



Consumers  
Power  
Company

General Offices: 212 West Michigan Avenue, Jackson, Michigan 49201 • Area Code 517 788-0550

February 28, 1977

## REGULATORY DOCKET FILE COPY

Mr James G Keppler  
Office of Inspection & Enforcement  
Region III  
US Nuclear Regulatory Commission  
799 Roosevelt Road  
Glen Ellyn, IL 60137



DOCKET 50-255 - LICENSE DPR-20 -  
PALISADES PLANT - SEMIANNUAL  
RADIOACTIVE EFFLUENT REPORT

Attached are summary tables of the effluents released for the period of July 1, 1976 through December 31, 1976. These tables are in the format associated with Appendix B of Regulatory Guide 1.21 and constitute our semiannual radioactive effluent report.

David P Hoffman (Signed)

David P Hoffman  
Assistant Nuclear Licensing Administrator

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Consumers Power Company  
Palisades Nuclear Plant, Docket No 50-255  
Atmospheric Radioactive Effluents

	UNITS	JULY	AUGUST	SEPTEMBER	3RD QTR	OCTOBER	NOVEMBER	DECEMBER	4TH QTR	SIX MONTH TOTAL	YEARLY TOTAL
Total Noble Gases	Curies	3.06E-01	2.96E-01	2.05E-02	6.23E-01	9.41E-01	2.67E+01	2.64E-01	2.79E+01	2.85E+01	2.99E+01
Total Halogens		2.25E-04	6.27E-04	3.61E-03	4.46E-03	2.06E-03	2.58E-03	1.45E-03	6.10E-03	1.06E-02	3.06E-02
Total Particulates (Beta & Gamma)		1.40E-05	2.25E-05	2.25E-05	5.91E-05	9.79E-06	7.10E-05	5.23E-06	8.60E-05	1.45E-04	1.43E+02
Percent of Applicable Limits	%										
Noble Gases		7.62E-05	7.37E-05	5.27E-06	5.23E-05	2.28E-04	1.45E-02	6.57E-05	4.81E-03	2.43E-03	1.25E-03
Halogens		5.88E-03	7.28E-03	8.30E-02	3.15E-02	5.36E-02	6.00E-02	3.19E-02	4.84E-02	3.99E-02	6.47E-02
Particulates		7.78E-05	8.75E-04	4.44E-04	7.02E-04	7.07E-04	6.31E-03	2.30E-04	2.37E-03	1.54E-03	1.20E-03
Isotopic Releases	Curies										
Noble Gases											
Xe-131m		-----	-----	-----	-----	9.37E-02	5.69E-01	-----	6.63E-01	6.63E-01	6.63E-01
Xe-133		3.06E-01	2.96E-01	2.05E-02	6.23E-01	8.45E-01	2.12E+01	2.63E-01	2.23E+01	2.29E+01	2.30E+01
Xe-133m		-----	-----	-----	-----	2.33E-03	5.43E-01	1.02E-03	5.46E-01	5.46E-01	5.46E-01
Xe-135		-----	-----	-----	-----	-----	3.84E-01	1.83E-06	3.84E-01	3.84E-01	3.84E-01
Kr-85		-----	-----	-----	-----	-----	4.05E-01	-----	4.05E-01	4.05E-01	1.68E+00
Kr-85m		-----	-----	-----	-----	-----	8.27E-01	-----	8.27E-01	8.27E-01	8.27E-01
Kr-87		-----	-----	-----	-----	-----	2.38E-01	-----	2.38E-01	2.38E-01	2.38E-01
Kr-88		-----	-----	-----	-----	-----	9.93E-01	-----	9.93E-01	9.93E-01	9.93E-01
Ar-41		-----	-----	-----	-----	-----	1.54E+00	-----	1.54E+00	1.54E+00	1.54E+00
Halogens											
I-131		2.25E-04	2.77E-04	3.07E-03	3.57E-03	2.05E-03	2.22E-03	1.22E-03	5.49E-03	9.06E-03	2.92E-02
I-133		-----	1.71E-04	5.43E-04	7.14E-04	1.31E-05	2.95E-04	2.33E-04	5.41E-04	1.26E-03	1.29E-03
I-135		-----	1.79E-04	-----	1.79E-04	-----	6.44E-05	-----	6.44E-05	2.43E-04	6.44E-05
Particulates											
Cr-51		-----	-----	-----	-----	-----	-----	-----	-----	-----	1.40E-06
Mn-54		-----	-----	-----	-----	-----	8.50E-07	-----	8.50E-07	8.50E-07	1.20E-05
Co-58		-----	-----	-----	-----	1.70E-06	-----	-----	1.70E-06	1.70E-06	4.63E-05
Co-60		5.66E-06	1.11E-05	1.77E-05	3.45E-05	-----	-----	2.88E-06	2.88E-06	3.74E-05	5.84E-05
Cs-137		-----	2.65E-06	1.70E-06	4.35E-06	-----	8.70E-08	-----	8.70E-08	4.44E-06	1.72E-05
Co-57		-----	-----	-----	-----	-----	-----	-----	-----	-----	9.60E-07
Ce-141		-----	-----	-----	-----	-----	-----	-----	-----	-----	2.10E-06
Net Unidentified Beta		8.37E-06	8.77E-06	3.06E-06	2.02E-05	8.09E-05	7.01E-05	2.35E-06	8.05E-05	1.01E-04	1.49E-04
Alpha		1.14E-06	1.28E-06	1.39E-06	3.81E-06	1.48E-06	6.24E-06	2.90E-07	8.01E-06	1.18E-05	1.38E-05

1976

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Consumers Power Company  
 Palisades Nuclear Plant, Docket No 50-255  
 Liquid Radioactive Effluents - Modified Liquid Waste System

	UNITS	JULY	AUGUST	SEPTEMBER	3RD QTR	OCTOBER	NOVEMBER	DECEMBER	4TH QTR	SIX MONTH TOTAL	YEARLY TOTAL
Total Radioactivity Released (Except Tritium, Dissolved Noble Gases & Alpha)	Curies	7.90E-05	2.00E-06	1.50E-05	9.60E-05	2.30E-05	-----	-----	2.30E-05	1.19E-04	5.42E-03
Volume of Waste Discharged	Liters	2.02E+06	1.92E+06	1.89E+06	5.83E+06	1.79E+06	1.64E+06	1.76E+06	5.19E+06	1.10E+07	1.68E+07
Average Concentration of Waste Prior to Release (Except Tritium, Dissolved Noble Gases & Alpha)	µCi/ml	3.91E-08	1.04E-09	7.94E-10	1.65E-08	1.28E-08	-----	-----	4.43E-09	1.08E-08	3.22E-07
Volume of Circulating Discharge Water	Liters	9.96E+09	1.01E+10	9.81E+09	2.99E+10	1.01E+10	9.81E+09	1.01E+10	3.00E+10	5.99E+10	1.25E+11
Average Concentration Released (Except Tritium, Dissolved Gases & Alpha)	µCi/ml	7.93E-12	1.98E-13	1.53E-13	3.21E-12	2.28E-12	-----	-----	7.67E-13	1.99E-12	4.33E-11
Percent of MPC	%	3.65E-03	6.60E-05	5.10E-05	1.41E-03	8.91E-04	-----	-----	3.00E-04	8.52E-04	1.58E-02
Tritium Released	Curies	3.02E-01	-----	-----	3.02E-01	4.01E-02	-----	-----	4.01E-02	3.42E-01	8.95E+00
Average Tritium Concentration Released	µCi/ml	3.03E-08	-----	-----	1.01E-08	3.97E-09	-----	-----	1.34E-09	5.71E-09	7.16E-08
Isotopes	Curies										
Co-58		-----	-----	-----	-----	-----	-----	-----	-----	-----	2.40E-04
Mn-54		-----	-----	-----	-----	-----	-----	-----	-----	-----	1.31E-04
Cs-137		-----	-----	-----	-----	-----	-----	-----	-----	-----	1.60E-05
Net Unidentified Beta		7.90E-05	2.00E-06	1.50E-05	9.60E-05	2.30E-05	-----	-----	2.30E-05	1.19E-04	5.03E-03
Percent of Total Identified (Except Tritium, Dissolved Gases & Alpha)	%	0.0	0.0	0.0	0.0	0.0	-----	-----	0.0	0.0	7.1