

DUQUESNE LIGHT COMPANY
Beaver Valley Power Station
Docket No. 50-334, License No. DPR-66

Semi-Annual Effluent Report
Off-Site Dose Estimates - Third and Fourth Quarters, 1979

In accordance with requirements of Section 5.6.1.B of the Environmental Technical Specifications and Regulatory Guide 1.21, the off-site dose to humans from the gaseous and liquid radioactive effluents have been estimated.

Dose Models

A. Airborne Effluents

All doses as a result of Beaver Valley operation were calculated for gaseous pathways using NRC computer code GASPAR.

All gaseous effluent releases, including Auxiliary Building Ventilation, were included in dose assessments. The data obtained from the analyses required by the Technical Specifications, were used as input. Meteorological data collected by the Beaver Valley Power Station meteorology system was also used in input to GASPAR. Except when more recent or specific data was available, all inputs were the same as used in the Beaver Valley Power Station Environmental Statements or in Regulatory Guide 1.109.

B. Liquid Effluents

The radiation doses to man from liquid effluents were calculated using NRC computer code LADTAP.

All potentially radioactive liquid effluents, including steam generator blowdown, are released by batch mode after analysis by gamma spectrometry using a GeLi detector. The actual data from these analyses are tabulated and used as the input term for sources in LADTAP. The maximum individual for liquid pathways is located at Midland. Except when more recent or specific data for the period is available, all other input to LADTAP are obtained from the Beaver Valley Power Station Environmental Statement or Regulatory Guide 1.109. Pathways, which were evaluated, are drinking water, fish consumption, and shoreline recreation.

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SUMMARY OF RESULTS

Airborne Effluents

<u>Maximum Individual Dose</u>	<u>Third Quarter</u>	<u>Fourth Quarter</u>
Whole Body		
SW 1.5 mi.	8.30E-5 mrem	6.7E-3 mrem
NE 0.32 mi.	6.00E-4 mrem	5.50E-2 mrem
Beta Air Dose		
SW 1.5 mi.*	4.85E-5 mrad	3.0E-4 mrad
Gamma Air Dose		
SW 1.5 mi.*	1.63E-5 mrad	9.84E-5 mrad
All other organs less than the whole body dose.		
Population Dose 0 to 50 miles		
Whole Body	3.6E-3 man-rem	2.5E-1 man-rem

Liquid Effluents

<u>Maximum Individual Dose</u>	<u>Third Quarter</u>	<u>Fourth Quarter</u>
Whole Body (Infant)	9.94E-4 mrem	1.07E-3 mrem
Drinking pathway		
All other organs less than the whole body dose.		
Population Dose 0 to 50 miles		
Whole Body	7.19E-3 man-rem	7.69E-3 man-rem
Thyroid	6.88E-3 man-rem	7.24E-3 man-rem
GI-LLI	8.13E-3 man-rem	8.03E-3 man-rem

Conclusions:

The operation of Beaver Valley Power Station, Unit 1, has resulted in an insignificant incremental dose to that which area residents already receive as a result of natural background and this dose will constitute no meaningful risk to be balanced against the benefits of the plant.

*Difference in location attributable to releases via elevated pathway only during report period, i.e., no ground releases.