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**From:** <amyc@northwestern.edu>  
**To:** <secy@nrc.gov>  
**Date:** Mon, Dec 17, 2007 1:06 PM  
**Subject:** Public Comment on RIN 3150-AI19 Aircraft Impact Rule

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December 17, 2007 (3:10pm)

Please accept these comments on the proposed rule under 10 CFR Part 52; Consideration of Aircraft Impacts for New Nuclear Power Reactor Designs

OFFICE OF SECRETARY  
R.I.I. EMAKINGS AND  
AD.II INDICATIONS STAFF

Comments on RIN 3150-AI19

Comment 1.

The proposed rule requires applicants to perform an assessment of the effects of aircraft impact, but does not require that the assessment be submitted to the NRC. The only requirement is a description of the design features, functional capabilities, and strategies to avoid or mitigate. This language imposes no substantive requirement. An applicant can site the features of the design as it existed without benefit of this rule; state that these features mitigate the effects of the impact and the rule has been satisfied. The rule is thus too vague.

Comment 2.

There is no basis or justification for failing to include the specific values associated with the parameters stated in the proposed rule. Placing the specific parameters to use for the analysis in a separate guidance documents is unnecessary and fundamentally undermines the value of the rule and unnecessarily prevents meaningful involvement from the public and experts in industry and academia. With the values associated with the specific parameters in a guidance documents, applicants are not required to use them. The proposed rule would allow an applicant to use any values for the parameters as long as they conform to the general characteristics set forth in the rule.

The aircraft parameters imposed by the commission for these evaluations should be publicly available. The parameters should be, at a minimum, those observed on 9/11. The relevant aircraft parameters observed on 9/11 have been previously published in numerous government documents and there are no security restrictions on this information. These parameters include and aircraft type, weight, speed, and fuel load. Further, considering the 9/11 attackers were able to hit the first floor of the Pentagon, this fact provides ample evidence that aircraft of this size and speed can strike structures with a low profile. As reported in the American Society of Civil Engineers

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report on the Pentagon building performance, the plane that struck that building had a weight of 180,000 pounds at impact, with a speed of 530 miles per hour, with roughly 5000 gallons of fuel at impact. The planes that struck the world Trade Center buildings were reported by the Federal Emergency Management Agency in their May 2002 report as traveling 470 mph and 590 mph and carrying roughly 10,000 gallons of fuel.

Public reports list the maximum takeoff weight of a Boeing 767 as roughly 395,000 pounds. The angle of attack should be restricted to 0 to 25 degrees which is consistent with published studies on the performance parameters of aircraft of this type.

In summary, the rule should require that an analysis be conducted with an aircraft of 395,000 pounds, a speed of 590 miles per hour and a fuel load of 10,000 gallons and an angle of attack of up to 25 degrees.

The NRC may need to keep the specific details of the results of these evaluations secret but the input parameters should be made publicly available.

#### Comment 3.

Consistent with other transportation hazards, the applicant should be required to forecast to end-of-life of the license, the relevant parameters of size, speed, and angle of attack. This should be done in a realistic fashion and the parameters should be forecast considering current trends in the industry. Specifically, speed and weight should be considered together such that the forecasted weight of a large commercial aircraft in the year 2050 is not applied to the speed of a small corporate jet.

#### Comment 4.

Due to the potential for site specific screening based on local topology, the rule should apply to all applicants including those designs that are already certified.

#### Comment 5.

The rule should apply to designs that are already certified including the ABWR and AP1000.

#### Comment 6.

The rule should include specific thresholds for the adoption of design features.

#### Comment 7.

The rule should require the adoption of design features that would enable the applicant to ensure no release in excess of 10 CFR Part 100 limits. The applicant should only be allowed to assume outside assistance after a period of 72 hours.

Comment 8.

The rule should define "practicable" as the term applies to this rule. The rule should state general characteristics of "practicable" and details of the definition could be provided in publicly available guidance documents.

Comment 9.

The rule should define "reduced reliance on operator actions." The rule should state the baseline for the measure of the reduction and details of the methodology should be provided in publicly available guidance documents.

Regards,

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