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September 24, 2001  
2130-01-20175

U.S. Nuclear Regulatory Commission  
Attn: Document Control Desk  
Washington, DC 20555-0001

Subject: Response To Request For Additional Information – Radiological Consequence  
Analysis For Control Room Operators (TAC No. MA 3465)

Oyster Creek Generating Station (Oyster Creek)  
Facility Operating License No. DPR-16  
NRC Docket No. 50-219

This letter provides additional information in response to NRC request for additional information dated July 24, 2001, regarding the Oyster Creek control room operator dose calculation incorporating the pilot plant application of alternate source-term methodology. The additional information is provided in Enclosure 1.

If any additional information is needed, please contact David J. Distel at (610) 765-5517.

Very truly yours,



Ron J. DeGregorio  
Vice President  
Oyster Creek

Enclosure: Response to Request for Additional Information

c: H. J. Miller, USNRC Administrator, Region I  
H. N. Pastis, USNRC Senior Project Manager, Oyster Creek  
L. A. Dudes, USNRC Senior Resident Inspector, Oyster Creek  
File No. 96059

A001

**ENCLOSURE 1**

**OYSTER CREEK**

**Response to Request for Additional Information - Radiological  
Consequences Analysis for Control Room Operators**


### **NRC Question**

Where is the yard release location cited in the January 12, 2001, submittal and what methodology, inputs, and assumptions were used to calculate the control room intake relative concentration (X/Q) values? Why does selection of the assumed location and associated inputs and assumptions ensure that the resultant X/Q values are adequately conservative? Provide or reference plant drawings in the Safety Analysis Report or elsewhere that show the relationship between potential release locations from plant systems to the environment and from the environment to the control room intake with respect to distances, structural dimensions, and directions from true north.

### **Response**

The yard release is from a postulated rupture of the N<sub>2</sub> supply system, which provides purge for the drywell and torus. This release is not included in the current licensing basis for Oyster Creek but has been assumed in this analysis for additional conservatism. This line penetrates the reactor building on the Northeast corner of the reactor building. The distance from the N<sub>2</sub> line penetration at the reactor building Northeast corner to the "A" HVAC control room air intake is 45.1m. The "A" HVAC control room air intake is the closest of the two intakes to the N<sub>2</sub> line yard release point. For conservatism, the calculated X/Q for the N<sub>2</sub> line yard release to the "A" intake is also applied to the "B" intake. The release point for either of the two N<sub>2</sub> system reactor building bypass pathways located on the east side of the reactor building is assumed to lie in a direction 75 degrees from the control room air intake. The exact location of the potential release cannot be determined since the N<sub>2</sub> line runs along the wall of the reactor building. However, the short distance from any potential release point is in a direction normal to the east wall that runs 345 to 165 degrees, or approximately North-South. The normal to the east wall would, therefore, be at 255 degrees. The attached Figure 1, excerpted from supporting Calculation No. C-1302-826-E540-017, shows the relationship between the N<sub>2</sub> line yard release location to the environment and from the environment to the control room intake with respect to distances, structural dimensions, and directions from true north. This calculation is provided in AmerGen letter to the NRC dated September 24, 2001 (2130-01-20177).

As stated above, the exact location of the potential release cannot be determined since the N<sub>2</sub> line runs along the wall of the RB. However, the shortest distance from any potential release point is in a direction normal to the east wall that runs 345 to 165 degrees, or approximately North-South. The normal to the east wall would, therefore, be at 255 degrees. Therefore, adequate conservatism exists.

		<b>CALCULATION SHEET</b> (Ref. EP-006)			
<b>Subject:</b> OC Control Room air intake meteorology using ARCON96		<b>Calculation No.</b> C-1302-826-E540-017	<b>Rev. No.</b> 0	<b>System Nos.</b> 826	<b>Sheet</b> 80

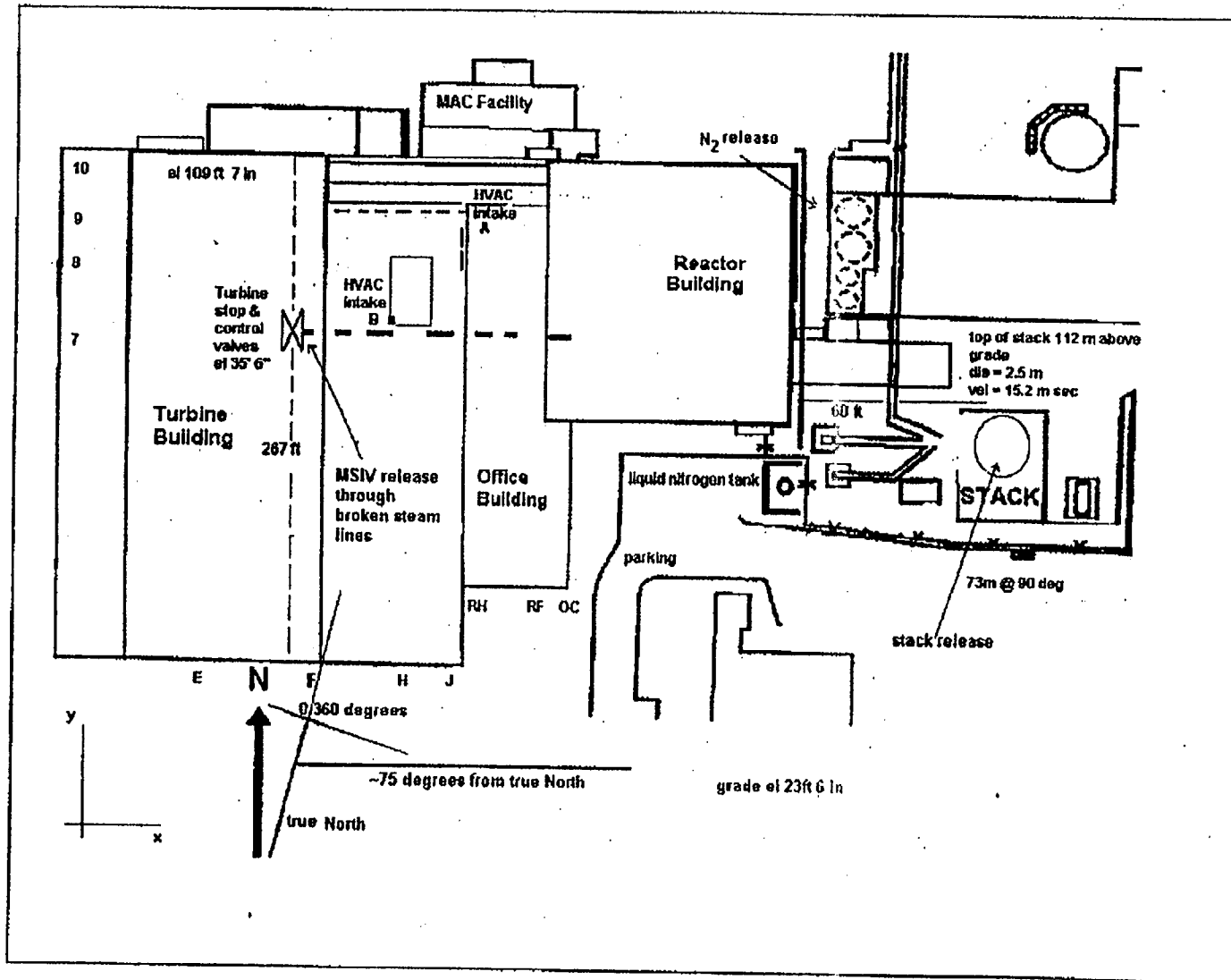


Figure 1 Site Plot Plan showing principal release points