

ISHAM, LINCOLN & BEALE
COUNSELORS AT LAW

DOCKETED
USNRC

1120 CONNECTICUT AVENUE, N.W. • SUITE 840
WASHINGTON, D.C. 20036
202 833-9730

EDWARD S. ISHAM: 1872-1902
ROBERT T. LINCOLN: 1872-1889
WILLIAM G. BEALE: 1885-1923

'83 MAR -2 110:00 CHICAGO OFFICE
THREE FIRST NATIONAL PLAZA
CHICAGO, ILLINOIS 60602
TELEPHONE 312 558-7500
TELEX: 2-5288

February 28, 1983

Ivan W. Smith
Administrative Judge and
Chairman
Atomic Safety and Licensing
Board
U. S. Nuclear Regulatory
Commission
Washington, D.C. 20555

Dr. Richard F. Cole
Administrative Judge
Atomic Safety and Licensing
Board
U. S. Nuclear Regulatory
Commission
Washington, D.C. 20555

Dr. A. Dixon Callihan
Administrative Judge
Atomic Safety and Licensing Board
c/o Union Carbide Corporation
P. O. Box Y
Oak Ridge, Tennessee 37830

RE: In the Matter of Commonwealth Edison Company
(Byron Nuclear Power Station, Units 1 and 2)
Docket Nos. 50-454 and 50-455

Gentlemen:

In accordance with the disclosure requirements of the McGuire ^{*} case, I am enclosing a letter and enclosures dated February 9, 1983 from Mr. T. R. Tramm of Commonwealth Edison Company to Mr. Harold Denton. Mr. Tramm's letter sets forth a commitment on behalf of Commonwealth Edison Company to limit power operation to 70% or lower in the event that the steam generators installed in the Byron Station are not modified to minimize the effect of flow-induced vibration prior to start-up.

*/ Duke Power Company (William B. McGuire Nuclear Station,
Units 1 and 2), ALAB-143, 6 AEC, 623, 625 (1973).

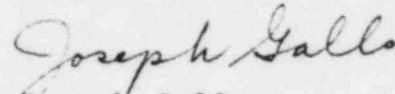
8303030381 830228
PDR ADOCK 05000454
G PDR

PS03

- 2 -

Mr. Tramm's letter and its enclosures are relevant to Rockford League of Women Voters' Contention 22 and DAARE/SAFE Contention 9c.

Sincerely,

A handwritten signature in cursive script that reads "Joseph Gallo".

Joseph Gallo
One of the Attorneys for
Commonwealth Edison Company

Enclosures

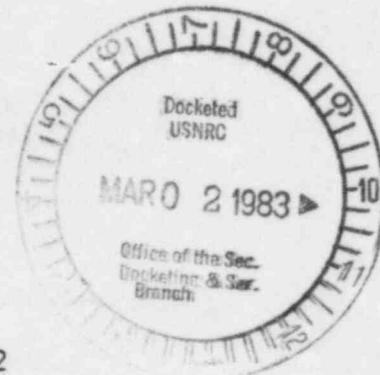
cc: Service List



Commonwealth Edison
One First National Plaza, Chicago, Illinois
Address Reply to: Post Office Box 767
Chicago, Illinois 60690

February 9, 1983

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, DC 20555



Subject: Byron Station Units 1 and 2
Braidwood Station Units 1 and 2
Steam Generator Tube Vibration
NRC Docket Nos. 50-454, 50-455,
50-456, and 50-457

- References (a): January 20, 1982 letter from
D. G. Eisenhower to L. O. DelGeorge.
- (b): March 15, 1982 letter from T. R. Tramm
to H. R. Denton.
- (c): Summary of February 19, 1982 NRC meeting
with Westinghouse regarding Model D
steam generators.
- (d): July 27, 1982 letter from B. J. Youngblood
to L. O. DelGeorge.
- (e): October 28, 1982 summary of October 22, 1982
NRC meeting with Westinghouse regarding
Model D steam generators.

Dear Mr. Denton:

This letter will document our intentions with regard to modification of the Byron/Braidwood steam generators to minimize tube degradation associated with flow induced vibration. This supplements Commonwealth Edison's response to the NRC's request for information in reference (a).

We presently intend to modify to the extent necessary the Byron/Braidwood steam generators prior to loading fuel at each unit. If a satisfactory modification cannot be engineered, tested, reviewed, approved and installed prior to fuel load on any of these units, we will do the modification work at the first opportunity and restrict power during the interim operation period.

Westinghouse's testing program has demonstrated that steam generators of this type can be operated indefinitely at 70% power. This information has been reviewed with the NRC in meetings documented in references (c), (d), and (e). Commonwealth Edison will use this

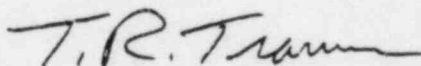
February 9, 1983

information as the basis for establishing a specific power restriction during interim operation of the Byron/Braidwood units. We do not intend to operate any unmodified steam generators at power levels exceeding those judged acceptable at Westinghouse.

It is requested that the NRC approve this interim power restriction option so that plant startup may proceed in the event that steam generator modifications cannot be completed prior to fuel load.

We would be happy to discuss this matter further at your convenience. Please contact this office.

Very truly yours,



T. R. Tramm
Nuclear Licensing Administrator

im

5964N

B/B

February 9, 1983

Messrs: C. Reed/N. A. Kershaw
J. S. Abel
H. E. Bliss
T. C. Cihlar/G. E. Peterson
R. Cosaro
L. O. DelGeorge
J. D. Deress/J. T. Westermeier
E. E. Fitzpatrick
K. L. Graesser (NC Only)
J. F. Gudac
J. H. Hughes
R. E. Jortberg
N. J. Kalivianakis (NC Only)
A. W. Kleinrath
D. E. Lindvall
J. J. Maley
M. A. Stanish
R. E. Querio
Q. A. Engineer - Braidwood
Q. A. Engineer - Byron
Q. A. Engineer - SNED
V. I. Schlosser/C. J. Tomashek
D. J. Scott (NC Only)
W. J. Shewski
T. R. Sommerfield
G. Sorensen
W. L. Stiede
H. K. Stolt/W. L. Eck
(Bull., Circ., & I. Not. Only)
R. J. Tamminga (ISI Only)
G. P. Wagner
M. J. Wallace
J. Gayley - IL&B
P. P. Steptoe-IL&B (Letters Only)
M. A. Bowidowicz - S&L
W. E. Kortier - W
G. Wright - State of Illinois
(NRC/CECo Ltrs only)
W. R. Bird - Consumers Power Co.
- RIII Only
NL Distribution

In the judgement of the Nuclear Licensing Administrator, the attached document contains the following commitments to the NRC or requirements from the NRC.

Identification of Attached Document: February 9, 1983 letter from T. R. Tramm to H. R. Denton regarding Byron/Braidwood steam generator tube vibration.

NRC Commitment or Requirement:

<u>Due Date</u>	<u>Commitment or Requirement</u>	<u>Responsible Edison Department</u>
---	For your information	Distribution

When it is determined by the responsible department that a due date will not be met, the Nuclear Licensing Administrator should be notified immediately.

FILE: Steam Generators

T. R. Tramm 83-41



Commonwealth Edison

One First National Plaza Chicago, Illinois
Address Reply to: Post Office Box 767
Chicago, Illinois 60690

February 9, 1983

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Subject: Byron Station Units 1 and 2
Braidwood Station Units 1 and 2
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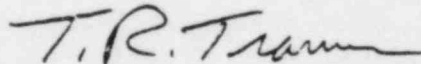
February 9, 1983

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It is requested that the NRC approve this interim power restriction option so that plant startup may proceed in the event that steam generator modifications cannot be completed prior to fuel load.

We would be happy to discuss this matter further at your convenience. Please contact this office.

Very truly yours,



T. R. Tramm
Nuclear Licensing Administrator

lm

5964N



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

JAN 21 REC'D

727

JAN 20 1982

Docket Nos.: STN 50-454
and STN 50-455

Mr. Louis O. DelGeorge
Director of Nuclear Licensing
Commonwealth Edison Company
P. O. Box 767
Chicago, Illinois 60690

Dear Mr. DelGeorge:

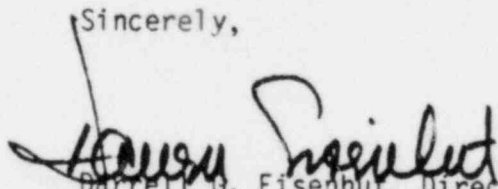
Subject: Plans for Use of Westinghouse Model D Steam Generators

Within the last few months, there has been considerable interest paid to operating nuclear power plants with pre-heater steam generators (Model D) manufactured by Westinghouse Electric Corporation. This interest was initiated by tube failures and degradation in steam generators of this model at non-domestic nuclear power plants. We understand that you propose to use Westinghouse Model D pre-heater type steam generators at your facility.

Because of the safety concerns relative to steam generator tube damage, we consider the potential for such damage to be of safety significance. Therefore, we request that you provide us with your plans to address this problem at your facility within 60 days of receipt of this letter. We are especially interested to know whether or not you are relying on the results of the Westinghouse test program or testing at operating plants, what instrumentation you may propose for detection of flow-induced vibrations, and what testing and start-up procedures you propose for your own facility. Your full cooperation in this matter is appreciated.

The reporting and/or record keeping requirements contained in this letter affect fewer than ten respondents; therefore, OMB clearance is not required under P.L. 96-511.

Sincerely,


Barrett G. Eisenhut, Director
Division of Licensing
Office of Nuclear Reactor Regulation

cc: See next page

Mr. Louis O. DelGeorge
Director of Nuclear Licensing
Commonwealth Edison Company
Post Office Box 767
Chicago, Illinois 60690

cc: Mr. William Kortier
Atomic Power Distribution
Westinghouse Electric Corporation
P. O. Box 355
Pittsburgh, Pennsylvania 15230

Mr. James G. Keppler
U. S. NRC, Region III
799 Roosevelt Road
Glen Ellyn, Illinois 60137

Paul M. Murphy, Esq.
Isham, Lincoln & Beale
One First National Plaza
42nd Floor
Chicago, Illinois 60603

Mrs. Phillip B. Johnson
1907 Stratford Lane
Rockford, Illinois 61107

Ms. Bridget Little Rorem
Appleseed Coordinator
117 North Linden Street
Essex, Illinois 60935

Dr. Bruce von Zellen
Department of Biological Sciences
Northern Illinois University
DeKalb, Illinois 61107

Mr. Edward R. Crass
Nuclear Safeguards and Licensing Division
Sargent & Lundy Engineers
55 East Monroe Street
Chicago, Illinois 60603

Myron Cherry, Esq.
Cherry, Flynn and Kanter
1 IBM Plaza, Suite 4501
Chicago, Illinois 60611

Mr. William Fourney
U. S. Nuclear Regulatory Commission
Byron/Resident Inspectors Office
4448 German Church Road
Byron, Illinois 61010

Ms. Diane Chavez
602 Oak Street, Apt. #4
Rockford, Illinois 61108



Commonwealth Edison

One First National Plaza, Chicago, Illinois
Address Reply to: Post Office Box 767
Chicago, Illinois 60690

March 15, 1982

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Subject: Byron Station Units 1 and 2
Braidwood Station Units 1 and 2
Steam Generator Vibration Monitoring
NRC Docket Nos. 50-454, 50-455, 50-456
and 50-457

Reference (a): January 20, 1982 letter from
D. G. Eisenhut to L. O. DelGeorge.

Dear Mr. Denton:

This is to provide information requested in reference (a) regarding reports of tube damage in steam generators similar to those to be used at Byron and Braidwood.

In late October, 1981 a foreign plant with Model D-3 steam generators experienced a steam generator tube leak. Subsequent inspections of the steam generators of that plant and the D-3 steam generators of another foreign plant showed that the tubes were experiencing vibration and wear in the pre-heater area. The Byron/Braidwood plants utilize model D-4 and D-5 steam generators which are similar in configuration to the D-3 steam generators.

Westinghouse has identified to us the nature of the mechanism observed in two non-domestic plants with Model D-3 steam generators. We have discussed with Westinghouse the program that is in place to understand the nature of phenomena and to justify operation of all pre-heat steam generators. The Westinghouse program includes the use of scale model testing, analytical studies, wear testing, periodic eddy current inspection of operating units, and the use of diagnostic internal and external instrumentation in selected operating plants. In our review of the Westinghouse program, we have determined we will rely on the results of the Westinghouse analysis and test programs and the experience and data gained at operating plants. At the present time one Model D-3 unit (split flow pre-heater) and one Model D-4 unit (counter flow pre-heater)

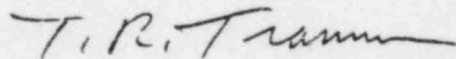
March 15, 1982

are equipped with diagnostic internal and external instrumentation as part of the Westinghouse program. After the data from these units are collected and evaluated, we will be able to determine if any diagnostic instrumentation should be attached to or installed in the steam generators at our plant. This determination should be made by September 1, 1982 and a further response will be submitted at that time.

If you have any questions concerning this matter, please contact this office.

One (1) signed original and fifty-nine (59) copies of this letter are provided for your use.

Very truly yours,



T. R. Tramm
Nuclear Licensing Administrator

lm

3622N



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

TRT

Docket Nos.: STN 50-454, STN 50-455, STN 50-456, STN 50-457
50-369, 50-370, 50-390, 50-391, STN 50-546,
STN 50-547, 50-445, 50-446, 50-395, 50-413,
50-414, 50-498, 50-499, 50-400, 50-401, 50-402
and 50-403

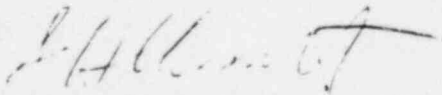
MEMORANDUM FOR: B. J. Youngblood, Chief, Licensing Branch No. 1, DL
FROM: S. Chesnut, Project Manager, Licensing Branch No. 1, DL
SUBJECT: SUMMARY OF MEETING ON WESTINGHOUSE MODEL D STEAM GENERATORS

A meeting was held February 19, 1982 in Bethesda, Maryland with representatives from Westinghouse and various utilities which had purchased Westinghouse Model D steam generators. A list of attendees is given in Enclosure (1).

Westinghouse representatives presented the results of their initial evaluations of accelerated tube wear on Model D steam generators noted at two non-domestic plants in Ringhals, Sweden (Model D3) and Almaraz, Spain (Model D3). Eddy current data and information derived from internal and/or external flow monitoring instrumentation of scale models and other Model D steam generators at McGuire (D2) and Krsko, Yugoslavia (D4) was also discussed.

Westinghouse representatives reported the the accelerated tube wear was flow related and had only been observed at two non-domestic plants. The accelerated wear was attributed to turbulence in the preheater region caused by the feed inlet impingement plate and flow limiter. Initial data from the instrumented steam generators showed that the onset of the increased turbulence occurred at high feed flow rates (approximately 50% for Models D2 and D3, 70% for D4, D5).

Westinghouse indicated that increased instrumentation and additional analyses would continue until a resolution was reached. Westinghouse also discussed several preliminary design change possibilities which would decrease the flow-induced vibrations and turbulence. Westinghouse indicated that it would make recommendations to utilities but that each utility would respond to the staff as to appropriate measures to prevent the accelerated tube wear.


S. H. Chesnut, Project Manager
Licensing Branch No. 1
Division of Licensing

Enclosure:
As stated

cc: See next page

Mr. Louis O. DelGeorge
Director of Nuclear Licensing
Commonwealth Edison Company
Post Office Box 767
Chicago, Illinois 60690

cc: Mr. William Kortier
Atomic Power Distribution
Westinghouse Electric Corporation
Post Office Box 355
Pittsburgh, Pennsylvania 15230

Paul M. Murphy, Esq.
Isham, Lincoln & Beale
One First National Plaza
42nd Floor
Chicago, Illinois 60603

C. Allen Bock, Esq.
Post Office Box 342
Urbana, Illinois 61801

Thomas J. Gordon, Esq.
Waller, Evans & Gordon
2503 S. Neil
Champaign, Illinois 61820

Ms. Bridget Little Rorem
Appleseed Coordinator
117 North Linden Street
Essex, Illinois 60935

Mr. Edward R. Crass
Nuclear Safeguards and Licensing Division
Sargent & Lundy Engineers
55 East Monroe Street
Chicago, Illinois 60603

U. S. Nuclear Regulatory Commission
Resident Inspectors Office
RR#1, Box 79
Braceville, Illinois 60407

Mr. James G. Keppler
U. S. NRC, Region III
799 Roosevelt Road
Glen Ellyn, Illinois 60137

Mr. Louis O. DelGeorge
Director of Nuclear Licensing
Commonwealth Edison Company
Post Office Box 767
Chicago, Illinois 60690

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Myron Cherry, Esq.
Cherry & Flynn
Suite 3700
Three First National Plaza
Chicago, Illinois 60602

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U. S. Nuclear Regulatory Commission
Byron/Resident Inspectors Office
4448 German Church Road
Byron, Illinois 61010

Ms. Diane Chavez
602 Oak Street, Apt. #4
Rockford, Illinois 61108

Enclosure 1

Attendees List

NRC

E. Doolittle
K. Kiper
C. D. Sellers
B. Turovlin
J. Gleim
E. G. Adensam
S. Chesnut
G. Lanas
W. Johnston
C. Cheng
T. A. Ippolito
T. J. Kerrigan
K. N. Jabbour
S. B. Burwell
P. Bemis
A. R. Herdt
A. Taboada
K. Wichman
R. L. Tedesco
B. Senseney
R. A. Birkel
J. Rajan
E. J. Brown
J. Youngblood
J. I. Villadoniga

Oak Ridge National Lab.

C. V. Dadd

Argonne National Lab.

J. Jendrzejczyk
M. Wambsqanss

Texas Utilities

B. S. Kacko
E. Alarcon

South Carolina Electric & Gas Company

R. Clary
C. A. Price
M. D. Quinton

Westinghouse

J. Schulties
D. MNalinowski
N. Mueller
T. Timmons
R. Twogood
J. McAdoo
D. Sheats
G. L. Calhoun
D. R. Grain
W. E. Pennell

TVA

P. G. Ioannides

Swedish Nuclear Power Plant

L. G. Larsson
B. Erikigaard

McGuire

P. Bemis
G. A. Copp
K. S. Canady

Krsko (Yugoslavia)

D. Ieretic

Westinghouse Nuclear (Spain)

R. DeHaro
J. Gorosami
F. Alomar

B/B

March 15, 1982

Dear Mr. Tramm

Messrs:	C. Reed/N. A. Kershaw	Q.A. Engineer - SNED
	J. S. Abel	V. I. Schlosser/C. J. Tomashek
	H. E. Bliss	D. J. Scott (NC Only)
	T. C. Cihlar/G. E. Peterson	W. J. Shewski
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	J. H. Hughes	R. J. Tamminga (ISI Only)
	R. E. Jortberg	G. P. Wagner
	N. J. Kalivianakis (NC Only)	P. P. Steptoe-IL&B (Letters Only)
	A. W. Kleinrath	M. A. Bowidowicz - S&L
	D. E. Lindvall	W. E. Kortier - W
	J. J. Maley	G. Wright - State of Illinois
	M. A. Stanish	(NRC/CECo Ltrs only)
	R. E. Querio	W. R. Bird - Consumers Power Co.
	Q. A. Engineer - Byron	- RIII Only
		NL Distribution

In the judgement of the Nuclear Licensing Administrator, the attached document contains the following commitments to the NRC or requirements from the NRC.

Identification of Attached Document: March 15, 1982, letter from T. R. Tramm to H. R. Denton regarding Byron/Braidwood Steam Generator Vibration Monitoring.

NRC Commitment or Requirement:

<u>Due Date</u>	<u>Commitment or Requirement</u>	<u>Responsible Edison Department</u>
8/31/82	Provide information on monitoring system.	Projects/Westermeier

When it is determined by the responsible department that a due date will not be met, the Nuclear Licensing Administrator should be notified immediately.

T. R. Tramm 82-54



Commonwealth Edison
One First National Plaza, Chicago, Illinois
Address Reply to: Post Office Box 767
Chicago, Illinois 60690

March 15, 1982

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, DC 20555

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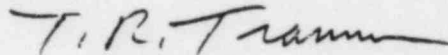
March 15, 1982

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If you have any questions concerning this matter, please contact this office.

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Very truly yours,



T. R. Tramm
Nuclear Licensing Administrator

lm

3622N



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

JUL 28 REC'D

JUL 27 1982

Docket Nos.: STN 50-454, STN 50-455
and STN 50-456, STN 50-457

Mr. Louis O. DelGeorge
Director of Nuclear Licensing
Commonwealth Edison Company
Post Office Box 767
Chicago, Illinois 60690

Dear Mr. DelGeorge:

Subject: Summary of Meeting with Westinghouse on Model D and E Steam Generators

A proprietary meeting was held with Westinghouse on July 21, 1982 to discuss progress made in resolving accelerated tube wear experienced on operating plants with Model D steam generators. Since Byron and Braidwood Stations will utilize Models D-4 and D-5 steam generators a summary of the issues discussed is attached for your information.

Sincerely,

Stephen H. Chennet
FOR

B. J. Youngblood, Chief
Licensing Branch No. 1
Division of Licensing

Attachment:
As stated

cc: See next page

Mr. Louis O. DelGeorge
Director of Nuclear Licensing
Commonwealth Edison Company
Post Office Box 767
Chicago, Illinois 60690

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Commonwealth Edison Company
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One First National Plaza
42nd Floor
Chicago, Illinois 60603

Mrs. Phillip B. Johnson
1907 Stratford Lane
Rockford, Illinois 61107

Ms. Bridget Little Rorem
Appleseed Coordinator
117 North Linden Street
Essex, Illinois 60935

Dr. Bruce von Zellen
Department of Biological Sciences
Northern Illinois University
DeKalb, Illinois 61107

Mr. Edward R. Crass
Nuclear Safeguards and Licensing Division
Sargent & Lundy Engineers
55 East Monroe Street
Chicago, Illinois 60603

Myron Cherry, Esq.
Cherry & Flynn
Suite 3700
Three First National Plaza
Chicago, Illinois 60602

Mr. William Fourney
U. S. Nuclear Regulatory Commission
Byron/Resident Inspectors Office
4448 German Church Road
Byron, Illinois 61010

Ms. Diane Chavez
602 Oak Street, Apt. #4
Rockford, Illinois 61108



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

JUL 23 1982

Docket No.: 50-395

MEMORANDUM FOR: B. J. Youngblood, Chief, Licensing Branch No. 1, DL
FROM: W. F. Kane, Project Manager, Licensing Branch No. 1, DL
SUBJECT: SUMMARY OF MEETING REGARDING WESTINGHOUSE MODEL D AND E
STEAM GENERATORS

A meeting was held on July 21, 1982 in Bethesda, Maryland with representatives from Westinghouse and a number of utilities that had purchased plants utilizing these steam generators. A list of attendees is provided in the enclosure.

The purpose of the meeting was to have Westinghouse discuss the progress made since our last meeting in resolving the accelerated tube wear experienced on operating plants with Model D steam generators. A summary of the previous meeting which was held on May 14, 1982 is provided in a memorandum dated May 20, 1982 from W. Kane to B. J. Youngblood.

The major points made by Westinghouse at the meeting for the D2/D3 program are as follows:

1. Major Developments

- . Preliminary design completed
- . Fabrication development initiated
- . Long lead material procured
- . Tooling and procedures development 50% complete
- . One month operation of 75% completed on McGuire
- . Full scale testing facility (SSPB) commissioned

2. Open Items

- . Full scale verification testing
- . Tube vibration acceptance criteria

3. Near Term Milestones

- . SSPB initial tests complete - 7/22/82
- . High temperature tests complete - 7/16/82
- . Final design review complete - 8/11/82
- . Third party review complete - 8/16/82
- . First plant modification hardware complete - 8/30/82
- . Tooling, procedures, and trained crew available - 9/14/82

Major milestones in the D4/D5/E program were given as follows:

Generic counterflow S/G program definition - complete
Scale model testing - commenced
KRSKO system modifications - complete

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Diagnostic data available from KRSK0 - 8/15/82
Scale model testing complete - 11/1/82
Design review and generic modification selection - 1/8/83

It was agreed that a followup generic meeting with Westinghouse would be appropriate in about a month.



W. F. Kane, Project Manager
Licensing Branch No. 1
Division of Licensing

Enclosures:
As stated

cc: See next page

ENCLOSURE

LIST OF ATTENDEES

<u>NRC Staff</u>	<u>Westinghouse</u>	<u>Duke Power</u>
W. Kane	T. Timmons	S. Copp
R. Tedesco	J. Schulties	
J. Youngblood	R. Nath	
T. Ippolito	G. Calhoun	<u>Bechtel</u>
O. Parr	P. McDonough	N. Chapman
S. Chesnut	W. Cummins	
C. Liang	L. Clements	
E. Licitra	H. Bermudez	<u>TSI</u>
R. Serbu	M. Spennati	J. McEwen*
H. Conrad	D. Burns	
L. Frank	N. Singleton	
R. Birkel		
K. Kiper		
D. Sells	<u>Argonne National Laboratory</u>	<u>CNASCO</u>
E. Adensam	M. Wambsganss	A. Burillo
T. Kenyon		
H. Brammer		
J. Rajan	<u>TVA</u>	<u>Commonwealth Edison</u>
B. Singh	D. Kulisek	T. Tramm
R. Martin	S. Stout	J. Gallo
S. Burwell		
G. Wiedenhamer		

* Part time attendee - not cleared for proprietary information

Mr. O. W. Dixon, Jr.
Vice President, Nuclear Operations
South Carolina Electric & Gas Company
Post Office Box 764 (Mail Code F-04)
Columbia, South Carolina 29218

cc: Mr. Henry Cyrus
Senior Vice President
South Carolina Public Service Authority
223 North Live Oak Drive
Moncks Corner, South Carolina 29461

J. B. Knotts, Jr., Esq.
Debevoise & Liberman
1200 17th Street, N. W.
Washington, D. C. 20036

Mr. Mark B. Whitaker, Jr.
Group Manager - Nuclear Engineering & Licensing
South Carolina Electric & Gas Company
Post Office 764
Columbia, South Carolina 29218

Mr. Brett Allen Bursey
Route 1, Box 93C
Little Mountain, South Carolina 29076

Resident Inspector/Summer NPS
c/o U. S. NRC
Route 1, Box 64
Jenkinsville, South Carolina 29065

Mr. James P. O'Reilly
U. S. NRC, Region II
101 Marietta Street
Suite 3100
Atlanta, Georgia 30303