

RATING FACTOR 3.A.: CONTROL BOARD OPERATIONS, LOCATE &  
MANIPULATE

1. Examiner comment on 303 form p. 18 of 32, related to Scenario 7, Event 1

A. FACTUAL SEQUENCE OF EVENTS

-During the simulator scenario, the initial event (a normal evolution) directed the operators to raise reactor power.

-At time 07:26:?? [REDACTED] directed Carla to maintain Tave-to-Tref within  $\pm 2$  degrees F and AFD within  $\pm 3$  AFD units.

-At time 07:28:40, Carla, as Reactor Operator (RO), moved control bank 'D' rods out 2.5 steps (ending with 'D' bank at 157 steps on both groups)

-At time 07:32:10, [REDACTED] as Senior Reactor Operator (SRO) directed a 8-12 MWe turbine load increase.

-At time 07:36:50, Carla, as Reactor Operator (RO), moved control bank 'D' rods out 3 steps (ending with 'D' bank at 160 steps on both groups)

-At time 07:39:48, [REDACTED] as Senior Reactor Operator (SRO) directed a 8-12 MWe turbine load increase.

-At time 07:43:57, event 2 was initiated, a #4 SG steam flow channel failing high. At this time Tave-to-Tref deviation was  $-0.566^{\circ}\text{F}$ .

-During event 2, there was no additional rod motion, and no examiner has any record of a communication between the RO and SRO regarding temperature control.

-At time 07:54:54, event 3 was initiated, where TE-0130 fails low. At this time, Tave-to-Tref deviation was  $-1.156^{\circ}\text{F}$ .

-During the operator actions for event 3, the entire team of applicants was physically located in front of the control panel with the controller for TE-0130. The NRC exam team noted that Carla was standing in front of the TE-0130 controller throughout event 3. P. Capehart and M. Bates conducted a short discussion questioning the allowable duration of time for the OATC position to be away from monitoring the key reactor plant parameters. P. Capehart also noted that Carla was not monitoring reactor coolant temperature trends via the IPC computer trend screen.

-During event 3, there was no additional rod motion, and no examiner has any record of a communication between the RO and SRO regarding temperature control.

-At time 08:11:20, event 4 was initiated, which was a trip of an NSCW cooling fan, a malfunction which contained no operator actions for the control board personnel. At this time, Tave-to-Tref deviation was  $-1.481^{\circ}\text{F}$ .

- At approximately time 08:18 Carla began what was intended as a 3-step outward rod pull. Rods were only moved by 1 step due to initiating event 5.
- At time 08:18:02 event 5 was initiated, where pressurizer pressure channel PI-456 failed high.
- At time 08:18:17, Carla released the in-hold-out switch and informed [REDACTED] of the pressurizer pressure malfunction.
- At time 08:37:??, Carla moved rods out 3 steps. Just before the rod move, Tave-to-Tref deviation was -2.297 °F. Tave-to-Tref was outside the established control band for approximately 4.8 minutes.

During post-scenario follow-up questions, the examiner asked Carla "what was your temperature control band?" Carla answered that it was plus or minus 2 degrees. The examiner asked Carla what the maximum Tave-to-Tref difference had been during the scenario. Carla responded that the maximum difference had been 2.3 degrees F.

#### B. EXAMINER EVALUATION AND COMMENTS

The examiner determined that the root cause deficiency was a result of poor control board operations. NUREG 1021, Appendix D 2.c. states for the competency *Operate the Control Boards* that "This competency involves the ability to *locate* and *manipulate* controls to attain a desired plant and system response or condition." ES-303 form ES-303-4 further specifies that the 3.a. rating factor determines if "...the applicant LOCATE AND MANIPULATE CONTROLS in an accurate and timely manner." For this event, Carla, as a control board operator, failed to manipulate the controls in a timely fashion to obtain the desired system response of maintaining Tave-to-Tref deviation between the ordered 2 degree band. Based on post-scenario follow-up questions, there was no deficiency in understanding; furthermore, there was no element of taking manual control of automatic functions because rods were in manual from the initiation of the scenario. Vogtle does not operate with automatic rod withdrawal capabilities, only automatic rod insertion.

There is a further element of poor communications during this event. There is no record from any NRC examiner of any communications during an approximate 40 minute period of time where Carla notified the SRO of the Tave-to-Tref value and trend. This is a clear example of a deficiency in rating factor 4.b., "Did the applicant keep crew members ... informed of plant status?"

2. Examiner comment on 303 form p. 19 of 32, related to Scenario 7, Event 5

#### A. FACTUAL SEQUENCE OF EVENTS

-At approximately time 08:18 Carla, as Reactor Operator (RO) began what was intended as a 3-step outward rod pull. Rods were only moved by 1 step due to initiating event 5.

-At time 08:18:02 event 5 was initiated, where pressurizer pressure channel PI-456 failed high.

-PI-456 failing high caused pressurizer PORV 456 to OPEN. As part of the scenario design, the PORV block valve, HV-8000B, automatic closure feature on low pressurizer pressure was disabled.

-At time 08:18:17, Carla released the in-hold-out switch and informed [REDACTED] of the pressurizer pressure malfunction.

-As part of immediate operator actions, Carla verified the pressurizer spray valves were closed, and then mis-operated the pressurizer PORV 456 handswitch by taking it to the OPEN position.

-Carla then turned to look at [REDACTED] without taking further actions.

-[REDACTED] pointed at the PORV handswitch, and loudly stated: "Carla, shut that valve!"

-Carla then correctly closed the PORV using the handswitch on the control board.

During post-scenario follow-up questions, the examiner asked Carla "what were your immediate operator actions?" Carla correctly stated the immediate operator actions for a pressurizer channel failure. During her statement, Carla indicated that she had initially turned the PORV handswitch in the wrong direction.

#### B. EXAMINER EVALUATION AND COMMENTS

During the review of Carla Smith's 303 documentation following the issuance of the exam report, the exam team identified that this event had been mis-graded, because it was a failed critical task.

In accordance with NUREG 1021, Appendix D, D.1.a states that a critical task in a simulator scenario must have safety significance:

In reviewing each proposed CT, assess the task to ensure that it is essential to safety. A task is essential to safety if its improper

performance or omission by an operator will result in direct adverse consequences or significant degradation in the mitigative capability of the plant.

If an automatically actuated plant system would have been required to mitigate the consequences of an individual's incorrect performance, or the performance necessitates the crew taking compensatory action that would complicate the event mitigation strategy, the task is safety significant.

Examples of CTs involving essential safety actions include those for which operation or correct performance prevents the following:

- degradation of any barrier to fission product release

Because the automatic closure of the PORV block valve had been defeated, manual action was required to prevent breaching a fission product barrier (*i.e.*, the Reactor Coolant System via the PORV, essentially creating a small-break LOCA).

NUREG 1021 Appendix E, Part E 4. gives clear guidance as to how the examiners are required to grade the applicant if an error that the applicant makes is corrected by a team member:

4. If you recognize, but fail to correct, an erroneous decision, response, answer, analysis, action, or interpretation made by the operating team or crew, the examiner may conclude that you agree with the incorrect item.

Members of the operating team or crew (whether applicants or surrogates) should perform peer checks in accordance with the facility licensee's procedures and practices; non-crew members and NRC examiners will not perform this function. However, if you begin to make an error that is corrected by a peer checker, you will be held accountable for the consequences of the potential error without regard to mitigation by the crew.

Therefore, because Carla had to be corrected by a crew member to close the PORV, she should have been held accountable for the consequences of the potential error, which entails failure of a critical task. During the analysis of her grading, this should be considered an error related to a critical task, further reinforcing the rating factor of "1" assigned for 3.a. Furthermore, in her cover letter to the appeal, Carla contended that none of her errors were related to a critical task or critical step. In light of this additional consideration, the NRC examiners believe that the applicant's contention is not correct.

Op-Test No.: 2012-301

Scenario No.: 7

Event No.: 1

**Event Description:** Reactor Power Ascension from 29% RTP and higher, UOP 12004-C, step 4.1.41 is the next plateau.

Time	Position	Applicant's Action or Behavior
	OATC	Uses 13009-1, "CVCS Reactor Makeup Control System" Section 4.7 "Frequent Dilutions While Controlling Reactor Power", as necessary to maintain Tavg matched with Tref during power ascension.
	UO	Increases turbine load in increments of 15 Mwe to 30 Mwe using load increase pushbutton at direction of OATC. Monitors Generator Output.
	OATC	<div><div>13009-1, Section 4.7:</div><div><div>NOTES</div><div><ul style="list-style-type: none"><li>• This section can be used during power changes when necessary to frequently dilute the RCS for temperature control. The use of this section shall be authorized by the SS.</li><li>• Frequent dilutions can raise VCT level to the point where VCT pressure reaches 40 psig. 1-LIC-0185 may be adjusted to allow divert to the RHT at a lower level to limit VCT pressure increase.</li></ul></div></div></div> <div><div>4.7 FREQUENT DILUTIONS WHILE CONTROLLING REACTOR POWER</div><div><div>4.7.1 Determine the amount of Reactor Makeup Water necessary to accomplish the power change or accommodate the expected impact of Xenon. (Uses Reactivity Briefing Sheet to Determine # gallons - Dilution)</div><div><div></div><div>Gals H<sub>2</sub>O</div></div><div>NOTE: EACH OATC WILL USE NUMBER HE/SHE IS COMFORTABLE WITH. (100-1000 Gallons)</div></div></div>
	OATC	<div><div>4.7.2 Verify the Reactor Makeup System is aligned for automatic operation.</div></div>
	OATC	<div><div>4.7.3 Start one Reactor Makeup Water Pump:</div><div><div><div>RX MU WTR PMP-1</div><div>1-HS-7762</div></div><div><div>RX MU WTR PMP-2</div><div>1-HS-7763</div></div></div></div>

0724(28) team has the shift

27(19) AVE/REF 563.63 / 563.27

28(40) rods  $\nearrow$  2.5 steps ('D' 157)

raise turbine load 8-12 MWe

36(50) rods  $\nearrow$  3 steps ('D' 160)  $\left( \begin{array}{cc} \text{AVE} & \text{REF} \\ 563.88 & 563.43 \end{array} \right)$

39(48) raise turbine load 8-12 MWe

$\left( \begin{array}{cc} \text{AVE} & \text{REF} \\ 564.765 & 563.43 \end{array} \right)$

Op-Test No.: 2012-301

Scenario No.: 7

Event No.: 1

**Event Description:** Reactor Power Ascension from 29% RTP and higher, UOP 12004-C, step 4.1.41 is the next plateau.

Time	Position	Applicant's Action or Behavior
	OATC	4.7.4 Place VCT MAKEUP CONTROL 1-HS-40001B in STOP.
	OATC	4.7.5 As directed by the SS, place VCT MAKEUP MODE SELECT 1-HS-40001A in either the ALT DIL or DIL position.
	OATC	4.7.6 As directed by the SS, lower pot setting on 1-LIC-0185, to limit VCT pressure increase.  Initial Pot Setting: _____ New Pot Setting: _____
	OATC	4.7.7 Set TOTAL MAKEUP Integrator 1-FQI-0111 for the desired amount of Reactor M/U Water.  _____ Gals H <sub>2</sub> O
	OATC	<div style="border: 1px solid black; padding: 10px; text-align: center;"><b>NOTE</b> If VCT MAKEUP MODE SELECT 1-HS-40001A was placed in the DIL position in Step 4.7.5, Step 4.7.8 may be marked N/A.</div> 4.7.8 If required, close 1-FV-0110B as necessary to raise or maintain RCS hydrogen concentration. (N/A)  <b>Note to examiner:</b> If ALT DIL selected, FV-110B will be closed.
	SS / OATC	4.7.9 At SS direction, dilution flow may be adjusted to desired flow using 1-FIC-0111. (record in AUTO LOG).  Initial Pot Setting: _____ New Pot Setting: _____  <b>NOTE: EXPECTED NOT TO CHANGE DESIRED FLOW:</b>
	OATC	4.7.10 Place VCT MAKEUP CONTROL 1-HS-40001B in START and verify flow is indicated on 1-FI-0110B.

Op-Test No.: 2012-301

Scenario No.: 7

Event No.: 1

Event Description: Reactor Power Ascension from 29% RTP and higher, UOP 12004-C, step 4.1.41 is the next plateau.

Time	Position	Applicant's Action or Behavior
	OATC	<p>4.7.11 <u>WHEN</u> TOTAL MAKEUP Integrator 1-FQI-0111 reaches its setpoint, verify dilution stops and the following valves close:</p> <ul style="list-style-type: none"><li>• 1-FV-0111A RX MU WTR TO BA BLENDER</li><li>• 1-FV-0111B BLENDER OUTLET TO VCT</li><li>• 1-FV-0110B BLENDER OUTLET TO CHARGING PUMPS SUCT</li></ul>
	OATC	<p>4.7.12 Operate the Pressurizer Back-up Heaters as necessary to equalize <math>C_b</math> between the RCS and the Pressurizer.</p>
	OATC	<p>4.7.13 Monitor RCS temperature, Control Bank position, or power levels as applicable.</p>
	OATC	<div><p style="text-align: center;"><b>CAUTION</b></p><p>If frequent dilutions are to be continued past the end of the shift, step 4.7.14 should be marked N/A and this section completed to include realignment to the normal configuration. The new on coming shift can then initiate the section from the beginning to continue frequent dilution.</p></div> <p>4.7.14 Repeat Steps 4.7.10 through 4.7.13 as necessary to continue power ramp and/or compensate for Xenon.</p> <p><b>NOTE:</b> OATC WILL LEAVE CVCS MAKEUP SYSTEM ALIGNED PER 4.7 FOR FREQUENT DILUTIONS WHILE CONTROLLING REACTOR POWER DURING POWER ASCENSION.</p>



Op-Test No.: 2012-301

Scenario No.: 7

Event No.: 1

**Event Description:** Reactor Power Ascension from 29% RTP and higher, UOP 12004-C, step 4.1.41 is the next plateau.

Time	Position	Applicant's Action or Behavior
	**	NOTE: EVENT 2 IS INITIATED WHILE OATC AND UO ARE PERFORMING ACTIONS IN EVENT 2 FOR POWER ASCENSION AT EXAMINERS DISCRETION.

Op-Test No.: 2012-301

Scenario No.: 7

Event No.: 2

Event Description: SG # 4 Steam Flow channel FI-542 fails high.

Time	Position	Applicant's Action or Behavior
	UO	<p>Diagnose SG Loop # 4 Flow FI-542 has failed high.</p> <p>Symptoms / alarms:</p> <p>ALB13-D01 STM GEN 4 FLOW MISMATCH</p> <p>Indications:</p> <ul style="list-style-type: none"> <li>• FI-542 reading off scale high.</li> <li>• Steam flow indication on FI-542 reading higher than feed flow.</li> </ul>
07 45(16)	UO	<p><b><u>IMMEDIATE OPERATOR ACTIONS</u></b></p> <p>(G1) Check steam and feed flows – MATCHED ON ALL SGs. (NO) RNO</p> <p>G1. Take manual control of the following as necessary to restore NR level between 60% and 70%.</p> <ul style="list-style-type: none"> <li>• Affected SG feed flow valves. (UO throttles closed loop 4 MFRV)</li> <li>• MFP(s) speed. (reduces MFPT speed using the Master Controller)</li> </ul> <p><b>Note to examiners:</b> It is expected the operator will take manual control of MFRV # 4 and the MFPT Master Controller. Steam flow failing high will result in the MFRV # 4 opening and the MFPT Master Controller speeding up the feed pumps. The operator will control SG # 4 levels and MFP speed with these controllers.</p>
	SS	<p>Enters AOP 18001-C, SYSTEMS INSTRUMENTATION MALFUNCTION, section G for FAILURE OF STEAM GENERATOR FLOW INSTRUMENTATION.</p>

Op-Test No.: 2012-301

Scenario No.: 7

Event No.: 5

**Event Description:** PRZR pressure channel PI-456 will fall high with the PORB Block Valve HV-8000B failing to close in automatic on low RCS pressure of 2185 psig. The OATC will be required to manually close PORV 456 or HV-8000B to prevent a Reactor trip.

Time	Position	Applicant's Action or Behavior														
	SS	<p>C15. Trip the affected channel bistables and place the associated MASTER TEST switches in TEST position per TABLE C1 within 72 hours.. (TS 3.3.1 &amp; 3.3.2)</p> <p><b>NOTE: SS expected to leave bistables untripped during allowed out of service time to facilitate troubleshooting by I&amp;C.</b></p>														
	SS	<p>C16. Initiate the applicable actions of:</p> <ul style="list-style-type: none"><li>TS 3.3.1 Reactor Trip</li></ul> <table><thead><tr><th>Function</th><th>Condition</th></tr></thead><tbody><tr><td>6 OTΔT</td><td>E</td></tr><tr><td>✓ 8a Low PRZR pressure</td><td>M</td></tr><tr><td>✓ 8b High PRZR pressure</td><td>E</td></tr></tbody></table> <ul style="list-style-type: none"><li>TS 3.3.2 ESFAS</li></ul> <table><thead><tr><th>Function</th><th>Condition</th></tr></thead><tbody><tr><td>✓ 1d SI low PRZR pressure</td><td>D</td></tr><tr><td>✓ 8b P-11 Interlock</td><td>L (one hour action)</td></tr></tbody></table> <ul style="list-style-type: none"><li>✓ TS 3.4.1.a DNB</li><li>✓ RCS pressure &lt; 2199 psig B (Momentary)</li></ul> <p><b>Note to examiner:</b> The SS may look at Tech Specs for the Block Valve HV-8000B which did not close in automatic. There is no Tech Spec requirement for the Block Valve to work in automatic. Manual operation only is required per Tech Spec Bases of 3.4.11.</p>	Function	Condition	6 OTΔT	E	✓ 8a Low PRZR pressure	M	✓ 8b High PRZR pressure	E	Function	Condition	✓ 1d SI low PRZR pressure	D	✓ 8b P-11 Interlock	L (one hour action)
Function	Condition															
6 OTΔT	E															
✓ 8a Low PRZR pressure	M															
✓ 8b High PRZR pressure	E															
Function	Condition															
✓ 1d SI low PRZR pressure	D															
✓ 8b P-11 Interlock	L (one hour action)															

0837 rods  $\nearrow$  3 steps  
0839  $\nearrow$  SS directed SPRMS  $\rightarrow$  auto

0844 "call that block value in 'oped'"  
during brief  
(3.4.11 what condition)

47(20) end of brief

48(20) rods  $\nearrow$  3 steps (562.517 / 563.667)  
( 'D' 167 )

52(30) rods  $\nearrow$  3 steps ( 'D' 170 )  
AVE/REF (563.6 / 563.7)

AFB:  $\sim 0.7 / 0.8$   
target:  $-0.5$

Op-Test No.: 2012-301

Scenario No.: 7

Event No.: 5

**Event Description:** PRZR pressure channel PI-456 will fail high with the PORB Block Valve HV-8000B failing to close in automatic on low RCS pressure of 2185 psig. The OATC will be required to manually close PORV 456 or HV-8000B to prevent a Reactor trip.

Time	Position	Applicant's Action or Behavior
	SS	<p>C17. Check repairs and surveillances - COMPLETE.</p> <p>RNO:</p> <p>C17. Perform the following:</p> <ul style="list-style-type: none"><li>a. WHEN repairs and surveillances are complete, THEN perform step C18.</li><li>b. Return to procedure and step in effect.</li></ul> <p><b>END OF EVENT 5, proceed to EVENT 6.</b></p>

Michael

SRO:

Munk

RO: Carla Smith

Phil

BOP:

07:24 :14

Crew takes shift

They correctly discussed  $\Delta\phi$  management

27:48

S-C:  $\uparrow 2\frac{1}{2}$  Steps

31:33

C-J: we have temp  $\leftarrow$ , we can lower turbine temp (mispeak) \*

32:10

J-R:  $\uparrow$  8-12 r/min

36:22

J-C:  $\uparrow$  3 Steps

33/ 43:47

Alarms

56

R-J: Failed Steam Flow Inst

Takes manual control of MFRV # Pump

44:24

R-J: MFOA's done

52:11

J-R: MFR Speed Control returned to auto

52:36

R-J-R: Place MFRV #4 to auto.

33/

54:52 C-S: L/D Demin Diment  $\uparrow$  High  $\uparrow$  D Temp

55:16

C-T: TE-130 "Automatically appeared that Carla made correct diagnosis"

[redacted] is running the ARP. Carla did not per any ARPs.

08:00:30

R: Pulls P#IDs

J-C/T: CR, W, etc.

01:54

C-S: The only thing we can do is contact  $\uparrow$  T to get TE fixed. \*

02:45

J-C: Take manual control of TIC and monitor <sup>VCT Outlet Temp?</sup>  $\frac{1}{4}$  QRTSJ-C: That raises  $\uparrow$  lower temp it doesnot open  $\uparrow$  close valve. (The controller

is reverse acting &amp; she did not know how to

operate it.) Carla actually set it at 51%. \*

00:05:00

 $\uparrow$  D High Temp Demin Diment closed.

34/

11:37

R-J: NSCW Cooling Fan 1 Tripped

R-C/T: AD to R/K

J-R-C/T: Get W/B Temps while out there.

08 17 42 J-C: ↑ 3 Steps

18 17 C-T: PRR P Failure J-C: "Shut That Valve"  
 She does PRR spray values but did not close PRR. <sup>waited until urgently directed by J-C.</sup> "Carla!"

C-R: BV 466 did not close <sup>waited until J-C.</sup> J-C: "Ved" (X)  
 [May need to look at plots to get timing of PRR closure] to give her very specific instructions to close PRR valve.

22 05 J-C: 2200-2250 P Center Band DAB TS was entered.

26 05 PRR P rose to 2260 # prior to making correction to reduce P  
 (She actually started to correctly center P after the band was persisted.)

34 30 C-J: VET Temp Abn clear. Recommends repositioning Valve 129  
 C: Adjusting PRR Spray in Manual. Temp 1 & 4 Spray Valves are in Manual.

37 24 J-C: ↑ 3 Steps

(Sprays to data) →

40 37 PRR P = 2270 #

45 23 Temp = 1.5 cold (DAB Band)

[Temp Band given as line at 2°F while rats in Manual]

She uses outside Temp Band look at data

File U on Temp

48 00 C-T-C: ↑ 3 Steps

51 30 C-T-C: ↑ 3 Steps

53 19 C-J: RWST low level Abn

55 00 C-J: 93.8% & RWST level

56 24 J: Mentions I have T.S

Capelhart

Appendix D

Required Operator Actions

Form ES-D-2

Op-Test No.: 2012-301

Scenario No.: 7

Event No.: 5

Event Description: PRZR pressure channel PI-456 will fail high with the PORB Block Valve HV-8000B failing to close in automatic on low RCS pressure of 2185 psig. The OATC will be required to manually close PORV 456 or HV-8000B to prevent a Reactor trip.

Time	Position	Applicant's Action or Behavior										
	OATC 0824	<p>C7. Select unaffected channels on <u>PS-455F</u>:</p> <table border="0"> <thead> <tr> <th><u>Failed Channel</u></th><th><u>Select</u></th></tr> </thead> <tbody> <tr> <td>P455</td><td>CH457 / 456</td></tr> <tr> <td>- P456</td><td><b>CH455 / 458</b></td></tr> <tr> <td>P457</td><td>CH455 / 456</td></tr> <tr> <td>P458</td><td>CH455 / 456</td></tr> </tbody> </table>	<u>Failed Channel</u>	<u>Select</u>	P455	CH457 / 456	- P456	<b>CH455 / 458</b>	P457	CH455 / 456	P458	CH455 / 456
<u>Failed Channel</u>	<u>Select</u>											
P455	CH457 / 456											
- P456	<b>CH455 / 458</b>											
P457	CH455 / 456											
P458	CH455 / 456											
	OATC	<p>C8. Perform the following:</p> <p>a. Check PRZR pressure – STABLE AT APPROXIMATELY 2235 PSIG. 2264 F</p> <p>b. Place PRZR heaters in AUTO. <i>No, for pur ↑ they are ON</i></p> <p>c. Place PRZR spray valve controllers in AUTO. <i>OK, make sure</i></p> <p>RNO: <i>After heater placed in auto!</i></p> <p>a. Adjust PRZR pressure to approximately 2235 psig using PRZR heaters and sprays.</p>										
	OATC	C9. Place PORVs in AUTO and verify proper operation.										
0831	OATC	C10. Return PRZR pressure Master Controller to AUTO. <i>ARR</i>										

1hr T-3  
Is the  
Block valve  
operable?

DNB  
Rept 1hr was  
used  
Block valve  
operable?  
Started J  
was not  
used on  
Burg  
Failure

0834 UCT Hi Temp Alarm

A → S We can change 125 back to UCT  
22

0837 U → A 0.5 ± 2° Ther den @ -2.4

Left Spray in Manual?

0835

0842 Binned

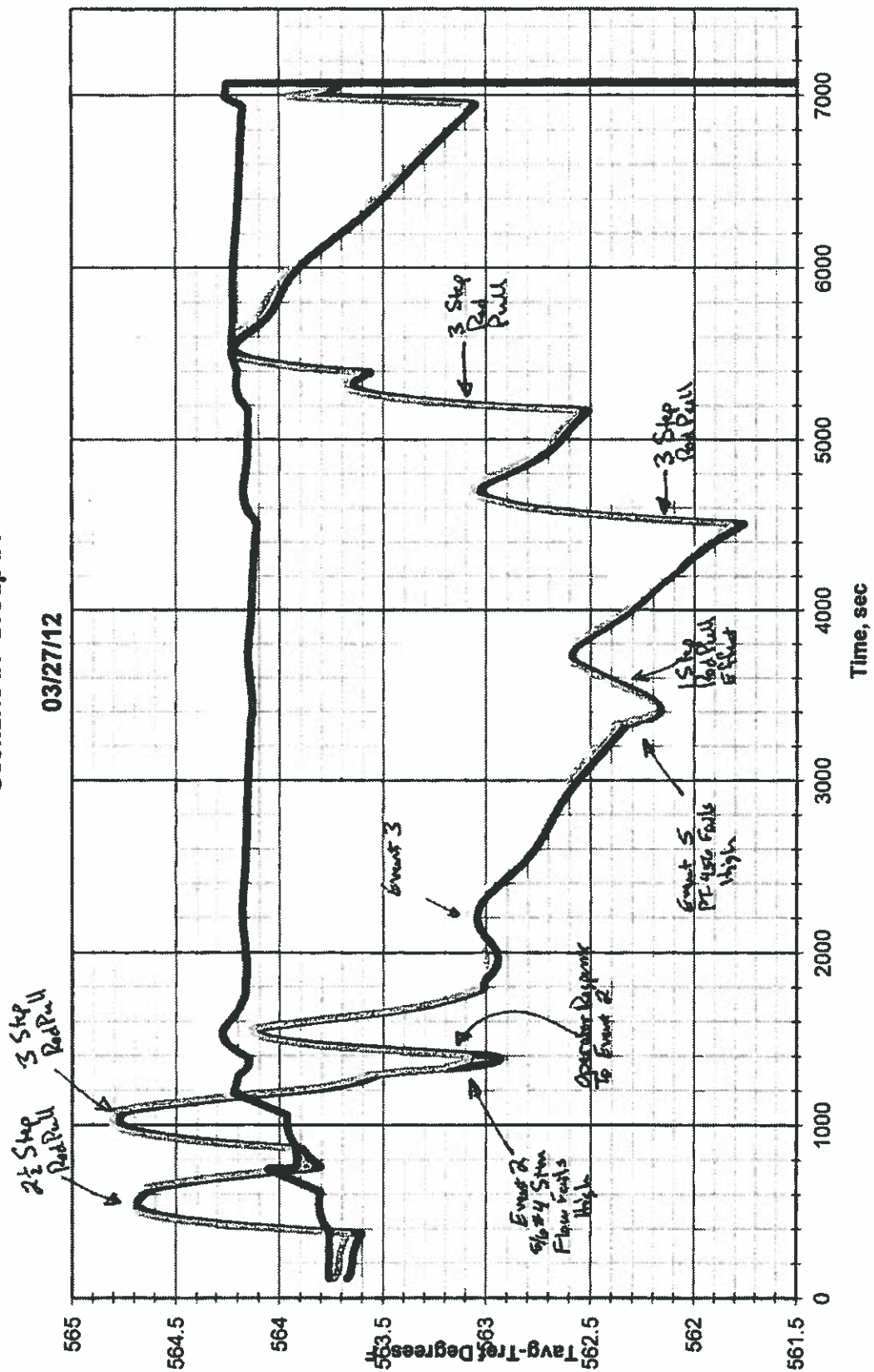
130 set at 51°? for 120°  
C19

16



# Scenario #7 Group #1

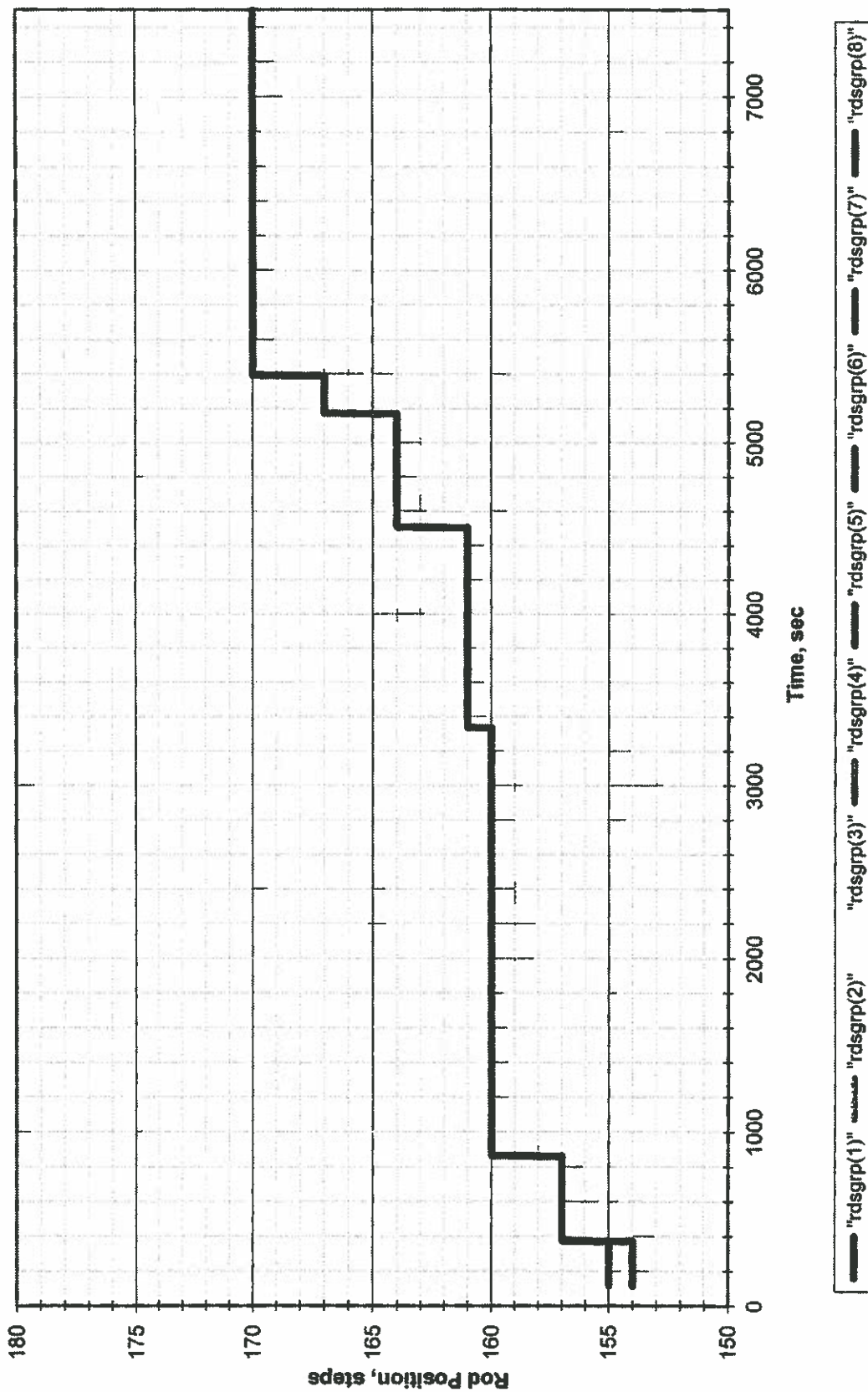
03/27/12



— "uv0409" - - - - - "rxtr412(1)" — "rxtr412(2)"

# Scenario #7 Group #1

03/27/12



Michael  
SRO: [REDACTED]Munk  
RO: Carla SmithPhil  
BOP: [REDACTED]

07:24 :14

Crew takes shift

They correctly discussed  $\Delta$  management

27:48

S-C:  $\uparrow 2\frac{1}{2}$  Steps

27:33

C-J: we have temp  $\rightarrow$ , we can lower turbine temp (mispoke.) \*

32:10

J-R:  $\uparrow$  8-12 mals

36:22

J-C:  $\uparrow$  3 Steps

33/ 43:47

Alarms

56

R-J: Failed Steam Flow Inst Takes manual control of MFRV &amp; Pump

44:24

R-J: ~~NO~~ A's done

52:11

J-R: MFP Speed Control returned to auto

52:36

R-J-R: Place MFRV #4 to Auto.

33/

54:52 C-J: L/D Denis Diment &amp; High L/D Temp

55:16

C-T: TE-130 "Certainly appeared that Carla made correct diagnosis"

Rodney is running the ARPs. Carla did not open any ARPs.

08:00:30

R: Pulls P&amp;IDs

J-C/T: CR, etc.

01:54

C-J: The only thing we can do is contact CT to get TE fixed. (X)

02:45

J-C: Take manual control of TIC and monitor <sup>VCT Outlet</sup> Temp? 1/4 Q (X)

J-C: That raises &amp; lowers temp it does

not open &amp; close valve. (The controller

is reverse acting &amp; she did not know how to

operate it.) (Carla actually set it at 51%. (X)

00:05:00

L/D High Temp Denis Diment cleared.

34/

11:37

R-J: NSCW Cooling Fan 1 Tripped

R-C/T: AD to RKE

J-R-C/T: Get W/B Temps &amp; hold out there.

08 17 42 J-C: ↑ 3 Steps

18 17 C-T: DRE P Fairness J-C: "Shut That Valve,"  
 She does P&R spray values but did not close PORV until urgently limited the terms. "Carla!"

C-R: BV 486 did not close  
 [May need to look at plots to get timing of PORV closure] Jaime's need to give her very specific instructions to close PORV valves. (X)

22 05 J-C: 2220-2250 P Cont'd Band DNB TS was entered.

21 05 DRE P rose to 2260 # prior to making corrections to reduce P.  
 (She actually started to correctly enter P after the band was recorded.)

34 30 C-J: VET Temp Aln clear. Recommends repositioning valve 129

C: Adjusting P&R Spray in Manual. Loop 1 & 4 Spray Valves are in Manual.

37 24 J-C: ↑ 3 Steps

Sprays to data →

40 37 P&R P = 2270 #

45 23 Temp = 1.5 cold (During Bump)

[Temp Band given for line was 2°F while rods in Manual]

She uses outside Temp Band  
 Look at data

File W on Temp

48 00 C-T-C: ↑ 3 Steps

51 30 C-T-C: ↑ 3 Steps

53 14 C-J: RWST low level Alarm

55 00 C-J: 93.8% & RWST level

56 24 J: Mentions / name T.S.

Capehart

Appendix D

Required Operator Actions

Form ES-D-2

Op-Test No.: 2012-301

Scenario No.: 7

Event No.: 5

Event Description: PRZR pressure channel PI-456 will fall high with the PORB Block Valve HV-8000B failing to close in automatic on low RCS pressure of 2185 psig. The OATC will be required to manually close PORV 456 or HV-8000B to prevent a Reactor trip.

Time	Position	Applicant's Action or Behavior										
	OATC 0824	C7. Select unaffected channels on <u>PS-455F</u> :  <table><tr><th><u>Failed Channel</u></th><th><u>Select</u></th></tr><tr><td>P455</td><td>CH457 / 456</td></tr><tr><td>- P456</td><td><b>CH455 / 458</b></td></tr><tr><td>P457</td><td>CH456 / 456</td></tr><tr><td>P458</td><td>CH455 / 456</td></tr></table>	<u>Failed Channel</u>	<u>Select</u>	P455	CH457 / 456	- P456	<b>CH455 / 458</b>	P457	CH456 / 456	P458	CH455 / 456
<u>Failed Channel</u>	<u>Select</u>											
P455	CH457 / 456											
- P456	<b>CH455 / 458</b>											
P457	CH456 / 456											
P458	CH455 / 456											
	OATC	C8. Perform the following:  a. Check PRZR pressure – STABLE AT APPROXIMATELY 2235 PSIG. 2264#  b. Place PRZR heaters in AUTO. → No, for pur ↑, they are ON  c. Place PRZR spray valve controllers in AUTO → D.A. ← SM.3 RNO: After Master placed in AUTO!  a. Adjust PRZR pressure to approximately 2235 psig using PRZR heaters and sprays.										
	OATC	C9. Place PORVs in AUTO and verify proper operation.										
0831	OATC	C10. Return PRZR pressure Master Controller to AUTO. → ARE										

1hr T-1  
Is the block valve inoperable?

DNB  
1hr was used

Block Valve Operable? Status it was not

not on Bus, Power

0834 UCT Hi Temp Alarm

A → S we can change 125 back to UCT 22

0837 U → A 0.5 ± 2° Time down @ -2.4

Left Spray in Manual?

0835

0842 Binned

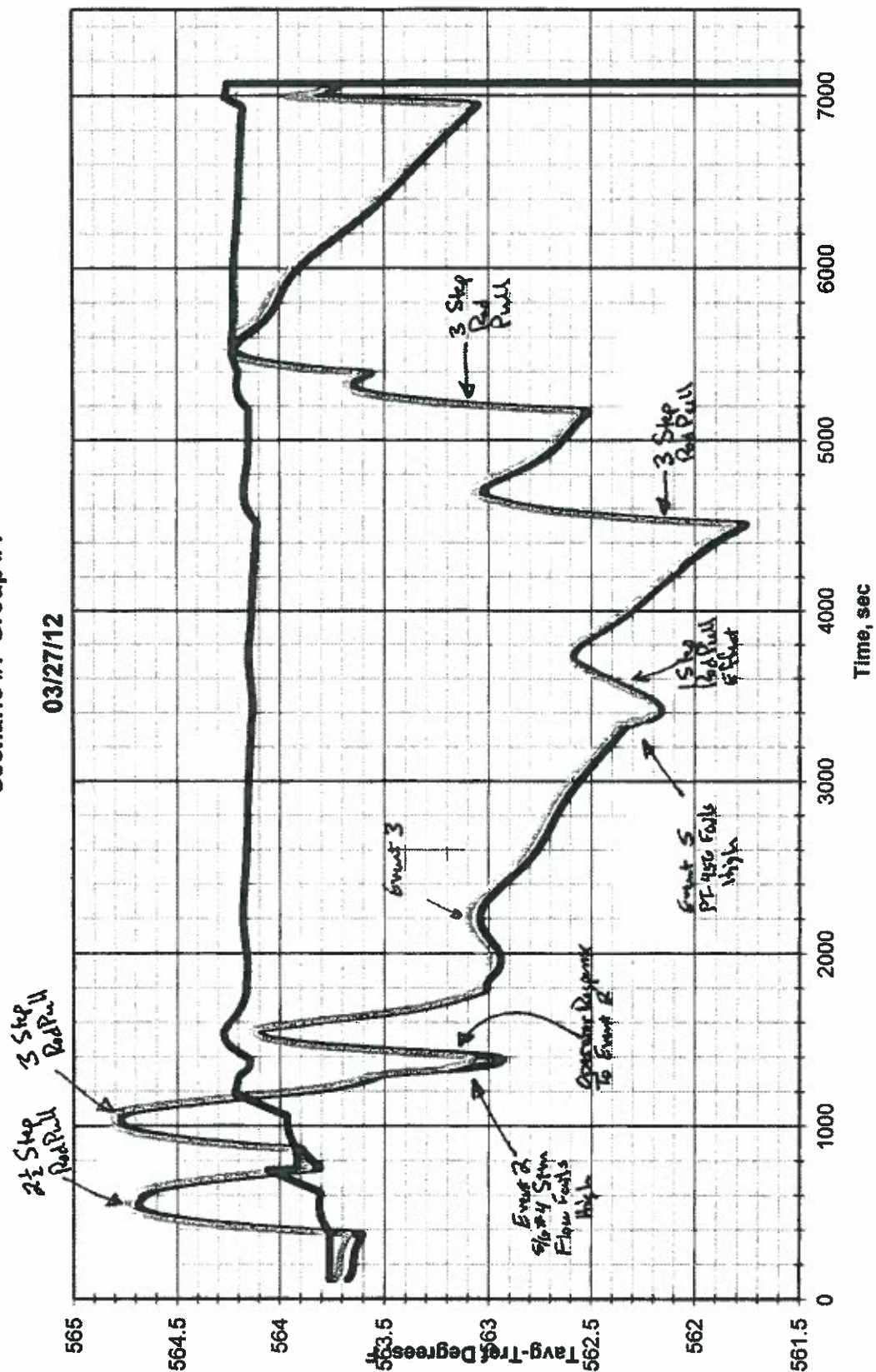
130 site 51°? for 120°  
5.9

21



# Scenario #7 Group #1

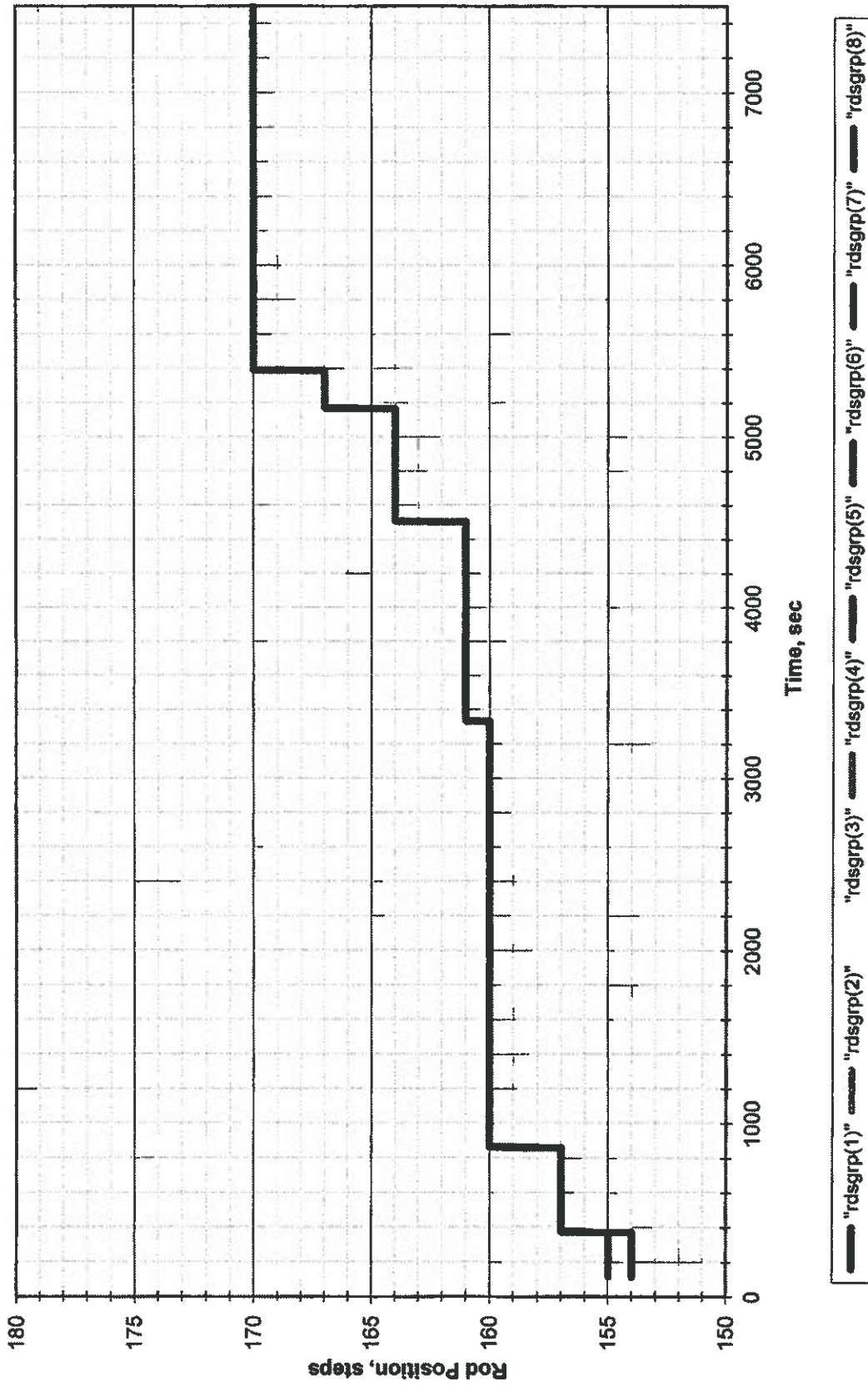
03/27/12



uv0409 rdr412(1) rdr412(2)

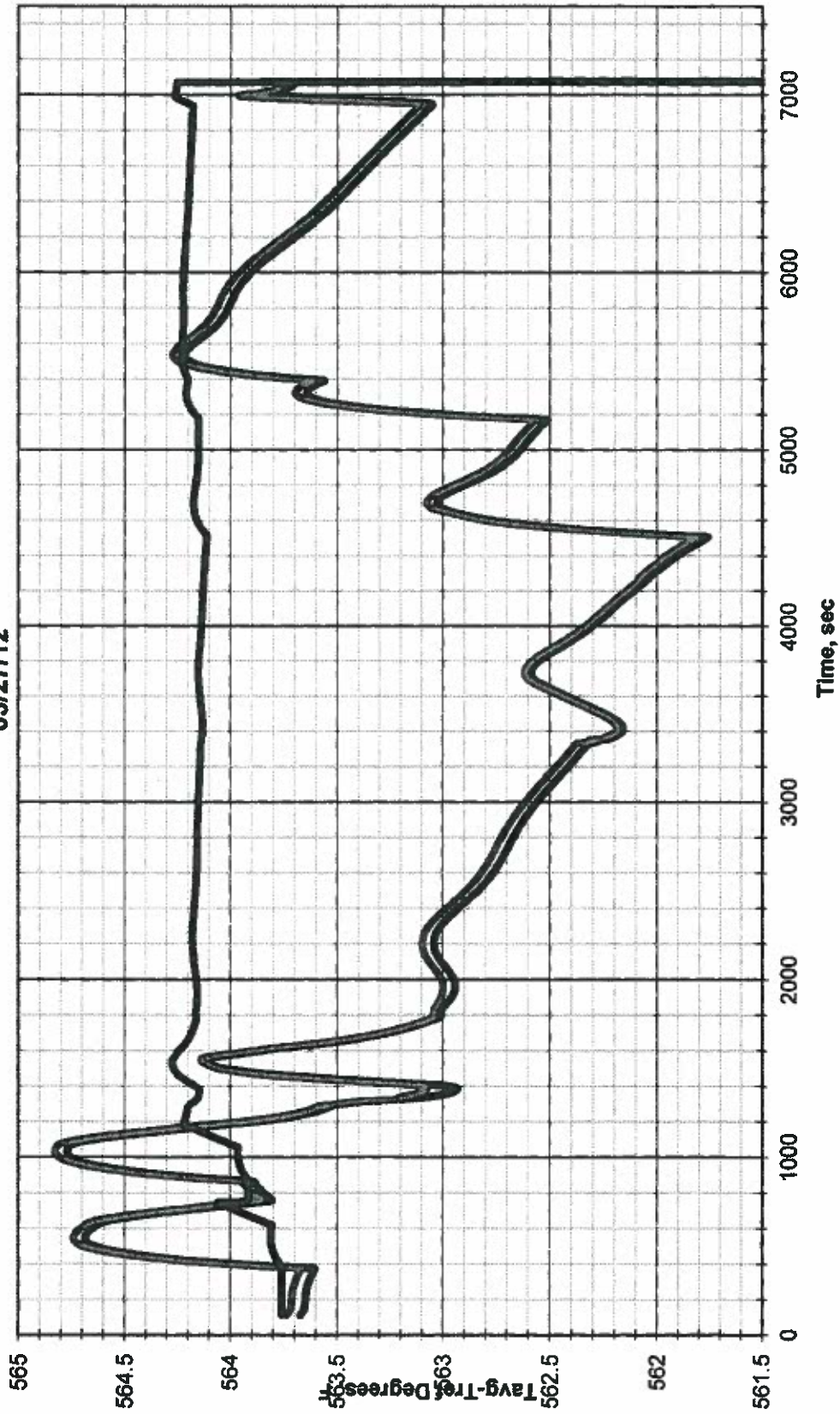
Scenario #7 Group #1

03/27/12



Scenario #7 Group #1

03/27/12



"uv0409" "rxtr412(1)" "rxtr412(2)"



Scenario #7 Group #1

03/27/12

