

Proprietary Information – Withhold From Public Disclosure Under 10 CFR 2.390

RS-11-136
September 2, 2011

10 CFR 50.90

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-001

Braidwood Station, Units 1 and 2
Facility Operating License Nos. NPF-72 and NPF-77
NRC Docket Nos. STN 50-456 and STN 50-457

Byron Station, Units 1 and 2
Facility Operating License Nos. NPF-37 and NPF-66
NRC Docket Nos. STN 50-454 and STN 50-455

Subject: Response to Request for Additional Information Related to License Amendment Request to Revise Technical Specifications (TS) 3.3.1, "Reactor Trip System (RTS) Instrumentation," and TS 3.3.2, "Engineered Safety Feature Actuation System (ESFAS) Instrumentation," to Reflect Installation of Bypass Test Capability

- References:**
1. Letter from J. L. Hansen (Exelon Generation Company, LLC) to U. S. Nuclear Regulatory Commission, "License Amendment Request To Revise Technical Specifications (TS) 3.3.1, 'Reactor Trip System (RTS) Instrumentation,' and TS 3.3.2, 'Engineered Safety Feature Actuation System (ESFAS) Instrumentation,' To Reflect Installation of Bypass Test Capability," dated March 14, 2011
 2. Letter from N. J. DiFrancesco (U. S. Nuclear Regulatory Commission) to M. J. Pacilio (Exelon Generation Company, LLC), "Braidwood Station, Units 1 and 2, Byron Stations, Unit Nos. 1 and 2 – Request for Additional Information Regarding License Amendment Request to Revise Technical Specifications with Bypass Test Capability (TAC Nos. ME5836, ME5837, ME5838, and ME5839)," dated July 22, 2011

In Reference 1, Exelon Generation Company, LLC, (EGC) requested a license amendment to revise Technical Specifications (TS) 3.3.1, "Reactor Trip System (RTS) Instrumentation," and TS 3.3.2, "Engineered Safety Feature Actuation System (ESFAS) Instrumentation," for Braidwood Station, Units 1 and 2, and Byron Station, Units 1 and 2, to reflect the planned installation of the bypass test capability.

The NRC requested additional information to complete the review of the proposed license amendment in Reference 2. In response to this request, EGC is providing the attached information. Attachments 1 and 7 provide the requested responses.

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As discussed with Mr. Nick DiFrancesco of the NRC on June 20, 2011, administrative errors were introduced into TS 3.3.1 during the implementation of Amendments 165 and 171 for the Braidwood and Byron Stations, respectively. Specifically, Table 3.3.1-1 currently references incorrect page numbers for Note 1 and Note 2. EGC is correcting these errors with the markups of the TS page for Braidwood Station and Byron Station provided in Attachments 2 and 3, respectively.

As discussed with the NRC during the July 13, 2011, conference call, implementation of the bypass test instrumentation modifications are scheduled to be completed during the Braidwood Unit 1 spring 2012 refueling outage (A1R16), the Braidwood Unit 2 fall 2012 refueling outage (A2R16), the Byron Unit 1 fall 2012 refueling outage (B1R18), and the Byron Unit 2 spring 2013 refueling outage (B2R17). Following completion of implementation of the bypass test instrumentation modifications at the four Braidwood and Byron units, the TS and corresponding Bases will be revised as part of a separate, clean-up license amendment request to reflect the applicable functions that have bypass test capability installed. Attachments 4 and 5 provide the administrative clean-up markups of TS pages for Braidwood Station and Byron Station, respectively, for that separate license amendment request.

The regulatory commitment contained in this letter is summarized in Attachment 6.

Attachment 7 provides the proprietary Westinghouse Electric Company LLC (Westinghouse) letter CAE-11-88 Revision 1 P-Attachment/CCE-11-83 Revision 1 P-Attachment, "Response to July 22, 2011, 'Braidwood Station, Units 1 and 2, Byron Stations, Unit Nos. 1 and 2 – Request for Additional Information Regarding License Amendment Request to Revise Technical Specifications with Bypass Test Capability (TAC Nos. ME5836, ME5837, ME5838, and ME5839)' (Proprietary)," dated August 26, 2011.

As Attachment 7 contains information proprietary to Westinghouse, it is supported by an affidavit signed by Westinghouse, the owner of the information. The affidavit sets forth the basis on which the information may be withheld from public disclosure by the NRC and addresses with specificity the considerations listed in paragraph (b)(4) of 10 CFR 2.390, "Public inspections, exemptions, requests for withholding." Accordingly, it is requested that the information that is proprietary to Westinghouse be withheld from public disclosure in accordance with 10 CFR 2.390.

A Non-Proprietary version of the information contained in Attachment 7 is provided in Attachment 8. Attachment 8 also provides the Westinghouse Application for Withholding Proprietary Information from Public Disclosure CAW-11-3237, accompanying Affidavit, Proprietary Information Notice, and Copyright Notice.

Correspondence with respect to the copyright or proprietary aspects of the items listed above or the supporting Westinghouse affidavit should reference CAW-11-3237 and should be addressed to J. A. Gresham, Manager, Regulatory Compliance, Westinghouse Electric Company LLC, Suite 428, 1000 Westinghouse Drive, Cranberry Township, Pennsylvania 16066.

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Attachment 9 provides proprietary Westinghouse schematic diagrams supporting the requested response to Question 1. As Attachment 9 contains information proprietary to Westinghouse, it is supported by an affidavit signed by Westinghouse, the owner of the information. The affidavit sets forth the basis on which the information may be withheld from public disclosure by the NRC and addresses with specificity the considerations listed in paragraph (b)(4) of 10 CFR 2.390. Accordingly, it is requested that the information that is proprietary to Westinghouse be withheld from public disclosure in accordance with 10 CFR 2.390. Attachment 9 has been classified as Proprietary in its entirety; therefore, a Non-Proprietary version of Attachment 9 is not being provided.

Correspondence with respect to the copyright or proprietary aspects of the items listed above or the supporting Westinghouse affidavit should reference CAW-11-3238 and should be addressed to J. A. Gresham, Manager, Regulatory Compliance, Westinghouse Electric Company LLC, Suite 428, 1000 Westinghouse Drive, Cranberry Township, Pennsylvania 16066.

Attachment 10 provides the Westinghouse Application for Withholding Proprietary Information from Public Disclosure CAW-11-3238, accompanying Affidavit, Proprietary Information Notice, and Copyright Notice.

Attachment 11 provides pictures of the NIS Bypass Panel and 7300 Bypass Protection System.

EGC has reviewed the information supporting a finding of no significant hazards consideration and the environmental consideration that were previously provided to the NRC in Attachment 1 of Reference 1. The additional information provided in this submittal does not affect the bases for concluding that the proposed license amendment does not involve a significant hazards consideration. In addition, the additional information provided in this submittal does not affect the bases for concluding that neither an environmental impact statement nor an environmental assessment needs to be prepared in connection with the proposed amendment.

In accordance with 10 CFR 50.91, "Notice for public comment; State consultation," paragraph (b), a copy of this letter and its attachments are being provided to the designated State of Illinois official.

Should you have any questions concerning this letter, please contact Ms. Lisa A. Simpson at (630) 657-2815.

I declare under penalty of perjury that the foregoing is true and correct. Executed on the 2nd day of September 2011.

Respectfully,

A handwritten signature in black ink, appearing to read 'D M Gullott', with a long horizontal flourish extending to the right.

David M. Gullott
Manager – Licensing
Exelon Generation Company, LLC

Proprietary Information – Withhold From Public Disclosure Under 10 CFR 2.390

Attachments:

1. Response to Request for Additional Information
2. Markup of Technical Specifications Page for Braidwood Station, Units 1 and 2
3. Markup of Technical Specifications Page for Byron Station, Units 1 and 2
4. Administrative Clean-up Markup of Technical Specifications Pages for Braidwood Station, Units 1 and 2
5. Administrative Clean-up Markup of Technical Specifications Pages for Byron Station, Units 1 and 2
6. Summary of Regulatory Commitments
7. Westinghouse letter CAE-11-88 Revision 1 P-Attachment/CCE-11-83 Revision 1 P-Attachment, "Response to July 22, 2011, 'Braidwood Station, Units 1 and 2, Byron Stations, Unit Nos. 1 and 2 – Request for Additional Information Regarding License Amendment Request to Revise Technical Specifications with Bypass Test Capability (TAC Nos. ME5836, ME5837, ME5838, and ME5839)'" (PROPRIETARY INFORMATION)
8. Westinghouse Affidavit and Non-Proprietary Version of Attachment 7
9. Supporting Information – Schematic Diagrams With and Without Bypass Circuitry (PROPRIETARY INFORMATION)
10. Westinghouse Affidavit for Attachment 9
11. Supporting Information – Pictures of NIS Bypass Panel and 7300 Bypass Protection System

cc: NRC Regional Administrator, Region III
NRC Senior Resident Inspector, Braidwood Station
NRC Senior Resident Inspector, Byron Station
NRC Project Manager, NRR – Braidwood and Byron Station
Illinois Emergency Management Agency – Division of Nuclear Safety

ATTACHMENT 1
Response to Request for Additional Information

By letter to the Nuclear Regulatory Commission (NRC) dated March 14, 2011 (Reference 1), Exelon Generation Company, LLC, (EGC) requested a license amendment to revise Technical Specifications (TS) 3.3.1, "Reactor Trip System (RTS) Instrumentation," and TS 3.3.2, "Engineered Safety Feature Actuation System (ESFAS) Instrumentation," for Braidwood Station, Units 1 and 2, and Byron Station, Units 1 and 2, to reflect the planned installation of the bypass test capability.

In a letter dated July 22, 2011 (Reference 2), the NRC requested that EGC provide additional information in support of its review of the March 14, 2011, request.

- Reference:
1. Letter from J. L. Hansen (Exelon Generation Company, LLC) to U. S. Nuclear Regulatory Commission, "License Amendment Request To Revise Technical Specifications (TS) 3.3.1, 'Reactor Trip System (RTS) Instrumentation,' and TS 3.3.2, 'Engineered Safety Feature Actuation System (ESFAS) Instrumentation,' To Reflect Installation of Bypass Test Capability," dated March 14, 2011
 2. Letter from N. J. DiFrancesco (U. S. Nuclear Regulatory Commission) to M. J. Pacilio (Exelon Generation Company, LLC), "Braidwood Station, Units 1 and 2, Byron Stations, Unit Nos. 1 and 2 – Request for Additional Information Regarding License Amendment Request to Revise Technical Specifications with Bypass Test Capability (TAC Nos. ME5836, ME5837, ME5838, and ME5839)," dated July 22, 2011

NRC Question 1:

Provide the schematic diagrams with and without bypass circuitry to illustrate the reactor trip functions with and without bypass capability and the pictures of the Nuclear Instrumentation System Bypass Panel and 7300 Bypass Protection System including the bypass keylock switches, toggle switches, and indications.

Response to Question 1:

Schematic diagrams to illustrate the reactor trip functions with and without bypass circuitry are provided in Attachment 9 to this submittal.

Pictures of the NIS Bypass Panel and 7300 Bypass Protection System are provided in Attachment 11 to this submittal.

NRC Question 2:

The submittal Westinghouse report WCAP-17349-P Revision 1, Section 4.2.2, states that a discussion of the Bypass Test Instrument (BTI) adherence to Institute of Electrical and Electronics Engineers (IEEE) Standard 379-1972 is found in Section 4.3. However, no description of analysis is provided. Please provide the analysis conducted in accordance with IEEE Standard 379-1972.

ATTACHMENT 1
Response to Request for Additional Information

Response to Question 2:

The response to NRC Question 2 is provided in Attachment 7 to this submittal as the response to RAI Question #2.

NRC Question 3:

Does this BTI involve any digital component or it is all analog?

Response to Question 3:

New BTI installation hardware is all analog with no digital (microprocessor/programmable) equipment. However, full implementation installation, with enhanced indication, interfaces with some pre-existing digital systems such as the sequence of events recorder (SER). The SER is a digital system which receives input from BTI to provide enhanced indication. The BTI equipment supplies contact closure to the SER input that provides a printout of which loop is placed into bypass. BTI equipment that performs the channel bypass function is all analog.

NRC Question 4:

If the BTI involves digital components, describe in detail how the BTI will conform to the IEEE Standard 603-1991.

Response to Question 4:

As the BTI equipment that performs the channel bypass function is all analog, this question is not applicable to the Braidwood and Byron bypass test instrumentation modifications.

NRC Question 5:

If the BTI involves only analog systems, supplement the evaluation to describe how the design conforms to the following clauses of the IEEE Standard 279-1971:

- 4.6 Channel Independence
- 4.7.3 Single Random Failure

Response to Question 5:

The response to NRC Question 5 is provided in Attachment 7 to this submittal as the response to RAI Question #5.

ATTACHMENT 1
Response to Request for Additional Information

NRC Question 6:

In Attachment 2 and 3 of your application dated March 14, 2011, Inserts A and B add the following NOTES to the Technical Specifications (TSs):

Insert A

1. For functions with installed bypass test capability, one channel may be bypassed for up to 12 hours for surveillance testing and setpoint adjustment.
2. For functions with no installed bypass test capability, the inoperable channel may be bypassed for up to 12 hours for surveillance testing and setpoint adjustment of other channels.

Insert B

1. For Functions with installed bypass test capability, one channel may be bypassed for up to 12 hours for surveillance testing.
2. For functions with no installed bypass test capability, the inoperable channel may be bypassed for up to 12 hours for surveillance testing of other channels.

Based on review of Table 3.3.1-1 and your application, it appears that Insert A/B Note 2 is not applicable to TS 3.3.1 Conditions D and E as all the applicable functions will have bypass test capability installed. Please remove Note 2 if not applicable to the Conditions that will contain functions with installed bypass.

Based on review of Table 3.3.2-1 and your application it appears that Insert A/B Note 2 is not applicable to TS 3.3.2 Conditions D and K as all the applicable functions will have bypass test capability installed. Please remove Note 2 if not applicable to the Conditions that will contain functions with installed bypass.

For TS 3.3.1 Condition K, please explicitly define which functions Note 2 applies to the proposed design (e.g., Functions 12 and 13).

The NRC staff notes that the allowance for channel bypass is addressed in NUREG-1431, Revision 3, Standard Technical Specification [STS] – Westinghouse Plants," and the content of your notes differ. Please justify deviating from the NRC staff position contained in the STS language or consider revising to incorporate STS wording.

Response to Question 6:

As described in Reference 1, EGC requested approval of the proposed license amendment by March 14, 2012. Once approved, the amendment will implemented within 60 days. Hardware changes necessary to the Nuclear Instrumentation System (NIS) and 7300 process protection system to facilitate testing in bypass will be implemented in accordance with 10 CFR 50.59.

ATTACHMENT 1
Response to Request for Additional Information

Implementation of the bypass test instrumentation modifications are scheduled to be completed during the Braidwood Unit 1 spring 2012 refueling outage (A1R16), the Braidwood Unit 2 fall 2012 refueling outage (A2R16), the Byron Unit 1 fall 2012 refueling outage (B1R18), and the Byron Unit 2 spring 2013 refueling outage (B2R17). During this timeframe of phased modifications, Required Action Note 1 and/or Note 2 may be applicable to TS 3.3.1 Conditions D and E and to TS 3.3.2 Conditions D and K. After the final modification is complete for Braidwood and Byron, Note 2 will no longer be applicable to TS 3.3.1 Conditions D and E and to TS 3.3.2 Conditions D and K as all applicable functions will have bypass test capability installed.

For TS 3.3.1 Condition K, the following functions in the RTS instrumentation will be modified to have installed bypass capability and permit testing in bypass:

- Function 8.a Pressurizer Pressure – Low
- Function 9 Pressurizer Water Level – High
- Function 10 Reactor Coolant Flow – Low

Function 12 (Undervoltage RCPs) and Function 13 (Underfrequency RCPs) will not be modified to have installed bypass capability.

Following completion of implementation of the bypass test instrumentation modifications at the four Braidwood and Byron units, the TS and corresponding Bases will be revised as part of a separate, clean-up license amendment. Specifically, TS 3.3.1, Conditions D and E, TS 3.3.2, Conditions D and K, and the corresponding Bases pages will be revised to reflect the applicable functions that have bypass test capability installed. TS 3.3.1, Condition K, and the corresponding Bases pages will be revised to reflect the specific functions that have bypass test capability installed and the specific functions that do not have bypass test capability installed.

As discussed with the NRC during the July 13, 2011, conference call, the following one-time commitment is being made:

EGC commits to submit a follow-up license amendment request to revise the Required Action Notes in the Braidwood and Byron Technical Specifications (TS) 3.3.1, "Reactor Trip System (RTS) Instrumentation," and TS 3.3.2, "Engineered Safety Feature Actuation System (ESFAS) Instrumentation," to delete Note 2 for the Conditions for which all applicable functions have bypass test capability installed and revise TS 3.3.1, Condition K, as appropriate.

This license amendment request will be submitted within one year following completion of the implementation of the bypass test instrumentation modifications at the four Braidwood and Byron units (Reference Summary of Regulatory Commitments in Attachment 6).

Attachments 4 and 5 provide the administrative clean-up markups of TS pages for Braidwood Station and Byron Station, respectively. With the exception of the TS 3.3.1, Condition K, the proposed changes to the Required Action Notes are consistent with wording in Standard Technical Specifications (NUREG-1431, Revision 3) for plants with installed bypass test capability.

ATTACHMENT 2
Markup of Technical Specifications Page for Braidwood Station, Units 1 and 2

Braidwood Station, Units 1 and 2
Facility Operating License Nos. NPF-72 and NPF-77

REVISED TECHNICAL SPECIFICATIONS PAGE

3.3.1-15

RTS Instrumentation
3.3.1

Table 3.3.1-1 (page 2 of 6)
Reactor Trip System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	CONDITIONS	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
6. Overtemperature ΔT	1,2	4	E	SR 3.3.1.1 SR 3.3.1.3 SR 3.3.1.6 SR 3.3.1.7 SR 3.3.1.10 SR 3.3.1.15	Refer to Note 1 (Page 3.3.1.17)
7. Overpower ΔT	1,2	4	E	SR 3.3.1.1 SR 3.3.1.7 SR 3.3.1.10 SR 3.3.1.15	Refer to Note 2 (Page 3.3.1.18)
8. Pressurizer Pressure					
a. Low	1 ^(e)	4	K	SR 3.3.1.1 SR 3.3.1.7 SR 3.3.1.10 SR 3.3.1.15	≥ 1875 psig
b. High	1,2	4	E	SR 3.3.1.1 SR 3.3.1.7 SR 3.3.1.10 SR 3.3.1.15	≤ 2393 psig
9. Pressurizer Water Level-High	1 ^(e)	3	K	SR 3.3.1.1 SR 3.3.1.7 SR 3.3.1.10	$\leq 93.5\%$ of instrument span
10. Reactor Coolant Flow-Low (per loop)	1 ^(e)	3	K	SR 3.3.1.1 SR 3.3.1.7 SR 3.3.1.10 SR 3.3.1.15	$\geq 89.3\%$ of loop minimum measured flow
11. Reactor Coolant Pump (RCP) Breaker Position (per train)	1 ^(e)	4	R	SR 3.3.1.13	NA

(continued)

(e) Above the P-7 (Low Power Reactor Trips Block) interlock.

ATTACHMENT 3
Markup of Technical Specifications Page for Byron Station, Units 1 and 2

Byron Station, Units 1 and 2
Facility Operating License Nos. NPF-37 and NPF-66

REVISED TECHNICAL SPECIFICATIONS PAGE

3.3.1-15

Table 3.3.1-1 (page 2 of 6)
Reactor Trip System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	CONDITIONS	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
6. Overtemperature ΔT	1,2	4	E	SR 3.3.1.1 SR 3.3.1.3 SR 3.3.1.6 SR 3.3.1.7 SR 3.3.1.10 SR 3.3.1.15	Refer to Note 1 (Page 3.3.1-17)
7. Overpower ΔT	1,2	4	E	SR 3.3.1.1 SR 3.3.1.7 SR 3.3.1.10 SR 3.3.1.15	Refer to Note 2 (Page 3.3.1-18)
8. Pressurizer Pressure					
a. Low	1 ^(e)	4	K	SR 3.3.1.1 SR 3.3.1.7 SR 3.3.1.10 SR 3.3.1.15	≥ 1875 psig
b. High	1,2	4	E	SR 3.3.1.1 SR 3.3.1.7 SR 3.3.1.10 SR 3.3.1.15	≤ 2393 psig
9. Pressurizer Water Level-High	1 ^(e)	3	K	SR 3.3.1.1 SR 3.3.1.7 SR 3.3.1.10	$\leq 93.5\%$ of instrument span
10. Reactor Coolant Flow-Low (per loop)	1 ^(e)	3	K	SR 3.3.1.1 SR 3.3.1.7 SR 3.3.1.10 SR 3.3.1.15	$\geq 89.3\%$ of loop minimum measured flow
11. Reactor Coolant Pump (RCP) Breaker Position (per train)	1 ^(e)	4	R	SR 3.3.1.13	NA

(continued)

(e) Above the P-7 (Low Power Reactor Trips Block) interlock.

ATTACHMENT 4
Administrative Clean-up Markup of Technical Specifications Pages for Braidwood Station,
Units 1 and 2

Braidwood Station, Units 1 and 2

Facility Operating License Nos. NPF-72 and NPF-77

REVISED TECHNICAL SPECIFICATIONS PAGES

3.3.1-2

3.3.1-3

3.3.1-4

3.3.2-2

3.3.2-5

INSERT

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. One channel or train inoperable.	<p>-----NOTE----- While this LCO is not met for Function 18, 19, or 20 in MODE 5, making the Rod Control System capable of rod withdrawal is not permitted. -----</p> <p>C.1 Restore channel or train to OPERABLE status.</p> <p>OR</p> <p>C.2.1 Initiate action to fully insert all rods.</p> <p>AND</p> <p>C.2.2 Place the Rod Control System in a condition incapable of rod withdrawal.</p>	<p>48 hours</p> <p>48 hours</p> <p>49 hours</p>
D. One Power Range Neutron Flux-High channel inoperable. <div style="border: 1px solid red; padding: 5px; color: red; width: fit-content;">One channel may be bypassed for up to 12 hours for surveillance testing and setpoint adjustment.</div>	<p>-----NOTE----- The inoperable channel may be bypassed for up to 12 hours for surveillance testing and setpoint adjustment of other channels. -----</p> <p>D.1 Place channel in trip.</p> <p>OR</p> <p>D.2 Be in MODE 3.</p>	<p>72 hours</p> <p>78 hours</p>

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
E. One channel inoperable. <div style="border: 1px solid red; padding: 5px; display: inline-block;">One channel may be bypassed for up to 12 hours for surveillance testing.</div>	-----NOTE----- The inoperable channel may be bypassed for up to 12 hours for surveillance testing of other channels. -----	
	E.1 Place channel in trip.	72 hours
	<u>OR</u> E.2 Be in MODE 3.	78 hours
F. One Intermediate Range Neutron Flux channel inoperable.	F.1 Reduce THERMAL POWER to < P-6.	2 hours
	<u>OR</u> F.2 Increase THERMAL POWER to > P-10.	2 hours
G. Two Intermediate Range Neutron Flux channels inoperable.	G.1 Suspend operations involving positive reactivity additions.	Immediately
	<u>AND</u> G.2 Reduce THERMAL POWER to < P-6.	2 hours
H. One Source Range Neutron Flux channel inoperable.	H.1 Suspend operations involving positive reactivity additions.	Immediately

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
I. Two Source Range Neutron Flux channels inoperable.	I.1 Open Reactor Trip Breakers (RTBs).	Immediately
J. One Source Range Neutron Flux channel inoperable.	J.1 Restore channel to OPERABLE status. <u>OR</u> J.2.1 Initiate action to fully insert all rods. <u>AND</u> J.2.2 Place the Rod Control System in a condition incapable of rod withdrawal.	48 hours 48 hours 49 hours
K. One channel inoperable.	<div style="border: 1px solid red; padding: 2px; display: inline-block;">Replace with INSERT 1</div> <div style="margin-left: 20px;"> <p>-----NOTE----- The inoperable channel may be bypassed for up to 12 hours for surveillance testing of other channels. -----</p> <p>K.1 Place channel in trip.</p> <p><u>OR</u></p> <p>K.2 Reduce THERMAL POWER to < P-7.</p> </div>	<div style="text-align: right;"> </div> <div style="text-align: right;"> </div> <div style="text-align: right;"> </div>

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. One train inoperable.	C.1 -----NOTE----- One train may be bypassed for up to 4 hours for surveillance testing provided the other train is OPERABLE. ----- Restore train to OPERABLE status.	24 hours
	<u>OR</u>	
	C.2.1 Be in MODE 3.	30 hours
	<u>AND</u> C.2.2 Be in MODE 5.	60 hours
D. One channel inoperable.	D.1 -----NOTE----- The inoperable channel may be bypassed for up to 12 hours for surveillance testing of other channels. ----- Place channel in trip.	72 hours
	<u>OR</u>	
	D.2.1 Be in MODE 3.	78 hours
	<u>AND</u> D.2.2 Be in MODE 4.	84 hours

One channel may be bypassed for up to 12 hours for surveillance testing.

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
I. One channel inoperable.	I.1 -----NOTE----- The inoperable channel may be bypassed for up to 12 hours for surveillance testing of other channels. -----	
	Place channel in trip.	72 hours
	<u>OR</u> I.2 Be in MODE 3.	78 hours
J. One or more trains inoperable.	J.1 Declare associated auxiliary feedwater pump inoperable.	Immediately
K. One channel inoperable.	K.1 -----NOTE----- The inoperable channel may be bypassed for up to 12 hours for surveillance testing of other channels. -----	
	Place channel in trip.	72 hours
	<u>OR</u> K.2.1 Be in MODE 3.	78 hours
	<u>AND</u> K.2.2 Be in MODE 5.	108 hours

One channel may be bypassed for up to 12 hours for surveillance testing.

(continued)

Braidwood Station, Units 1 and 2
Facility Operating License Nos. NPF-72 and NPF-77
NRC Docket Nos. STN 50-456 and STN 50-457

INSERT 1

1. For Functions with installed bypass test capability (Functions 8a, 9, 10), one channel may be bypassed for up to 12 hours for surveillance testing.
2. For Functions with no installed bypass test capability (Functions 12 and 13), the inoperable channel may be bypassed for up to 12 hours for surveillance testing of other channels.

ATTACHMENT 5
Administrative Clean-up Markup of Technical Specifications Pages for Byron Station,
Units 1 and 2

Byron Station, Units 1 and 2

Facility Operating License Nos. NPF-37 and NPF-66

REVISED TECHNICAL SPECIFICATIONS PAGES

3.3.1-2
3.3.1-3
3.3.1-4
3.3.2-2
3.3.2-5
INSERT

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. One channel or train inoperable.	-----NOTE----- While this LCO is not met for Function 18, 19, or 20 in MODE 5, making the Rod Control System capable of rod withdrawal is not permitted. -----	
	C.1 Restore channel or train to OPERABLE status.	48 hours
	<u>OR</u>	
	C.2.1 Initiate action to fully insert all rods.	48 hours
	<u>AND</u>	
	C.2.2 Place the Rod Control System in a condition incapable of rod withdrawal.	49 hours
D. One Power Range Neutron Flux-High channel inoperable.	-----NOTE----- The inoperable channel may be bypassed for up to 12 hours for surveillance testing and setpoint adjustment of other channels. -----	
	D.1 Place channel in trip.	72 hours
	<u>OR</u>	
	D.2 Be in MODE 3.	78 hours

One channel may be bypassed for up to 12 hours for surveillance testing and setpoint adjustment.

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
E. One channel inoperable.	-----NOTE----- The inoperable channel may be bypassed for up to 12 hours for surveillance testing of other channels. -----	
	E.1 Place channel in trip.	72 hours
	<u>OR</u> E.2 Be in MODE 3.	78 hours
F. One Intermediate Range Neutron Flux channel inoperable.	F.1 Reduce THERMAL POWER to < P-6.	2 hours
	<u>OR</u> F.2 Increase THERMAL POWER to > P-10.	2 hours
G. Two Intermediate Range Neutron Flux channels inoperable.	G.1 Suspend operations involving positive reactivity additions.	Immediately
	<u>AND</u> G.2 Reduce THERMAL POWER to < P-6.	2 hours
H. One Source Range Neutron Flux channel inoperable.	H.1 Suspend operations involving positive reactivity additions.	Immediately

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
I. Two Source Range Neutron Flux channels inoperable.	I.1 Open Reactor Trip Breakers (RTBs).	Immediately
J. One Source Range Neutron Flux channel inoperable.	J.1 Restore channel to OPERABLE status. <u>OR</u> J.2.1 Initiate action to fully insert all rods. <u>AND</u> J.2.2 Place the Rod Control System in a condition incapable of rod withdrawal.	48 hours 48 hours 49 hours
K. One channel inoperable.	<div style="text-align: right;">S</div> <p>-----NOTE----- The inoperable channel may be bypassed for up to 12 hours for surveillance testing of other channels. -----</p> <div>Replace with INSERT 1</div> <p>K.1 Place channel in trip. <u>OR</u> K.2 Reduce THERMAL POWER to < P-7.</p>	 72 hours 78 hours

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. One train inoperable.	C.1 -----NOTE----- One train may be bypassed for up to 4 hours for surveillance testing provided the other train is OPERABLE. -----	
	Restore train to OPERABLE status.	24 hours
	<u>OR</u>	
	C.2.1 Be in MODE 3. <u>AND</u> C.2.2 Be in MODE 5.	30 hours 60 hours
D. One channel inoperable.	D.1 -----NOTE----- The inoperable channel may be bypassed for up to 12 hours for surveillance testing of other channels. -----	
	Place channel in trip.	72 hours
	<u>OR</u>	
	D.2.1 Be in MODE 3. <u>AND</u> D.2.2 Be in MODE 4.	78 hours 84 hours

One channel may be bypassed for up to 12 hours for surveillance testing.

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
I. One channel inoperable.	I.1 -----NOTE----- The inoperable channel may be bypassed for up to 12 hours for surveillance testing of other channels. ----- Place channel in trip.	72 hours
	<u>OR</u>	
	I.2 Be in MODE 3.	78 hours
J. One or more trains inoperable.	J.1 Declare associated auxiliary feedwater pump inoperable.	Immediately
K. One channel inoperable.	K.1 -----NOTE----- The inoperable channel may be bypassed for up to 12 hours for surveillance testing of other channels. ----- Place channel in trip.	72 hours
	<u>OR</u>	
	K.2.1 Be in MODE 3.	78 hours
	<u>AND</u> K.2.2 Be in MODE 5.	108 hours

One channel may be bypassed for up to 12 hours for surveillance testing.

(continued)

Byron Station, Units 1 and 2
Facility Operating License Nos. NPF-37 and NPF-66
NRC Docket Nos. STN 50-454 and STN 50-455

INSERT 1

1. For Functions with installed bypass test capability (Functions 8a, 9, 10), one channel may be bypassed for up to 12 hours for surveillance testing.
2. For Functions with no installed bypass test capability (Functions 12 and 13), the inoperable channel may be bypassed for up to 12 hours for surveillance testing of other channels.

ATTACHMENT 6
Summary of Regulatory Commitments

The following table identifies the commitment made in this document. (Any other actions discussed in the submittal represent intended or planned actions. They are described to the NRC for the NRC's information and are not regulatory commitments.)

COMMITMENT	COMMITTED DATE OR "OUTAGE"	COMMITMENT TYPE	
		ONE-TIME ACTION (Yes/No)	PROGRAMMATIC ACTION (Yes/No)
<p>EGC commits to submit a follow-up license amendment request to revise the Required Action Notes in the Braidwood and Byron Technical Specifications (TS) 3.3.1, "Reactor Trip System (RTS) Instrumentation," and TS 3.3.2, "Engineered Safety Feature Actuation System (ESFAS) Instrumentation," to delete Note 2 for the Conditions for which all applicable functions have bypass test capability installed and revise TS 3.3.1, Condition K, as appropriate.</p> <p>Applicable to Braidwood Station, Units 1 and 2, and Byron Station, Units 1 and 2.</p>	<p>License amendment request required to be submitted to the NRC within one year following completion of implementation of the bypass test instrumentation modifications at the four Braidwood and Byron units.</p>	Yes	No

ATTACHMENT 8

Westinghouse Affidavit and Non-Proprietary Version of Attachment 7



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Nuclear Services
1000 Westinghouse Drive
Cranberry Township, Pennsylvania 16066
USA

U.S. Nuclear Regulatory Commission
Document Control Desk
11555 Rockville Pike
Rockville, MD 20852

Direct tel: (412) 374-4643
Direct fax: (724) 720-0754
e-mail: greshaja@westinghouse.com
Proj letter: CAE-11-88, Rev. 1
CCE-11-83, Rev. 1
CAW-11-3237
August 26, 2011

**APPLICATION FOR WITHHOLDING PROPRIETARY
INFORMATION FROM PUBLIC DISCLOSURE**

Subject: Response to July 22, 2011, "Braidwood Station, Units 1 and 2, Byron Stations, Units 1 and 2 – Request for Additional Information Regarding License Amendment Request to Revise Technical Specifications with Bypass Test Capability (TAC Nos. ME5836, ME5837, ME5838, and ME5839)" (Proprietary)

The proprietary information for which withholding is being requested in the above-referenced report is further identified in Affidavit CAW-11-3237 signed by the owner of the proprietary information, Westinghouse Electric Company LLC. The affidavit, which accompanies this letter, sets forth the basis on which the information may be withheld from public disclosure by the Commission and addresses with specificity the considerations listed in paragraph (b)(4) of 10 CFR Section 2.390 of the Commission's regulations.

Accordingly, this letter authorizes the utilization of the accompanying affidavit by Exelon Generation Company, LLC.

Correspondence with respect to the proprietary aspects of the application for withholding or the Westinghouse affidavit should reference this letter, CAW-11-3237, and should be addressed to J. A. Gresham, Manager, Regulatory Compliance, Westinghouse Electric Company LLC, Suite 428, 1000 Westinghouse Drive, Cranberry Township, Pennsylvania 16066.

Very truly yours,

A handwritten signature in black ink, appearing to read 'J. A. Gresham / FOR'.

J. A. Gresham, Manager
Regulatory Compliance

Enclosures

AFFIDAVIT

COMMONWEALTH OF PENNSYLVANIA:

SS

COUNTY OF BUTLER:

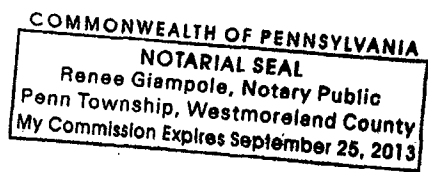
Before me, the undersigned authority, personally appeared T. Rodack, who, being by me duly sworn according to law, deposes and says that he is authorized to execute this Affidavit on behalf of Westinghouse Electric Company LLC (Westinghouse), and that the averments of fact set forth in this Affidavit are true and correct to the best of his knowledge, information, and belief:



T. Rodack, Director

Quality and Licensing Programs

Sworn to and subscribed before me
this 26th day of August 2011


Notary Public

- (1) I am Director, Quality and Licensing Programs, in Nuclear Services, Westinghouse Electric Company LLC (Westinghouse), and as such, I have been specifically delegated the function of reviewing the proprietary information sought to be withheld from public disclosure in connection with nuclear power plant licensing and rule making proceedings, and am authorized to apply for its withholding on behalf of Westinghouse.
- (2) I am making this Affidavit in conformance with the provisions of 10 CFR Section 2.390 of the Commission's regulations and in conjunction with the Westinghouse Application for Withholding Proprietary Information from Public Disclosure accompanying this Affidavit.
- (3) I have personal knowledge of the criteria and procedures utilized by Westinghouse in designating information as a trade secret, privileged or as confidential commercial or financial information.
- (4) Pursuant to the provisions of paragraph (b)(4) of Section 2.390 of the Commission's regulations, the following is furnished for consideration by the Commission in determining whether the information sought to be withheld from public disclosure should be withheld.
 - (i) The information sought to be withheld from public disclosure is owned and has been held in confidence by Westinghouse.
 - (ii) The information is of a type customarily held in confidence by Westinghouse and not customarily disclosed to the public. Westinghouse has a rational basis for determining the types of information customarily held in confidence by it and, in that connection, utilizes a system to determine when and whether to hold certain types of information in confidence. The application of that system and the substance of that system constitutes Westinghouse policy and provides the rational basis required.

Under that system, information is held in confidence if it falls in one or more of several types, the release of which might result in the loss of an existing or potential competitive advantage, as follows:

- (a) The information reveals the distinguishing aspects of a process (or component, structure, tool, method, etc.) where prevention of its use by any of

Westinghouse's competitors without license from Westinghouse constitutes a competitive economic advantage over other companies.

- (b) It consists of supporting data, including test data, relative to a process (or component, structure, tool, method, etc.), the application of which data secures a competitive economic advantage, e.g., by optimization or improved marketability.
- (c) Its use by a competitor would reduce his expenditure of resources or improve his competitive position in the design, manufacture, shipment, installation, assurance of quality, or licensing a similar product.
- (d) It reveals cost or price information, production capacities, budget levels, or commercial strategies of Westinghouse, its customers or suppliers.
- (e) It reveals aspects of past, present, or future Westinghouse or customer funded development plans and programs of potential commercial value to Westinghouse.
- (f) It contains patentable ideas, for which patent protection may be desirable.

There are sound policy reasons behind the Westinghouse system which include the following:

- (a) The use of such information by Westinghouse gives Westinghouse a competitive advantage over its competitors. It is, therefore, withheld from disclosure to protect the Westinghouse competitive position.
- (b) It is information that is marketable in many ways. The extent to which such information is available to competitors diminishes the Westinghouse ability to sell products and services involving the use of the information.
- (c) Use by our competitor would put Westinghouse at a competitive disadvantage by reducing his expenditure of resources at our expense.

- (d) Each component of proprietary information pertinent to a particular competitive advantage is potentially as valuable as the total competitive advantage. If competitors acquire components of proprietary information, any one component may be the key to the entire puzzle, thereby depriving Westinghouse of a competitive advantage.
 - (e) Unrestricted disclosure would jeopardize the position of prominence of Westinghouse in the world market, and thereby give a market advantage to the competition of those countries.
 - (f) The Westinghouse capacity to invest corporate assets in research and development depends upon the success in obtaining and maintaining a competitive advantage.
- (iii) The information is being transmitted to the Commission in confidence and, under the provisions of 10 CFR Section 2.390; it is to be received in confidence by the Commission.
- (iv) The information sought to be protected is not available in public sources or available information has not been previously employed in the same original manner or method to the best of our knowledge and belief.
- (v) The proprietary information sought to be withheld in this submittal is that which is appropriately marked in Response to July 22, 2011, "Braidwood Station, Units 1 and 2, Byron Stations, Units 1 and 2 – Request for Additional Information Regarding License Amendment Request to Revise Technical Specifications with Bypass Test Capability (TAC Nos. ME5836, ME5837, ME5838, and ME5839)" (Proprietary), for submittal to the Commission, being transmitted by Exelon Generation Company, LLC letter and Application for Withholding Proprietary Information from Public Disclosure, to the Document Control Desk. The proprietary information as submitted by Westinghouse is that associated with license application to implement technical specification changes to allow testing in bypass of selected Nuclear Instrumentation System channels and selected 7300 Protection System channels and may be used only for that purpose.

This information is part of that which will enable Westinghouse to:

- (a) Support Exelon Generation Company, LLC in licensing and modification to install bypass test capability to the Nuclear Instrumentation System and 7300 Process Protection System.
- (b) Remain competitive in the marketplace.

Further this information has substantial commercial value as follows:

- (a) Westinghouse can sell support and defense of licensing of this product on other Westinghouse PWRs.
- (b) The information requested to be withheld reveals the distinguishing aspects of a methodology and hardware which was developed by Westinghouse.

Public disclosure of this proprietary information is likely to cause substantial harm to the competitive position of Westinghouse because it would enhance the ability of competitors to provide similar products and licensing defense services for commercial power reactors without commensurate expenses. Also, public disclosure of the information would enable others to use the information to meet NRC requirements for licensing documentation without purchasing the right to use the information.

The development of the technology described in part by the information is the result of applying the results of many years of experience in an intensive Westinghouse effort and the expenditure of a considerable sum of money.

In order for competitors of Westinghouse to duplicate this information, similar technical programs would have to be performed and a significant manpower effort, having the requisite talent and experience, would have to be expended.

Further the deponent sayeth not.

PROPRIETARY INFORMATION NOTICE

Transmitted herewith are proprietary and/or non-proprietary versions of documents furnished to the NRC in connection with requests for generic and/or plant-specific review and approval.

In order to conform to the requirements of 10 CFR 2.390 of the Commission's regulations concerning the protection of proprietary information so submitted to the NRC, the information which is proprietary in the proprietary versions is contained within brackets, and where the proprietary information has been deleted in the non-proprietary versions, only the brackets remain (the information that was contained within the brackets in the proprietary versions having been deleted). The justification for claiming the information so designated as proprietary is indicated in both versions by means of lower case letters (a) through (f) located as a superscript immediately following the brackets enclosing each item of information being identified as proprietary or in the margin opposite such information. These lower case letters refer to the types of information Westinghouse customarily holds in confidence identified in Sections (4)(ii)(a) through (4)(ii)(f) of the affidavit accompanying this transmittal pursuant to 10 CFR 2.390(b)(1).

COPYRIGHT NOTICE

The reports transmitted herewith each bear a Westinghouse copyright notice. The NRC is permitted to make the number of copies of the information contained in these reports which are necessary for its internal use in connection with generic and plant-specific reviews and approvals as well as the issuance, denial, amendment, transfer, renewal, modification, suspension, revocation, or violation of a license, permit, order, or regulation subject to the requirements of 10 CFR 2.390 regarding restrictions on public disclosure to the extent such information has been identified as proprietary by Westinghouse, copyright protection notwithstanding. With respect to the non-proprietary versions of these reports, the NRC is permitted to make the number of copies beyond those necessary for its internal use which are necessary in order to have one copy available for public viewing in the appropriate docket files in the public document room in Washington, DC and in local public document rooms as may be required by NRC regulations if the number of copies submitted is insufficient for this purpose. Copies made by the NRC must include the copyright notice in all instances and the proprietary notice if the original was identified as proprietary.

**Response to July 22, 2011, “BRAIDWOOD STATION, UNITS 1 AND 2,
BYRON STATIONS, UNIT NOS. 1 AND 2 - REQUEST FOR ADDITIONAL
INFORMATION REGARDING LICENSE AMENDMENT REQUEST TO
REVISE TECHNICAL SPECIFICATIONS WITH BYPASS TEST
CAPABILITY (TAC NOS. ME5836, ME5837, ME5838, AND ME5839)”**

RAI Question #2

The submittal Westinghouse report WCAP-17349-P Revision 1, Section 4.2.2, states that a discussion of the Bypass Test Instrument (BTI) adherence to Institute of Electrical and Electronics Engineers (IEEE) Standard 379-1972 is found in Section 4.3. However, no description of analysis is provided. Please provide the analysis conducted in accordance with the IEEE Standard 379-1972.

Response for NIS BTI

If the NIS channel is in normal operation, the following events must occur for the channel to inadvertently go into bypass. The safety (XF1) and non-safety (XF2) breakers on the Bypass Panel must fail and allow power to be applied to the panel. This would be evident when the breaker light turns on. Then the Bypass Enable Key Lock Switch (SW1) on the Bypass Panel must fail shorted to allow power to the individual functions to be bypassed. This would be evident by the BYPASS ENABLE LED (LE1) illuminating on the front of the Bypass Panel. Also, indication that the Bypass Panel has been enabled is provided on the MCB Annunciator. Finally, one of the individual function bypass toggle switches (SW2 thru SW9) on the Bypass Panel must fail to allow the function to be in bypass. This would be evident by one of the individual functional bypass LEDs (LE2 thru LE9) illuminating on the Bypass Panel. Thus no single failure can cause a function to inadvertently be in bypass. Refer to Figure 1 for the circuit details of the above explanation.

Conversely, it is not possible to have an undetected channel in bypass. The individual NIS bistable signals pass thru the Bypass Panel thru relay contacts K2 thru K9. These contacts are normally closed and thus pass the 118 VAC from the NIS drawers to the SSPS input relays. If the relay contacts fail and change state to open, the 118 VAC is blocked placing the channel function in a tripped state which is the conservative safe mode. Refer to Figure 1 for the circuit details. This would also be evident by MCB annunciator action.

Response for 7300 BTI

There are two possible operating configurations for the 7300 bypass cards, each configuration established by specific jumper placement on the bypass card:

Configuration 1

This is the configuration used for normally energized (NE) type comparators. (The NE type comparator normally provides a power return path to energize the load and removes the return path when tripped to de-energize the load.)

Configuration 2

This is the configuration used for normally de-energized (ND) type comparators. (The ND type comparator normally does not provide a power return path to energize the load but does provide the return path when tripped to energize the load).

There can be up to four separate comparator channel bypass circuits on each bypass card and the following discussions apply to each comparator channel bypass circuit. However, only the channel 1 bypass circuit components shown in Figure 2 will be referenced in the discussion.

Failure Causing a Channel To Transfer Into The Bypass Mode (Non-Operator Initiated)

Normal transfer into the bypass mode is accomplished by manually placing a two position toggle switch (BP-1) to the BYPASS position which applies 26VDC power to a control relay (K2). For both configuration (1) and (2) above, the only failure that could cause the bypass circuit to inadvertently go into the bypass mode would be a failure that causes 26 VDC power to be applied to the control relay (K2). Should this highly unlikely failure occur,

the control room bypass annunciation alarm would be activated which would identify the protection cabinet initiating the alarm.

Failure Causing a Channel to Stay In The Bypass Mode When Transfer Back To Normal Operation Has Been Initiated By An Operator.

Normal transfer back to the normal mode from the bypass mode is accomplished by manually placing the two position toggle switch (BP-1) back to the NORMAL position which removes the 26VDC power to the control relay (K2). An amber status light (BPT-1) is provided for each comparator bypass channel which is illuminated when in the normal mode and not illuminated when in the bypass mode.

For Configuration 1, the control relay (K2) contact providing the load power return path (For this discussion, referred to for this discussion as the Bypass Control Contact) and the contact controlling the amber status indicator (BPT-1) are both controlled by the same control relay (K2) form C contact set (K2a). This ensures that when the amber indicator (BPT-1) is illuminated with the closed contact of the form C contact set (indicating the comparator channel is not in bypass), the other contact of the form C contact set, the Bypass Control Contact, has to be open (removing the comparator channel from the bypass mode). Thus, for Configuration 1, failure of the channel to return to normal (stays in bypass) following manual positioning of the bypass switch (BP-1) to NORMAL cannot happen undetected.

However, for Configuration 2, the Bypass Control Contact (K2d) and the contact controlling the amber status indicator (K2a) are separate contacts and not part of a form C arrangement although both are actuated by the control relay (K2). Therefore, a failure of the Bypass Control Contact (K2d) to close when the bypass control switch (BP-1) is placed in NORMAL to de-energize the control relay (K2) would result in the amber indicator (BPT-1) being illuminated (indicating the comparator channel is not in the bypass mode) when the channel is still actually in the bypass mode. This failure is detected by a test of the tripping capability of the channel, or continuity checks through the SSPS input relay for certain energize to trip functions.

RAI Question #5

If the BTI involves only analog systems, supplement the evaluation to describe how the design conforms to the following clauses of the IEEE Standard 279-1971:

4.6 Channel Independence

4.7.3 Single Random Failure

Response for NIS BTI Channel Independence

Channel independence is maintained. There is one Bypass Panel per NIS cabinet bay. Thus there is a unique panel for each of the four NIS channels. The same cable routings are maintained for each of the channels. Thus there are no changes in the cable routings from the NIS cabinet to the SSPS system. Isolation for the control functions is also maintained since no changes are made to the control signals or their routing from the NIS drawers.

Response for 7300 BTI Channel Independence

Channel independence is maintained. The 7300 Bypass Testing modification is a one for one Printed Circuit Card replacement. The same cable routings are maintained for each of the channels. Thus there are no changes in the cable routings from the 7300 cabinets to the SSPS system. Any control functions that originate in the 7300 protection cabinets maintain their isolation and are not affected by this change.

Response for NIS BTI and 7300 BTI Single Random Failure

The addition of the Bypass Testing equipment does not introduce any new control functions or change any protective functions. The 7300 and NIS Functional System Design has not changed. Therefore, no new single failures have been introduced by this change.

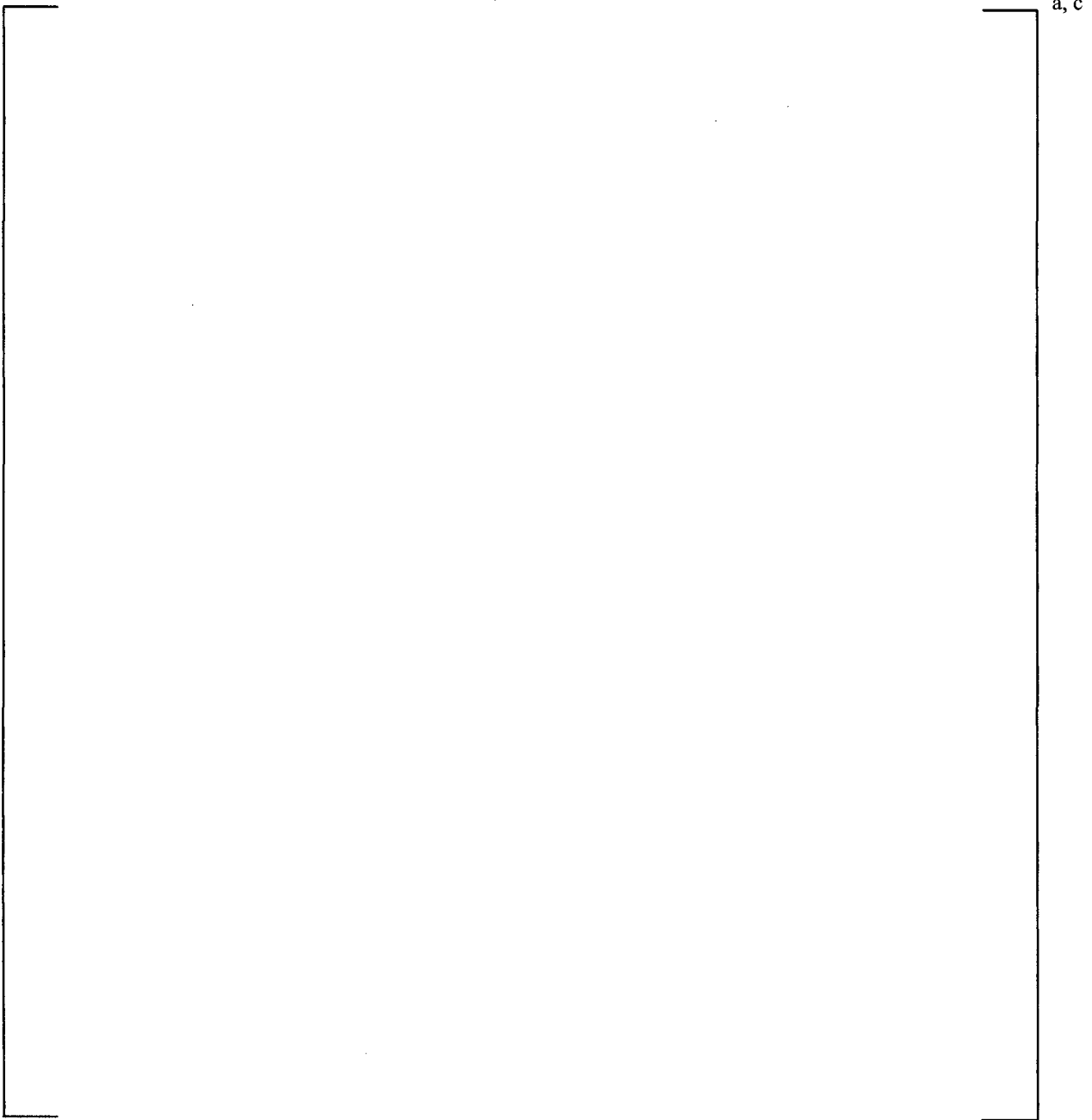


Figure 2
7300 Bypass Test

ATTACHMENT 10

Westinghouse Affidavit for Attachment 9



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Nuclear Services
1000 Westinghouse Drive
Cranberry Township, Pennsylvania
16066
USA

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e-mail: greshaja@westinghouse.com
Proj letter: CAE-11-90/CCE-11-84

CAW-11-3238
August 26, 2011

**APPLICATION FOR WITHHOLDING PROPRIETARY
INFORMATION FROM PUBLIC DISCLOSURE**

Subject: Response to RAI #1 of July 22, 2011, "Braidwood Station, Units 1 and 2, Byron Stations, Units 1 and 2 - Request For Additional Information Regarding License Amendment Request To Revise Technical Specifications With Bypass Test Capability (TAC NOS. ME5836, ME5837, ME5838, and ME5839)" (Proprietary)

The proprietary information for which withholding is being requested in the above-reference is further identified in Affidavit CAW-11-3238 signed by the owner of the proprietary information, Westinghouse Electric Company LLC. The affidavit, which accompanies this letter, sets forth the basis on which the information may be withheld from public disclosure by the Commission and addresses with specificity the considerations listed in paragraph (b)(4) of 10 CFR Section 2.390 of the Commission's regulations.

The subject document was prepared and classified as Westinghouse Proprietary Class 2. Westinghouse requests that the document be considered proprietary in its entirety. As such, a non-proprietary version will not be issued.

Accordingly, this letter authorizes the utilization of the accompanying affidavit by Exelon Generation Company, LLC.

Correspondence with respect to the proprietary aspects of the application for withholding or the Westinghouse affidavit should reference this letter, CAW-11-3238, and should be addressed to J. A. Gresham, Manager, Regulatory Compliance, Westinghouse Electric Company LLC, Suite 428, 1000 Westinghouse Drive, Cranberry Township, Pennsylvania 16066.

Very truly yours,

A handwritten signature in dark ink, appearing to read 'J. A. Gresham / FOR'.

J. A. Gresham, Manager
Regulatory Compliance

Enclosures

AFFIDAVIT

COMMONWEALTH OF PENNSYLVANIA:

ss

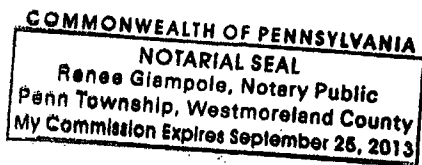
COUNTY OF BUTLER:

Before me, the undersigned authority, personally appeared T. Rodack, who, being by me duly sworn according to law, deposes and says that he is authorized to execute this Affidavit on behalf of Westinghouse Electric Company LLC (Westinghouse), and that the averments of fact set forth in this Affidavit are true and correct to the best of his knowledge, information, and belief:



T. Rodack, Director
Quality and Licensing Programs

Sworn to and subscribed before me
this 26th day of August 2011


Notary Public

- (1) I am Director, Quality and Licensing Programs, in Nuclear Services, Westinghouse Electric Company LLC (Westinghouse), and as such, I have been specifically delegated the function of reviewing the proprietary information sought to be withheld from public disclosure in connection with nuclear power plant licensing and rule making proceedings, and am authorized to apply for its withholding on behalf of Westinghouse.
- (2) I am making this Affidavit in conformance with the provisions of 10 CFR Section 2.390 of the Commission's regulations and in conjunction with the Westinghouse Application for Withholding Proprietary Information from Public Disclosure accompanying this Affidavit.
- (3) I have personal knowledge of the criteria and procedures utilized by Westinghouse in designating information as a trade secret, privileged or as confidential commercial or financial information.
- (4) Pursuant to the provisions of paragraph (b)(4) of Section 2.390 of the Commission's regulations, the following is furnished for consideration by the Commission in determining whether the information sought to be withheld from public disclosure should be withheld.
 - (i) The information sought to be withheld from public disclosure is owned and has been held in confidence by Westinghouse.
 - (ii) The information is of a type customarily held in confidence by Westinghouse and not customarily disclosed to the public. Westinghouse has a rational basis for determining the types of information customarily held in confidence by it and, in that connection, utilizes a system to determine when and whether to hold certain types of information in confidence. The application of that system and the substance of that system constitutes Westinghouse policy and provides the rational basis required.

Under that system, information is held in confidence if it falls in one or more of several types, the release of which might result in the loss of an existing or potential competitive advantage, as follows:

 - (a) The information reveals the distinguishing aspects of a process (or component, structure, tool, method, etc.) where prevention of its use by any of

Westinghouse's competitors without license from Westinghouse constitutes a competitive economic advantage over other companies.

- (b) It consists of supporting data, including test data, relative to a process (or component, structure, tool, method, etc.), the application of which data secures a competitive economic advantage, e.g., by optimization or improved marketability.
- (c) Its use by a competitor would reduce his expenditure of resources or improve his competitive position in the design, manufacture, shipment, installation, assurance of quality, or licensing a similar product.
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- (e) It reveals aspects of past, present, or future Westinghouse or customer funded development plans and programs of potential commercial value to Westinghouse.
- (f) It contains patentable ideas, for which patent protection may be desirable.

There are sound policy reasons behind the Westinghouse system which include the following:

- (a) The use of such information by Westinghouse gives Westinghouse a competitive advantage over its competitors. It is, therefore, withheld from disclosure to protect the Westinghouse competitive position.
- (b) It is information that is marketable in many ways. The extent to which such information is available to competitors diminishes the Westinghouse ability to sell products and services involving the use of the information.
- (c) Use by our competitor would put Westinghouse at a competitive disadvantage by reducing his expenditure of resources at our expense.

- (d) Each component of proprietary information pertinent to a particular competitive advantage is potentially as valuable as the total competitive advantage. If competitors acquire components of proprietary information, any one component may be the key to the entire puzzle, thereby depriving Westinghouse of a competitive advantage.
 - (e) Unrestricted disclosure would jeopardize the position of prominence of Westinghouse in the world market, and thereby give a market advantage to the competition of those countries.
 - (f) The Westinghouse capacity to invest corporate assets in research and development depends upon the success in obtaining and maintaining a competitive advantage.
- (iii) The information is being transmitted to the Commission in confidence and, under the provisions of 10 CFR Section 2.390; it is to be received in confidence by the Commission.
- (iv) The information sought to be protected is not available in public sources or available information has not been previously employed in the same original manner or method to the best of our knowledge and belief.
- (v) The proprietary information sought to be withheld in this submittal is that which is contained in Response to RAI #1 of July 22, 2011, "Braidwood Station, Units 1 And 2, Byron Stations, Unit Nos. 1 And 2 -Request For Additional Information Regarding License Amendment Request To Revise Technical Specifications With Bypass Test Capability (TAC NOS. ME5836, ME5837, ME5838, and ME5839)" (Proprietary), for submittal to the Commission, being transmitted by Exelon Generation Company, LLC letter and Application for Withholding Proprietary Information from Public Disclosure, to the Document Control Desk. The proprietary information as submitted by Westinghouse is that associated with license application to implement technical specification changes to allow testing in bypass of selected Nuclear Instrumentation System channels and selected 7300 Protection System channels and may be used only for that purpose.

This information is part of that which will enable Westinghouse to:

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- (b) Remain competitive in the marketplace.

Further this information has substantial commercial value as follows:

- (a) Westinghouse can sell support and defense of licensing of this product on other Westinghouse PWRs.
- (b) The information requested to be withheld reveals the distinguishing aspects of a methodology and hardware which was developed by Westinghouse.

Public disclosure of this proprietary information is likely to cause substantial harm to the competitive position of Westinghouse because it would enhance the ability of competitors to provide similar products and licensing defense services for commercial power reactors without commensurate expenses. Also, public disclosure of the information would enable others to use the information to meet NRC requirements for licensing documentation without purchasing the right to use the information.

The development of the technology described in part by the information is the result of applying the results of many years of experience in an intensive Westinghouse effort and the expenditure of a considerable sum of money.

In order for competitors of Westinghouse to duplicate this information, similar technical programs would have to be performed and a significant manpower effort, having the requisite talent and experience, would have to be expended.

Further the deponent sayeth not.

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COPYRIGHT NOTICE

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ATTACHMENT 11
Supporting Information

Pictures of NIS Bypass Panel and 7300 Bypass Protection System

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7300 & NIS Bypass Testing Photos

7300 Notes:

The 7300 Bypass Test cards are set up with two basic functions. The first function is to place an instrument loop in test. Placing a loop into test removes the normal field sensing device (transmitter or RTD) from the input to the loop. Instead, test jacks on the Bypass Test card are placed into the input path so a simulated signal can be sent to the remainder of the instrument loop. This allows for calibration of the loop.

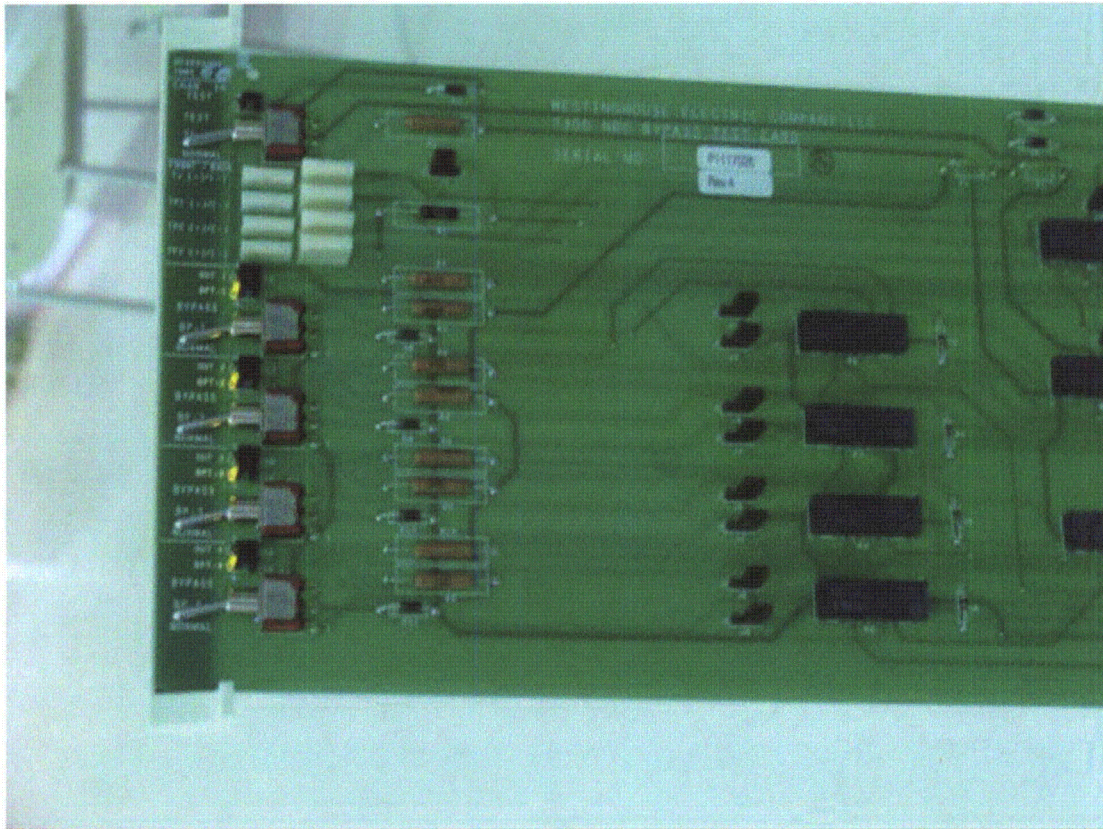
The second function of the Bypass Test card is to allow the individual function output(s) to be bypassed, regardless of loop input status. The bypass function works whether the loop is in test or not. Any switch taken to bypass will cause a Main Control Room (MCR) alarm and Bypass Permissive Panel alarm, with the Sequence of Events Recorder (SER) utilized to determine which loop has function(s) in bypass. If the associated loop with the bypassed function(s) is not in test, the actual field sensing device will still be supplying the signal to the remainder of the loop, even though the output function(s) will be bypassed.

NIS Notes:

The Nuclear Instrumentation System (NIS) Bypass Test Panel works somewhat differently than the 7300 cards. There is a Bypass Interlock keylock switch, which enables the individual functions to be bypassed. In addition, the Bypass Interlock switch in BYPASS also drives the MCR indication for an NI channel being bypassed. The NI channel annunciation is not specific as to which, if any, functions are actually bypassed, it only indicates that that channel has its bypass capability enabled. There are indicating LEDs on the Bypass Test Panel for each NIS function to show what is actually bypassed.

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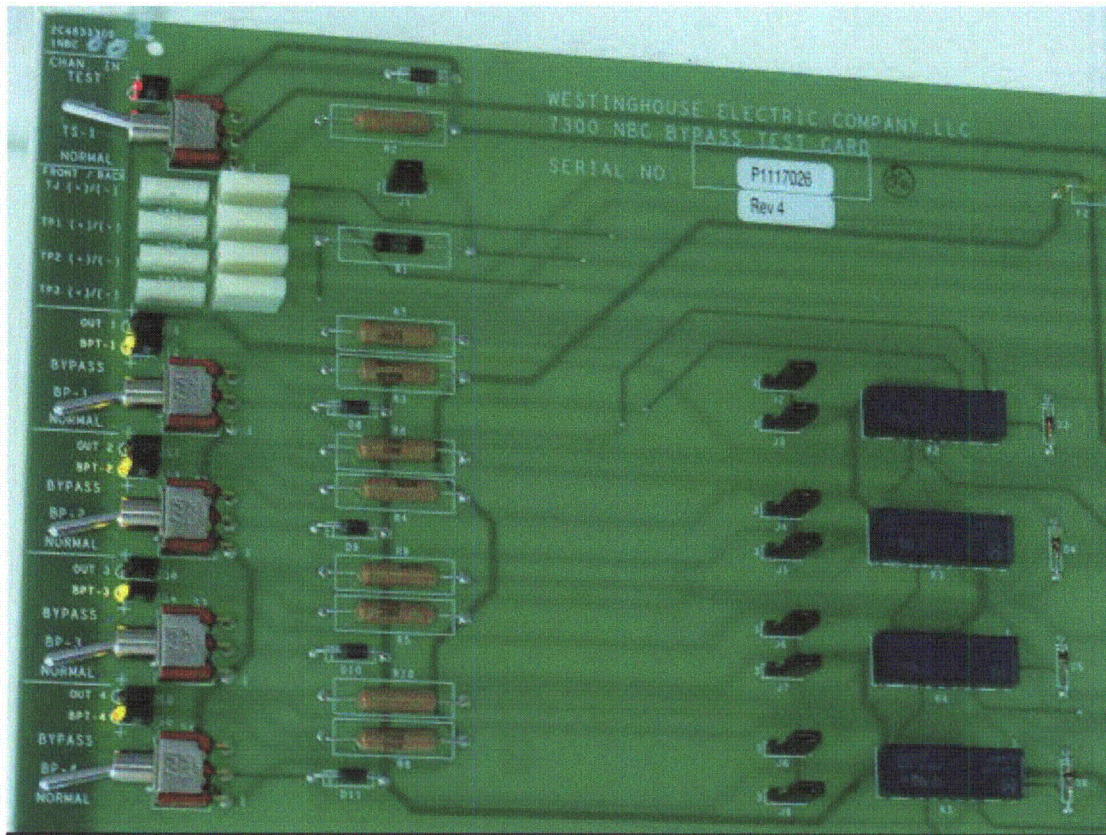
NBC G02 Card – Normal Operation



This is an NBC G02 Bypass Test Card as it would appear during normal operation with the associated instrument loop in service. The Test switch TS-1 (Top switch, at top left of photo) is in NORMAL, and all four Bypass switches BP-1 through BP-4 (left side of photo) are in NORMAL. The yellow LEDs that are illuminated above each Bypass switch indicate that the associated function is not bypassed.

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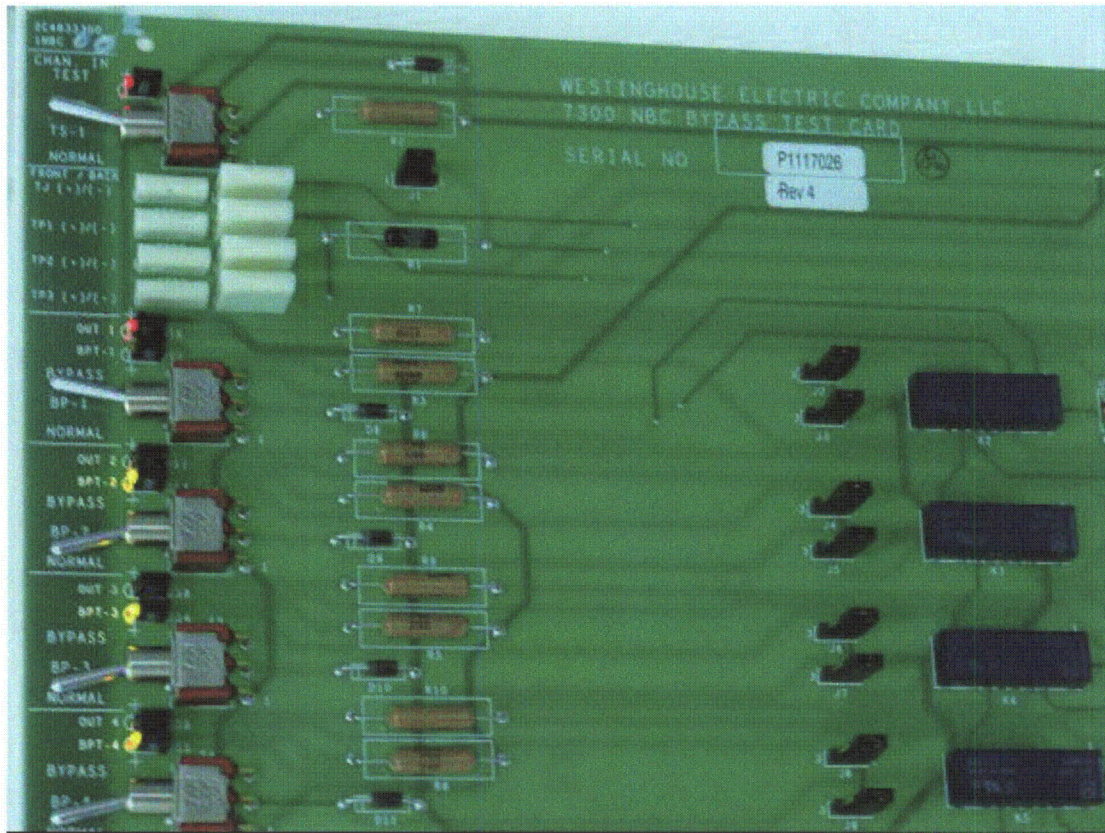
NBC G02 Card – In Test (No functions bypassed)



This is an NBC G02 Bypass Test Card as it would appear with the loop in test. The Test switch TS-1 (Top switch) is in TEST with its associated red indicating LED illuminated, and all four Bypass switches BP-1 through BP-4 are in NORMAL. The yellow LEDs, which are illuminated above each Bypass switch, indicate that the associated function is not bypassed. In this configuration, all loop functions are in a Tripped status.

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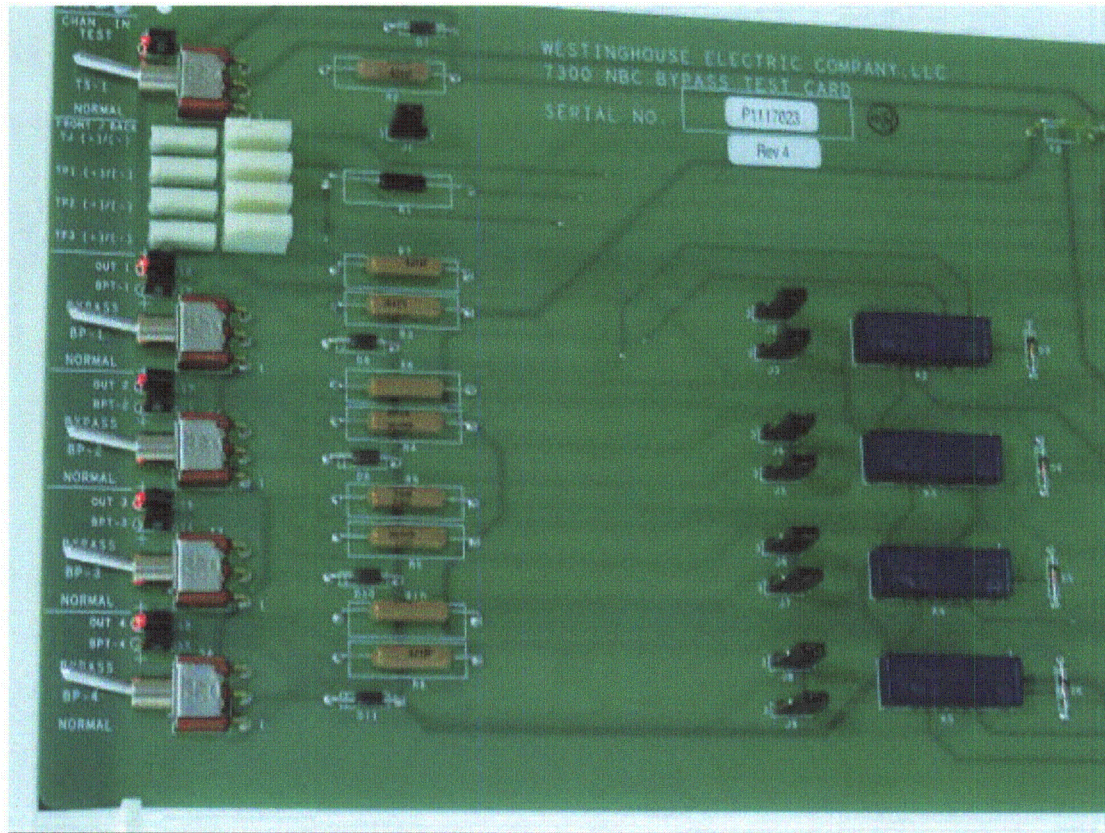
NBC G02 Card – In Test (One function bypassed)



This is an NBC G02 Bypass Test Card as it would appear with the loop in Test and one function bypassed. The Test switch TS-1 (Top switch) is in TEST with its associated red indicating LED illuminated. The top Bypass switch BP-1 is in BYPASS with its associated yellow LED not illuminated. The same relay that controls this yellow LED also controls a signal to the annunciator system, which would result in MCR indication of Bypassed status. The status of the red LED that is illuminated above switch BP-1 is dependent on the test signal being placed into the loop. The yellow LEDs, which are illuminated above the Bypass switches, are still in NORMAL, indicating that the associated functions are not bypassed. In this configuration, the second, third and fourth functions are still in a tripped status.

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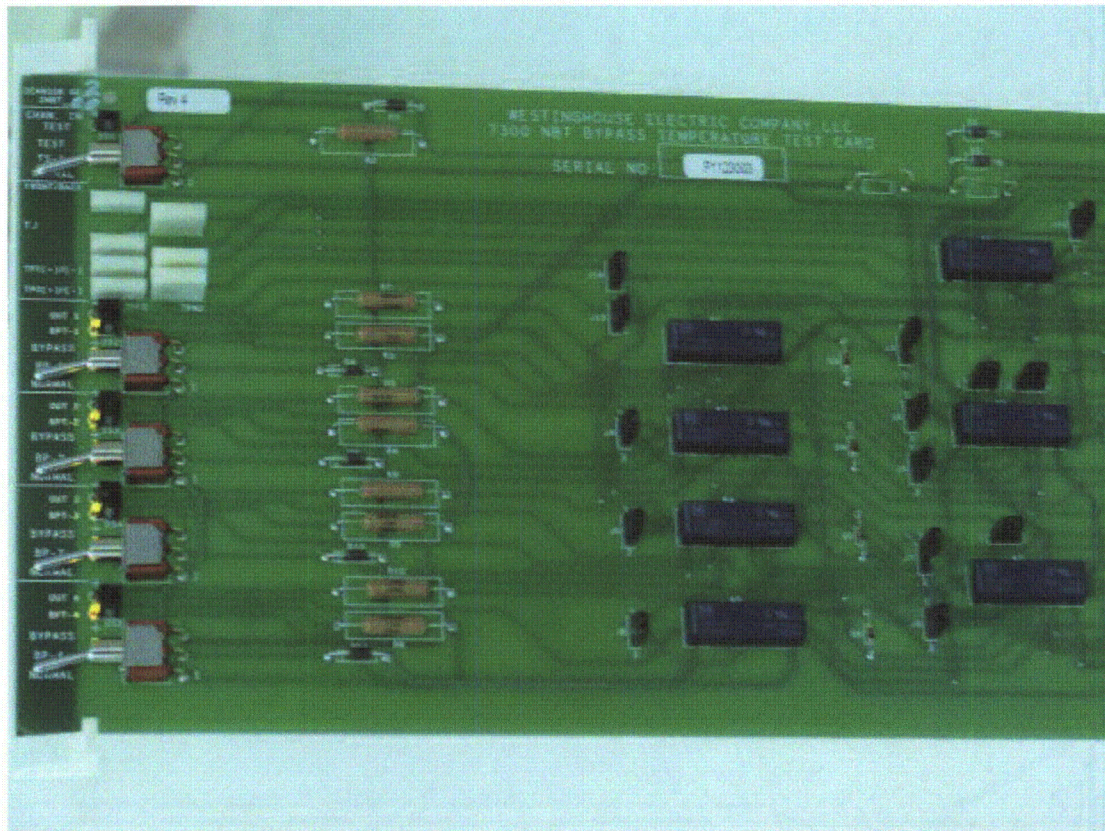
NBC G02 Card – In Test (All functions bypassed)



This is an NBC G02 Bypass Test Card as it would appear with the loop in Test and all functions bypassed. The Test switch TS-1 (Top switch) is in TEST with its associated red indicating LED illuminated. All Bypass switches BP-1 through BP-4 are in BYPASS, with the associated yellow LEDs not illuminated. The relays that control these yellow LEDs also each control a signal to the annunciator system, which would result in MCR indication of Bypassed status. The status of the red LED that is illuminated above each Bypass switch BP-1 through BP-4 is dependent on the test signal being placed into the loop. In this configuration, no functions are in a tripped status.

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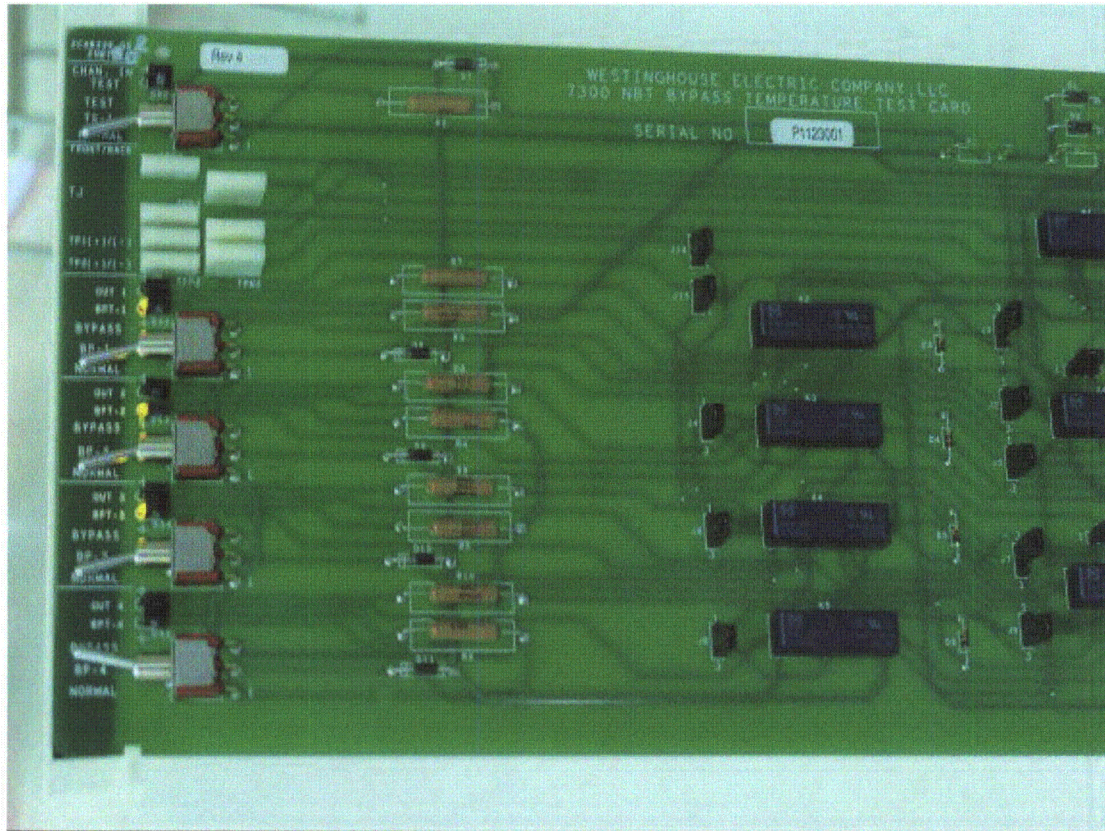
NBT G02 Card – Normal Operation



This is an NBT G02 Bypass Test Card as it would appear during normal operation with the associated instrument loop in service. It is similar to the NBC G02 card in terms of switches and indications but is designed for a 3-wire RTD application vice a 2-wire transmitter application.

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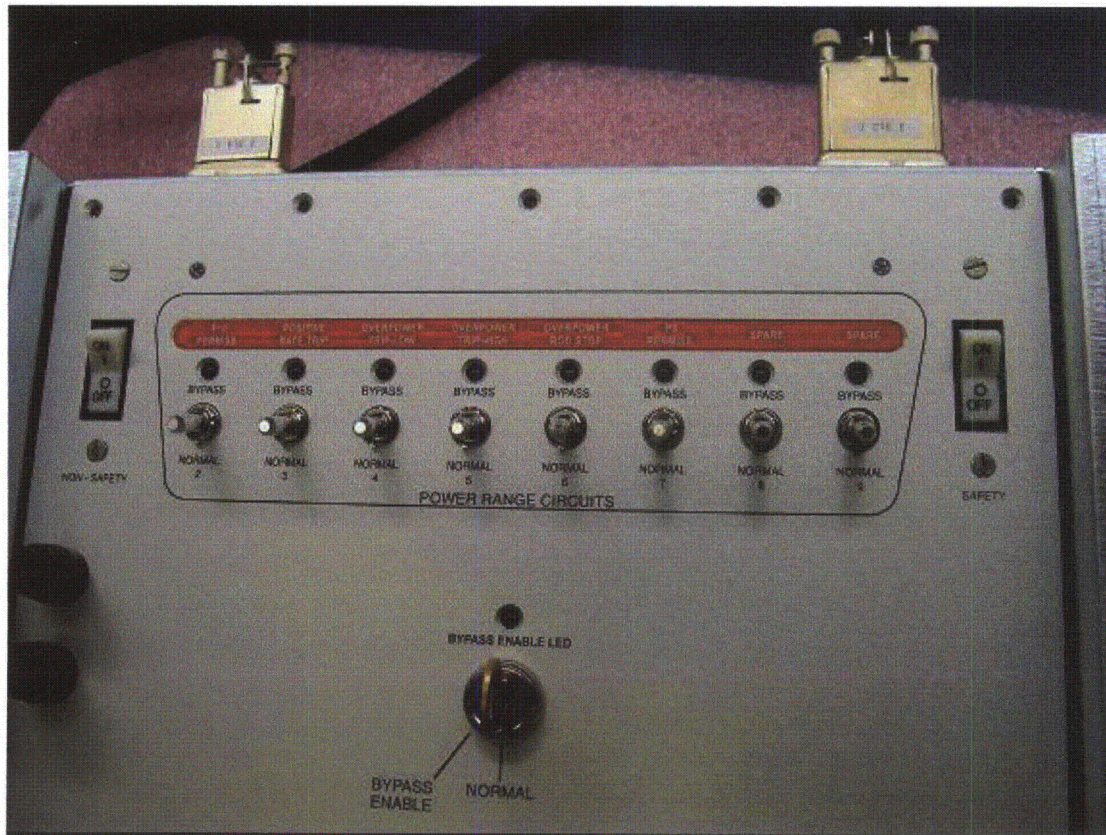
NBT G02 Card – In Normal (One function bypassed)



This is an NBT G02 Bypass Test Card as it would appear with the loop in Normal and one function bypassed. The Test switch TS-1 (Top switch) is in NORMAL. The bottom Bypass switch BP-4 is in BYPASS, with its associated yellow LED not illuminated, indicating this function is bypassed. The same relay which controls this yellow LED also controls a signal to the annunciator system which would result in MCR indication of Bypassed status. The status of the red LED above switch BP-4 is dependent on the actual field signal being placed into the loop. The yellow LEDs which are illuminated above Bypass switches BP-1 through BP-3 which are still in NORMAL indicate that the associated functions are not bypassed. In this configuration, the first, second and third functions are still in a status dependent on the actual field signal.

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NIS BYPASS TEST PANEL – Normal Operation



This is the N-41 Bypass Test Panel during normal operation. (The circuit breakers on the upper left and upper right are normally off and the lamp extinguished; they were off when this picture was taken.) The Bypass Enable keylock switch at center bottom is in NORMAL, as are all the upper switches (individual bypass switches for each function).

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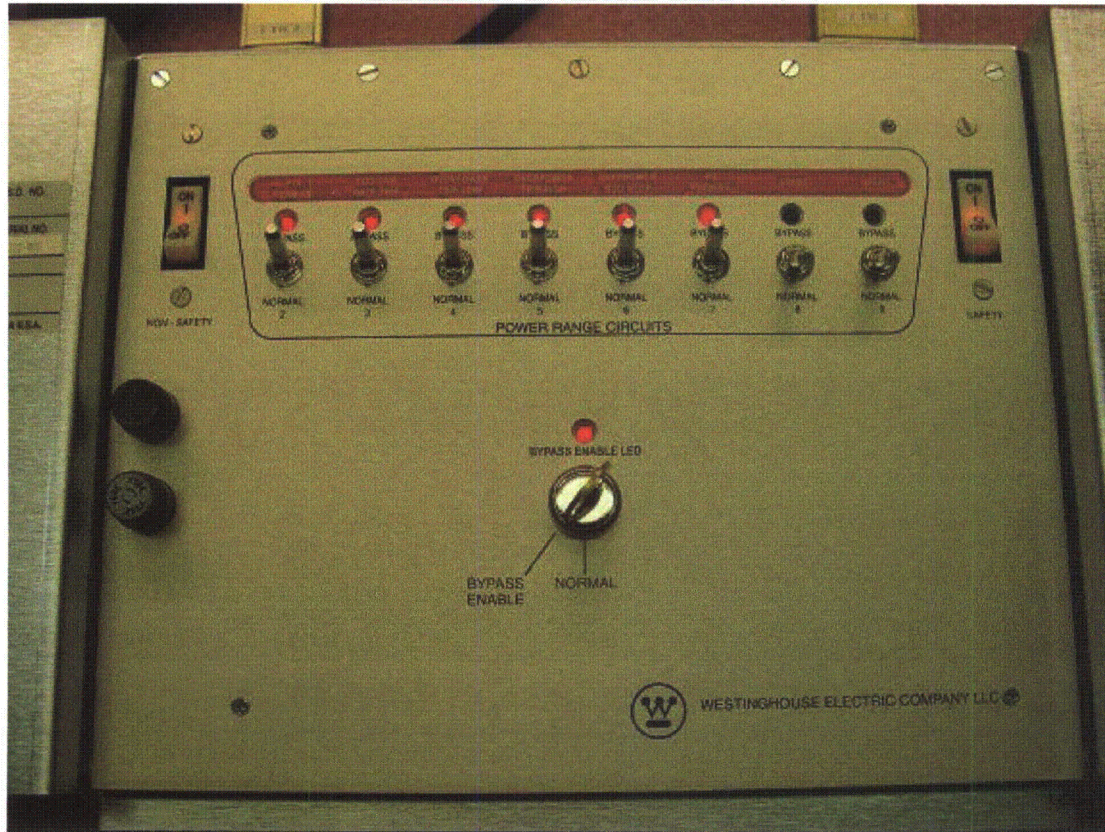
NIS BYPASS TEST PANEL – In Test/Bypass



This is the N-41 Bypass Test Panel with the Bypass Enable keylock switch in the BYPASS ENABLE position. The BYPASS ENABLE LED is lit, and there would be a MCR alarm and a Bypass Permissive alarm for channel N-41 with the bypass enabled. The BYPASS ENABLE position allows the upper bypass switches to be used to bypass the NIS functions. In this photo, no functions are bypassed, as all of the Normal/Bypass switches at the top of the panel are in the NORMAL position.

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NIS BYPASS TEST PANEL – In Test/Bypass All Functions Bypassed



This is the N-41 Bypass Test Panel with the Bypass Enable keylock switch in the BYPASS ENABLE position and all six NIS functions bypassed. The BYPASS ENABLE LED is lit, and there would be a MCR alarm and a Bypass Permissive alarm for channel N-41 with the bypass enabled. The BYPASS ENABLE position allows the upper bypass switches to be used to bypass the NIS functions. In this photo, all six NIS functions are bypassed via the Normal/Bypass switches being in BYPASS, with the corresponding LEDs lit. The last two Normal/Bypass switches are not used.