

DISTRIBUTION

Docket file  
NRC PDR  
L PDR  
ORB#1 Reading  
DEisenhut  
CParrish  
PTam  
OELD  
LHarmon  
EJordan  
JTaylor  
TBarnhart, 4  
WJones  
DBrinkman  
ACRS, 10  
OPA, CMiles

RDiggs  
NSIC  
Gray file

MAY 25 1983

Docket No. 50-334

Mr. J. J. Carey, Vice President  
Duquesne Light Company  
Nuclear Division  
Post Office Box 4  
Shippingport, PA 15077

Dear Mr. Carey:

By letter dated April 26, 1983, you provided a revision to two proposed change pages in your Proposed Change Request No. 84, and pointed out three administrative errors in Amendment No. 66 which we issued on March 28, 1983. The former will be addressed by a future amendment, while the latter (administrative errors) is the subject of this letter.

Enclosed please find revised pages 6-22, B3/4 2-6a and B3/4 2-5 for the Beaver Valley Unit 1 Technical Specifications.

We apologize for any inconvenience these errors may have caused.

Sincerely,

*PS*

Peter S. Tam, Project Manager  
Operating Reactors Branch #1  
Division of Licensing

Enclosure:  
As stated

cc w/enclosure:  
See next page

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OFFICE	ORB#1:DL	ORB#1:DL	ORB#1:DL				
SURNAME	CParrish;dn	PTam	P.S. Tam				
DATE	5/12/83	5/12/83	5/24/83				

Mr. J. J. Carey  
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The radioactive effluent release report to be submitted 60 days after January 1 of each year shall also include an assessment of radiation doses to the likely most exposed real individual from reactor releases for the previous calendar year to show conformance with 40 CFR 190, Environmental Radiation Protection Standards for Nuclear Power Operation. Acceptable methods for calculating the dose contribution from liquid and gaseous effluents are given in Regulatory Guide 1.109, Revision 1. The SKYSHINE Code (available from Radiation Shielding Information Center, ORNL) is acceptable for calculating the dose contribution from direct radiation due to N-16.

The radioactive effluent release reports shall include an assessment of radiation doses from the radioactive liquid and gaseous effluents released from the unit during each calendar quarter as outlined in Regulatory Guide 1.21. In addition, the unrestricted area boundary maximum noble gas gamma air and beta air doses shall be evaluated. The assessment of radiation doses shall be performed in accordance with the ODCM.

The radioactive effluent release reports shall also include any licensee initiated changes to the ODCM made during the 6 month period.

#### RADIAL PEAKING FACTOR LIMIT REPORT

6.9.1.14 The  $F_{xy}^{RTP}$  limit for Rated Thermal Power ( $F_{xy}^{RTP}$ ) shall be provided to the

Director of the Regional Office of Inspection and Enforcement, with a copy to the Director, Nuclear Reactor Regulation, Attention Chief of the Core Performance Branch, U. S. Nuclear Regulatory Commission, Washington, DC 20555 for all core planes containing bank "D" control rods and all unrodded core planes at least 60 days prior to cycle initial criticality. In the event that the limit would be submitted at some other time during core life, it will be submitted 60 days prior to the date the limit would become effective unless otherwise exempted by the Commission.

Any information needed to support  $F_{xy}^{RTP}$  will be by request from the NRC and need not be included in this report.

#### SPECIAL REPORTS

6.9.2 Special reports shall be submitted to the Director of the Office of Inspection and Enforcement (Regional Office) within the time period specified for each report. These reports shall be submitted covering the activities identified below pursuant to the requirements of the applicable reference specification:

## POWER DISTRIBUTION LIMITS

### SURVEILLANCE REQUIREMENTS (Continued)

2. When the  $F_{xy}^C$  is less than or equal to the  $F_{xy}^{RTP}$  limit for the appropriate measured core plane, additional power distribution maps shall be taken and  $F_{xy}^C$  compared to  $F_{xy}^{RTP}$  and  $F_{xy}^L$  at least once per 31 EFPD.
- e. The  $F_{xy}$  limit for Rated Thermal Power ( $F_{xy}^{RTP}$ ) shall be provided for all core planes containing bank "D" control rods and all unrodded core planes in a Radial Peaking Factor Limit Report per specification 6.9.1.14.
- f. The  $F_{xy}$  limits of e, above, are not applicable in the following core plane regions as measured in percent of core height from the bottom of the fuel:
1. Lower core region from 0 to 15%, inclusive.
  2. Upper core region from 85 to 100% inclusive.
  3. Grid plane regions at  $17.8 \pm 2\%$ ,  $32.1 \pm 2\%$ ,  
 $46.4 \pm 2\%$ ,  $60.6 \pm 2\%$  and  $74.9 \pm 2\%$ , inclusive
  4. Core plane regions within  $\pm 2\%$  of core height ( $\pm 2.88$  inches) about the bank demand position of the bank "D" control rods.
- g. With  $F_{xy}^C$  exceeding  $F_{xy}^L$ , the effects of  $F_{xy}$  on  $F_Q(Z)$  shall be evaluated to determine if  $F_q(Z)$  is within its limit.
- 4.2.2.3 When  $F_Q(Z)$  is measured pursuant to Specification 4.10.2.2, an overall measured  $F_Q(Z)$  shall be obtained from a power distribution map and increased by 3% to account for manufacturing tolerances and further increased by 5% to account for measurement uncertainty. When the number of available moveable detector thimbles is less than 75%\* of the total, the 5% measurement uncertainty shall be increased to  $[5\% + (3-T/12.5)(2\%)]$  where T is the number of available thimbles.

\* See footnote on page 3/4 3-37 for limitation

PASES

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An evaluation of DNB and test data from experiments of fuel rod bowing in subchannels containing thimble cells has identified that it is appropriate to impose a penalty factor to the accident analyses DNBR results. Accordingly, a thimble cell rod bow penalty as a function of fuel burnup, is applied to the measured values of the enthalpy rise hot channel factor,

$F_{\Delta H}^N$ . Additional inplant operational data and DNB tests designed to quantify the effects of rod bow have provided a basis for reducing the penalty applied to the enthalpy rise hot channel factor to account for rod bow effects. The necessary penalty is applied as a function of fuel burnup (See Figure 3.2-4).

The radial peaking factor  $F_{xy}$  (Z) is measured periodically to provide assurance that the hot channel factor,  $F_Q$  (Z), remains within its limit.

The  $F_{xy}$  limit for Rated Thermal Power ( $F_{xy}^{RTP}$ ) as provided in the Radial

Peaking Factor Limit Report per specification 6.9.1.14 was determined from expected power control maneuvers over the full range of burnup conditions in the core.

3/4.2.4 QUADRANT POWER TILT RATIO

The quadrant power tilt ratio limit assures that the radial power distribution satisfies the design values used in the power capability analysis. Radial power distribution measurements are made during startup testing and periodically during power operation.

The limit of 1.02 at which corrective action is required provides DNB and linear heat generation rate protection with x-y plane power tilts.

The two hour time allowance for operation with a tilt condition greater than 1.02 but less than 1.09 is provided to allow identification and correction of a dropped or misaligned rod. In the event such action does not correct the tilt the margin for uncertainty on  $F_Q$  is reinstated by

reducing the maximum allowed power by 3 percent for each percent of tilt in excess of 1.0.