NIAGARA MOHAWK

NIAGARA MOHAWK POWER CORPORATION/300 ERIE BOULEVARD WEST, SYRACUSE, N.Y. 13202/TELEPHONE (315) 474-1511

July 11, 1986
(NMP2L 0779)

Ms. Elinor G. Adensam, Director
BWR Project Directorate No. 3
U.S. Nuclear Regulatory Commission
7920 Norfolk Avenue
Washington, DC 20555

Dear Ms. Adensam:

Re: Nine Mile Point Unit 2
Docket No. 50-410

Enclosed are updated changes relative to the Nine Mile Point Unit 2 Fire Protection Program. These were discussed with your staff on July 7, 1986. The changes include updating the fire hazards analysis table to address transient combustibles Tables 9.A.3-1 and 9.A.3-16 and an updated page 9A.3-43 regarding the fire rating of the control room ventilation intake duct. These changes will be incorporated in a subsequent Final Safety Analysis Report amendment.

Further, Niagara Mohawk commits to establishing a fire patrol to supplement the protection afforded the nonsafety related areas described in our June 25, 1986 letter. Specifically, in lieu of providing carbon dioxide suppression system for these nonsafety related areas, an hourly fire patrol will be established to monitor conditions within these areas. This will remain in effect until the final design resolution is implemented which is currently scheduled for May 1987.

Very truly yours,

T. E. Lempges
Vice President
Nuclear Generation



TEL/NLR:ja
1823G

Enclosure

xc: William Cook, NRC Resident Inspector
Project File (2)

B002
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detect, prevent, and suppress postulated fire outbreaks in and around the plant.

9A.3.1.2.2 Organization of Fire Hazards Analysis

In order to develop data meaningful to the analysis, the plant has been divided into numerous fire areas, and these areas are further subdivided into fire zones. The fire areas and zones are shown on Figures 9A.3-1 through 9A.3-8, 9A.3-12, and 9A.3-13. Fire areas are those areas separated from adjacent areas by rated fire barriers. A comparison between Unit 2 fire barriers and tested fire barriers is provided in Section 9A.3.5.1.1.

Calculation of fire loading for each fire zone is included in Tables 9A.3-1 through 9A.3-11. The basis of calculation is shown below.

9A.3.1.2.3 Basis of Calculation

In Tables 9A.3-1 through 9A.3-11, all known combustibles (including transient combustibles) are identified for each fire zone. The calorific content of the combustibles and the Btu/sq ft loading for each fire area have been calculated. In order to determine the fire loading, it was necessary to make some assumptions concerning the amount of combustibles in such equipment as motors and control cabinets. The following assumptions, which are based on engineering judgment, were utilized to estimate the weight of combustibles: 26

| Equipment | Weight of Combustible |
|---|---|
| Motor-operated valves, motors, starters, and electrical equipment | 1% of overall weight |
| Electric panels and control cabinets | 2% of overall weight |
| Cable | 17% to 32% of overall weight |

The following calorific values are used for combustibles. These values are based on vendor data or the NFPA Fire Protection Handbook, 14th edition:

# TABLE 9A.3-16

## AVERAGE FIRE LOADING ON EITHER SIDE OF NON-UL LABELLED DOORS

| Door No. | Average Fire Loading On Either Side of Door | Annotation |
|---|---|---|
| SA175-3 | 0 min/7 min | 10 / 22 |
| SA175-4 | 7 min/21 min | TO BE DELETED; 10 / 24 |
| NA175-2 | 18 min/22 min | TO BE DELETED; 22 / 24 |
| R175-4 | 1 min/10 min | 17 (26) |
| R175-5 | 1 min/10 min | 17 |
| R175-7 | 1 min/2 min | |
| T277-20 | 11 min/11 min | |
| T277-21 | 11 min/11 min | |
| T277-22 | 11 min/11 min | |
| ET214-2 | 0 min/1.5 hr* | |
| ET237-1 | 0 min/0 min | |
| SW261-14 | 33 min/27 min | 28 |
| DG272-4 | 0 min/10.3 hr* | |
| C288-1 | 1 min/0 min | |
| C306-1 | 1 min/0 min | |
| C261-1 | 2.2 hr*/1.6 hr | (26) |
| R240-7 | 56 min/6.5 min | 57 / 13 |
| AB261-3 | 24 min/1.3 hr | 25 |
| NA240-1 | 0 min/0 min | TO BE DELETED |
| NA240-2 | 0 min/0 min | |
| R240-3 | 55 min*/1.1 hr | |
| SA240-1 | 55 min*/0 min | |
| RR261-2 | 1 hr*/0 min | 1.1 / 3 (26) |
| C239-1 | 0 min/0 min | |
| SW280-1 | 27 min/11 min | 28 |
| R240-2 | 0 min/51 min* | TO BE ADDED |
| RW 265-5 | 9 min*/1.2 hr* | TO BE ADDED |
| RR 261-4 | 2 min*/45 min* | TO BE ADDED |

*Automatic suppression provided on this side of door.

| Area | Average Fire Loading | |
|---|---|---|
| Reactor building | 34 min | 26 |
| Reactor building auxiliary bays | 34 (28) min | 26 |
| Standby gas treatment building | 8 min | 26 |
| Control building, except cable chases | 43 min | 26 |
| Cable chases | 3 hr | 26 |
| Electrical tunnels | 1 hr, 52 min | 26 |
| Turbine building | 27 (26) min | 26 |
| Switchgear rooms | 2 hr, 30 min | 26 |
| Oil storage rooms | 18 hr, 6 min | |
| Diesel generator building | 2 (1) hr, 8 (22) min | 26 |
| Oil day tank room | 10 hr, 21 min | 26 |
| Screenwell building | 19 min | 26 |
| Service water pump room "A" | 28 (27) min | 26 |
| Service water pump room "B" | 25 (24) min | |
| Diesel fire pump room | 52 min | |
| Radwaste building | 1 hr, 36 min | 26 |
| Normal switchgear building | 1 hr, 26 min | 26 |
| Auxiliary boiler building | 1 hr, 18 min | 26 |
| Condensate storage tank building | 1 hr, 12 min | 26 |
| Steam tunnel | 13 (7) min | 26 |

The oil day tank rooms have high fire loadings because total volume burning has been assumed. This calculation also takes no credit for fixed extinguishing systems provided for all oil hazards. Also, a free influx of air is assumed. If the fire barrier remains intact, a significantly reduced fire exposure can be expected. 26

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### 9A.3.5.1.8 Roof Construction

Metal deck roof construction, where used, is designed as a Factory Mutual Class 1 roofing system.

### 9A.3.5.1.9 Suspended Ceiling

Any suspended ceilings in safety-related areas are of noncombustible construction. Concealed spaces are void of combustibles except for electrical cable, which is in metallic conduit.

### 9A.3.5.1.10 Transformers

Transformers located within safety-related areas are of the dry type.

### 9A.3.5.1.11 Oil-Filled Transformers

The plant has an open transformer yard, which contains all the oil-filled transformers applicable to BTP CMEB 9.5-1 Section C.5.a(13). The west wall of the control building is located within 50 ft, has one protected HVAC air intake opening, and is constructed in excess of the 3-hr fire-resistive requirements. Protection consists of a fire damper (located 6 ft upstream of the opening) and fire 26
barrier wrap for the exposed duct. Additional unprotected openings exist that are in excess of 50 ft from the transformers.

### 9A.3.5.1.12 Floor Drains

Floor drains are conservatively sized in accordance with the National Plumbing Code. Floor drains in safety-related and nonsafety-related areas are approximately spaced at one drain per 575 sq ft, each with a capacity of approximately 70 gpm. Actual drainage capability would depend on drain spacing, location, and area involved.

Firefighting water flow depends on the type of suppression system provided, system design density, and area of involvement. Unit 2 fixed water suppression systems incorporate the use of closed-heads and closed-water spray nozzles which limit the amount of water discharged to the area of involvement during a fire.

An evaluation to determine the degree of buildup and its effect was conducted for the diesel generator rooms (the most conservative case). The result showed that with all