



TWO NORTH NINTH STREET, ALLENTOWN, PA. 18101 PHONE: (215) 770-5151

NORMAN W. CURTIS
Vice President-Engineering & Construction-Nuclear
770-5381

June 9, 1981

Mr. A. Schwencer, Chief
Licensing Branch No. 2
Division of Licensing
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Docket Nos. 50-387 & 50-388

SUSQUEHANNA STEAM ELECTRIC STATION
REVISED RESPONSE TO COMMON REACTOR VESSEL LEVEL
INSTRUMENTATION REFERENCE - SER OPEN ITEM NO. 99.
ER100450 FILE 841-2, -12
PLA-797

Dear Mr. Schwencer:

This letter provides a revised response to NUREG-0737, requirement II.K.3.27. This response completes our action and will allow closeout of open item no. 99.

Susquehanna SES reactor vessel water level instrumentation uses two reference points: instrument zero and the top of the active fuel. Only one pair of instruments LR-1R615 and LI-1R610, which are not normally used during operation, make use of the top of active fuel reference point. All of the remaining indicators make use of the instrument zero reference. In order to avoid operator confusion and provide the operator with a common reference as to what the reactor vessel water level is PP&L will, prior to fuel load, be taking two actions. The first is to provide a mimic of the vessel as close to each water level indicator as panel layout will allow (in most cases this is immediately adjacent to the instrument). This mimic (a rough version of which is included as attachment A) will show the relationship of the instrument range to various important levels in the reactor. The placement of these mimics, as illustrated for a sample case in attachment B, will provide the operator with not only a common reference but also a quick indication as to the relationship of the water level to some important reactor points.

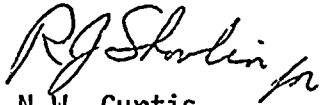
The second action being taken by PP&L is also designed to provide the operator with both an understanding of the meaning of the reactor vessel water level information and the relationship between that level and certain key points in the vessel. This is being accomplished by a

Page Two
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computer driven CRT color display, a black and white sample of which is given in attachment C. This display will provide the operator with a dynamic representation of level and, as part of the display, a twenty-minute trend of level.

We believe that these actions properly address and resolve the NRC's concern as to the potential for improper operator action due to the misinterpretation of a scale on a reactor vessel water level indicator caused by a diversity of reference points.

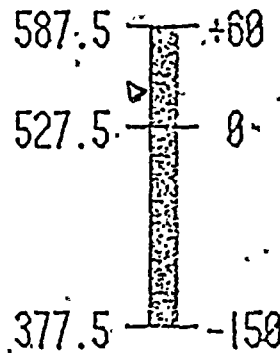
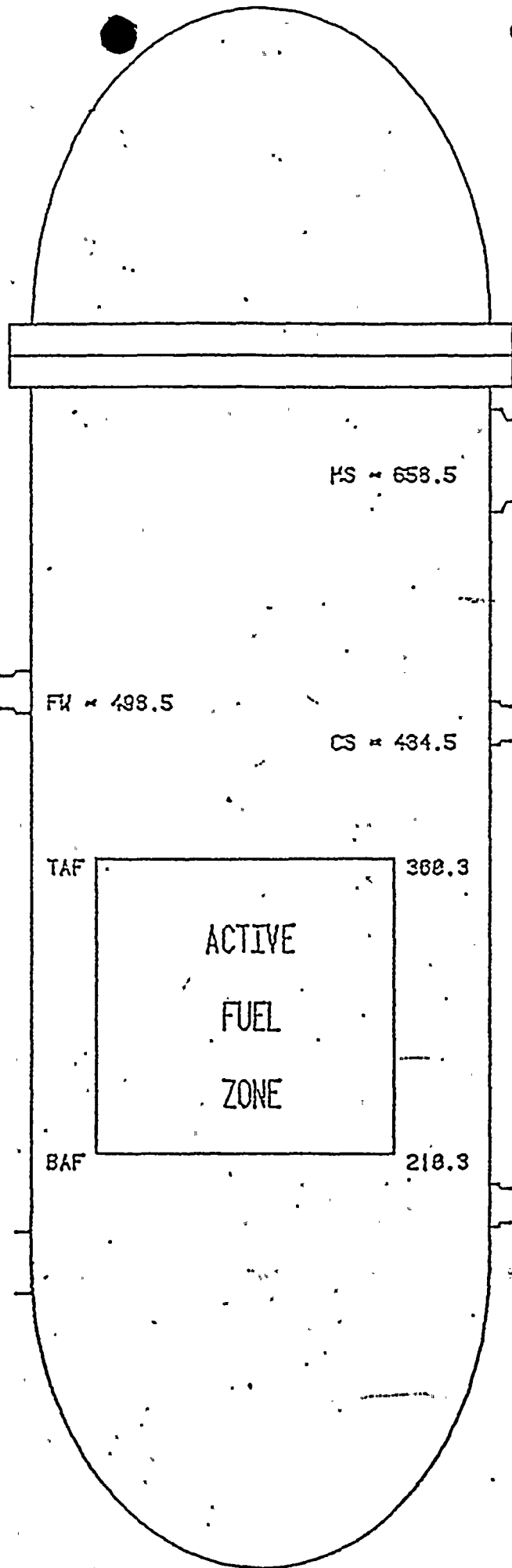
Very truly yours,



N.W. Curtis
Vice President-Engineering and Construction-Nuclear

Attachment

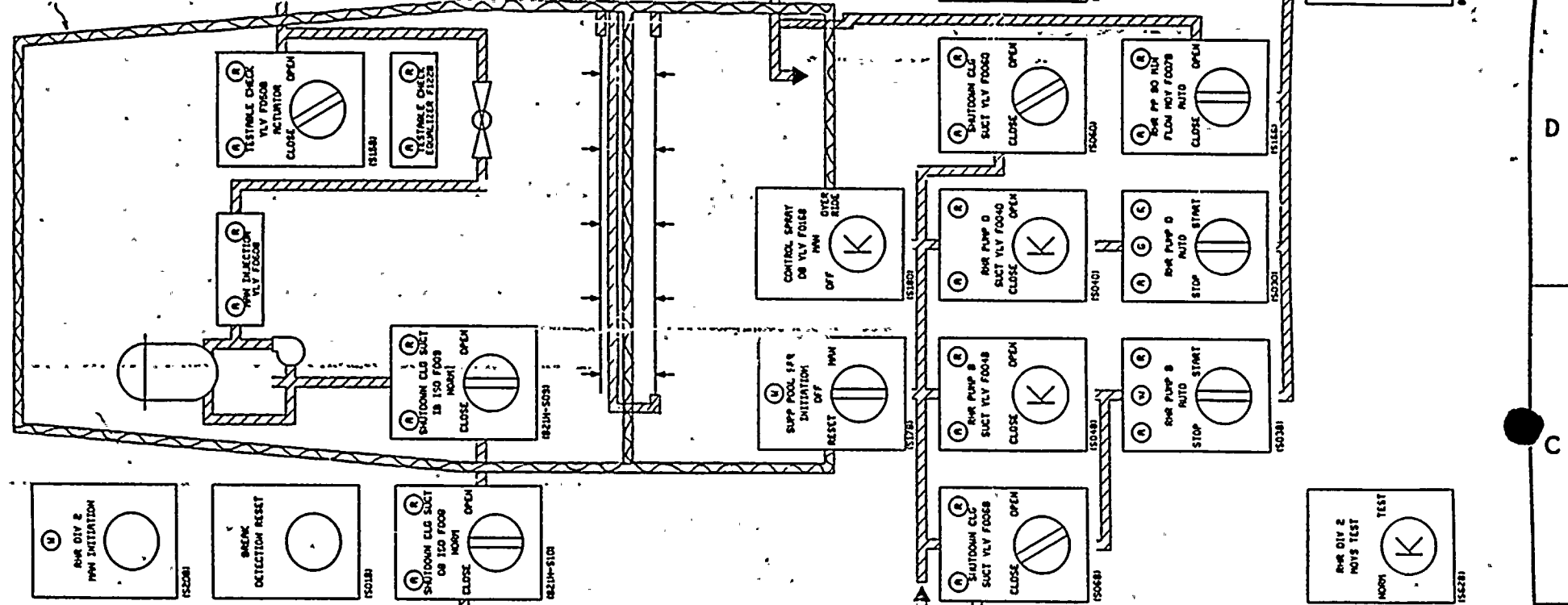
cc: R.M. Stark - NRC



WIDE RANGE

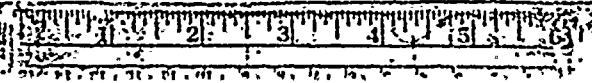
REFERENCE DRAWINGS

LC 3-C	SCHEM. DGS	PPL #	TITLE
9112717J SH2 13207408 SH112 13207410 SH112 13207425 SH889	9255-N-112-10521-1 9255-N-112-13711 & 21-1 9255-N-112-13711 & 21-1 9255-N-112-13218 & 21-1	FF13-750 FF13-750 FF13-750 FF13-750	REGISTER CORE COOLING MACHINERY MSTY DCG INSERT 2LB. FRONT & REAR MSTY DCG INSERT ELC FRONT & REAR EMERGENCY MANUVALTOR
8016-E-65 8050-J-660	MCNTEL DNG	A-107214 B-103792	ELECTRIC DEVICE INDEX BOP-INSTRUMENT DATA SHEET



REVISIONS	DATE	BY	CHKD	APPD
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SCALE NONE				
DESIGNED DLT		DRAWN GLT		
PENNSYLVANIA POWER & LIGHT COMPANY				
ALLENTOWN, PENNSYLVANIA SUSQUEHANNA STEAM ELECTRIC STATION - UNIT 2, UNIT 3				
BECHTEL - SAN FRANCISCO				
EMERG. CORE CLG BENCHBOARD 1C-50'				
	JOB No.	DRAWING No.	REV	
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E-162128 ^{H7}				

I certify that the image contained on this frame was made in the normal and regular course of business, on the date stated below and that it is an accurate reproduction of:



34 X 14 " 1/4" SCALE

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CAT. SW
M. C.S
POS

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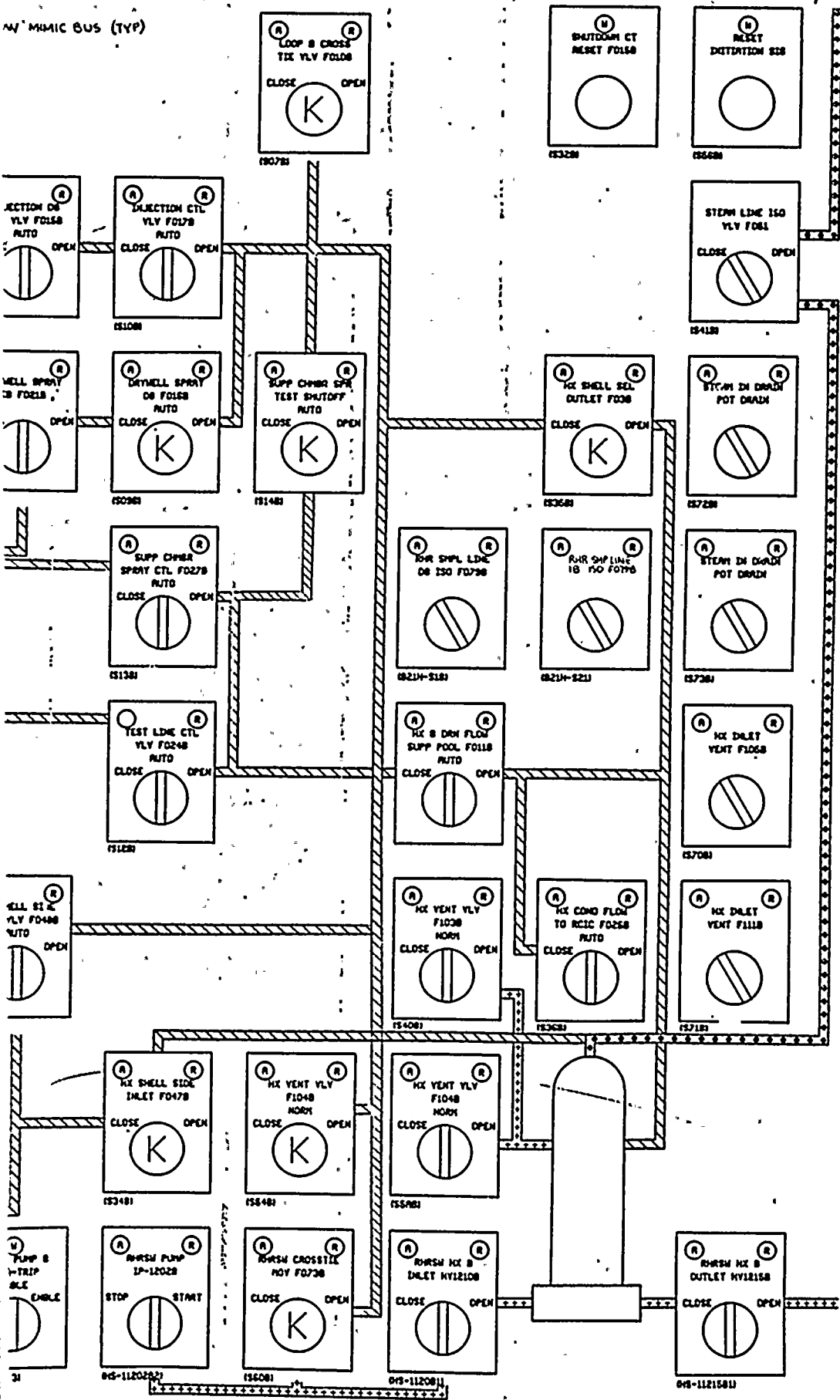
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INSERT 210

INSERT 21C

MMIC BUS (TYP)



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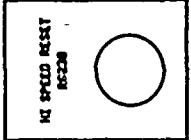
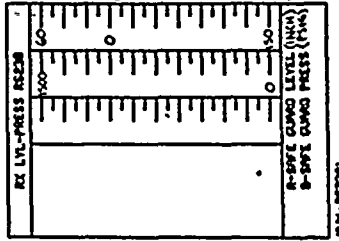
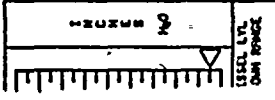
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1) 10 LEVEL PRESSURE SWITCH	(1-11)	RHE PUMP B PRESSURE (MUR)	(1-11)	RHE PUMP D PRESSURE (MUR)	(1-11)	RHE SYSTEM 2 MAN INITIATED PRESSURE SWITCH (MUR)	(1-11)
2) 10 LEVEL PRESSURE SWITCH	(1-11)	RHE PUMP B TRIP (MUR)	(1-11)	RHE PUMP D TRIP (MUR)	(1-11)	RHE SYSTEM 2 OUT OF SERVICE (MUR)	(1-11)
3) 10 LEVEL PRESSURE SWITCH	(1-11)		(1-11)		(1-11)	BOOTH FLOOR PRESSURE SWITCH OPEN (MUR)	(1-11)
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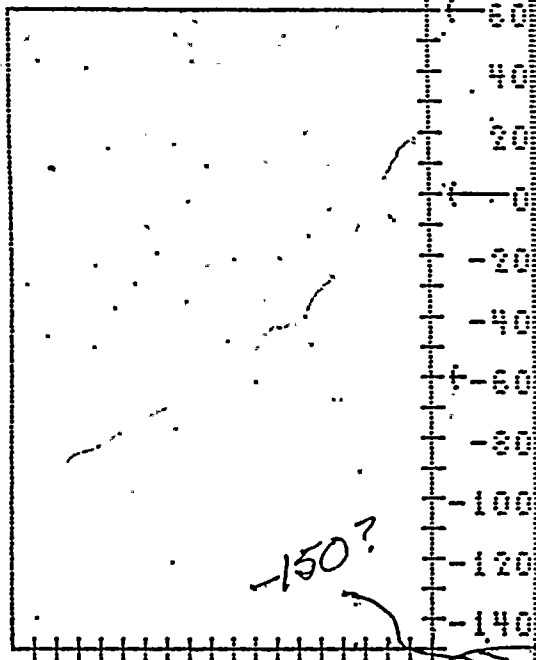
821-8228

821-8228

INCHES RELATIVE TO INSTRUMENT 0

RX PRESS XXXX PSIG

WATER LEVEL TREND



STEAM DRYER

STEAM SEPARATOR

UPPER SHROUD

TOP OF ACTIVE FUEL

INCHES ABOVE VESSEL 0

MAIN STEAM LINES
558.5"

WATER LEVEL

SHUTDOWN RNG XXX IN

UPSET RANGE XXX IN

NAR RANGE A XX IN

NAR RANGE B XX IN

NAR RANGE C XX IN

HIDE RANGE XXXX IN

527.5"

CORE SPRAY INLET
484.5"

FLOWS

RHR LP A XXXXX GPM

RHR LP B XXXXX GPM

RCIC XXX GPM

377.5"

360.3"

587.5

Attachment C

JUN 19 1981

Docket Nos.: 50-387
and 50-388

JUN 8 1981



Mr. Norman W. Curtis
Vice President - Engineering and
Construction
Pennsylvania Power & Light Co.
Two North Ninth Street
Allentown, PA 13101

Dear Mr. Curtis:

SUBJECT: PP&L APPEAL OF THE NRC STAFF POSITION REGARDING LOW PRESSURE
CONTAINMENT LEAKAGE TEST FREQUENCY

Pennsylvania Power & Light Company has proposed that the test frequency for the low pressure steam bypass test be the same as that required for the Integrated Leak Rate Tests (ILRT), i.e., about every 3 1/3 years. The first test would be performed during the initial ILRT and then during every subsequent ILRT.

The NRC position as reflected in SRP 6.2.1.1c is that periodic leak testing be performed at each refueling, an approximate 18-month period.

The applicant has requested the 3-year interval based on the added integrity to be gained from specific design features; including, continuous liner plates, seamless downcomer pipe, flued SRV heads at the point of diaphragm slab penetrations, and seal welded plates at penetrations of the diaphragm slab.

The NRC has considered these design items and the high degree of potential protection to be gained from their presence. However, the newness of the Mark II design and the importance of protecting against the relatively low capability for accommodating steam bypass inherent in this design requires that an early record of bypass integrity be proven through periodic testing at about the refueling interval.

OFFICE							
NAME							
DATE							

Norman W. Curtis

2

It is reasonable to conclude that when the PP&L Susquehanna Steam Electric Station and the other Mark IIs with similar or equivalent design features have provided a demonstration, through the period refueling cycle inspection, that bypass integrity does not degrade with service, PP&L should provide the staff with this information so that a less restrictive testing frequency may be adopted.

Sincerely,

Original signed by
Robert L. Tedesco

Robert L. Tedesco, Assistant Director
for Licensing.
Division of Licensing

cc:
See next page

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DATE	6/4/81	6/4/81	6/5/81				

Norman W. Curtis

2

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