

DOCKET NUMBER
PROPOSED RULE PR 52
(70FR 20062)

DOCKETED
USNRC

2

Secretary
US Nuclear Regulatory Commission
Washington DC 20555-0001
Attn. Rulemakings and Adjudication Staff

July 5, 2005 (3:40pm)

OFFICE OF SECRETARY
RULEMAKINGS AND
ADJUDICATIONS STAFF

July 5, 2005

Re: "AP1000 design certification amendment" and "Environmental Assessment by the U.S. Nuclear Regulatory Commission Relating to the Certification of the AP1000 and Finding of No Significant Impact" Docket No. 52-006

RIN 3150AH56

Supplemental Comments: Liz Cullington, 390 Rocky Hills Road, Pittsboro NC 27312

In considering, and rejecting, 15 Serious Accident Mitigation Design Alternatives (SAMDA) for the AP1000 in the Environmental Assessment (EA), the NRC relies on flawed analysis methods that I have already identified in comments submitted on June 30th, 2005.

There is an additional flaw in that methodology, however, which is just as significant, and which should be remedied when these calculations are redone correctly, and which is further evidence that it would be premature to accept the faulty conclusions of the EA, or to place SAMDA overall off-limits to a site specific EIS.

A. The SAMDA cost-benefit analysis incorrectly assumes a single reactor

The SAMDA cost-benefit analysis is based on a single plant model, even though this design, once certified and standardized, could be referenced for up to 100 plants in the US alone. (This is a totally arbitrary figure, based on the number of previous generation PWRs constructed before market saturation. What we do know is that the certified design would apply to more than one reactor, and the number of reactors it would apply to is essentially limited only by demand.)

So the costs of any re-engineering and re-analysis involved in the incorporation of any of the identified SAMDA, that have not in fact already been performed as part of the applicant's current analysis of risk and SAMDA, would only have to be done once for each SAMDA, and would be a single cost, a single effort, applicable to the standardized design, but which would be incorporated across the board at many plants, once licensed for construction.

Thus while the cost of implementing a SAMDA should include only engineering cost, not component cost, the benefit would accrue to many plants (and their applicable populations),

While the NRC might argue that a single plant model was taken as representative, it is simply flat wrong to calculate the benefit of a SAMDA based on (solely) the public exposure (avoided) at a single plant, when the cost (however calculated) would not apply to each plant, but would be done once and then apply to all plants referencing this design.

B. Increasing the number of reactors from one increases the risk of an accident and thus increases the benefit of implementing a SAMDA

Since the Westinghouse/NRC analysis apparently relied on probabilistic risk assessment (PRA) methods, the use of a single plant model is faulty on this score also, because the risk of a particular accident occurring at a single plant is not the same as the risk of it occurring at any one of ten, fifty

Template=SECY-067

SECY-02

or a hundred plants. This is simply mathematics.

So the "benefit" calculated in the EA for each SAMDA as lower than the cost of its implementation is further artificially depressed: not only by the omission of on-site damage and cleanup costs, replacement power, and the calculation of true off-site costs, *but also by the use of an inappropriately low calculation of risk.*

Thus the rationalization for eliminating further consideration of SAMDAs is shown to be totally bogus. A more accurate method for achieving standardization would be to take (solely) any additional re-engineering costs required and then balance 100th of that one cost against the risk and benefit (including damage, repairs and replacement power and all other applicable costs) per plant, assuming 100 plants and thus an elevated risk over that used in the EA.

It would be interesting to see, even on the basis of more accurate cost-benefit calculations, which of the SAMDAs already considered in the EA would be "cost-beneficial" on the basis of five plants, which for ten, which for twenty, which for fifty and so on. This would reveal how faulty the single plant model is for a design certification which could be referenced for possibly hundreds of reactors.

C. Inappropriate introduction of cost into what should be purely a safety review

It is unclear how cost considerations are allowed to influence the design certification process at all. This is not in any way similar to the case of back-fitting an operating reactor, as a result of new safety and risk concerns identified after a plant was licensed and built. This is a case where a plant design is being certified and standardized while ignoring safety and risk considerations that are known now, before any reactors of this design are licensed or built.

The certification process should be solely concerned with risk. Yet it seems clear that a little noticed "certification amendment" is being used to eliminate SAMDAs from any future plant-specific EIS, where such bogus cost-benefit calculations might be open to greater scrutiny.

Mail Envelope Properties (42CAD3EA.9B8 : 17 : 18872)

Subject: RIN 3150-AH56
Creation Date: Tue, Jul 5, 2005 2:44 PM
From: Liz Cullington <ecullington@earthlink.net>

Created By: ecullington@earthlink.net

Recipients

nrc.gov

owf5_po.OWFN_DO

SECY (Secretary SECY)

Post Office

owf5_po.OWFN_DO

Route

nrc.gov

Files	Size	Date & Time
Suppl.comment RIN 3150-AH56.pdf		113875
Mime.822	157046	

Options

Expiration Date: None
Priority: Standard
Reply Requested: No
Return Notification: None

Concealed Subject: No
Security: Standard