

June 8, 1983

Docket No. 50-219  
LS05-83-06-015

Mr. P. B. Fiedler  
Vice President and Director  
Oyster Creek Nuclear Generating Station  
Post Office Box 388  
Forked River, New Jersey 08731

DISTRIBUTION  
Docket  
NRC PDR  
Local PDR  
ORB Reading  
NSIC  
DCrutchfield  
HSmith  
JLombardo  
OELD  
ELJordan  
JMTaylor  
ACRS (10)  
SEPB

Dear Mr. Fiedler:

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION - OYSTER CREEK NUCLEAR  
GENERATING STATION, MASONRY WALL DESIGN, IE BULLETIN 80-11

We have reviewed your responses to IE Bulletin 80-11 and found that additional information is needed in order to complete the review. The requested information is listed in the enclosure. Please provide the information within 30 days of receipt of this letter.

The reporting and/or recordkeeping requirements contained in this letter affect fewer than ten respondents; therefore, OMB clearance is not required under P.L. 96-511.

Sincerely,

Original signed by/

Dennis M. Crutchfield, Chief  
Operating Reactors Branch #5  
Division of Licensing

Enclosure:  
As stated

cc w/enclosure:  
See next page

SEO /  
DSU USE (51)

8306090320 830608  
PDR ADOCK 05000219  
G PDR

OFFICE ▶	DL:ORB#5	DL:ORB#5	DL:ORB#5				
SURNAME ▶	HSmith:ajs	JLombardo	DCrutchfield				
DATE ▶	06/07/83	06/08/83	06/08/83				

Mr. P. B. Fiedler

- 2 -

June 8, 1983

cc

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Forked River, New Jersey 08731

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New York, New York 10007

Licensing Supervisor  
Oyster Creek Nuclear Generating Station  
Post Office Box 388  
Forked River, New Jersey 08731

REQUEST FOR ADDITIONAL INFORMATION  
MASONRY WALL DESIGN, IE BULLETIN 80-11  
OYSTER CREEK NUCLEAR GENERATING STATION  
DOCKET NO. 50-219

1. With respect to allowable stresses for factored loads, the licensee uses the following increase factors in excess of the values allowed by the staff criteria (5) which are listed in parentheses:

masonry shear in flexural members	1.5	(1.3)
masonry shear in unreinforced shear walls	1.5	(1.3)
reinforcement takes entire shear	1.7	(1.5)
tension normal to bed joint	1.67	(1.3)
tension parallel to bed joint	1.67	(1.5)

The licensee's justification of these factors is based on various test results (Reference 3, Enclosure 3, Tables 4, 6, 7, 8, and 9). The licensee is requested to discuss the applicability of these tests to the masonry walls at the Oyster Creek plant with particular emphasis on the following areas:

boundary conditions

nature of loads

size of test walls

type of masonry construction (block and mortar type, grouted or ungrouted).

The licensee is also requested to indicate the number of walls that could not be qualified (if staff increase factors are used) and to identify these walls. Also, identify any conservative measures used in the analysis which could be claimed for using a higher increase factor.

2. Provide sample calculations of the stresses for a typical stacked bond wall.
3. Indicate if walls are subject to impact or tornado loads. If so, provide sample calculations for impact and tornado analysis.
4. Indicate how earthquake forces in three directions were considered in the analysis.

5. Provide sample calculations illustrating the analysis of a multi-wythe wall.
6. In a meeting between the licensee and NRC staff on March 31, 1983, it was indicated by the licensee that non-linear techniques such as energy balance technique and arching actions are no longer relied upon to qualify masonry walls. The licensee is required to confirm this indication. Otherwise, these issues will remain unresolved until the establishment of the final staff position on them.
7. The licensee is requested to indicate if 'Dur-O-Wall' joint reinforcing has been used as structural reinforcing in qualifying any of the masonry walls at Oyster Creek. If so, provide the details of this usage for each affected wall in terms of reinforced or unreinforced, steel ratios, bondage/anchorage, etc.
8. Since the Oyster Creek plant is part of the systematic evaluation program (SEP), the following information is requested regarding the masonry wall aspects of SEP review.
  - Indicate the current status of evaluation and schedule, if not complete.
  - Indicate the criteria used in the SEP evaluation. Are they different from IE Bulletin 80-11 evaluation. Compare criteria for SEP evaluation with staff acceptance criteria (Ref. 5) and assess the impact of any deviations.
  - Provide pertinent information such as seismic input.
9. Indicate the current status of the required modifications and provide detailed drawings of some sample modifications.

## REFERENCES

1. IE Bulletin 80-11  
Masonry Wall Design  
NRC, 08-May-81
2. I. R. Finfrock, Jr.  
Letter to B. H. Grier, NRC, Subject: Oyster Creek Nuclear  
Generating Station - IE Bulletin 80-11  
Jersey Central Power and Light, 07-Jul-80
3. I. R. Finfrock, Jr.  
Letter to B. H. Grier, NRC. Subject: Oyster Creek Nuclear  
Generating Station - IE Bulletin 80-11 - Response to Item 2b  
Jersey Central Power and Light, 14-Nov-80
4. I. R. Finfrock, Jr.  
Letter to B. H. Grier, NRC. Subject: Oyster Creek Nuclear  
Generating Station - IE Bulletin 80-11 - Final Reevaluation  
Jersey Central Power and Light, 30-Apr-81
5. SGEBC Criteria for Safety-Related Masonry Wall Evaluation  
Structural and Geotechnical Engineering Branch of the NRC  
00-Jul-81
6. Uniform Building Code  
International Conference of Building Officials, 1979
7. Building Code Requirements for Concrete Masonry Structures  
Detroit: American Concrete Institute, 1979  
ACI 531-79 and ACI 531-R-79