



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

OFFICE OF THE
COMMISSIONER

October 27, 1980



MEMORANDUM FOR CHAIRMAN AHEARNE
COMMISSIONER HENDRIE
COMMISSIONER BRADFORD

SUBJECT: ICE CONDENSER AND MARK III CONTAINMENTS

In approving the issuance of the Sequoyah full power license, the Commission required measures for hydrogen control in the ice condenser containment. Now the Commission needs to deal with the other ice condenser and Mark III plants.

In response to my request, OPE prepared the attached tabulation of the status of reactor units with ice condenser or Mark III containments. Those containments have design strengths of 15 psig or less and, like Sequoyah Unit 1, cannot in the absence of further analysis be counted on to remain intact following a hydrogen burn similar to that at TMI-2.

The units on the attached table can be grouped within the following categories: (1) those with the containment construction completed or essentially completed (all of the ice condenser plants and 5 of the 19 active Mark III cases), (2) those with a small percentage of the containment constructed (7 Mark III units), (3) those with a CP granted but with little or no part of the containment constructed (2 Mark III units) and (4) those under CP review (5 Mark III units). (I would add the Manufacturing License application to this last category.)

We should not at this point dismiss the possibility of requiring all plants except those in the first category to either be inerted or to be redesigned to a higher containment design pressure -- one that is sufficiently high so that there is reasonable assurance that the containments will remain intact following a burn of a substantial quantity of hydrogen. For those plants in the first category, we should direct the staff to require the same measures at them that are or will be required of Sequoyah. Even here I would continue to study the inerting option as a back-up.

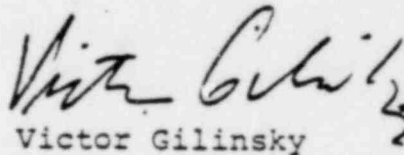
I have treated the Mark III on a par with the ice condenser plants on the basis of NRR presentations both in terms of the problem they pose and their resistance to inerting. If the Mark III containments can be inerted then construction of the Mark III plants need not be affected. If there is a plausible argument to be made to distinguish Mark III's

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from ice condenser plants in terms of accident risk, we should hear it.

In any case, as I have said before, I believe we should require protection against what we have experienced. And we should face the issue of weak containments now. If the Commission defers acting on this problem until completion of the degraded core cooling rulemaking -- an undertaking of several years -- it will foreclose important options.

I would like to meet on this subject within 2 weeks.


Victor Gilinsky

Attachment:
As stated

cc: S. Chilk, SECY
E. Hanrahan, OPE
L. Bickwit, OGC
W. Dircks, EDO

Unit	Date of CP Applications	Review Stage* & Projected Licensing Date	Licensing** Board Status	Status of Construction of 1/ Containment	Design Strength of Containment - PSI
ICE CONDENSERS					
D. C. Cook 1	12/67	Operating	--	Complete	12
D. C. Cook 2	12/67	Operating	--	Complete	12
Sequoyah 1	10/68	Operating - 9/80	--	Complete	12
Sequoyah 2	10/68	OL Review - 7/81	Uncontested	Complete	12
McGuire 1	9/70	OL review - 12/80	Contested	Complete	15
McGuire 2	9/70	OL review - 6/82	Contested	Complete	15
Catawba 1	10/72	CP granted - 10/83	Contested	Complete	15
Catawba 2	10/72	CP granted - 2/85	Contested	90% complete	15
Watts Bar 1	5/71	OL review - 11/81	Uncontested	Complete	15

*Under CP Review, CP granted, under OL review, operating

**Contested/Uncontested

1/Items considered in containment construction - installation of basemat, containment liner and structures, containment penetrations, & containment concrete

Unit	Date of CP Applications	Review Stage* & Projected Licensing Date	Licensing** Board Status	Status of Construction of Containment	Design Strength of Containment - PSI
ICE COMPRESSERS (Cont'd)					
Watts Bar 2	5/73	OL review - 8/82	Uncontested	90% complete	15
Atlantic Generating Station 1	73	Withdrew application			
Atlantic Generating Station 2	73	Withdrew application			

*Under CP review, CP granted, under OL review, operating

**Contested/uncontested

1/Items considered in containment construction - Installation of basemat, containment liner and structures, containment penetrations, & containment concrete

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Unit	Date of CP Applications	Review Stage* & Projected Licensing Date	Licensing** Board Status	Status of Construction of 1/ Containment	Design Strength of Containment - PSI
HARR III					
Perry 1	6/73	CP granted - 7/83	Contested	80%	15
Perry 2	6/73	CP granted - 5/87	Contested	60%	15
River Bend 1	9/73	CP granted - 10/85	Contested	15%	15
River Bend 2	9/73	CP granted - 1/95	Contested	0%	15
Allens Creek	12/73	CP review	Contested	0%	15
Clinton 1	10/73	OL review - 3/83	Contested	85%	15
Clinton 2	10/73	OL review - 10/87	Contested	0%	15
Grand Gulf 1	11/72	OL review - 8/81	Uncontested	95%	15
Grand Gulf 2	11/72	OL review - 8/85	Uncontested	75%	15

*Under CP Review, CP granted, under OL review, operating

**Contested/Uncontested

1/ Items considered - Drywell and suppression chamber, containment penetrations

Unit	Date of CP Applications	Review Stage* & Projected Licensing Date	Licensing** Board Status	Status of Construction of 1/ Containment	Design Strength of Containment - PSI
MARK III (Cont'd)					
Montague 1	7/74	Withdrew application			
Montague 2	7/74	Withdrew application			
Black Fox 1	12/75	CP review	Contested	0%	15
Black Fox 2	12/75	CP review	Contested	0%	15
Skagit 1	9/74	CP review	Contested	0%	15
Skagit 2	9/74	CP review	Contested	0%	15
Hartsville A-1	9/74	CP granted - 1/87	Unknown	30%	15
Hartsville A-2	9/74	CP granted - 10/87	Unknown	15%	15
Hartsville B-1	9/74	CP granted - 7/94	Unknown	15%	15

*Under CP Review, CP granted, under OL review, operating

**Contested/Uncontested

1/ Items considered - Drywell suppression chamber, containment penetrations

POOR ORIGINAL

Unit	Date of CP Applications	Review Stage & Projected Licensing Date	Licensing** Board Status	Status of Construction of 1/ Containment	Design Strength of Containment - PSI
MARK III (Cont'd)					
Hartsville 0-2	9/74	CP granted - 7/95	Unknown	15%	15
Philpps Bend 1	11/75	CP granted - 12/87	Unknown	10%	15
Philpps Bend 2	11/75	CP granted - 7/93	Unknown	5%	15

*Under CP Review, CP granted, under (H) review, operating

**Contested/Uncontested

1/ Items considered - Drywell suppression chamber, containment penetrations

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