



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

SECRETARY

September 11, 2007


COMMISSION VOTING RECORD

DECISION ITEM: SECY-07-0104

TITLE: PROPOSED RULEMAKING - ALTERNATE FRACTURE  
TOUGHNESS REQUIREMENTS FOR PROTECTION  
AGAINST PRESSURIZED THERMAL SHOCK EVENTS (RIN  
3150-A101)

The Commission (with all Commissioners agreeing) approved the subject paper as recorded in the Staff Requirements Memorandum (SRM) of September 11, 2007.

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 Klein  
Commissioner Jaczko  
Commissioner Lyons  
OGC  
EDO  
PDR

## VOTING SUMMARY - SECY-07-0104

### RECORDED VOTES

	APRVD	DISAPRVD	ABSTAIN	PARTICIP	NOT COMMENTS	DATE
CHRM. KLEIN	X				X	8/31/07
COMR. JACZKO	X				X	8/31/07
COMR. LYONS	X				X	7/6/07

### COMMENT RESOLUTION

In their vote sheets, all Commissioners approved the staff's recommendation and provided some additional comments. Subsequently, the comments of the Commission were incorporated into the guidance to staff as reflected in the SRM issued on September 11, 2007.

NOTATION VOTE

RESPONSE SHEET

TO: Annette Vietti-Cook, Secretary

FROM: CHAIRMAN KLEIN

SUBJECT: SECY-07-0104 - PROPOSED RULEMAKING -  
ALTERNATE FRACTURE TOUGHNESS  
REQUIREMENTS FOR PROTECTION AGAINST  
PRESSURIZED THERMAL SHOCK EVENTS (RIN 3150-  
A101)

Approved ☒ Disapproved ☐ Abstain ☐

Not Participating ☐

COMMENTS: Below ☐ Attached ☒ None ☐



SIGNATURE

\* 9/12/07

DATE


Entered on "STARS" Yes ☒ No ☐

\*Originally signed on 8/31/07.

**Chairman Klein's Comments on SECY-07-0104**

I approve the staff's recommendation to publish for public comment a proposed rule, 10 CFR 50.61a, "Alternative Fracture Toughness Requirements for Protection Against Pressurized Thermal Shock Events," to help protect the pressurized-water reactor (PWR) vessels from pressurized thermal shock events. I support making this rule to be available as an alternative to the current 10 CFR 50.61, so that it can be implemented by PWR licensees on a voluntary basis. I do not support retaining the option of adopting a final rule imposing the updated embrittlement correlation in the existing rule, 10 CFR 50.61; therefore, there would be no need for a backfit analysis, and the staff can proceed to publish the draft proposed rule in the *Federal Register* without delay. I commend the staff for this important achievement.

As planned, the staff should seek the views of the Advisory Committee on Reactor Safeguards once the proposed rule is published.

 9/12/07  
Dale E. Klein Date

NOTATION VOTE

RESPONSE SHEET

TO: Annette Vietti-Cook, Secretary

FROM: COMMISSIONER JACZKO

SUBJECT: SECY-07-0104 - PROPOSED RULEMAKING -  
ALTERNATE FRACTURE TOUGHNESS  
REQUIREMENTS FOR PROTECTION AGAINST  
PRESSURIZED THERMAL SHOCK EVENTS (RIN 3150-  
A101)

Approved X Disapproved \_\_\_\_\_ Abstain \_\_\_\_\_

Not Participating \_\_\_\_\_

COMMENTS: Below \_\_\_\_\_ Attached X None \_\_\_\_\_


  
\_\_\_\_\_  
SIGNATURE

8/31/07  
\_\_\_\_\_  
DATE

**Commissioner Jaczko's Comments on SECY-07-0104  
Proposed Rulemaking - Alternative Fracture Toughness Requirements for Protection  
Against Pressurized Thermal Shock Events (RIN 3150-A101)**

I approve of the staff publishing the proposed rulemaking in the *Federal Register*.

I continue to support my comments on SECY-06-0124 that all plants susceptible to pressurized thermal shock should use the best available methodology to calculate their embrittlement correlations. I continue to oppose allowing the use of less restrictive screening limits as implemented in this proposed rule. I am hopeful that my concerns will be addressed during the rulemaking process so that existing safety margins continue to be robust.

  
\_\_\_\_\_  
Gregory B. Jaczko      5/31/07  
Date

NOTATION VOTE

RESPONSE SHEET

TO: Annette Vietti-Cook, Secretary

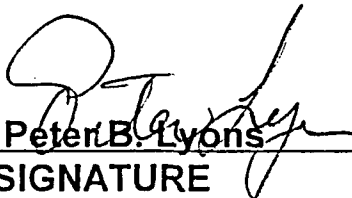
FROM: COMMISSIONER LYONS

SUBJECT: SECY-07-0104 - PROPOSED RULEMAKING -  
ALTERNATE FRACTURE TOUGHNESS  
REQUIREMENTS FOR PROTECTION AGAINST  
PRESSURIZED THERMAL SHOCK EVENTS (RIN 3150-  
A101)

Approved  X  Disapproved   Abstain

Not Participating

COMMENTS: Below   Attached  X  None

  
Peter B. Lyons  
SIGNATURE

7/ 6 /07   
DATE

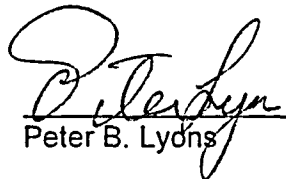
Entered on "STARS" Yes  X  No

**Commissioner Lyons' Comments on SECY-07-0104**

I approve the staff's recommendation to publish in the *Federal Register* a proposed amendment to 10 CFR 50.61 that would add alternative fracture toughness requirements for protecting irradiation-embrittled, pressurized-water reactor (PWR) vessels from a pressurized thermal shock (PTS) event that licensees may choose to use on a voluntary basis.

I recognize the significant achievement by the NRC staff in resolving this complex, multi-dimensional problem using a multi-disciplinary approach including probabilistic assumptions in conjunction with advanced, fracture-mechanics analyses techniques to develop these alternative requirements. Such a noteworthy achievement comes only from many years of dedicated hard work to develop an extensive, well-documented, and sound technical basis.

In my previous vote on SECY-06-0124, I noted that the staff should ensure that the probabilistic assumptions are consistent with those used in other rulemaking initiatives. For the 50.61a proposed rule, the staff used guidance from Regulatory Guide 1.174 for a large early release frequency to relate the PTS screening criteria in 50.61a to an acceptable yearly limit of  $1 \times 10^{-6}$  per reactor year for a through-wall crack frequency in a reactor vessel. Although I was initially concerned about the conservatism of using a large early release frequency to develop a reactor-vessel through-wall-crack frequency, my concerns were alleviated in that such an approach does not exclude any currently operating reactor from reaping the benefits of the new 50.61a rule, and, at the same time, provides ample safety margin for operating reactors.

 7/6/07  
Peter B. Lyons Date