly different features to be viable and licensable. There should be an increased emphasis on design features that address the operability and maintainability of a plant utilizing past experience and proven technology in this area.

The following comments pertain to the general characteristics noted to be desirable by the Commission in the reference policy statement.

1. We favor early interaction and NRC review of new designs. The NRC/Westinghouse interaction on our Westinghouse Advanced PWR RESAR-SP/90 is an example of a process in practice. For NRC and public involvement on any new design, it is necessary to have in place a Preliminary Design Approval (PDA) option. This option requires the commitment by all parties to effectively follow the process established. This policy must recognize and be consistent with the standardization policy concepts that exist and are being proposed.
2. The policy statement leans too heavily on the premise that future designs must have significantly different features and technology to be safe and licensable. Current plant designs already have a proven record of inherent safety. Future developments should be extrapolations of our existing experience base and should be focused on enhancing reliability, maintainability, and operability as they relate to plant safety, therefore the policy statement should place more emphasis on these aspects of plant design. While the policy statement contains the seed of encouraging design innovation based on proven technology, this concept should be reemphasized throughout.
3. We strongly question the USNRC's stated willingness in this policy statement to review designs proposed by foreign vendors. The Atomic Energy Act of 1954, as amended, provides no extraterritorial jurisdiction to the NRC in the review of designs which may neither be manufactured or licensed in the United States. Improper exercise of USNRC jurisdiction could give rise to legal challenges.
4. The policy statement indicates that the review of advanced reactors would be done by a new staff group. Since advanced designs do not have to be significantly different and previous staff review experience is invaluable, a separate multi-discipline staff group is not recommended. The advanced reactors group should rely on the expertise that exists in the current staff technical organization most familiar with the technology on which the specific design is based.

5. In order to ensure a design is commercially viable and has a sincere backing for use as a utilization facility, there should be a requirement that private U.S. domestic funds have been previously invested in any design to be reviewed, and that the design has a market interest, viable operating cost, overall cost effectiveness, and a demonstrated evidence of workability. These criteria would ensure that the staff would not be subject to academic review activities and therefore provide focus on those concepts with demonstrated likelihood of commercialization.

In response to the specific questions at the end of the policy statement the following comments are made.

1. Westinghouse believes that the place for prescriptive design objectives and performance requirements belongs in industry codes and standards and commitments by the licensee; therefore, a reduction in the number of prescriptive regulations is desirable. The concept and practice of performance standards currently works in several areas. The key factor is reaching agreement on what are the important parameters and critical limits (e.g. Appendix K and Safety Goal) which then may be addressed in the design for any reactor plant design with the support of industry codes and standards for implementation. In order to reduce the conflicts that arise between detailed regulatory guidance, a designer and operator should be able to trade off design or operating margins related to regulatory criteria to achieve a safety balance between design and operation.
2. The question of providing more safety margins for advanced reactors does not recognize the inherent safety margins that exists and are adequate in the current designs. The record shows that current designs can and have performed in off normal and beyond the design bases conditions without injury to plant operators and the public. If systems are to be designed for events beyond the "design bases" then that becomes in effect a new set of requirements which will not add to the simplification of advanced plants and will not improve the licensing climate.
3. Simplifying systems and reducing operator actions may be desirable objectives for the designer and operator of a reactor plant; however it is not appropriate nor warranted that this be mandated by the NRC. Simplified systems may mean fewer components or more passive systems; however the Commission must recognize that the existing safety system reliability is adequate and demonstrated to be acceptable. Studies to determine the application of passive systems should be the responsibility of the designer. Reducing the number of operator actions would require more automatic functions thereby increasing complexity. Such a system would also require a prediction of all possible occurrences and transients that may be encountered. Removing

the operator from performing tasks and making judgements is not a criteria to be regulated since there must be a balance between reducing operator action and the degree of design complexity. In addition the degree to which operator actions should be reduced depends on a detailed design specific human factors assessment of operator performance in the man machine interface. As such it would not be appropriate or desirable for generic licensing regulation to mandate the fewest required operator actions.

4. Westinghouse does not believe that a new set of general design criteria for advanced LWR designs is consistent with stability and certainty in the licensing process. The General Design Criteria have survived intact with many designs. These non-prescriptive criteria have remained remarkably durable.
5. The suggestion of having a few large systems rather than multiple subsystems is a very complex question that is dependent on many variables within the system function, success criteria and component size required. Engineering evaluations would still be required including cost/benefit balancing. For example reliability of a system can be reduced by incorporating large components into the design, (e.g. large versus small diesel generators). However multiple subsystems can increase the overall safety of the plant since they allow ways of bypassing failures and accomplishing a mission. In other words multiple systems give recovery options and defense in depth for unknown and beyond the design bases sequences and events. The Commission should not regulate or mandate specific design features for a plant since the designer and operator must balance both the operations and safety of the design.
6. The question on whether the technology is proven or should be demonstrated has already been considered in the regulations, i.e. 10CFR50.34(a)(8). In this regulation if a concern is identified and a research and development program is required to show design adequacy then a program must be established and safety questions resolved prior to the end of construction. The degree of uncertainty and specific concerns to resolve a safety question would therefore dictate the need for prototype testing.