May 30, 2001

COMMISSION VOTING RECORD

DECISION ITEM: SECY-01-0067

TITLE: REPORT ON SUPPORT TO THE AMERICAN NUCLEAR SOCIETY FOR THE DEVELOPMENT OF STANDARD ON PROBABILISTIC RISK ASSESSMENT FOR LOW POWER AND SHUTDOWN

The Commission (with all Commissioners agreeing) approved the subject paper as recorded in the Staff Requirements Memorandum (SRM) of May 30, 2001.

This Record contains a summary of voting on this matter together with the individual vote sheets, views and comments of the Commission.

Annette L. Vietti-Cook
Secretary of the Commission

Attachments:
1. Voting Summary
2. Commissioner Vote Sheets

cc: Chairman Meserve
Commissioner Dicus
Commissioner Diaz
Commissioner McGaffigan
Commissioner Merrifield
OGC
EDO
PDR

VOTING SUMMARY - SECY-01-0067

RECORDED VOTES

	APRVD	DISAPRVD	ABSTAIN	NOT PARTICIP	COMMENTS	DATE
CHRM. MESERVE	X				X	5/1/01
COMR. DICUS	X					5/14/01
COMR. DIAZ	X				X	5/3/01
COMR. McGAFFIGAN	X					5/11/01
COMR. MERRIFIELD	X				X	5/8/01

COMMENT RESOLUTION

In their vote sheets, all Commissioners approved the staff's recommendation and some provided additional comments. Subsequently, the comments of the Commission were incorporated into the guidance to staff as reflected in the SRM issued on May 30, 2001.

Commissioner Comments on SECY-01-0067

Chairman Meserve

I approve the staff's recommendation to provide support to the American Nuclear Society (ANS) to update NUREG/CR-6595 to address low-power and shutdown (LPSD) conditions.

I am mindful of the discussions that accompanied the consideration of SECY-00-0007 by the Commission early last year, particularly with respect to the character of events that occur at LPSD conditions. LPSD events generally are at lower powers, system pressures, and system temperatures than those characteristic of full power operations, which provides more time for plant operators to diagnose and react to the events before the occurrence of undesirable impacts. Nonetheless, it is also true that LPSD operations may result in the availability of fewer safety systems (or non-safety-related backup systems) to prevent or mitigate consequences. Moreover, the economic incentives to shorten outages and get plants back on-line quickly have resulted, at some plants, in a drastic reduction in outage length. Because there is less time to accomplish outage-related work, the likelihood of the simultaneous unavailability of key systems is increased. This extends to the containment as well, since containment may now be open for longer periods during the outage and thus may be susceptible to failure or bypass during LPSD events. Under these circumstances, the modest effort proposed by the staff to update NUREG/CR-6595 is reasonable and prudent.

Commissioner Diaz

I approve the staff's request regarding additional work needed to support the ANS efforts to develop a PRA standard for LPSD operations.

The staff recommended "some limited" Level 2 work to support the ANS LPSD PRA standard effort. Specifically, the staff proposes to revise NUREG/CR-6595, "An Approach for Estimating the Frequencies of Various Containment Failure Modes" to fully account for LPSD conditions. Work in this area should reflect realistic containment conditions that would be in effect during the shutdown conditions and the ability of plant personnel to take mitigating actions in the longer time frames typically available during these conditions[1].

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[1]As noted in my comments on SECY-00-0007:

It is widely accepted that calculated core damage frequency during transitional periods of LPSD could be comparable to those at power; however, these risks are dominated by a few, short periods of well-recognized vulnerabilities. There is also agreement that realistic consequences are low (especially if credit is given for operator actions) and that necessary actions can be taken to prevent and mitigate occurrences. Of course, physical facts during LPSD events work in favor of mitigating or even eliminating consequences. These physical facts include orders of magnitude reductions in the reactor core heat content and pressure, in cooling requirements, and reductions in the radioactive source terms. All these physical facts substantially increase the time for remedial actions.

Commissioner Merrifield

I approve the staff's recommendation to provide support to the American Nuclear Society (ANS) for revising NUREG/CR-6595 to address low-power and shutdown (LPSD) conditions.

In my vote on SECY-00-0007, I clearly articulated my views on LPSD risk and the agency's research associated with it. In sum, based on my review of industry guidance and the NRC's regulatory framework associated with LPSD conditions, I am confident that the staff and our licensees understand the vulnerabilities associated with low-power and shutdown conditions, and are taking the steps necessary to adequately manage risk during these conditions. My confidence is reinforced by the Office of Nuclear Regulatory Research's (RES) December 1999 perspectives report which concluded that licensees have developed qualitative and quantitative methods and tools for managing safety during LPSD operations, and that these methods and tools appear to have been very successful in maintaining safety during outages. Nevertheless, I believe that continued staff support of the ANS efforts to develop a probabilistic risk assessment standard for LPSD operations is a prudent use of NRC resources. Thus, I support the staff's recommendation associated with revising NUREG/CR-6595.