



**Consumers
Power
Company**

General Offices: 1945 West Parnall Road, Jackson, MI 49201 • (517) 788-0550

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Director,
Nuclear Reactor Regulation
US Nuclear Regulatory Commission
Washington, DC 20555

DOCKET 50-255 - LICENSE DPR-20 -
PALISADES PLANT - EOF LOCATION EXCEPTION REQUEST

Consumers Power Company letter dated December 3, 1982 addressed information regarding our Emergency Operations Facilities (EOF) at our Big Rock Point and Palisades Plants. The information included a location specified in miles from the plant for each EOF. The Big Rock Point and Palisades EOF's were reported as being 15 and 10 miles from their respective plants.

In preparation for our 1985 emergency response facility inspection at Palisades, we are conducting a formal review of our emergency preparedness program. During this review, we have identified that the Palisades EOF is located 9.1 miles from the plant, not 10 miles as originally reported in our December 3, 1982 letter. Since NUREG-0696, "Functional Criteria for Emergency Response Facilities" establishes specific criteria for EOF's that are within 10 miles of the plant or Technical Support Center, we request an exception to Section 4.2, Table II of NUREG-0696. These requirements are also reiterated in Supplement 1 to NUREG-0737, Section 8.4.1, Table 1.

10 CFR 50, Appendix E and 10 CFR 50.47(b) requires compliance to standards addressed by specific criteria in NUREG-0654; FEMA REP-1 entitled "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants." NUREG-0654 includes evaluation criteria for the EOF that stipulate compliance to NUREG-0696. NUREG-0696 specifies that "licensees who cannot meet the requirements of location, size and habitability for the EOF must submit to NRC a request for an exception." Since the Palisades EOF is 9.1 miles from the Technical Support Center and does not meet the protection factor and ventilation requirement for facilities less than 10 miles, Consumers Power Company requests an exception to the requirements of NUREG-0696 and Supplement 1 to NUREG-0737.

To justify this exception Consumers Power Company performed an evaluation of the accident doses to occupants of the Palisades EOF (located at 9.1 miles from the site) relative to doses which would occur if the EOF was located 10 miles from the site. Two different calculations were performed. The first

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calculation consisted of reviewing the equations contained in the Regulatory Guides used to calculate doses to the public as a result of radioactivity releases to determine which of the parameters are dependent on distance from the plant. Release rate is not dependent on distance from the plant. Dose conversion factors and average gamma energy are slightly dependent on distance from the plant because the average energy from the mix of nuclides will change slightly due to the additional decay and depletion which occurs between 9.1 and 10 miles. This will be a very small effect. Atmospheric dispersion and depletion parameters are a function of distance. Therefore the dose at 9.1 miles divided by the dose at 10 miles is very close to being in the same ratio as the atmospheric parameters at these distances. Table 1 (row marked "Manual") shows the result of this analysis assuming that the ratio of the doses equals the ratio of the atmospheric parameters. The second calculation consisted of running the CRAC 2 code (for the Palisades Probabilistic Risk Assessment dose consequence analyses) assuming a source term, release time (2.5 hours), release duration (0.5 hours) and release energy taken from the release category PWR-1 from WASH-1400. The PWR-1 release category case was also run assuming a zero energy release. Doses at 9.1 and 10 miles were obtained from the output.

TABLE 1

Ratio of the 24 hour integrated total body and thyroid dose at 9.1 miles vs 10 miles downwind.

		No Heat Plume	Heated Plume*
CRAC	Total Body	1.18	0.81
Manual	Total Body	1.16	1.05
CRAC	Thyroid	1.18	0.74
Manual	Thyroid	1.15	1.02

*3.67E+07 calories/second

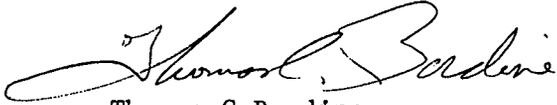
The results shown above indicate no significant difference in 24-hour doses at 9.1 vs 10 miles downwind. These calculations were performed using a conservative assumption of Pasquill D stability. This choice is conservative for determining dose variations as a function of downwind distance because X/Q decreases more rapidly with distance in D stability than in E, F or G. Although less stable conditions (A, B or C stabilities) would result in a larger ratio (i.e., greater differences between the dose at 9.1 miles vs the dose at 10 miles), the doses would not be high enough at either location under those unstable conditions to be of concern to EOF occupants. All doses include decay of radionuclides during transport.

No justification can be found on a dose basis for moving the EOF location another 0.9 miles downwind. In cases of high offsite doses caused by stable meteorological conditions, the maximum difference in dose between 9.1 miles and 10 miles would be less than 20%. It should also be noted that the provisions of a backup EOF are provided by our General Office Control Center

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(GOCC). The functions of our GOCC facility have been defined in previous submittals. (Reference our letters dated 11/6/81; 1/4/82; 2/4/82; 8/30/82; 9/15/83.)



Thomas C Bordine
Staff Licensing Engineer

CC Administrator, Region III, USNRC
NRC Resident Inspector - Palisades