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

SECRETARY

April 24, 2007

COMMISSION VOTING RECORD

DECISION ITEM: SECY-06-0204

TITLE: PROPOSED RULEMAKING -- SECURITY ASSESSMENT REQUIREMENTS FOR NEW NUCLEAR POWER REACTOR DESIGNS (RIN 3150-AH92)

The Commission (with the Chairman and Commissioners McGaffigan, Merrifield, and Lyons agreeing) disapproved the subject paper as recorded in the Staff Requirements Memorandum (SRM) of April 24, 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 McGaffigan
Commissioner Merrifield
Commissioner Jaczko
Commissioner Lyons
OGC
EDO
PDR

VOTING SUMMARY - SECY-06-0204

RECORDED VOTES

	APRVD	DISAPRVD	ABSTAIN	NOT PARTICIP	COMMENTS	DATE
CHRM. KLEIN		X			X	3/20/07
COMR. McGAFFIGAN		X			X	3/23/07
COMR. MERRIFIELD		X			X	3/22/07
COMR. JACZKO	X				X	4/5/07
COMR. LYONS		X			X	3/23/07

COMMENT RESOLUTION

In their vote sheets, the Chairman and Commissioners McGaffigan, Merrifield, and Lyons disapproved the staff's recommendation, and Commissioner Jaczko approved the staff's recommendation. All Commissioners provided some additional comments. Subsequently, the comments of the Commission were incorporated into the guidance to staff as reflected in the SRM issued on April 24, 2007.

NOTATION VOTE

RESPONSE SHEET

TO: Annette Vietti-Cook, Secretary

FROM: CHAIRMAN KLEIN

SUBJECT: SECY-06-0204 - PROPOSED RULEMAKING - SECURITY ASSESSMENT REQUIREMENTS FOR NEW NUCLEAR POWER REACTOR DESIGNS (RIN 3150-AH92)

Approved _____ Disapproved _xx_ Abstain _____

Not Participating _____

COMMENTS: Below___ Attached _xx_ None ___

SIGNATURE

3/20/07

DATE

Entered on "STARS" Yes ✓ No ___

Chairman Klein's Comments on SECY-06-0204
"SECY-06-0204, Security Assessment Requirements
for New Nuclear Power Reactor Designs (10 CFR 73.62)"

I disapprove the proposed rule making described in SECY-06-0204. I appreciate the staff's effort to develop this proposal but I believe the 73.62 rulemaking should be terminated, and the aircraft impact assessment requirements should be included in 10 CFR Part 52 to allow reactor designers to incorporate security measures at an early stage in the design process. The regulatory guidance associated with the rulemaking should be completed to assist prospective applicants in preparing these assessments.

In lieu of the proposed 73.62 rulemaking, I propose the following new section be added to 10 CFR Part 52:

52.xx Aircraft Impact Assessment

(a) Scope:
The requirements of this section apply to all design certifications, and combined licenses not referencing a certified design, issued after the effective date of this rule.

(b)
Each applicant for a new design certification or a combined license not referencing a certified design shall perform a design-specific assessment of the effects on the designed facility of the impact of a large, commercial aircraft. Such assessment shall be based on the Commission's specified aircraft characteristics (including, but not limited to, type of aircraft, impact speed, aviation fuel loading, and angle of impact) used to define the beyond design basis, large commercial aircraft impact.

(c)
Based on the insights gained from the above aircraft impact assessment, the application, shall include a description and evaluation of the design features, functional capabilities and strategies to avoid or mitigate the effects of the applicable, beyond design basis aircraft impact. The assessment of such design features, functional capabilities and strategies shall include core cooling capability, containment integrity, and spent fuel pool integrity. The application shall describe how such design features, functional capabilities and strategies, to the extent practicable, avoid or mitigate the effects of the applicable aircraft impact with reduced reliance on operator actions.

The objective of this rule is to require nuclear power plant designers to perform a rigorous assessment of design features that could provide additional inherent protection to avoid or mitigate the effects of an aircraft impact, while reducing or eliminating the need for operator actions, where practicable. Many design features might easily be included in the initial design of a facility (*e.g.*, spatially diverse containment penetrations) but very difficult, if not impossible, to retrofit. The staff should provide additional clarifying details in the statement of considerations.

On January 29, 2007, the final Design Basis Threat rule, 10 CFR 73.1, was approved by the Commission, and an attack by a large commercial aircraft was not included as part of the design basis threat. However, the Commission's decision not to include aircraft attacks within the design basis threat does not mean that the Commission has not addressed the issue. By Order dated February 25, 2002, the Commission required all operating power reactors to develop and adopt mitigative strategies to cope with large fires and explosions, including those caused by a beyond design basis threat aircraft impact. The requirements in the Order are being incorporated into the Commission's regulations in the proposed revisions to 10 CFR 73.55 and Part 73, Appendix C. Once these proposed revisions are finalized, both current and future power reactors will be required to adopt mitigating strategies to address the effects of a large commercial aircraft impact.

I believe that requiring applicants for new reactor designs to perform a rigorous aircraft impact assessment and describe design features to address impacts beyond the design basis threat scenarios is consistent with the NRC's historic approach to beyond-design-basis events and in fact essentially models the position taken by the NRC in the 1985 severe accident policy statement: "The Commission expects that vendors engaged in designing new standard [or custom] plants will achieve a higher standard of severe accident safety performance than their prior designs." The Commission reiterated that regulatory approach in the 1986 policy statement on advanced nuclear power plants: "The Commission expects that advanced reactors would provide more margin prior to exceeding safety limits and/or utilize simplified, inherent, passive, or other innovative means to reliably accomplish their safety functions." This regulatory approach has been demonstrated to be successful, as all designs subsequently submitted to and certified by the Commission represent almost two orders of magnitude improvement in safety from operational events and accidents.

Reactor designs that are already certified under Part 52 (e.g. AP1000 and ABWR) do not need to be re-certified in accordance with the new 52.xx rule. As I noted above, all new plants will be subject to 10 CFR 73.55 and Appendix C to Part 73. Thus, COL applicants will still have to develop mitigative strategies to cope with large fires and explosions potentially caused by an aircraft impact. It is highly likely that designers will want to perform this assessment for their clients and potential clients. It will be in both the designers' and the clients' interest to adopt practicable changes at the design stage to avoid or mitigate the effects of the applicable aircraft impact. It will also be in the designers' competitive interest to do so.

Description of the Beyond Design Basis Aircraft Characteristics

The proposed rule text includes a general description of the beyond design basis aircraft characteristics to allow public stakeholders to provide meaningful input during the comment period. The specific details of the aircraft characteristics will be issued in a separate document, which may contain Safeguards or SECRET Information. This regulatory approach is consistent with the NRC's approach for the design basis threat rule. The staff should provide the aircraft characteristics to plant designers (including their employees and agents) or other stakeholders who have the need to know and who meet the NRC's requirements for disclosure of such information. This information should be provided to the designers as soon as possible so that they can perform the aircraft impact assessments in a timely manner.

The SOCs for this proposed rule should include the expectation that new reactor designs incorporate design features to prevent a simultaneous loss of containment integrity and core cooling as a result of an aircraft impact. Incorporating this expectation in the design of the facility provides additional inherent safety margin beyond what has been achieved at the operating reactors through mitigative strategies. This expectation should also be shared with the reactor designers to help them in the analysis of the prospective designs.

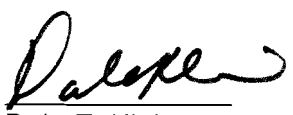
In as much as the NRC will provide applicants with the design basis aircraft characteristics of a particular aircraft traveling at a particular speed with a particular fuel load, the resulting assessments performed by the applicants will serve to bound less conservative scenarios, but remains only one of an unlimited number of possible larger, faster beyond-design-basis aircraft impact scenarios. Therefore, I believe it is inappropriate to specify a specific assessment acceptance criteria in this proposed rule. To the contrary, I believe that the approach taken in this proposed rule is consistent with the historical and successful NRC approach to beyond-design-basis events, and will produce improved security compared to existing plants, just as NRC's approach to severe accidents has improved safety in new designs compared to existing plants.

Practicability

The proposed rule requires applicants to describe how the design and other features, "to the extent practicable," avoid or mitigate the effects of the applicable aircraft impact with reduced reliance on operator actions. The intent of this term is to allow designers to incorporate design features which are realistically and reasonably feasible from a technical engineering perspective. This allows the designers to evaluate potential competing technical factors, such as the response to earthquakes and passive safety systems, while at the same time addressing aircraft impacts. This approach is fully compatible with the Commission's approach to requiring a PRA in Section 50.34(f)(1)(i) which requires applicants to "seek such improvements in reliability of core and containment heat removal systems as are significant and practical and do not impact excessively on the plant".

Conclusion

I have laid out my proposal for new reactor designs to address beyond design basis aircraft impacts in this vote. I look forward to working with my colleagues on the Commission in a collegial manner to provide direction to the staff to issue the proposed rule. I realize that the staff must prepare the statements of consideration to support the proposed rule language before issuing the proposed rule for public comment. Therefore, I am asking my colleagues to vote in a timely fashion so that we may move the rule forward expeditiously.



Dale E. Klein

NOTATION VOTE

RESPONSE SHEET

TO: Annette Vietti-Cook, Secretary

FROM: COMMISSIONER MCGAFFIGAN

SUBJECT: SECY-06-0204 - PROPOSED RULEMAKING - SECURITY ASSESSMENT REQUIREMENTS FOR NEW NUCLEAR POWER REACTOR DESIGNS (RIN 3150-AH92)

Approved _____ Disapproved X Abstain _____

Not Participating _____

COMMENTS: Below___ Attached X None ___

Edward McGaffigan, Jr.

SIGNATURE

March 23, 2007

DATE

Commissioner McGaffigan's Comments on SECY-06-0204

I appreciate the staff's effort to come up with an approach to ensure enhanced security design features are incorporated into the design of advanced reactors. However, I believe that the staff's approach in the proposed 10 CFR 73.62 does not bring finality to the issue promptly enough, is overly complex, and diverts focus from a beyond-design-basis large commercial aircraft impact to other beyond-design-bases events. But I also note that the heart of the staff's proposal in proposed 10 CFR 73.62(f) was to reach the goal "that practicable security design features have been integrated into the facility." The Chairman's proposal, which I support, also uses the practicability standard.

I also appreciate NEI's December 8, 2006 letter to the Commission that proposed that the beyond-design-bases security assessments be handled in Part 52 at the design certification stage (when practicable changes, if needed, can be most readily adopted). That suggestion helped the entire Commission in the development of alternatives to the staff proposal. However, the Chairman's proposal correctly rejects NEI's letter on many important details, particularly NEI's proposal that new plants be excluded from beyond-design-bases scenarios in the proposed separate 10 CFR 73.55 rule. Section 73.55 and Part 73 Appendix C, once issued in final form, set the "reasonable assurance of adequate protection" threshold for all reactors, not just existing reactors. The mitigating capabilities for beyond-design-bases events that result in large fires and explosions are needed for the new plants as well as existing plants, although they may be simplified by the design features of the new plants. The Chairman's proposal also exceeds NEI's proposal in the rigor of the assessment required and in the emphasis on reduced reliance on operator actions to mitigate the effects of the applicable aircraft impact. Finally, the Chairman's approach may well result in design features, functional capabilities and strategies, for some designs, that go well beyond NEI's "simple features that can enhance the robustness of the design" and "simple actions and plant modifications that can be easily implemented with minimum resource burden."

I endorse Chairman Klein's approach because it is consistent with NRC's approach to other beyond-design-bases events, particularly severe accident events, for the past quarter century. The Chairman's quotes from the 1985 severe accident policy statement and the 1986 policy statement on advanced nuclear power plants are right on the mark and, as he points out, the mid-80s Commission's approach to enhanced safety has been validated by every design certification since. The certified AP1000 and ABWR both achieve approximately a two order of magnitude (a factor of 100) improvement in safety performance compared to the average in the existing fleet. The ESBWR and EPR, while not yet certified, are likely to offer similar safety improvement. The improvement in safety performance derives, depending on the reactor, from such features as more diverse, robust, and redundant safety systems, more widely separated safety equipment, and more reliance on passive systems. Those same features potentially already provide adequate margin against a large, commercial aircraft impact. The Chairman's proposal will force designers to vigorously explore the need for potential additional improvements at the design stage and to adopt those improvements that are practicable.

I support the Chairman's practicability standard, the emphasis on reduced reliance on operator actions, and the rigor of the assessment which he is proposing. I support the Chairman's proposal not to backfit existing certified designs (e.g., AP1000 and ABWR) into the new rule because such backfiting would set a terrible precedent for future Commissions. As a practical matter, both affected certificate holders are highly likely to voluntarily follow the new rule for the reasons the Chairman indicated. I also note that the proposed rule will not apply to Watts Bar 2, should TVA decide to complete that plant. The construction of that plant is too far along to require design changes. Like all existing Part 50 plants, including its sister Watts Bar 1 plant, Watts Bar 2 will meet the security requirements and mitigating system requirements of Part 73, which provide reasonable assurance of adequate protection of the public health and safety.

With regard to the details of the beyond-design-basis large commercial aircraft impact, I fully agree with the Chairman that we need to provide this Safeguards Information (and related Secret level information) to the designers as soon as possible. But we also need to provide our methodology for conducting structural and fire evaluations. We need to be prepared to discuss Secret level information with designers, who may not have the right people cleared today to that level. We need to recognize that the results of the assessments carried out to meet the proposed rule will be Secret National Security Information, under current NRC classification guidelines, and will require designer facilities to be upgraded to handle such information. If a majority of the Commission agrees, the Staff should promptly provide a plan to the Commission for providing access to the necessary National Security Information. I worry that requirements related to handling classified information may cause delays, and welcome early staff and design certificate applicant attention to and resolution of this matter.

Commissioner Jaczko in COMGBJ-07-0001 has proposed an alternative to the Chairman's approach, which I gave consideration to while preparing my vote on this paper. However, I cannot support Commissioner Jaczko's proposal because his proposed acceptance criteria go far beyond the Chairman's practicability criterion and essentially constitute design bases criteria. There are an infinity of possible beyond-design-basis events. Imposing design bases criteria on one such event is not warranted. The Jaczko proposal exceeds our statutory "reasonable assurance of adequate protection" mandate in my view and radically departs from the Commission's long-standing policy on beyond-design-bases accidents, such as severe accidents. In my separate vote on COMGBJ-07-0001, I suggest he clarify his proposal with respect to the tension between one of those criteria and his "no release" standard, not because the clarification would change my opposition, but to insure better public understanding of the proposal.

I also note that NRC is not the only player in preventing a large commercial aircraft impact consequences for modern society. The aircraft industry itself is strongly motivated to build on the current measures, such as passenger and luggage searches, hardened cockpit doors, air marshals, and in some cases armed pilots. Eighty years ago Lindbergh traversed the Atlantic in "The Spirit of St. Louis." The new generation of

reactors will likely be operating at least 80 years from now (allowing for construction time and license renewal). I cannot imagine what aircraft might operate over the next 80 years. I also cannot imagine what additional measures aircraft manufacturers and operators will adopt over the next 80 years to prevent hijacking and to control highjacked aircraft. Boeing has recently patented a system enabling remote landing of highjacked aircraft by authorities. I am attaching an article on the aircraft industry's efforts. If such measures are adopted, they would protect all of the critical infrastructure.

I hope that the staff will be able to complete a proposed rule package as promptly as possible. The EDO and the General Counsel should be personally involved in ensuring the highest priority be given to the publication of the proposed rule in the Federal Register. I do not see a need for further Commission involvement at the proposed rule stage after the staff requirements memorandum is issued.

Edward McGaffigan Jr. 3/23/07

Edward McGaffigan, Jr. **(Date)**

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Friday » March 23 » 2007

Boeing's anti-terror system to shut down hijackers

If crew taken over, airplane would fly, land on its own

Ian MacLeod
The Ottawa Citizen; with files from Citizen News Services

Saturday, December 02, 2006

The Boeing aircraft company has a Canadian patent pending for an anti-terrorist system that will automatically fly and land commercial airliners if the flight crew is incapacitated or killed.

The "uninterruptible" auto-pilot would be activated manually by pilots or co-pilots flipping a switch, by sensors that detect excessive force against locked cabin doors, or remotely by airline or federal aviation and security officials on the ground.

Once initiated, "no one on board is capable of controlling the flight," say documents related to the patent application by U.S. Boeing, the world's largest manufacturer of commercial jetliners.

In Europe, too, work is progressing on another system to make planes "hijack-proof" to prevent a repeat of the Sept. 11, 2001 suicide hijackings of four U.S. jetliners. It includes installing ultra-sensitive microphones and cameras to monitor the cabin, digital fingerprints and iris scans for access to the cockpit, and an avoidance system to prevent planes from crashing into buildings.

Both systems are intended to improve upon existing onboard security measures, such as fortified cabin doors and armed undercover police escorts, neither of which is foolproof.

The Boeing system would have an independent and inaccessible power source. Once engaged, it would fly the plane to a landing site, avoiding any densely populated areas along the way, presumably to prevent further damage and death in the event the aircraft blew up along the way.

"There is a need in the industry for a technique that conclusively prevents unauthorized persons from gaining access to the controls of the vehicle and therefore threatening the safety of the passengers onboard the vehicle, and/or other people in the path of travel of the vehicle, thereby decreasing the amount of destruction individuals onboard the vehicle would be capable of causing," says Boeing, which on Thursday was issued a U.S. patent for the system.

"In particular, there is a need for ... removing any type of human decision process that may be influenced by the circumstances of the situation, including threats or further violence onboard the vehicle."

Flightglobal.com, the website for Flight International magazine, says once the system is activated, it would refuse any further pilot inputs to reassume control of the plane. It would also prevent anyone on board from interrupting an emergency landing plan that can be predefined or radioed to the aircraft by airline or government controllers and carried out by the aircraft's guidance and control system.

Meanwhile, the European SAFEE project -- Security of Aircraft in the Future European Environment -- aims to create a series of technological innovations to prevent another Sept.

11, says project co-ordinator Daniel Gaultier.

The microphones, cameras and biometric scanners are designed to make hijacking an airliner in mid-flight virtually impossible. Not on the European list of safeguards, however, is one element of the Boeing system -- piloting planes from the ground by remote control.

Mr. Gaultier describes that as "futurism," noting that it presents "huge difficulties in regulation and in securing the signal." Instead, the 31 companies participating in SAFEE, launched in 2004 by the European Commission, are looking at more viable alternatives. Airbus, BAE Systems, Thales, Sagem and NLR have each taken charge of one of five main initiatives.

Airbus carried out the first tests on its "threat detection system," which warns the pilot of any suspicious behaviour by a passenger via a system of cameras and microphones, in Hamburg, Germany, in August. A full simulation is planned for January 2008.

Thales, meanwhile, is working on an anti-collision system to be tested in June, Mr. Gaultier said.

Developing biometric fingerprinting to ensure that only crew members can enter the cockpit has been entrusted to the Dutch firm NLR, which plans to test the system in August in Amsterdam.

Mr. Gaultier's company, Sagem Defense Securite, part of the Safran group, is working on protecting data systems, in particular on communications between the cockpit and control tower.

The total budget for SAFEE is $55 million, $29 million of which has been put up by the European Commission.

Developing the new equipment also poses legal and ethical problems. Filming passengers on board planes and recording their conversations must be done within a strict legal framework. But it is possible, says Mr. Gaultier, "provided you destroy the recordings at the end of the flight."

Another stumbling block, he says, is the "exorbitant" cost of fitting the new technology to existing planes. "Doubtless it would be better to think about incorporating them into the next generation of aircraft."

A demonstration of the entire system is planned for February. After that, a seven-year contract is expected to be signed to complete the project.

Flightglobal.com says it is unclear if the Boeing work is related to last week's issuance of a $1.9 million U.S Federal Aviation Administration contract to Raytheon for an Advanced Route Evaluation System. The system is to perform risk analysis on aviation routes to help planners determine the best routes for aircraft to use during emergencies.

NOTATION VOTE

RESPONSE SHEET

TO: Annette Vietti-Cook, Secretary

FROM: COMMISSIONER MERRIFIELD

SUBJECT: SECY-06-0204 - PROPOSED RULEMAKING - SECURITY ASSESSMENT REQUIREMENTS FOR NEW NUCLEAR POWER REACTOR DESIGNS (RIN 3150-AH92)

Approved _____ **Disapproved** X **Abstain** _____

Not Participating _____

COMMENTS: **Below**___ **Attached** X **None** ___

Note: This vote replaces my previous vote.

SIGNATURE

9/22/07

DATE

Entered on "STARS" Yes X **No** ___

Revised Commissioner Merrifield's Comments on SECY-06-0204
"Proposed Rulemaking - Security Assessment Requirements for New Nuclear Power Reactor Designs (RIN3150-AH92)"

I find that my previous positions on this paper have been overtaken by changes in the regulatory environment that have occurred as a result of substantial Commission deliberation on the subject of security assessments and postulated aircraft impacts on new nuclear power plants. Therefore, I withdraw my previous vote and comments on the subject Commission paper. At present, I now endorse the position outlined in the Chairman's vote on the proposed rulemaking subject to the comments below.

I continue to believe that by considering security aspects early in the design stage, vendors together with licensees have the potential to develop design strategies that will provide a more robust security posture that relies less on operational security and more on the design capabilities of the actual plant. I also believe that the staff should continue to engage the necessary stakeholders frequently to develop guidance for the submission of security assessments and target set analysis for new and next generation reactor designs.

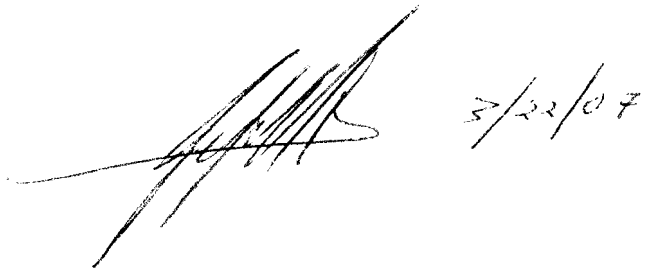
However, the comments provided in support of my previous view have prompted substantial discussion among the Commissioners related to the need for and the nature of security assessments for new reactors, as well as, where in the regulatory framework such requirements should appear. I appreciate that the Chairman's vote encompasses the heart of a proposal that Commissioner McGaffigan and I discussed with the Chairman in an attempt to reach consensus on this very difficult issue. The significant amount of personal involvement by the entire Commission provided a number of opportunities to raise differing views about proposed regulatory requirements related to the evaluation of postulated aircraft impacts, as well as, identify and discuss legal and technical issues that required Commission level direction. However, it is unfortunate that the Commission could not have been unanimous on what I believe is a practical and common sense approach. I am also troubled by the action of one Commissioner to advance his views through the media rather than the collegial Commission process.

The Chairman describes the intent of the term "practicable" to be that which is realistically and reasonably feasible from a technical engineering perspective. I suggest that the Chairman's intent is somewhat too narrow in that it fails to consider economic factors. Therefore, I suggest that, for our purposes, the definition of practicable should include those design features that are realistically and reasonably feasible from a technical engineering perspective but they should also be reasonable from a cost effectiveness standpoint.

In establishing the review process for advanced reactors, the Commission desired a process that would perform one review of a technical issue and establish a resolution to that issue that would not be revisited on subsequent combined license application reviews. After further reflection on the direction of the general guidance in the Chairman's vote, I suggest that additional discussion is necessary in the Statements of Consideration for the proposed rule related to the Commission's desire for one review on this important issue. My concerns are not for plants that reference a design certification that has incorporated design modifications to address the potential aircraft impact concern. My concerns relate to the potential action of an applicant that would choose to address the aircraft impact concerns as part of a combined license application without a vendor modification of a previously approved design certification.

Therefore, I recommend that the staff discuss in the accompanying Statements of Consideration that, to the maximum extent possible, plant-specific mitigation actions accepted for a plant with a previously approved design certification will be accepted at all other plants referencing the subject design certification without further staff review.

After careful consideration of the proposal articulated in the Chairman in his recent vote, I find that the proposal encompasses the breadth of the discussions on this complex regulatory subject and reflects a reasonable proposal upon which to solicit public comment. I fully recognize that the proposal contained in the Chairman's vote is just the beginning of the process and that the staff will need to develop the necessary supporting documentation to complete a rulemaking package. However, I believe that this proposal contains the necessary direction and rule language that would permit the staff to develop a rulemaking package that meets the Commission's intended policy on the subject of assessments of postulated beyond design basis aircraft impacts at new nuclear power plants. In order to effectively inform stakeholders who wish to comment on the proposed rule, the staff should make draft guidance supporting implementation of the rule available during the public comment period to those individuals having the proper clearance and the need-to-know.



NOTATION VOTE

RESPONSE SHEET

TO: Annette Vietti-Cook, Secretary

FROM: COMMISSIONER JACZKO

SUBJECT: SECY-06-0204 - PROPOSED RULEMAKING - SECURITY ASSESSMENT REQUIREMENTS FOR NEW NUCLEAR POWER REACTOR DESIGNS (RIN 3150-AH92)

Approved X Disapproved _____ Abstain _____

Not Participating _____

COMMENTS: Below___ Attached X None ___

SIGNATURE

4/5/07

DATE

Entered on "STARS" Yes X No ___

Commissioner Jaczko's Comments on SECY-06-0204
Proposed Rulemaking - Security Assessment Requirements for New Nuclear Power Reactor Designs (RIN3150-AH92)

I believe that any new nuclear power plant built in the U.S. must be required to withstand a commercial aircraft impact. This is an issue I have been raising for more than a year as a vital step to protect the public and provide regulatory stability for applicants about the design standards they will have to meet. Several months ago I circulated a detailed proposal to my colleagues for a regulation that would require any new plants, including existing certified designs, to withstand the impact from a large commercial aircraft crash ("Proposal to Include Aircraft Impact Design Requirements for New Reactors," COMGBJ-07-0001). Unfortunately, a majority of the Commission supported an ineffectual alternative proposed by the Chairman that I cannot support.

This alternative proposal may appear real upon first glance, but closer examination reveals that it lacks substantive requirements. The proposed approach does not include a real regulatory standard that would require the inclusion of design features to minimize the damage an aircraft could cause. Instead, the proposal would put the agency in the untenable position of providing hints and suggestions for applicants and vendors to consider, and then hope their self-interest would incline them to make the necessary improvements. It is, therefore, a convoluted approach for the agency to take to solve a straightforward problem.

The closest the proposal comes to setting an actual standard is to ask applicants to sharpen their pencils and write down on paper how their "designs, functional capabilities and strategies, to the extent practicable, avoid or mitigate the effects of the applicable aircraft impact with reduced reliance on operator actions." This caveated language gives applicants ample opportunity to claim design changes are not "practicable" or simply rely on post-impact mitigation strategies to attempt to lessen the effects of an aircraft impact. Thus, the proposal is to simply have the problem assessed without requiring applicants to make one single design modification. More important, it puts the applicants in the position of deciding which, if any, modifications to make. It is not consistent with Commission policy dating back to 1985 that new designs will provide enhanced margins of safety.

If the Commission does truly agree that the vulnerability of new nuclear power plants to aircraft impacts can and should be largely designed away, the best course of action is to adopt clear and transparent requirements that all applicants actually do so. This type of approach is consistent with the manner in which similar issues have been dealt with by previous Commissions. For example, the NRC has established requirements to address events beyond the traditional design-basis, such as "Requirements for reduction of risk from anticipated transients without scram events for light-water-cooled nuclear power plants"(10 CFR 50.62), "Loss of all alternating current"(10 CFR 50.63), and "Combustible gas control for nuclear power reactors" (10 CFR 50.44). In each case, a significant safety issue was identified, and specific measures for resolving these concerns were written into legally binding regulations.

I am therefore encouraged that Commissioner Lyons has indicated in his vote that he supports an acceptability criterion in the proposed rule for an analysis of aircraft impact design requirements. I appreciate his proposed requirement that the impact of a large commercial aircraft will not expose the general public to significant quantities of radioactive material. Although my proposal is more comprehensive, I support the basic elements outlined in his vote

in the interest of helping move the proposed rule forward to allow the public to weigh in on the appropriate standard the NRC should put in place.

Regardless of the language the majority of the Commission ultimately approves for this proposed rule, I look forward to broad public comment on the rulemaking from vendors, applicants, licensees, Members of Congress and any other stakeholders with an interest in ensuring new nuclear power plants are built to be inherently safer and more secure.

In addition to the Commission voting on my proposal to include aircraft impact design requirements for new reactors, the Commission is also voting on a proposed rule whether applicants should assess the security of new nuclear power plant designs. I approve of the staff's plans and recommendations to publish the proposed rulemaking for "Security Assessment Requirements for New Nuclear Power Reactor Designs" in the Federal Register for public comment. This rulemaking provides the opportunity to identify vulnerabilities in potential new nuclear power plant designs. This information is a necessary step in assessing which design features could be incorporated into new plants to make them inherently safer and more secure. The rule should apply to any new plant built in the United States.

My colleagues, however, have voted against both of these important proposals which were developed with an eye toward strengthening both safety and security.

4/5/07

Gregory B. Jaczko Date

NOTATION VOTE

RESPONSE SHEET

TO: Annette Vietti-Cook, Secretary

FROM: COMMISSIONER LYONS

SUBJECT: SECY-06-0204 - PROPOSED RULEMAKING - SECURITY ASSESSMENT REQUIREMENTS FOR NEW NUCLEAR POWER REACTOR DESIGNS (RIN 3150-AH92)

Approved___ Disapproved X Abstain _____

Not Participating _____

COMMENTS: Below___ Attached_X__ None ___

SIGNATURE

03/ 23 /07

DATE

Entered on "STARS" Yes _X__ No ___

Commissioner Lyons' Comments on SECY-06-0204 (revised)

I revise my earlier vote of January 4, 2007 as follows.

I disapprove the staff's recommendations. I support, in part, the Chairman's proposed rule language and further support that it be published in the *Federal Register* for public comment, subject to the following comments.

The regulatory treatment of beyond-design-basis events (both randomly initiated and deliberate) should be reasonably consistent by maintaining a clear separation between regulatory requirements related to a design-basis-threat and the treatment of beyond-design-basis threats. I believe that the Chairman's proposed rule could accomplish this.

However, I do not believe the Chairman's approach goes far enough in two respects. First, for consistency, I believe the scope of such a rule should include any currently certified design that is referenced by an applicant. I will look to the public rulemaking process to help identify the most appropriate manner in which to achieve such consistency. Second, in order to best achieve the regulatory stability and predictability that is most supportive of our safety mission, I believe that the rule itself should provide an appropriately high-level acceptability criterion. I agree with the Chairman that the aircraft characteristics and scenario provided to applicants by the NRC for the intended assessment will always be one of an unlimited number of possible scenarios, including some that could be more severe. However, I believe this fact leads to a conclusion different from the Chairman's, specifically that if a specific scenario is identified by the NRC, then the NRC must also specify the criterion of acceptability for that scenario. This regulatory approach has been utilized in past rulemakings that have addressed beyond-design-basis-events, such as the high level criterion specified in 10CFR50.63 Loss of All Alternating Current. I believe that clarity of our requirements in this regard is imperative to achieving regulatory stability.

Therefore, I support additional proposed rule text as follows:

> The combination of design features, functional capabilities, and strategies described in the application shall provide a reasonable basis for concluding that the impact of a large commercial aircraft shall not expose the general public to significant quantities of radioactive material.

I would also support greater detail to be placed either in the SoC or appropriate regulatory guidance or both.

If majority Commission support is not attained for either of these approaches (i.e. scope and criterion), then public comment should be specifically solicited on them.

In supporting the Chairman's proposed rule, I want to clearly state that I believe the requirements to provide mitigation strategies for large area fires and explosions currently imposed on operating reactors today, and the similar requirements for future reactors that are expected to be codified in 10 CFR 73.55 and related regulations, are adequate to achieve reasonable assurance of public health and safety. I also continue to believe that subsequent generations of plants to be built in the U.S. will be inherently more capable of resisting beyond design basis events, including that of aircraft crashes, due to safety improvements previously

incorporated into these designs. The addition of a rule to specifically address an aircraft crash threat, treated as a beyond design basis event using realistic analysis methods and assumptions, will provide additional public confidence that all reasonable design measures were taken to add additional margin beyond the adequate protection standard that was already met through compliance with 73.55. Because this is incremental added margin for a beyond design basis event, I believe that the Commission must be clear that the choice of aircraft characteristics and the scenario used for this analysis will not be linked to threat assessments or to any evolution of aircraft design. Further, I believe that a high-level acceptance criterion related to this rule, such as that which I have proposed, may be met by an analysis that either

a) demonstrates an acceptable dose at the site boundary or

b) demonstrates that the core remains cooled or the containment remains intact, and that spent fuel cooling is maintained.

These acceptable approaches to meeting the criterion should be specifically mentioned in the Statement of Considerations for this rule.

I would also support directing the staff to complete the guidance being developed for the proposed 10CFR73.62 rule for performing a security assessment and make this guidance available to plant vendors and applicants in an appropriate manner.

Peter B. Lyons 3/23/07

Peter B. Lyons Date