MEETING PURPOSE: 01/03/13 SCE-MHI Steam Generator Repair Project Update

The purpose of this meeting is to provide for discussion a proposed plan for development of a Certified Design Specification (CDS) within the next six months.

SUMMARY:

Discussion

➢ Now that the "Type 3" repair has been technically agreed to, SCE has developed a draft schedule (Attachment 2) for discussion that describes the activities necessary to develop a CDS by July 1, 2013 which is the next critical milestone in long term repair. SCE welcomes MHI comments on the proposed plan.

➢ As part of the short term plan, a kickoff meeting with MHI and SCE is needed. SCE is amenable to having the meeting at SONGS or travel to Kobe, whichever MHI deems more productive.

➢ SCE is concerned about the overall replacement schedule and wishes to, over the next several months to evaluate the schedule for improvements that may bring installation into the first quarter 2017. This involves:


  o Preparing for and scheduling a kickoff meeting and coordination meetings thereafter every other month (or as needed).

➢ Preparations for the meeting include, but not limited to, an Agenda, Division of Responsibilities, Roles and Responsibilities, Level 1 Schedule, and any issues that could impact an overall plan.

➢ A comprehensive conceptual design will be needed for development of the CDS.

➢ Moving forward, MHI Kobe and SCE need to come to an Engineering Technical Management Agreement by January 7th, 2013 to produce a CDS by July 1st, 2013 to protect overall schedule, and minimize cost.

➢ Success of the project depends on being in total agreement with no surprises on either side, MHI or SCE, going forward and during the formal kickoff meeting to be tentatively held at the end of January in Kobe, Japan, with agreement to develop the CDS as a first step.

➢ Both MHI and SCE agreed that further discussions are needed to define the
SAN ONOFRE NUCLEAR GENERATING STATION (SONGS)
STEAM GENERATOR REPAIR TEAM (SGR_T)

terms and contents of:

  o Procurement Specification, and
  o CDS,

to make clear to both parties (MHI and SCE) the content of the deliverable due on 7/1/13.

Action Items:

➤ SCE to schedule daily meetings to prepare for SCE / MHI Kobe kick off meeting (Complete).

➤ MHI SONGS to convey plan described above with MHI Kobe and ensure agreement. SCE has requested confirmation by 01/07/13.

➤ SCE and MHI to develop an Agenda, DOR, R&R, and Level 1 Schedule and any additional requirements to ensure joint understanding.

➤ SCE and MHI to communicate and schedule kick off meeting with MHI Kobe.

Attachments: Attendees, Handouts
SAN ONOFRE NUCLEAR GENERATING STATION (SONGS)
STEAM GENERATOR REPAIR TEAM (SGR_T)
ATTACHMENT – Meeting Attendance Sheet

Steam Generator Repair - Project Update
Meeting Attendees
01/03/12

REDACTED
SAN ONOFRE NUCLEAR GENERATING STATION (SONGS)  
STEAM GENERATOR REPAIR TEAM (SGR_T)  
ATTACHMENT 1 – Agenda

SGR_Team
01/03/2013 @1430
G55 SGR1

SAN ONOFRE NUCLEAR GENERATING STATION

Purpose of Meeting & Expected Outcome(s):

SG Project update to delineate a plan forward.

Requirements for Every Meeting:

AGENDA

- SG Project plan
- Visit to Kobe, Japan
  - Date
  - Agenda
- MHI staffing proposal (draft)
- Free discussion

New Action Items:

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<th>Action Item</th>
<th>Task text</th>
<th>Planned finish</th>
<th>Completed On</th>
<th>DescEmplResp</th>
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As employees of SONGS, we are committed to demonstrating the right behaviors required of a Nuclear Professional and embracing our Values of:

Integrity ~ Excellence ~ Respect ~ Continuous Improvement ~ Teamwork
## SAN ONOFRE NUCLEAR GENERATING STATION (SONGS)
### STEAM GENERATOR REPAIR TEAM (SGR_T)

## ATTACHMENT 2 – SGR Team Level 1 Schedule Certified Design Specification (CDS)

<table>
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<tr>
<th>Activity ID</th>
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<th>Finish</th>
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**Run date - 01/06/13 08:30**

**Data date - 01/03/13**

**SGR - Level 1 schedule**

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**SGR Confidential**

Page 5
STEAM GENERATOR REPAIR
LONG TERM PLAN

PROPOSED
NEAR TERM SCHEDULE

ED AVELLA
01/03/13

STEAM GENERATOR REPAIR
LONG TERM PLAN
NEAR TERM SCHEDULE

Objective:
Establish a near term plan to jointly develop a Certified Design Specification (CDS) within the first six months of 2013 as a "First Milestone" in a SGR Replacement project. The Plan includes:

- Preserving SCE options and decision making for the next 6 months
- Developing "Off-Ramps" in the event SGR Replacement is not a selected option by SCE Management
- Maintaining the critical path for installation in the first quarter 2017
- Minimizing spending while achieving an Engineering deliverable (CDS)

Plan:
Provides a six month "Near Term" focused plan to develop a CDS to support manufacturing for a "Type 3" (i.e., Laufer Bundle) repair which includes:

- Completing the initial engineering
- Developing conceptual design
- Identifying impacts to License Basis analyses
- Completing the prerequisites for final design / manufacturing drawings
- Completing a final deliverable of a "CDS" in support of a potential SGR project

Funding:

Progressive plan for moving forward:

- Utilizes base staff to extent possible
- Minimizes additional funding needed, identify off-ramps
- Establishes cash flow
- Establishes interim off-ramps to hold on activities

Date: 01/03/13
SAN ONOFRE NUCLEAR GENERATING STATION (SONGS)
STEAM GENERATOR REPAIR TEAM (SGR_T)
ATTACHMENT 3 – SGR Team Short Term Plan 010113c (2 of 5)

Steam Generator Replacement
Long Term Repair – Near Term Schedule

01/01/13 02/01/13 03/01/13 04/01/13 05/01/13 06/01/13 07/01/13 01/01/17 04/01/17

(42 Month Mfr – Aggressive)

Objective 2: Develop the certified design specification within the first 6 months of 2015, in order to support an installation of a type 3 modification (full core steam generator replacement) which would be required should SCE elect to extend by first quarter 2017.
### Steam Generator Replacement

**Long Term Repair – Near Term Schedule - Definitions**

<table>
<thead>
<tr>
<th>SCE / EOC – Primary Responsibility</th>
<th>MH – Primary Responsibility</th>
<th>Independent</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Funding:</strong></td>
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<td></td>
</tr>
<tr>
<td>SGR base funding</td>
<td>Internally approved per MH</td>
<td>Independent Review</td>
</tr>
<tr>
<td>Weslinghouse Accident sensitivity analyses</td>
<td>Related design work within the MH System</td>
<td>Includes independent review of conceptual design, sensitivities resolution, gap analysis resolution, and CDS.</td>
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<tr>
<td>BMU/UP Independent reviews</td>
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<td></td>
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<tr>
<td>EOC Activities</td>
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<td></td>
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<tr>
<td><strong>Gap Analysis:</strong></td>
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<tr>
<td>Comparison of SGR specification to industry criteria</td>
<td>Ensuring new conceptual design and CDS do not repeat the issues that led to the current SG non-performance</td>
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</tr>
<tr>
<td>Evaluation of revisions made to the specification</td>
<td>Reconciliation of Gap Analysis</td>
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</tr>
<tr>
<td>Evaluation of Non-conformances / Deviations</td>
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<td></td>
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<tr>
<td><strong>Licensing Sensitivity Analyses:</strong></td>
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<td></td>
</tr>
<tr>
<td>Analysis of Primary and Secondary systems for impact of SG design parameter changes on the accident analyses and plant operating analyses</td>
<td>Ensuring new conceptual design and CDS will result in a design that can be accommodated by SONGS accident analyses</td>
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<tr>
<td><strong>Procurement Specifications:</strong></td>
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<tr>
<td>Performance related Specification for an SCE PO or Contract with minimum design requirements for new SG</td>
<td>Certified Design Specification</td>
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<tr>
<td></td>
<td>Adapts the conceptual design into a final design and into a specification that satisfies ASME requirements for vessel design</td>
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<tr>
<td><strong>Executed Agreement:</strong></td>
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<tr>
<td>MH / SCE legal agreement for issuance of a Contract to provide new Safety Related components to SCE</td>
<td>Conceptual Design</td>
<td>Conceptual Design consists of sufficient analysis using ATHOS and other programs to develop the primary analysis parameters (pressures, temperatures, flows, tube spacing, loadings, etc.) necessary to issue a CDS and initial manufacturing drawings</td>
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<tr>
<td>Will need to address overall funding of SGR²</td>
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<tr>
<td><strong>Plant Engineering Activities:</strong></td>
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<tr>
<td>Design Change Packages for new SG</td>
<td>Detailed design and manufacturing</td>
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<tr>
<td>Heavy Wind Evaluation Packages</td>
<td>Order only or the necessary activities within MH to initiate safety related design and manufacturing activities</td>
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<tr>
<td>Containment process design</td>
<td>Detailed design activities to develop the conceptual design into final design and manufacturing level drawings</td>
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<tr>
<td>Configuration Control (out, new in)</td>
<td>Manufacturing of all components from forgings through assembly</td>
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<tr>
<td>Coordination of design with NRC and other agencies</td>
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2. SGR²

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**SCE / EOC – Primary Responsibility**

- SGR base funding
- Weslinghouse Accident sensitivity analyses
- BMU/UP Independent reviews
- EOC Activities

**MH – Primary Responsibility**

- Internally approved per MH requirements to begin Safety Related design work within the MH System
- Ensuring new conceptual design and CDS do not repeat the issues that led to the current SG non-performance

**Independent**

- Independent Review
  - Includes independent review of conceptual design, sensitivities resolution, gap analysis resolution, and CDS.
  - To be done by a company with proven SG design experience with unlettered review

**Licensing Sensitivity Analyses**

- Analysis of Primary and Secondary systems for impact of SG design parameter changes on the accident analyses and plant operating analyses

**Procurement Specifications**

- Performance related specification for an SCE PO or Contract with minimum design requirements for new SG

**Executed Agreement**

- MH / SCE legal agreement for issuance of a Contract to provide new Safety Related components to SCE

**Plant Engineering Activities**

- Design Change Packages for new SG
- Heavy Wind Evaluation Packages
- Containment process design
- Configuration Control (out, new in)
- Coordination of design with NRC and other agencies
San Onofre Nuclear Generating Station
Potential Cost Components related to Steam Generators.

Interim Restart Activities
- J2 & U3 RTS Evaluations
- In-House
- Legal
- NRC Reviews
- Stabilizers
- Plugs
- Instrumentation
- Consultants
- Final Report
- Site Augmentation
- SGR
- EOC
- Independent Assessments
- Gap Analysis
- NECP's
- SRS

Long Term Repair Activities
- SGR
- Team
- Conceptual Design
- Replacement Design
- EOC
- Develop CDS
- Final Design
- Site Restoration
- Heavy Haul Evaluations
- SG Disposal
- Rad Shipments
- Old SGR Removal
- Containment Mods
- New SGR In
- Testing, Inducing ILRT
- Closure

Legend
- Normal SGR Costs
- Additional Costs
- Emergency Costs

DRAFT 12/31/2

SGR Confidential