

June 26, 2003

COMMISSION VOTING RECORD

DECISION ITEM: SECY-03-0047

TITLE: POLICY ISSUES RELATED TO LICENSING
NON-LIGHT-WATER REACTOR DESIGNS

The Commission (with Chairman Diaz and Commissioners Dicus and McGaffigan agreeing) approved the subject paper in part and disapproved in part, as recorded in the Staff Requirements Memorandum (SRM) of June 26, 2003. Commissioner Merrifield approved the subject paper.

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 Diaz
 Commissioner Dicus
 Commissioner McGaffigan
 Commissioner Merrifield
 OGC
 EDO
 PDR

VOTING SUMMARY - SECY-03-0047

RECORDED VOTES

	APRVD	DISAPRVD	ABSTAIN	NOT PARTICIP	COMMENTS	DATE
CHRM. DIAZ	X	X			X	4/18/03
COMR. DICUS	X	X			X	5/19/03
COMR. McGAFFIGAN	X	X			X	6/13/03
COMR. MERRIFIELD	X				X	6/11/03

COMMENT RESOLUTION

In their vote sheets, Chairman Diaz and Commissioners Dicus and McGaffigan approved the subject paper in part and disapproved in part. Commissioner Merrifield approved the paper. Subsequently, the comments of the Commission were incorporated into the guidance to staff as reflected in the SRM issued on June 26, 2003.

Commissioner Comments on SECY-03-0047

Chairman Diaz

I approve the staff's recommendations on issues 2, 4, 5, and 7.

Regarding issue 1, the staff should provide additional details on the options for, and associated impacts of, requiring that modular reactor designs should account for the integrated risk posed by multiple reactors. The staff will need to establish a usable definition of core damage and will need to determine if the concept of large early release frequency is meaningful or if a level 3 risk assessment would be needed. Other than this item, I approve the staff's recommendation on issue 1.

Regarding issue 3, I disapprove the staff's recommendation to "proactively participating in development of and endorsing international codes and standards where such codes and standards have been identified by applicants or pre-applicants for use in their submittals or by staff as needed to fill gaps in the NRC's non-LWR infrastructure." The staff reports that this would require one additional FTE in FY 2003 and, depending upon the number of international codes and standards NRC reviews or participates in, could require an additional 1–3 FTE/FY beginning in FY 2004. I am concerned that we would likely end up taking the lead on many issues, increasing international travel, and adding a lot of extra work in developing the codes and standards. The staff should pursue option a, specifically to "Review international codes and standards only as part of an application or pre-application review." This involves less resources and we would likely be able to charge the applicant directly for this work.

Regarding issue 6, I believe that the possible use of a confinement building instead of a containment building is a very important issue that warrants additional work. At this time there is insufficient information for the Commission to prejudge the best options and make a decision on the viability of a confinement building. The staff should develop performance requirements and criteria working closely with industry experts, e.g., designers, EPRI, etc., regarding options in this area, taking into account such features as core, fuel, and cooling systems design.

Commissioner Dicus

The staff has done a commendable job in identifying important potential policy issues associated with new non light water (LWR) reactor designs early in the process. It is important to keep the Commission involved in the development of the resolution of those policy issues. My comments on the each of the seven policy issues follows.

On Issue 1, I believe that an integrated, holistic approach is important. However, additional details are needed with regard to considering integrated risk. Therefore, I believe that a revision to the Commission's Policy Statement on the Regulation of Advanced Reactors should be a short term product (not an intermediate or long term product as suggested by the staff) and that the additional details should be provided as part of the Commission's review of a revised Policy Statement on the Regulation of Advanced Reactors.

For Issue 2, I approve. I note, however, that the concept of "defense-in-depth" need not be a separate policy statement. Before proceeding, the staff should consider whether it can

accomplish the same goals in a more efficient and effective manner by updating the Commission Policy Statement on Use of Probabilistic Risk Assessment Methods in Nuclear Regulatory Activities to include a more explicit discussion of defense-in-depth, risk-informed regulation, and performance-based regulation.

I defer consideration of Issue 3 at this time. I believe that the NRC should continue to be a proactive technical leader. However, I share the Chairman's concern that this could be a resource drain where NRC assumes additional burden beyond what is anticipated. The staff should consider previous Commission guidance related to involvement in international activities, better define applicant and industry review roles, and provide more specific details regarding the level of NRC proposed involvement in international codes and standards development. The staff proposes to develop a plan after Commission approval. I believe this is out-of-sequence and in order for the Commission to fully consider this issue I believe that the staff should "develop a plan for proactive involvement in international codes and standards" and seek Commission approval of that plan.

I approve the staff's recommendations for Issues 4 and 5.

For Issue 6, I believe that the recommended resolution to this issue is before the Commission prematurely. A better understanding of the potential functional performance requirements to establish the acceptability of a containment or confinement structure is needed before the Commission can make an informed decision. Therefore, the staff should continue efforts to develop such functional performance requirements. It is important to emphasize that, beyond the technical issues, this is also a public confidence issue and, as such, the staff should seek broad stakeholder engagement and input in the development of a resolution to this issue.

Finally, I approve the staff's approach for resolving Issue 7.

Commissioner McGaffigan

I approve the staff's recommendations for issues 2, 4, 5, and 7.

With respect to the first issue, I agree with Chairman Diaz that integrative risks may merit further consideration for modular reactor applications. Historically, the NRC has issued operating licenses to sites with as many as three units, granted Construction Permits for four at one site (Shearon Harris), and docketed another application for five at one site (Palo Verde). The staff should review those dockets for relevant historical regulatory positions on these issues, including potential precedents.

For issue 3, I join with my colleagues on the Commission in the view that it is premature to commit resources as requested by the staff. In particular, I agree with Chairman Diaz in approving "option a": reviewing international codes and standards only as part of an application or pre-application review.

I agree with my colleagues that issue 6 is not yet ripe for a decision by the Commission.

Commissioner Merrifield

I approve the staff's recommendations for issues 2, 4, 5 and 7.

In general, I approve the staff's recommendation for issue 1. However, I agree with Chairman Diaz and Commissioner Dicus that additional information is needed to support an informed decision regarding the integration risk of multiple reactors.

For issue 3, regarding how NRC requirements for non-light-water reactors (non-LWRs) should relate to international codes and standards, I agree with the comments of Chairman Diaz and Commissioner Dicus and share some of the same concerns. I believe that it is premature for us to proactively participate in these efforts for non-LWRs. Rather experience should be gained through review of international codes and standards during the pre-application and application reviews of non-LWRs. I encourage the staff to then apply the lessons-learned from these reviews to their activities involving our domestic codes and standards committees.

Though the global marketplace will require us to take a more fundamental look at how we do business and cause us to evaluate the usefulness of adopting international codes and standards, I believe we should be focused on improvements that would benefit the current fleet of operating nuclear power plants and those suppliers who must maintain current Appendix B Quality Assurance (QA) programs. The staff is scheduled to provide the Commission in the near-term an assessment of the options for adopting more widely accepted international standards like the International Organization for Standardization 9000 (ISO-9000) standard by looking at Part 50, Appendix B requirements and the existing regulatory framework surrounding QA. I believe this is a worth while initiative whose time has come. I look forward to the staff's paper on this issue.

As for issue 6, regarding the conditions for licensing a plant with a non-pressure retaining containment building, additional information is needed. Though I support a risk-informed and performance-based method for determining the plant design characteristics, the absence of operating experience, other than Fort St. Vrain, and the uncertainties with plant and fuel performance do not provide enough information to make a decision on this significant design issue at this time. Nonetheless, I encourage the staff to pursue the development of functional performance standards through external stakeholder interactions and then re-engage the Commission on this important policy decision. Regardless of the final design approved, the Commission and industry must be prepared to adequately communicate with members of the public, the design and safety features of these new reactors to ensure public confidence. The use of new terms and their implied meaning lead to confusion and concern. For example, when members of the public hear the term "confinement," they may be left with the impression that this is something not as robust as containment, and consequently is less safe. These perceptions must be proactively and effectively addressed early in the process.