

*PLC* *Professional Loss Control, Inc.*

STRUCTURAL STEEL ANALYSIS

for

LIMERICK GENERATING STATION

UNIT 1 Reactor Building El. 253'

Main Steam & Feedwater Pipe Tunnel

Fire Zone 46

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## LIMERICK GENERATING STATION

### 1. AREA DESCRIPTION

The area under consideration is the Main Steam and Feedwater Pipe Tunnel on the 253' elevation of the Unit 1 Reactor Building (Fire Area 46). The bounding walls in the area are of reinforced concrete with an average thickness of 3.5 feet. The total surface area for heat transfer is approximately 5858 ft<sup>2</sup>. (See Attachment A for a sketch of the area under consideration and a calculation of areas).

### 2. COMBUSTIBLE LOADING

All cabling in this area is routed in conduit, there are no cable trays. There are no combustible liquids in this area.

### 3. VENTILATION PARAMETERS

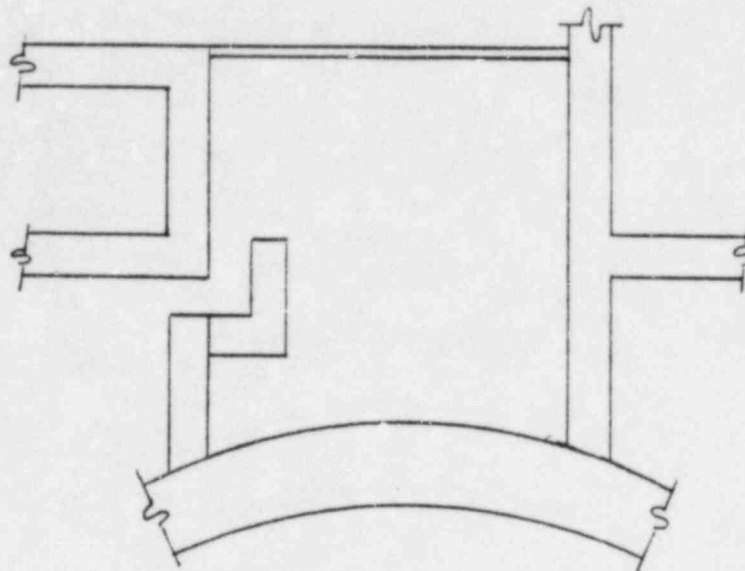
There is one 3' wide by 5'10" high door serving this area.

### 4. CASES EXAMINED

With no exposed combustible cabling and no combustible liquids in the area, there is no fuel in the area to support a fire.

### 5. RESULTS

The structural steel in this area will not fail due to a fire as there are no fixed combustibles in the area to support a fire.



Unit 1 Reactor Building El. 253'  
Main Steam and Feedwater Pipe Tunnel Fire Zone 46

Surface Area Calculation

Walls

North wall	(40' x 29')	1160 ft <sup>2</sup>
East wall	(40' x 33')	1320 ft <sup>2</sup>
South wall	(40' x 30')	1200 ft <sup>2</sup>
West wall	(10' x 33')	1320 ft <sup>2</sup>
		<hr/>
		5000 ft <sup>2</sup>

Ceiling

Area 1	(30' x 30') - [(3.5' x 3.5') + (10' x 3')]	<hr/>	857.75 ft <sup>2</sup>
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Total Surface Area for Heat Transfer			5857.75 ft <sup>2</sup>
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