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OFFICE OF SECRETARY
DOCKETING & SERVICE
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April 21, 1982

Secretary of the Commission
U. S. Nuclear Regulatory Commission
Washington, DC 20555

Subject: Proposed Rule - Standards for the Reduction of Risk
from Anticipated Transients Without Scram (ATWS) Events
for Light Water Cooled Nuclear Plants (46 FR 57521).

Attention: Docketing and Service Branch

Dear Sir:

The Atomic Industrial Forum's Committee on Reactor Licensing and Safety (CRLS) has reviewed the subject proposed rules and offers the following comments for your consideration.

Enclosed for your attention is an estimate prepared by one of our utility members of the minimum cost impact of each of the three proposed rules on its plants. Although we would expect variations of these estimates on different plants, we believe these numbers to be representative and typical. Accordingly, when all affected plants are considered, the total impact on utilities from implementing ATWS fixes will very likely be in the range of a half billion dollars---greater or less depending on whether the Utility Group or Staff proposed rule is, in fact, implemented. In view of the potential magnitude of this expenditure, it would appear reasonable to require that the benefits be more clearly defined than is currently the case.

The AIF CRLS has consistently argued that proposed ATWS fixes, as well as proposed solutions to other low probability events, should be judged on the basis of their merits against some clearly defined and well understood safety goals, including cost-benefit criteria. The staff has recently issued for comment NUREG 0880, "Safety Goals for Nuclear Power Plants A Discussion Paper", which should evolve in the relatively near term into a framework capable of permitting such an evaluation.

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Certain elements of the proposed "Hendrie Rule" embody this principle, viz. "...regulating the process by which licensees ensure public health and safety and away from licensing the details of plant design and operation." We believe that this approach is entirely consistent with a mandate that low probability events be evaluated against safety goals.

The "value-impact" evaluations that have been performed by the Staff (e.g., NUREG-0460) typically underestimate the costs that we believe to be likely and indicate ATWS probabilities which are higher than those we have seen from PRA analyses which have been performed in the interim. Also, the NRC analyses are notably deficient insofar as their consequence definition, and do not consider the positive impacts of changes in plant designs and operating procedure which have occurred over the last several years.

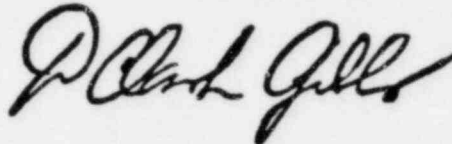
Recently, both the NRC and the nuclear industry have recognized a serious need to coordinate new regulations and to avoid duplicative efforts and expenditures and to assure that modifications enhance one another. This is evidenced by positions taken by Chairman Palladino, development of the Committee to Review Generic Requirements (CRGR), formation of INPO, NSAC, and a significant expansion by the industry of utility "owners groups". Yet the ATWS issue seems to have endured as a "stand alone" issue, unaffected by these events. We recommend that the NRC have the proposed ATWS rules reviewed by the CRGR to assure that ATWS is properly integrated with consideration of the multitude of new requirements which have been developed since the TMI-2 accident. This review should consider the hardware and software requirements proposed by the three rules in the context of the many actions taken over the last several years, particularly those in response to TMI-2, that will, in our judgement, show that much has already been or is now being accomplished to reduce ATWS risk.

In conclusion, we recommend that the NRC take no action with respect to ATWS at this time pending the completion of the development of the safety goal policy and implementing procedures. At that time, the ATWS proposals can be reviewed on the

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basis of their merits by CRGR against these goals in a fashion which is considerably more likely to be broadly acceptable than are the current proposals. In view of the magnitude of the potential expenditures, the very low risk of consequences from ATWS, and other more current and pressing problems demanding industry attention, we believe this to be an entirely appropriate and responsible recommendation.

Very truly yours,

A handwritten signature in cursive script, appearing to read "D. Clark Gibbs".

D. Clark Gibbs
Chairman, Committee on
Reactor Licensing and Safety

DCG:hly
Enclosures

Minimum Costs Estimated for ATWS Hendrie Rule¹

	Plants with OL's on or before 8/22/69	Plants with OL's after 8/22/69 but before 3 years after rule		Plants with OL's more than 3 years after rule
	<u>W Plant</u>	<u>CE Plant</u>	<u>GE Plant</u>	<u>W Plant</u>
1. engineering	\$440K	\$440K	\$265K	440K
2. hardware	1030K	1827K	414K	1920K
3. installation	886K	872K	584K	880K
4. O & M	2000K ²	2000K ²	2000K ³	2000K ²
5. AFDUC	105K	105K	80K	1200K
6. training	5K	5K	5K	5K
7. procedures	33K	33K	33K	33K
8. analysis	500K	500K	500K	500K
9. reliability/QA program	400K	400K	400K	400K
10. licensing and tech. spec. changes including hearing costs (if any)	500K	500K	500K	500K
11. derivative impacts on the nuclear industry and the public ⁴	--	--	--	--
TOTAL	<u>\$5.9M</u>	<u>6.7M</u>	<u>4.8M</u>	<u>7.9M</u>

Notes

- 1 Assuming the implementation schedule set out in the Hendrie rule.
- 2 This estimate assumes approximately one day down time caused by an inadvertant actuation of the required turbine trip circuitry and approximately one day down time caused by an inadvertant actuation of the required RPT and approximately one day down time caused by an inadvertant trip due to addition of the required instruments.
- 3 This estimate assumes approximately one day down time caused by inadvertant actuation of the required RPT and approximately one day down time due to inadvertant actuation of the required auto SLCS.
- 4 Impacts could include any adverse impacts due to higher regulatory costs including higher cost of money, fewer utilities willing to order new reactors, higher electricity costs, greater dependence on fossil fuels, etc. Costs resulting from these impacts have not been estimated.

Minimum Costs Estimated for ATWS Utility Group Rule

Plants with OL's 3 years
after rule¹

Plants receiving OL's more
than 3 years after rule²

	<u>W Plant</u>	<u>CE Plant</u>	<u>GE Plant</u>	<u>W Plant</u>
1. engineering	\$240K	\$355K	\$295K	\$240K
2. hardware	320K	560K	365K	320K
3. installation	430K	660K	534K	430K
4. O & M	1000K ³	2000K ⁴	2000K ⁵	1000K ³
5. AFDUC	55K	80K	35K	600K
6. training	5K	5K	5K	5K
7. procedures	33K	33K	33K	33K
8. analysis				
a. ATWS specific	500K	500K	500K	500K
b. Residual risk ⁶	50K	50K	50K	50K
9. reliability/QA program	--	--	--	--
10. licensing and tech. spec. changes industry and the public	100K	100K	100K	100K
11. derivative impacts on the nuclear industry and the public ⁷	--	--	--	--
TOTAL	<u>\$2.7M</u>	<u>4.3M</u>	<u>3.9M</u>	<u>3.3M</u>

Notes

- 1 Training and procedural changes are to be implemented within one year of the rule and design changes within 3 years.
- 2 Training, procedural and design changes are to be implemented before receiving an OL.
- 3 This estimate assumes approximately one day down time caused by an inadvertant actuation of the required turbine trip circuitry.
- 4 This estimate assumes approximately one day down time caused by an inadvertant actuation of the required turbine trip circuitry and approximately one day down time caused by an inadvertant actuation of the required alternate scram system.
- 5 This estimate assumes approximately one day down time caused by an inadvertant actuation of the required alternate scram system and approximately one day down time caused by an inadvertant actuation of the required RPT.
- 6 Added cost of safety goal, severe accident rule and PRA's attributable to having to consider residual ATWS risks.
- 7 Impacts could include any adverse impacts due to higher regulatory costs including higher cost of money, fewer utilities willing to order new reactors, higher electricity costs, greater dependence on fossil fuels, etc. Costs resulting from these impacts have not been estimated.

Minimum Costs Estimated for ATWC Staff Rule¹

	Plants with OL's on or before 8/22/69	Plants with OL's after 8/22/69 but before 1/1/84		Plants with OL's more than 3 years after rule
	<u>W Plant</u>	<u>CE Plant</u>	<u>GE Plant</u>	<u>W Plant</u>
1. engineering	\$440K	\$605K	\$415K	\$440K
2. hardware	1030K	2187K	654K	1920K
3. installation	886K	1162K	584K	680K
4. O & M	2000K ²	3000K ³	4000K ⁴	2000K ²
5. AFDUC	105K	135K	105K	1200K
6. training	10K	10K	10K	10K
7. procedures	66K	66K	66K	66K
8. analysis	600K	600K	600K	600K
9. reliability/QA program	--	--	--	--
10. licensing and tech. spec. changes including hearing costs (if any)	500K	500K	500K	500K
11. derivative impacts on the nuclear industry and the public ⁵	--	--	--	--
TOTAL	<u>\$5.6M</u>	<u>8.3M</u>	<u>7.2M</u>	<u>7.4M</u>

Notes

- 1 Assuming the implementation schedule set out in the Staff rule.
- 2 This estimate assumes approximately one day down time caused by inadvertent actuation of the required turbine trip circuitry, and approximately one day down time caused by inadvertent containment isolation.
- 3 This estimate assumes approximately one day down time caused by inadvertent actuation of the required turbine trip circuitry, and approximately one day down time caused by inadvertent containment isolation.
- 4 This estimate assumes approximately one day down time caused by inadvertent actuation of the required alternate scram system, approximately one day down time caused by inadvertent actuation of the required RPT, approximately one day down time caused by inadvertent actuation of the required auto. SLCS, and approximately one day down time caused by inadvertent actuation of the required automatic feedwater runback system.
- 5 Impacts could include any adverse impacts due to higher regulatory costs including higher cost of money, fewer utilities willing to order new reactors, higher electricity costs, greater dependence on fossil fuels, etc. Costs resulting from these impacts have not been estimated.