

PLC *Professional Loss Control, Inc.*

STRUCTURAL STEEL ANALYSIS
for
LIMERICK GENERATING STATION

Unit 1 Reactor Building El. 331'
Equipment Compartment Exhaust Filter Room 616 & 617
Fire Areas 50B & 50C

December 20, 1983

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LIMERICK GENERATING STATION

1. AREA DESCRIPTION

The area under consideration is the Equipment Compartment Exhaust Filter Rooms, Rooms 616 & 617, on the 331' elevation of the Reactor Building (Fire Areas 50B & 50C). The bounding walls of the area are of reinforced concrete construction with an average thickness of 2 ft. The total surface area for heat transfer is 3280 ft² (see Attachment A for sketch and calculation of surface 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

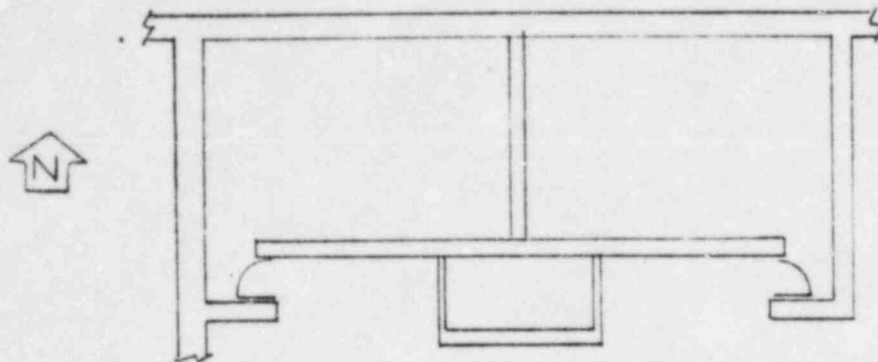
There are two doors entering this area, each measuring 3'6" wide by 7' high. One door enters each filter compartment.

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. 331'
Equipment Compartment Exhaust Filter Rooms 616 & 617

Surface Area Calculation

Walls

| | | |
|------------|-------------|---------------------|
| North wall | (52' x 18') | 936 ft ² |
| South wall | (52' x 18') | 936 ft ² |
| East wall | (16' x 18') | 288 ft ² |
| West wall | (16' x 18') | 288 ft ² |

| | | |
|----------------|-------------|---------------------------|
| <u>Ceiling</u> | (52' x 16') | <u>832 ft²</u> |
|----------------|-------------|---------------------------|

| | | |
|--------------------------------------|--|----------------------|
| Total Surface Area for Heat Transfer | | 3280 ft ² |
|--------------------------------------|--|----------------------|