SAN ONOFRE NUCLEAR GENERATING STATION (SONGS)
STEAM GENERATOR REPAIR TEAM (SGR_T)

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:
    - Developing a Certified Design Specification (CDS) by July 1st 2013.
    - 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

terms and contents of:

- Procurement Specification, and
- 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
  o Date
  o Agenda
• MHI staffing proposal (draft)
• Free discussion

New Action Items

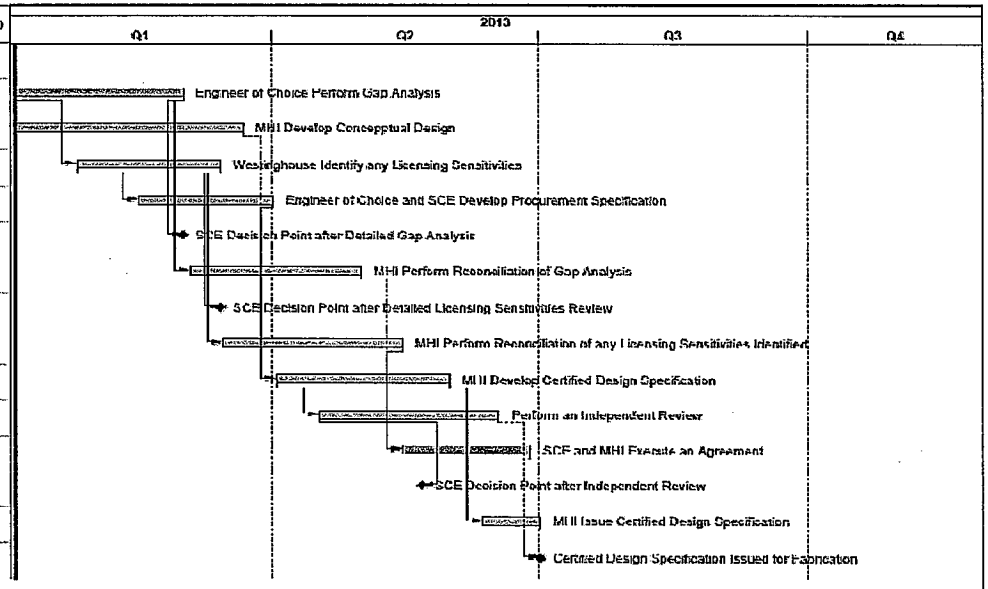
Action Item		Task text	Planned finish	Completed On	DescEmpl.Resp.

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)

Activity ID	OD	RD	Start	Finish	RESP INDV	PMO Project ID
PMO Project ID: CDS1 Certified Design Spec. (CDS)						
CDSENG1005	225h	225h	01/03/13 07:00*	03/01/13 14:30	Vendor	CDS1
CDSMHI1035	450h	450h	01/03/13 07:00*	03/22/13 08:00	Kaguchi	CDS1
CDSENG1015	287h	287h	01/24/13 07:00	03/15/13 14:30	Westinghouse	CDS1
CDSENG1025	263h	263h	02/14/13 07:00	04/01/13 14:30	Vendor	CDS1
CDSENG1045	0h	0h		03/01/13 14:30	Avella	CDS1
CDSMHI1045	344h	344h	03/04/13 08:00	05/01/13 14:30	Kaguchi	CDS1
CDSENG1055	0h	0h		03/14/13 14:30	Avella	CDS1
CDSMHI1055	351h	351h	03/15/13 08:00	05/16/13 13:30	Kaguchi	CDS1
CDSMHI1065	350h	350h	04/02/13 08:00	05/31/13 12:30	Kaguchi	CDS1
CDSENG1035	350h	350h	04/17/13 08:00	06/17/13 14:30	Vendor	CDS1
CDSMHI1075	260h	260h	05/15/13 13:30	06/28/13 07:00	Avella	CDS1
CDSENG1065	0h	0h		05/22/13 08:00	Avella	CDS1
CDSMHI1085	110h	110h	06/12/13 08:00	07/01/13 14:30	Kaguchi	CDS1
CDSENG1075	0h	0h		07/01/13 14:30	Avella	CDS1



Run date - 01/04/13 08:30 | SGR Team Level 1 Schedule Certified Design Specification | SGR - Level 1schedule

Data date - 01/03/13 | Page 1 of 1

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 SG 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., Lower Bundle) repair which includes:

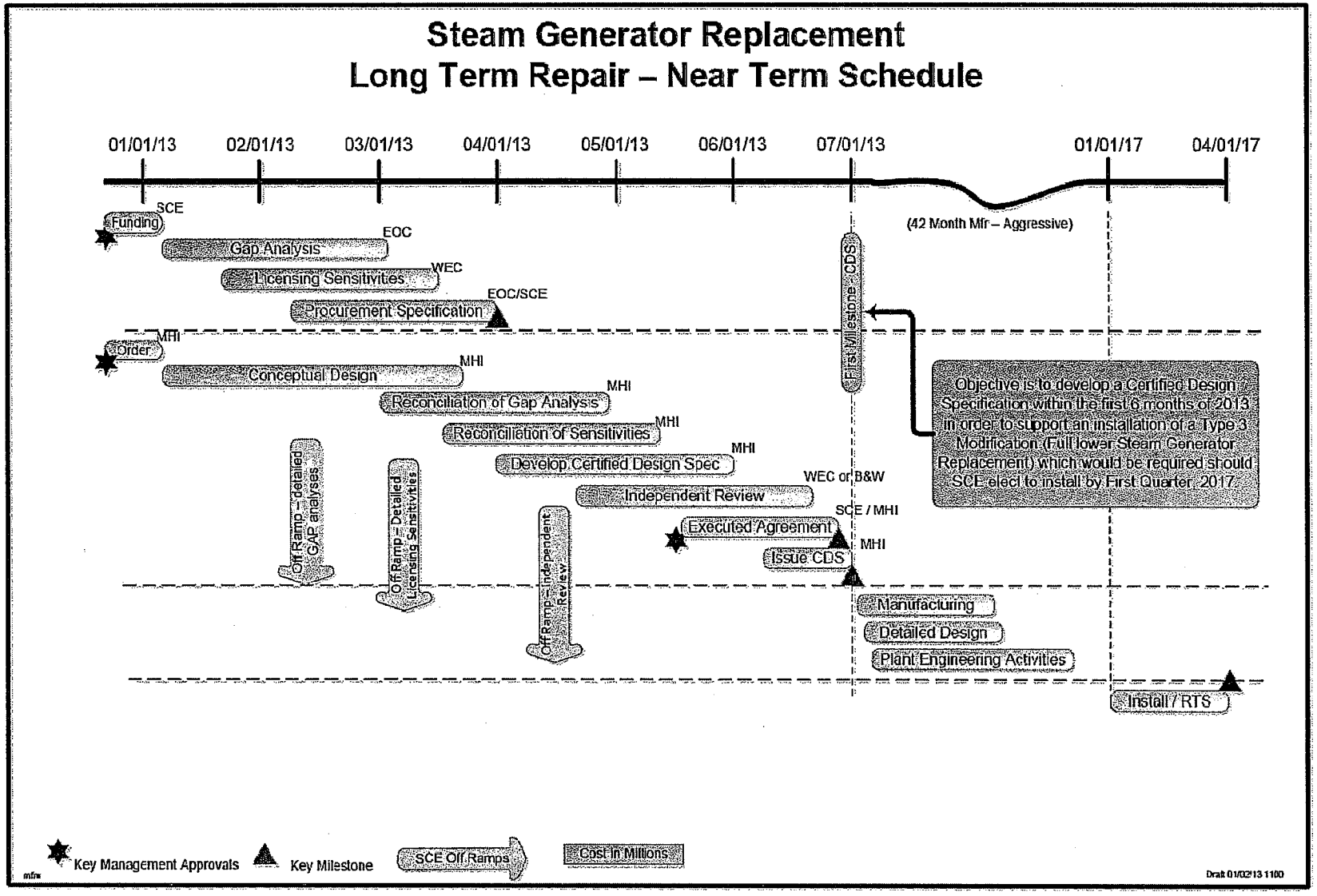
- Completing the initial engineering
- Developing conceptual design
- Identifying impacts to License Basis analyses
- Completing the prerequisites for final design / manufacturing drawings
- Completing a final deliverable of a "CDS" in support of a potential SGR project

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

Draft 01/02/13


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)
SCE
Funding
Gap Analysis
EOC
Licensing Sensitivities
WEC
Procurement Specification
EOC/SCE
First Milestone CDS
MHI
Order
Conceptual Design
MHI
Reconciliation of Gap Analysis
MHI
Reconciliation of Sensitivities
MHI
Develop Certified Design Spec
MHI
Objective is to develop a Certified Design Specification within the first 6 months of 2013 in order to support an installation of a Type 3 Modification (Full lower Steam Generator Replacement) which would be required should SCE elect to install by First Quarter 2017
WEC or B&W
Independent Review
SCE / MHI
Executed Agreement
MHI
Issue CDS
Off Ramp – detailed GAP analyses
Off Ramp – Detailed Licensing Sensitivities
Off Ramp – Independent Review
Manufacturing
Detailed Design
Plant Engineering Activities
Install / RTS
Key Management Approvals
Key Milestone
SCE Off Ramps
Cost in Millions
Draft 01/02/13 1100

Steam Generator Replacement
Long Term Repair – Near Term Schedule - Definitions

SCE / EOC – Primary Responsibility

Funding:
- SGR base funding
- Westinghouse Accident sensitivity analyses
- B&W / W Independent reviews
- EOC Activities

Gap Analysis:
- Comparison of SGR Specification to industry criteria
- Evaluation of revisions made to the Specification
- Evaluation of Non-Conformances / Deviations

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

Executed Agreement:
- MHI / SCE legal agreement for issuance of a Contract to provide new Safety Related components to SCE
- Will need to address overall funding of SGR[2]

Plan: Engineering Activities:
- Design Change Packages for new SG
- Heavy Haul evaluation packages
- Containment access design
- Configuration Control (old out, new in)
- Coordination of design with NRC and other agencies

MHI – Primary Responsibility

Order:
- Internal approval per MHI requirements to begin Safety Related design work within the MHI System

Reconciliation of Gap Analysis:
- Ensuring new conceptual design and CDS do not repeat the issues that lead to the current SG non-performance

Reconciliation of Sensitivity Analyses:
- Ensuring new conceptual design and CDS will result in a design that can be accommodated by SONGS accident analyses

Certified Design Specification:
- Adapts the conceptual design into a final design and into a Specification that satisfies ASME requirements for vessel design

Conceptual Design:
- Consists of sufficient analysis using ATHOS and other programs to develop the primary analysis parameters (pressures, temperatures, flows, tube spacing, indexing, etc) necessary to issue a CDS and initiate manufacturing drawings

Detailed design and Manufacturing:
- Order entry of the necessary activities within MHI to initiated safety related design and manufacturing activities
- Detailed design activities to develop the conceptual design into final design and manufacturing level drawings
- Manufacturing of all components from forging through assembly

Installation:
- Typical SGR which includes: deliver, prepare, haul, lift, install, connect, inspect, test, return to service

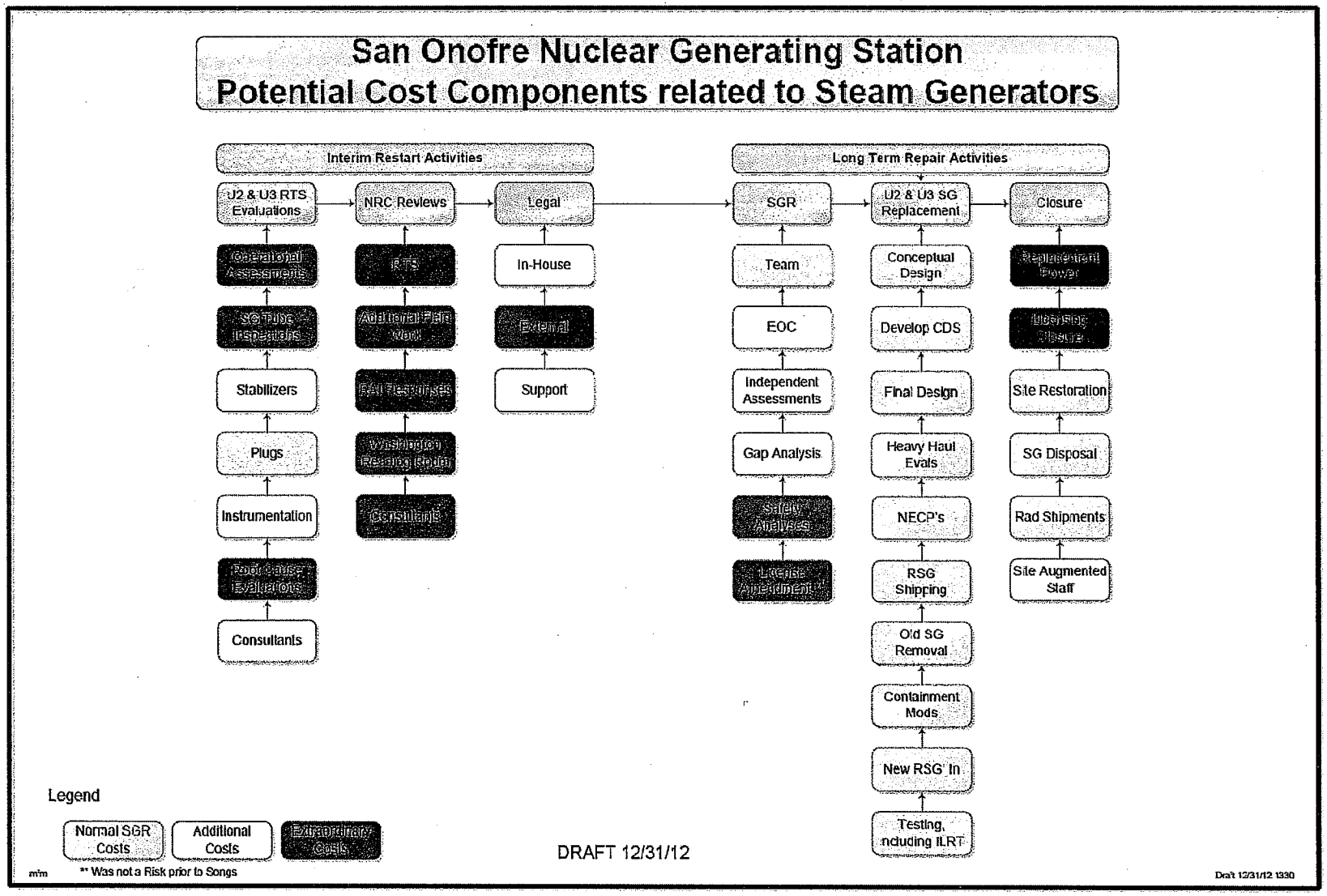
Independent

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 unfettered review

Licensing Sensitivities:
- Review of design with respect to 10CFR50.59 and License Amendment requirements by SCE Site Licensing, Independent Licensing Expert, or combination

mfm

Draft 12/31/12 1330


San Onofre Nuclear Generating Station
Potential Cost Components related to Steam Generators
Interim Restart Activities
U2 & U3 RTS Evaluations
NRC Reviews
Legal
Operational Assessments
RTS
In-House
SG Tube Inspections
Additional Field Work
External
Stabilizers
Eddy Current Testing
Support
Plugs
Washington Testing Facility
Instrumentation
Consultants
Post Outage Evaluations
Consultants
Long Term Repair Activities
SGR
U2 & U3 SG Replacement
Closure
Team
Conceptual Design
Replacement Power
EOC
Develop CDS
Decommissioning Closure
Independent Assessments
Final Design
Site Restoration
Gap Analysis
Heavy Haul Evals
SG Disposal
Safety Analyses
NECP's
Rad Shipments
License Amendment**
RSG Shipping
Site Augmented Staff
Old SG Removal
Containment Mods
New RSG In
Testing, ncluding ILRT
Legend
Normal SGR Costs
Additional Costs
Extraordinary Costs
** Was not a Risk prior to Songs
DRAFT 12/31/12
Draft 12/31/12 1330

Steam Generator Replacement
Long Term Repair – Type 3 Repair Scope