

2/3/81

C. Files

ALL POWER REACTOR LICENSEES

Docket No. 50-348  
Farley Unit 1

Docket No. 50-313  
Arkansas Unit 1

Docket No. 50-368  
Arkansas Unit 2

Docket No. 50-317  
Calvert Cliffs Unit 1

Docket No. 50-318  
Calvert Cliffs Unit 2

Docket No. 50-293  
Pilgrim Unit 1

Docket No. 50-325  
Brunswick Unit 1

Docket No. 50-324  
Brunswick Unit 2

Docket No. 50-261  
H. B. Robinson Unit 2

Docket No. 50-10  
Dresden Unit 1

Docket No. 50-237  
Dresden Unit 2

Docket No. 50-249  
Dresden Unit 3

Docket No. 50-254  
Quad-Cities Unit 1

Docket No. 50-265  
Quad-Cities Unit 2

Docket No. 50-295  
Zion Unit 1

Docket No. 50-304  
Zion Unit 2

Docket No. 50-213  
Connecticut Yankee (Haddam Neck)

Docket No. 50-3  
Indian Point Unit 1

Docket No. 50-247  
Indian Point Unit 2

Docket 50-286  
Indian Point Unit 3

Docket No. 50-155  
Big Rock Point

Docket No. 50-255  
Palisades

Docket No. 50-409  
Lacrosse

Docket No. 50-269  
Oconee Unit 1

Docket No. 50-270  
Oconee Unit 2

Docket No. 50-287  
Oconee Unit 3

Docket No. 50-334  
Beaver Valley Unit 1

Docket No. 50-302  
Crystal River 3

Docket No. 50-335  
St. Lucie Unit 1

Docket No. 50-250  
Turkey Point Unit 3

Docket No. 50-251  
Turkey Point Unit 4

Docket No. 50-321  
Edwin I. Hatch Unit 1

Docket No. 50-366  
Edwin I. Hatch Unit 2

Docket No. 50-315  
D. C. Cook Unit 1



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TDK-5  
Info-LTR

Docket No. 50-316  
D. C. Cook Unit 2

Docket No. 50-331  
Duane Arnold

Docket No. 50-219  
Oyster Creek Unit 1

Docket No. 50-309  
Maine Yankee

Docket No. 50-289  
Three Mile Island Unit 1

Docket No. 50-320  
Three Mile Island Unit 2

Docket No. 50-298  
Cooper Station

Docket No. 50-220  
Nine Mile Point Unit 1

Docket No. 50-245  
Millstone Unit 1

Docket No. 50-336  
Millstone Unit 2

Docket No. 50-263  
Monticello

Docket No. 50-282  
Prairie Island Unit 1

Docket No. 50-306  
Prairie Island Unit 2

Docket No. 50-285  
Ft. Calhoun

Docket No. 50-133  
Humboldt Bay

Docket No. 50-277  
Peach Bottom 2

Docket No. 50-278  
Peach Bottom 3

Docket No. 50-344  
Trojan

Docket No. 50-333  
FitzPatrick

Docket No. 50-267  
Ft. St. Vrain

Docket No. 50-272  
Salem Unit 1

Docket No. 50-244  
R. E. Ginna 1

Docket No. 50-312  
Rancho Seco

Docket No. 50-206  
San Onofre 1

Docket No. 50-259  
Browns Ferry Unit 1

Docket No. 50-260  
Browns Ferry Unit 2

Docket No. 50-296  
Browns Ferry Unit 3

Docket No. 50-346  
Davis-Besse 1

Docket No. 50-271  
Vermont Yankee

Docket No. 50-338  
North Anna 1

Docket No. 50-280  
Surry Unit 1

Docket No. 50-281  
Surry Unit 2

Docket No. 50-266  
Point Beach Unit 1

Docket No. 50-301  
Point Beach Unit 2

Docket No. 50-305  
Kewaunee

Docket No. 50-29  
Yankee-Rowe

Docket No. 50-339  
North Anna 2

Docket No. 50-311  
Salem 2

PLANTS UNDER OL REVIEW

1. Clinton 1/2	50-461/462
2. Byron 1/2	50-454, 455
3. Braidwood 1/2	50-456/457
4. LaSalle 1/2	50-373, 374
5. Midland 1/2	50-329, 330
6. McGuire 2	50- 370
7. So. Texas 1/2	50-498, 499
8. Shoreham	50-322
9. Waterford	50-382
10. Grand Gulf 1/2	50-416/417
11. Diablo Canyon 1/2	50-275, 323
12. Susquehanna 1/2	50-387, 388
13. St. Lucie 2	50-389
14. Summer 1	50-395
15. San Onofre 2/3	50-361, 362
16. Bellefonte 1/2	50-438, 439
17. Watts Bar 1/2	50-390, 391
18. Sequoyah 2	50- 328
19. Comanche Peak 1/2	50-445, 446
20.	
21. WPPSS-2	50-397
22. Fermi 2	50-341
23. Zimmer 1	50-358
24. Perry 1/2	50-440, 441
25. Palo Verde	50-528, 529, 530
26. Catawba	50-413, 414
27. Marble Hill	50-546, 547
28. Wolf Creek	50-482
29. Callaway	50-483, 486

FEB 27 1981

OPERATING PLANTS

1. Sequoyah 1	50-327
2. Salem 2	50-311
3. McGuire 1	50-369
4. Farley 2	50-364

PLANTS UNDER CONSTRUCTION

1. Cherokee 1/2/3	50-491, 492, 493
2. Beaver Valley 2	50-412
3. St. Lucie 2	50-389
4. Vogtle 1/2	50-424, 425
5. River Bend 1/2	50-458, 459
6.	
7. Forked River	50-363
8. Nine Mile Point 2	50-410
9. Millstone 3.	50-423
10. Bailly 2	50-367
11. Limerick 1/2	50-352, 353
12. Hope Creek 1/2	50-354, 355
13. Seabrook 1/2	50-443, 444
14.	
15. Hartsville 1/2/3/4	50-518, 519, 520, 521
16. Phipps Bend 1/2	50-553, 554
17. Yellow Creek 1/2	50-566, 567
18. WPPSS 1/3/4/5	50-460, 508, 513, 509
19. Harris 1/2/3/4	50-400, 401, 402, 403
20. FNP	50-437



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

February 3, 1981

TO ALL LICENSEES OF OPERATING PLANTS AND APPLICANTS FOR OPERATING LICENSES  
AND HOLDERS OF CONSTRUCTION PERMITS\*

SUBJECT: CONTROL OF HEAVY LOADS (Generic Letter 81-07)

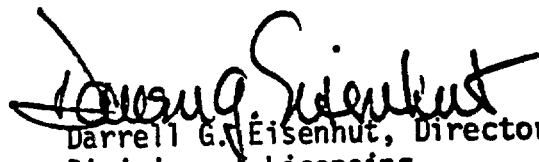
Gentlemen:

By our letter dated December 22, 1980, you were requested to review your controls of the handling of heavy loads to determine the extent to which the guidelines of NUREG-0612 are presently satisfied at your facility and to identify the changes and modifications that would be required in order to fully satisfy these guidelines.

To expedite your review, three enclosures were included with the letter. One of the enclosures was Request for Additional Information on Control of Heavy Loads (Enclosure 3). We have found that five pages from Enclosure 3 were missing due to a reproduction error. The missing pages are enclosed with this letter. In addition the December 22, 1980, letter on Page 2 in Item 1 required that information identified in Section 2.1 through 2.4 of Enclosure 3 be included in a report documenting the results of your review. This requirement should be modified to read: "Sections 2.1 through 2.4 for PWR plants and Sections 2.1 through 2.3 for BWR plants."

Because of these errors we are extending the Enclosure 2 90-day implementation requirement to May 15, 1981.

Sincerely,

  
Darrell G. Eisenhut, Director  
Division of Licensing

Enclosure:  
"Enclosure 3" missing  
pages

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\*With the exception of licensees for Indian Point 2 and 3, Zion 1 and 2 and Three Mile Island 1

## ANALYSIS OF PLANT STRUCTURES

The following information should be provided for analyses conducted to demonstrate compliance with Criteria III and IV of NUREG 0612, Section 5.1.

## 1. INITIAL CONDITIONS/ASSUMPTIONS

Discuss the assumptions used in the analysis, including:

- a. Weight of heavy load
- b. Impact area of load
- c. Drop height
- d. Drop location
- e. Assumptions regarding credit taken in the analysis for the action of impact limiters
- f. Thickness of walls or floor slabs impacted
- g. Assumptions regarding drag forces caused by the environment
- h. Load combinations considered
- i. Material properties of steel and concrete

## 2. METHOD OF ANALYSIS

Provide the method of analysis used to demonstrate that sufficient load-carrying capability exists within the wall(s) or floor slab(s). Identify any computer codes employed, and provide a description of their capabilities. If test data was employed, provide it and describe its applicability.

## 3. CONCLUSION

Provide an evaluation comparing the results of this analysis with Criteria III and IV of NUREG 0612, Section 5.1. Where safe-shutdown equipment has a ceiling or wall separating it from an overhead handling system, provide an evaluation to demonstrate that postulated load drops do not penetrate the ceiling or cause secondary missiles that could prevent a safe-shutdown system from performing its safety function.

- (3) A description of any Engineered Safety Feature filter system which includes information sufficient to demonstrate compliance with the guidelines of USNRC Regulatory Guide 1.52, "Design, Testing, and Maintenance Criteria for Engineered Safety Feature Atmosphere Cleanup System Air Filtration and Absorption Units of Light-Water-Cooled Nuclear Power Plants."
- (4) A discussion of any initial conditions (e.g., manual valves locked shut, containment airlocks or equipment hatches shut) necessary to ensure that releases will be terminated or mitigated upon Engineered Safety Feature actuation and the measures employed (i.e., Technical Specification and administrative controls) to ensure that these initial conditions are satisfied and that Engineered Safety Feature systems are operable prior to the load lift.

## 2. METHOD OF ANALYSIS

Discuss the method of analysis used to demonstrate that post-accident dose will be well within 10CFR100 limits. In presenting methodology used in determining the radiological consequences, the following information should be provided.

- a. A description of the mathematical or physical model employed.
- b. An identification and summary of any computer program used in this analysis.
- c. The consideration of uncertainties in calculational methods, equipment performance, instrumentation response characteristics, or other indeterminate effects taken into account in the evaluation of the results.

## 3. CONCLUSION

Provide an evaluation comparing the results of the analysis to Criterion I of NUREG 0612, Section 5.1. If the postulated heavy-load-drop accident analyzed bounds other postulated heavy-load drops, a list of these bounded heavy loads should be provided.



bounds other postulated heavy-load drops, a list of these bounded heavy loads should be provided.

SHIELDED SHIPPING CASKS CERTIFICATED  
FOR NUCLEAR POWER PLANTSII - Waste

<u>CERT.</u>	<u>MODEL</u>	<u>PRIMARY LICENSEE</u>	<u>GROSS LOT IN LBS. (APPROX.)</u>	<u>SECONDARY LICENSEE*</u>
6744	Poly Tiger	Nuclear Engineering Co.	35,000	APL, BEC, CPC, DLP, MEC, NPP, SMO, VEP
6771	SN-1	Nuclear Engineering Co.	60,000	APL, CPC, DLP, NPP, SMO, VEP
9074	AP-100		28,000	DLC
9079	EN-100 Ser. 2	Hittman Nuclear and Development Corp.	98,000	APL, BGE, CEC, CWE, DLP, IME, JCP, MYA, MEC, NPP, PEC
9080	EN-600	Hittman Nuclear and Development Corp.	42,000	BGE, CWE, CEC, DLP, IME, IEL, JCP, MYA, MEC, NPP, PEC, YAC
9086	EN-100 Ser. 1	Hittman Nuclear and Development Corp.	46,000	APL, BGE, CWE, DLP, IME, JCP, MYA, MEC, NPP, NNE, PEC, RGE, VYC
9089	EN-100S	Hittman Nuclear and Development Corp.	36,500	BGE, CWE, CEC, IME, JCP, MYA, NPP, PEC
9092	EN-300	Hittman Nuclear and Development Corp.	43,000	MYA
9093	EN-400	Hittman Nuclear and Development Corp.	43,000	MYA
9094	CNSI-14-195-H	Chem-Nuclear Systems, Inc.	56,500	APC, APL, BEC, CPL, CWE, CYA, CEC, CPC, DPC, FPL, FPC, GPC, JCP, MEC, NPP, NNE, NSP, OPP, PGE, PEC, PGC, PNY, PEG, TVA, VEP
9096	CNSI-21-300	Chem-Nuclear Systems, Inc.	57,450	APC, APL, CPL, CEC, DPC, FPL, FPC, GPC, JCP, MEC, NPP, NNE, PNY, PEG, VEP

\* See attached list  
of abbreviations.

SHIELDED SHIPPING CASKS CERTIFICATED  
FOR NUCLEAR POWER PLANTSIII - Byproducts

<u>CERT.</u>	<u>MODEL</u>	<u>PRIMARY LICENSEE</u>	<u>GROSS LOT IN LES. (APPROX.)</u>	<u>SECONDARY LICENSEE*</u>
5971	GE-200		10,000	PEC
5980	GE-600		18,500	NNE, NSP
6275	11-2E-4	Chem-Nuclear Systems, Inc.	30,000	APC, CPL, DPC, FPL, FPC, NPP, VEP
9081	CNS-1600	Chem-Nuclear Systems, Inc.	26,000	APC, BGE, CPL, DPC, FPL, FPC, GPC, NSP, TVA, VEP

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\*See attached list  
of abbreviations.