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March 30, 2011  
U7-C-NINA-NRC-110044

U. S. Nuclear Regulatory Commission  
Attention: Document Control Desk  
One White Flint North  
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Rockville, MD 20852-2738

South Texas Project  
Units 3 and 4  
Docket Nos. 52-012 and 52-013  
Revised Responses to Requests for Additional Information

- References:
1. Letter from Scott Head to NRC Document Control Desk, "Response to Request for Additional Information," dated August 28, 2009, U7-C-STP-NRC-090123 (ML092450155)
  2. Letter from Scott Head to NRC Document Control Desk, "Response to Requests for Additional Information," dated April 2, 2009, U7-C-STP-NRC-090028 (ML090960322)

Attached are the Nuclear Innovation North America LLC (NINA) revised responses to Request for Additional Information (RAI) question 09.02.05-7 and 14.03.05-2, related to Combined License Application (COLA) Part 2, Tier 2, Section 9.2.5, "Ultimate Heat Sink" and 14.3S "Inspections, Tests, Analyses and Acceptance Criteria (ITAAC)." These revised responses to RAIs 09.02.05-7 and 14.03.05-2 replace the original responses submitted with references 1 and 2, respectively.

When a change to the COLA is required, it will be incorporated into the next routine revision of the COLA following NRC acceptance of the RAI response.

There are no commitments in this letter.

If you have any questions, please contact Scott Head at (361) 972-7136 or Bill Mookhoek at (361) 972-7274.

DO91  
NRC

STI 32834417

I declare under penalty of perjury that the foregoing is true and correct.

Executed on 3/30/11



Scott Head  
Manager, Regulatory Affairs  
South Texas Project Units 3 & 4

jaa

Attachments:

1. Question 09.02.05-7, Response Revision 1
2. Question 14.03.05-2, Response Revision 1

cc: w/o attachment except\*  
(paper copy)

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**RAI 09.02.05-7****QUESTION:**

GDC 44 requires that the ultimate heat sink (UHS) be operable under all anticipated conditions to assure rejection of required heat loads. STP COL FSAR Section 9.2.5.9 states that any components required for UHS operation of Divisions A and B can be operated from the remote shut down system (RSS). This implies that Division C is only operable from the main control room. However, nowhere within the FSAR is it stated that the any of three divisions can be operated from the main control room. Also, the “components required for UHS operation” are not itemized. The applicant should update the FSAR to include these details of the UHS operation and control. Operation of Division A and B of the UHS from the RSS is also required by ITAAC 3.0-1.4 presented in Part 9 of the FSAR. Here it states that Figure 3.0-1 illustrates where the controls are sent. However, Figure 3.0-1 does not specify where the displays and controls are sent. Since a single figure is provided, it is assumed that all three divisions are treated in a similar fashion, which is not consistent with FSAR Section 9.2.5. Finally, the acceptance criteria for ITAAC 3.0-1.4 states that the controls will exist in the main control room, and does not validate their existence in the RSS. The applicant should include more details in the ITAAC section, and ensure that these details are consistent with the design as presented in Tier 2

**RESPONSE REVISION 1:**

Reference: Letter from Scott Head to NRC Document Control Desk, “Response to Request for Additional Information,” dated August 28, 2009, U7-C-STP-NRC-090123 (ML092450155)

This revised response supersedes the original response to RAI 09.02.05-7 (reference) in its entirety.

Control of all three RSW divisions from the main control room is described in ABWR DCD Tier 1 Section 2.11.9 and associated Figures 2.11.9a and 2.11.9b. Verification of RSW system control from the MCR and the remote shutdown system (RSS) is provided for by ITAAC 7 and 8 of Tier 1 Table 2.11.9, Reactor Service Water System. Tier 1 Section 2.11.9 is incorporated by reference into the STP 3 & 4 COL FSAR. Also, Tier 2 Figure 7.3-7 (Reactor Building Cooling Water/Reactor Service Water System IBD), of the STP 3 & 4 COL FSAR illustrates that any of the three divisions of the RSW system can be operated from the MCR. MCR panel manual operation of RSW Division A components is indicated on sheets 11, 13, 18 & 19 of Figure 7.3-7. Sheet 1 of Figure 7.3-7 indicates these sheets represent Division A and are typical for Divisions B and C of RCW/RSW.

RSW components operated from RSS are listed in STP COL FSAR Section 7.4.1.4.4, Remote Shutdown Capability Controls and Instrumentation-Equipment, Panels, and Displays and are indicated on STP COL FSAR Figure 7.4-2, Remote Shutdown System IED.

The response provided to RAI 14.03.05-2, Revision 1 (attachment 2 of this transmittal), provides ITAAC for the UHS required functions in COLA Part 9, Section 3, Table 3.0-1, Ultimate Heat Sink (UHS), Item 4. This RAI response does not require any additional changes to the COLA beyond those provided in RAI 14.03.05-2, Revision 1.

**RAI 14.03.05-2**

**QUESTION:**

RCOLA Part 9, ITAAC Item 4 in Table 3.0-1

Please explain why the acceptance criterion as written does not address the ‘required functions of the UHS system’ stated in the design commitment and how the figure referenced provides sufficient information to allow the implementation of this ITAAC given that the figure lacks the required details.

This is also true for the following ITAAC:

ITAAC Item 5 in Table 3.0-5

**RESPONSE REVISION 1:**

Reference: Letter from Scott Head to NRC Document Control Desk, “Response to Requests for Additional Information,” dated April 2, 2009, U7-C-STP-NRC-090028 (ML090960322)

This revised response supersedes the original response to RAI 14.03.05-2 (reference) in its entirety.

The original markup provided for COLA Part 9, Table 3.0-1, Item 4, incorrectly implied that alarms for water level and temperature of the Ultimate Heat Sink (UHS) are provided at the Remote Shutdown System (RSS). This revised response clarifies that the design requirement includes providing for the display of UHS water level and temperature on the RSS control panel but not the alarms for water level and temperature on the RSS control panel.

In addition, NINA has added new ITAAC Item 5 of COLA Part 9, Table 3.0-5. The new Item 5 provides more detail than the COLA Revision 2, Item 5, which was deleted by the original response.

It was noted that ITAAC Item 7 of Table 3.0-5 referred to heat exchanger isolation valves that may be confused with those already addressed by ITAAC Item 4 of Tier 1 Table 2.11.9. Reference to heat exchanger isolation valves is deleted and the Acceptance Criteria is made consistent with the Design Description by deleting reference to a flooding alarm.

Finally, NINA is providing additional details to COLA Part 9, Figure 3.0-1 which complements the changes described above. Deleted from the Figure is redundant information (3 RSW) that is correctly shown on Tier 1 Figure 2.11.9a.

As a result of this RAI response, COLA Revision 5, Part 9, Table 3.0-1 Item 4, Table 3.0-5 Items 5 and 7, and Figure 3.0-1, are revised as shown below by grey shading or bubbles:

**Table 3.0-1 Ultimate Heat Sink (UHS)**

<b>Design Requirement</b>	<b>Inspections, Tests, Analyses</b>	<b>Acceptance Criteria</b>
<p>4. Displays, alarms, and controls in the main control room and remote shutdown system (RSS) are provided for water level and temperature of the UHS system.</p> <p>4.(a) For UHS, Divisions A, B, and C displays and alarms for water level and temperature are provided in the main control room (MCR).</p> <p>4.(b) For UHS, Divisions A and B displays for water level and temperature are provided on the remote shutdown system (RSS) control panel.</p>	<p>4. Inspections will be performed on the main control room and RSS displays, alarms, and controls for the UHS system.</p> <p>4.(a) Inspections will be performed on the MCR displays and alarms for the UHS.</p> <p>4.(b) Inspections will be performed on the RSS displays for the UHS on the RSS control panel.</p>	<p>4. Displays, alarms, and controls exist in the main control room and RSS for water level and temperature monitoring, with controls in the RSS for components required for UHS operation.</p> <p>4.(a) For UHS, Divisions A, B, and C displays and alarms for water level and temperature exist in the MCR.</p> <p>4.(b) For UHS, Divisions A and B displays for water level and temperature exist on the RSS control panel.</p>

**Table 3.0-5 Reactor Service Water System (RSW)**

Design Requirement	Inspections, Tests, Analyses	Acceptance Criteria
<p>5.(a) For reactor service water (RSW) system Divisions A, B, and C as shown on Figure 3.0-1, displays and controls for pumps, fans and valves, and displays for strainer differential pressure, are provided in the main control room (MCR).</p> <p>5.(b) For RSW system Divisions A and B as shown on Figure 3.0-1, displays and controls for pumps, fans and valves and displays for strainer differential pressure, are provided on the remote shutdown system (RSS) control panel.</p>	<p>5.(a) Inspections will be performed on the MCR displays and controls for the RSW system.</p> <p>5.(b) Inspections will be performed on the RSS displays and controls for the RSW system.</p>	<p>5.(a) For RSW system Divisions A, B, and C as shown on Figure 3.0-1, displays and controls for pumps, fans and valves, and displays for strainer differential pressure, exist in the MCR.</p> <p>5.(b) For RSW system Divisions A and B as shown on Figure 3.0-1, displays and controls for pumps, fans and valves and displays for strainer differential pressure, exist on the RSS control panel.</p>
<p>7. For each division RSW system Divisions A, B, and C of RSW as shown on Figure 3.0-1, the heat exchanger inlet and outlet valves close, the pumps trip, and the isolation valves close upon receipt of a signal indicating Control Building or RSW pump house flooding in that division.</p>	<p>7. Using simulated signals, tests will be performed on the RSW System pumps and valves by providing a test signal in only one Class 1E division at a time.</p>	<p>7. For RSW system Divisions A, B, and C as shown on Figure 3.0-1, The heat exchanger inlet and outlet valves close, the pumps trip, and the isolation valves close, and alarms are received in the MCR upon receipt of a signal indicating Control Building or RSW pump house flooding in that division. of has reached the appropriate level setpoint in the Control Building.</p>

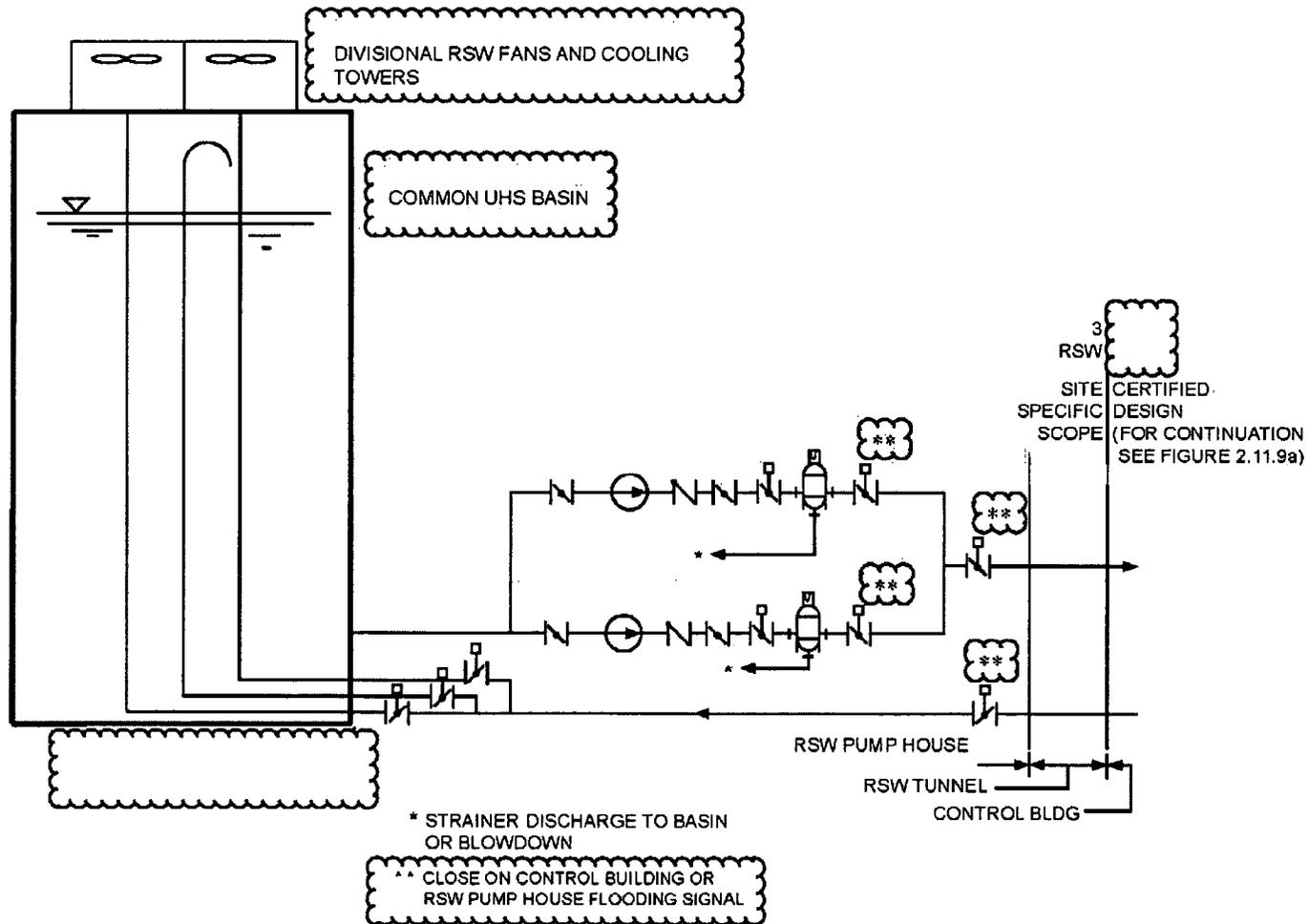


Figure 3.0-1 UHS and Reactor Service Water System  
(Single Division Shown Typical of Divisions A, B, and C)