

	RIGGING MANUAL	SO123-I-7.24 REV: 41 Page 1 of 109
-----------------------------------------------------------------------------------	-----------------------	--------------------------------------------------------

Procedure Usage Requirements	Sections
Information Use <ul style="list-style-type: none"> The user may complete the task from memory. However, the user is responsible for performing the activity according to the procedure. Information use documents that contain a specific process order are performed in the given order unless otherwise specified within the document. 	All except Attachment 4
Reference Use <ul style="list-style-type: none"> Review and understand the procedure before performing any steps, including the prerequisite section. Have a copy or applicable pages/sections open at the work site. Use Placekeeping method according to SO123-XV-HU-3. If any portion of the document is performed from memory, do so in the sequence specified. Perform each step as written, except when an approved process specifically allows deviation. Refer to the procedure or instruction at least once to ensure completion of the task in accordance with the requirements. Review the document at the completion of the task to verify that all appropriate steps are performed and documented. 	Attachment 4

Color Usage	Location
This Document Does Not Contain Relevant Color	N/A

Level 1 – QA PROGRAM AFFECTING

50.59 DNA / 72.48 DNA / RX DNA

Procedure Type
Maintenance

Procedure Owner
(b)(7)(C)



RIGGING MANUAL

SO123-I-7.24

REV: 41

Page 2 of 109

TABLE OF CONTENTS

<u>Section</u>	<u>Page</u>
1.0 PURPOSE AND SCOPE	5
2.0 RESPONSIBILITIES	5
2.1 Site Rigging Program Manager Responsibilities	5
2.2 Qualified Rigger Responsibilities	6
2.3 Signal Person Responsibilities	8
2.4 Qualified Crane Operator Responsibilities	9
2.5 Gantry Crane Leg-Walker Responsibilities	10
3.0 DEFINITIONS	12
4.0 PRECAUTIONS AND LIMITATIONS	20
5.0 PREREQUISITES	21
6.0 PROCEDURE	22
6.1 Operating Cranes at SONGS	22
6.2 Engineer-Assisted Lift Considerations	26
6.3 Determine Appropriate Communications	28
6.4 Determine Load Weight	29
6.5 Determine Center of Gravity	30
6.6 Determine Proper Rigging	32
6.7 Rigging Selection Method and Use	33
6.7.1 Man Basket (Personnel Platforms)	33
6.7.2 Shackles, Eyebolts, and Eyenuts	33
6.7.3 Slings	33
6.7.4 Wire Rope Slings and Bridles	34
6.7.5 Synthetic Slings / Synthetic Round Slings	35
6.7.6 Steel Chain Slings	37
6.7.7 Softeners and Padding	37
6.8 Rigging Inspection	38
6.9 Attach Rigging to Support and/or Load	39
6.10 Lift and Hold Test	40
6.11 Transport Load	42
6.12 Set Load Down	44
6.13 Disconnect Rigging	45
6.14 Inspect Rigging After Use	45
6.15 Post Job Debriefing	45
6.16 Preservation and Proper Storage of Rigging	46
6.17 Special Rigging Techniques	47
7.0 ACCEPTANCE CRITERIA	48
8.0 RETENTION OF RECORDS	48
9.0 REFERENCES / COMMITMENTS	49

REFERENCE USE

	RIGGING MANUAL	SO123-I-7.24 REV: 41 <hr/> Page 3 of 109
-----------------------------------------------------------------------------------	-----------------------	--------------------------------------------------------------

TABLE OF CONTENTS (Continued)

<u>Section</u>	<u>Page</u>
ATTACHMENT	
1 SONGS Practices Not In the SCE Rigging Manual	51
1.0 Twin-Path Slings For Engineer-Assisted Lifts	51
2.0 Wind Speed	52
3.0 Energized Clearances	53
4.0 Drifting A Load	53
5.0 Suspended Loads	54
6.0 Standing, Passing, or Working Under a Suspended Load	55
7.0 Lifting Personnel	55
8.0 Gas Cylinders	55
9.0 Softeners And Padding	56
10.0 Synthetic Rigging Non-Use	59
2 Prior-To-Use And Annual Certification Visual Inspections	60
1.0 General Notes (Prior-To-Use Visual Inspection)	60
2.0 Wire Rope Slings and Bridles, Cable Laid Rope, Braided Slings, Multi-Part and One Tri-Flex 3-Part Wire Rope Slings	62
3.0 Synthetic Slings (Nylon and Polyester Web)	64
4.0 Synthetic Round or Rope Slings	66
5.0 Twin-Path Slings For Engineer-Assisted Lifts	68
6.0 Shackles, Eyebolts, Eynuts, and Lifting Lugs	70
7.0 Turnbuckles	72
8.0 Hooks	75
9.0 Cargo Container Lifting Device (Tandemloc)	76
10.0 Rotary Lift Lug (Tandemloc)	77
11.0 Load Bearing Rigging Designed and Fabricated by SCE	78
12.0 Structural Members (located above the hook)	79
13.0 Chainfalls (Manually Operated)	80
14.0 Come-A-Longs	82
15.0 Hoists (Electric, Pneumatic, Engine, and Shop Crane)	83
16.0 Miscellaneous Rigging Accessories	84
17.0 Steel Chain Slings	85
18.0 Barrel/Drum Lift Rigs	86
19.0 Station Cranes	88
20.0 Softeners	89



RIGGING MANUAL

SO123-I-7.24

REV: 41

Page 4 of 109

3	Rigging From Attachments	90
1.0	Piping	90
2.0	Pipe Supports	92
3.0	Rigging Chart For Piping And Pipe Supports	93
4.0	Permanent Lifting Structures	95
5.0	Floor Grating.....	96
6.0	Temporary Lifting Structures.....	98
7.0	Miscellaneous Components.....	99
8.0	Lifting Beams With Tube Loc Scaffolding (Sleeves).....	100
9.0	Lifting Beams With Tube Loc Scaffolding (Beam Clamps)	101
4	Rigging Checklist	103
5	Overhead Gantry Crane Signals	105
6	Standard Signals Using Boom-Type Equipment.....	106
7	Guidelines For Approval Of Lifting Hooks And Devices	107
8	Guidelines For Approval Of Vendor Rigging Programs.....	108
9	Summary of Changes.....	109

REFERENCE USE

	<h1 style="text-align: center;">RIGGING MANUAL</h1>	SO123-I-7.24 REV: 41
		Page 5 of 109

1.0 **PURPOSE AND SCOPE**

- 1.1 To provide site-specific standards and guidelines for all site rigging activities.
- 1.2 To define responsibilities of individuals involved in rigging activities.
- 1.3 To identify and distinguish NUREG 0612 regulated cranes at SONGS
- 1.4 To identify rigging practices, rigging components and rigging paraphernalia acceptable at SONGS
- 1.5 To identify specific prior-to-use and periodic rigging inspection criteria at SONGS.

2.0 **RESPONSIBILITIES**

2.1 **Site Rigging Program Manager Responsibilities.**

- 2.1.1 The Site Rigging Program Manager has the overall responsibility for the rigging program at SONGS in accordance with SO123-CR-1, Cranes and Rigging Program.
- 2.1.2 The Site Rigging Program Manager **MAY** be called on for any rigging concern, such as difficult lifts, infrequent lifts, **OR** first time lifts.
- 2.1.3 The Site Rigging Program Manager **OR** Designee **SHALL** review **AND** approve all rigging procedures, including vendor procedures **OR** other site procedures.
- 2.1.4 Attachment 7 provides guidelines for approval of vendor-supplied rigging.
- 2.1.5 Attachment 8 provides guidelines for approval of vendor rigging programs.
- 2.1.6 The Site Rigging Program Manager **SHOULD**, on a regular basis, review the Qualification records for Riggers to identify:
 - 2.1.6.1 Workers that either have NO valid reason to have the Qualification, **OR**
 - 2.1.6.2 Workers who **MAY NOT** have the skills and knowledge necessary to safely perform Rigger activities in the field due to infrequent use.
- 2.1.7 The Site Rigging Program Manager **SHOULD** perform the review with input from an individual (a person designated as a single point of contact, such as the Supervisor, Group Lead, General Foreman, Superintendent, etc.) who is cognizant of the skills **AND** knowledge of the Rigger being reviewed.



2.2 Qualified Rigger Responsibilities

NOTE

1. All lifting activities must be performed by a qualified rigger.
2. When assistance is required for a major/heavy rigging evolution, the responsible qualified rigger **MAY** use non-qualified rigger(s) to assist in the rigging process. However, the responsible qualified rigger is solely responsible to ensure that the rigging/lift satisfies all the rigging procedure/program qualifications for the lift.
3. Light and engineer-assisted lift do not require Attachment 4, Rigger Checklist.

- 2.2.1 For non-repetitive heavy lifts, prior to every lift, the rigger **SHOULD** complete Attachment 4, Rigger Checklist.
- 2.2.2 For repetitive heavy lifts, the rigger **SHOULD** complete Attachment 4, Rigger Checklist, prior to every shift **OR** after extended break.
- 2.2.3 **SHUTTING DOWN** a lifting operation where accepted standards are **NOT** followed.
- 2.2.4 **PRE-JOB BRIEFING** the lift with the entire rigging crew, crane operator, **AND** the gantry crane leg-walker if the lift involves the Turbine Gantry Crane..
- 2.2.5 **DETERMINING** location for the lift.

NOTE

NUREG 0612 applies to all HEAVY LOADS (loads more than 1500 lbs.) lifted with NUREG 0612 Crane **OR** NON-CRANE RIGGING that will pass OVER **OR** NEAR IRRADIATED FUEL

- 2.2.6 **REVIEWING** SO123-I-1.13 for NUREG 0612 considerations **AND** requirements for Safe Load Paths.
- 2.2.7 **PERFORMING** Sections 6.1 through 6.17.
- 2.2.8 For Turbine Gantry Crane operations, **PERFORM** the following:
- 2.2.9 **ENSURE** Leg-Walkers **AND** Spotters, when present, are properly positioned **AND** have established radio communication.
- 2.2.10 **ENSURE** three-way communication between the Rigger, Crane Operator, **AND** Leg-Walkers is utilized.



RIGGING MANUAL

SO123-I-7.24

REV: 41

Page 7 of 109

NOTE

1. Personnel **MAY** be exempted from having to complete the rigger training requirements for special lifts.
2. These lifts **MAY** be performed with approval from the Site Rigging Program Manager or Responsible Manager after review and evaluation of qualifications.
3. The Seaweed Basket is exempt from the rigging program.

2.2.11 **MAINTAINING** Rigging Training Requirements and Exemptions (**REFER** to Prerequisites Section).

2.2.11.1 The following special lifts **AND** personnel are exempt from having to complete rigger training requirements:

2.2.11.1.1 Operators when using the fish basket hoist.

2.2.11.1.2 Operators when using the intake barrier winch crane.

2.2.11.1.3 Spent Fuel Handling Machine (SFHM) Operators when handling miscellaneous tools designed for use on loads in the pool (RCE 201217134-CA0004).

2.2.11.2 The Rigger qualification (Encode SSMM07) is a lifetime qualification. IF Rigger performance (including giving crane signals) indicates the need for re-training, THEN the Rigger's qualification will be revoked until re-training is provided and a reassessment is made.

2.3 **Signal Person Responsibilities**

2.3.1 The Signal Person **SHALL** be a qualified rigger.

NOTE

1. **REFER** to Section 6.3, Determine Appropriate Communications.
2. **REFER** to Section 3.0 , Rigging Definitions, for Blind Lift.
3. **REFER** to Step 6.3.1.2.1 for blind lift communications.

2.3.2 While observing the lift, **MAINTAIN** visible contact **OR** uninterrupted communications with the Crane/Hoist Operator.

2.3.3 When signaling the Turbine Gantry Crane, an orange vest **SHOULD** be worn.

2.3.3.1 When directing other cranes, an orange vest is optional.

2.4 Qualified Crane Operator Responsibilities

NOTE

For maximum hook heights for NUREG 0612 cranes refer to SO123-I-1.13.

- 2.4.1 **HAVING** the ultimate responsibility for knowing the crane capacity **AND** its limitations.
- 2.4.2 **KNOWING** the Safe Load Path **AND** the requirements for the Safe Load Path. **REFER** to SO123-I-1.13 for Safe Load Path drawing numbers.
- 2.4.3 **ENSURING** the lift is made safely.
- 2.4.4 **ENSURING** NO damage occurs to the crane.
- 2.4.5 **ENSURING** NO injuries occur to personnel or innocent bystanders.
- 2.4.6 **ENSURING** standard hand signals, communication, **AND** speed are agreed upon during the pre-job brief.
- 2.4.7 **ENSURING** a reference copy of the Standard Hand Signals has been posted somewhere on crane such as in crane cab.
- 2.4.8 Where possible, **PERFORMING** a visual check of the lift to ensure the load is safe to lift.
- 2.4.9 **NEVER ALLOWING** the load to be adjusted while the crane is moving. **STOPPING** crane movement before allowing load adjustment.
- 2.4.10 **VOICING** any concern prior to **AND** during the lift. IF something does **NOT** seem right, **STOPPING** the lift at any time.
- 2.4.11 **NEVER** using the crane's limit switch as an operating control (**SHALL** statement) unless designed for such use, in which case there **SHALL** be a second limit switch located behind the operating control limit switch.
- 2.4.12 For Turbine Gantry Crane operations, **PERFORM** the following:
 - 2.4.12.1 **ENSURE** Leg-Walkers **AND** Spotters, when present, are properly positioned **AND** have established radio communication.
 - 2.4.12.2 **ENSURE** three-way communication between the Rigger, Crane Operator, **AND** Leg-Walkers is utilized.
 - 2.4.12.3 **ENSURE** Crane Operator **AND** Leg-Walkers agree on control signals/communications to be used during Gantry Crane activities.
 - 2.4.12.4 Manually **ACTUATE** the Gantry Crane Leg buzzer before movement to signal the Leg-Walkers / Spotters (when present) that Gantry Crane movement is imminent.

INFORMATION USE



2.5 Gantry Crane Leg-Walker Responsibilities

- 2.5.1 **OBTAIN** a Pre-Job Brief at the start of the shift.
- 2.5.2 **UNDERSTAND** the crane/lifting activity to be performed **AND** the intended Gantry Crane travel.
- 2.5.3 **WALK DOWN** crane path to identify obstructions **AND** potential obstructions in the path, on either side of the crane leg, above, **OR** anywhere near the crane.
- 2.5.4 **ESTABLISH AND MAINTAIN** radio contact with the Crane Operator **AND** Rigger.
- 2.5.5 **USE** three-way communication during radio communications with Crane Operator **AND** Rigger.
- 2.5.6 **AGREE** on control signals/communication with the Crane Operator **AND** Rigger.
- 2.5.7 **POSSESS** air horn noise device as a backup method to signal the Crane Operator to stop the Gantry Crane if radio communication is compromised (e.g. static interference, dead radio battery, damaged radio, etc.).

NOTE

The emergency stop should be considered the last resort for stopping the Gantry Crane **AND SHOULD ONLY** be used to prevent injury **OR** equipment damage. The emergency stop **SHOULD NOT** be used to avoid damaging the plastic barrier chains (at the gates).

- 2.5.8 **IDENTIFY** location of emergency stops for Gantry Crane Leg assigned to.
- 2.5.9 **ENSURE** proper positioning at Gantry Crane Leg to be capable of stopping the Gantry Crane by use of the radio, the air horn, **OR** by use of the emergency stop **AND** to allow for safe opening of Gantry Crane Entry Gateways (chains).

NOTE

Any movement in front of an oncoming Gantry Crane **SHOULD BE** discouraged **AND** avoided.

- 2.5.10 **ENSURE** personnel do not cross in front of a moving Gantry Crane if the Gantry Crane is within 10 feet.
- 2.5.11 **ENSURE** no part of the Gantry Crane Leg **OR** Gantry Crane impacts any people, equipment, **OR** tools.
- 2.5.12 **CONTROL** personnel in the vicinity of the Gantry Crane Leg.

2.5.13 **STOP** the Gantry Crane **AND** obtain assistance if there is too much activity to control.

NOTE

The Gantry Crane Entry Gateways **SHOULD** be shut as soon as possible after the Gantry Crane has passed through the Gantry Crane Entry Gateway.

2.5.14 **ENSURE** Gantry Crane Entry Gateways are opened.

2.5.15 When Gantry Crane Entry Gateways are open, **PREVENT** personnel from entering the area between the rails beyond the Gantry Crane Entry Gateway.



3.0 DEFINITIONS

3.1 A over B (A/B)

The A/B calculation **SHALL** be performed on all sling angles less than a 85° from the horizontal. For angles from 85° to 60° from the horizontal, a load angle factor of 15% **SHOULD** be added. The A/B calculation gives you the tension on the sling.

A = sling length. B = vertical length from hook to load.

$$\text{Tension} = \frac{\text{Sling A}}{\text{B}} \times \frac{\text{Weight of Load}}{\text{Number of Slings}}$$

3.2 Blind Lift:

A blind lift occurs when neither the load, crane hook and load block, nor the tip of the crane boom are visible to the crane operator. Blind lifts present error likely situations. Special considerations **SHOULD** be applied, such as three-way communications, and continuous progress dialogue (chatter) between the rigger (e.g., signal person) and crane operator, to preclude crane or load impacts with structures or challenging crane safety devices. Actual techniques to be used **SHOULD** be discussed as part of the pre-job brief for all "blind" crane operations as defined above.

3.3 Certification Tag:

Annual certification inspection metal tag and/or a manufacture supplied tag/label fastened to a rigging accessory.

- The manufacturer's tag/label identifies:
- Name or trademark of the manufacture.
- Manufacturer's code or stock number.
- Rated load for the type hitches to be used (such as vertical, choker, vertical basket).
- Type of material (core and, if different, cover, and/or angle upon which they are based).
- Sling length (bearing point to bearing point).

The annual certification inspection tag identifies the Work Load Limit (WLL), identification number, and the certification expiration date.

An annual certification tag is required only on rigging and components having an annual/periodic inspection per SO123-I-7.10 or SO123-I-7.13.

3.4 Code Color:

CodeA color previously applied on shackles, eyebolts, and eyenuts to indicate they are certified for use within a specified date range. Color coding is NO longer required.

3.5 D over d (D/d)

D/d is the ratio of the bend diameter to the sling or rope diameter. "D" is bend diameter. "d" is the sling or rope diameter. D/d calculation determines the effect the bend has on the WLL of the rigging.

NOTES:

1. For flat synthetic nylon fiber slings there is NO D/d. Ensure NO sharp corners that can cut or damage the sling.
2. If thimble is used with a wire rope, NO need to calculate the D/d ratio. The thimble requires a shackle.
3. In Figure 1 (a cylindrical/pipe-type load), the bend diameter (D) is the diameter of the load. In Figure 2 (rectangular/box-type load), a metal softener has been used to increase the bend diameter (D).

D over d ratio rules:

- For wire rope maintain at least 25:1, or derate 50%, or use the reduction in efficiency chart for wire rope (minimum D/d is 1:1).
- For wire rope connecting points (eyes of rope), minimum D/d is 1:1.
- For One Tri-Flex 3-Part Wire Rope slings, a minimum pin diameter for the eye is 4:1 of the diameter of component parts (a component part is the smallest wire rope of the Tri-Flex wire rope). For finished diameter (basket hitch) 5:1. (There is NO de-rating factor)
- For endless wire rope slings, 5 X body diameter.

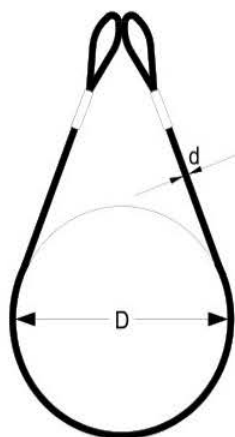


Figure 1

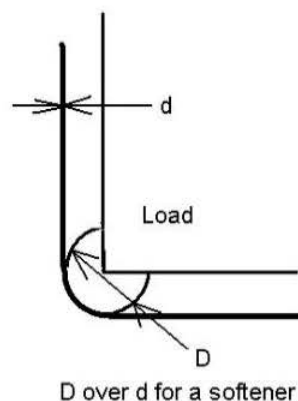


Figure 2



RIGGING MANUAL

SO123-I-7.24

REV: 41

Page 14 of 109

- 3.6 Dynamic Loading Dynamic loads occur from force generated by acceleration or deceleration during the lift. Dynamic loads act on both the rigging and the item being lifted during crane operations. Shock Loads are a form of dynamic loading. Wind-generated forces are also a form of dynamic loading.
- 3.7 Qualified Electrical Worker An electrician currently trained and qualified as a Qualified Electrical Worker under MQ8713 or SSCM01, Electrical Safe Work Practices.
- 3.8 Engineer-Assisted Lift A lift for which a detailed, approved procedure or an approved engineered drawing exists for the specific load to be lifted. For example, the level of detail specifically identifying the minimum requirement for quantity, size, and length of slings; size of shackles; weight and size of load to be lifted, etc. Notifications and Work Order Work Plans DO **NOT** qualify a lift as an "Engineer-Assisted Lift". This procedure is used where guidance is **NOT** given in the engineer-assisted lift documents. (Refer to the Non-Engineer-Assisted Lift and Engineered-Lift definitions and to Section 6.2). The Qualified Rigger retains responsibility for the Engineer-Assisted Lift, including the responsibility to question or stop the lift at any time if the lift does **NOT** look right.
- Westinghouse / Bigge drawings and field sketches identified in Westinghouse Field Services Procedures (FSPs) used to support the Replacement Reactor Vessel Head (RRVH) project meet the intent of the requirements for Engineer-Assisted Lifts (NN 201774336).
- 3.9 Engineered-Lift A crane-related lift above the cranes rated capacity. Refer to ASME B30.2.
- 3.10 Failure Load refusal, breakage, or separation of components.
- 3.11 Free to Lift Load is free of any obstructions which COULD restrain upward movement such as bolts, piping, guide pins, location pins, rust and corrosion, etc.
- 3.12 Heavy Load Load greater than 1500 lbs at the hook, including all rigging hardware.
- 3.13 Hitch, Basket Loading with sling passed under the load with both end attachments on the hook or a single master link. The load is cradled within the sling.
- 3.14 Hitch, Choker Loading with sling passed through a shackle and suspended by the other. The load is squeezed by the sling. To prevent cutting and kinking when using a choker hitch on wire rope and to prevent charring when using synthetic slings, use a shackle where the sling bites itself. (For special conditions, the shackle **MAY** be eliminated from the choker hitch when the load is less than 10% of the sling capacity and the choke is inspected during the lift and hold to ensure the choke is **NOT** cutting into the sling).
- 3.15 Hitch, Vertical Loading with the sling vertical. Load suspended on a single part or leg. A connector is required.

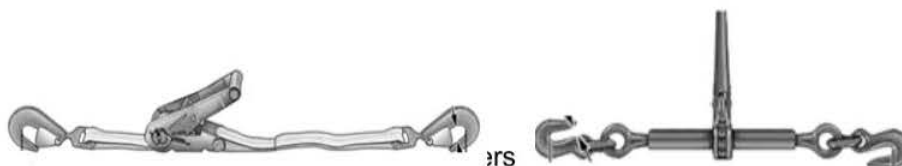
	<h1 style="text-align: center;">RIGGING MANUAL</h1>	SO123-I-7.24 REV: 41
		Page 15 of 109

- 3.16 Hoist (Hoisting) All crane or derrick functions such as lowering, lifting, swinging, booming in and out, booming up and down, or suspending a (man basket) personnel platform.
- 3.17 Impact Zone The load's footprint plus adjacent areas in which personnel could likely be injured or equipment damaged should the load fall. The impact zone takes into account:
- Load bounce, deformation, and/or disintegration (flying parts) upon impact
 - Load contacting intervening structures or components during the fall that could affect load trajectory.
- 3.18 Lifting Activity A lift or series of lifts within one job or Work Order (WO).
- 3.19 Lifting Device
(below the hook) A lifting device is any member located below the hook; it (below the hook) is considered rigging. A crane hook is also considered a lifting device and also is considered rigging. A device that supports the weight of the load, its container, and all rigging is considered a lifting device.
- 3.20 Lift and Hold Load is lifted free from ground and held long enough to inspect the rigging, verify load balance, and check crane brake.
- 3.21 Light Load Load less than 1500 lbs at the hook, including all rigging hardware.
- 3.22 Line Work
(Ropework) Raising, lowering or controlling an item with fiber rope and human motive force. A single pulley or sheave **MAY** be used in conjunction with fiber rope if it does **NOT** create a mechanical advantage. For the purposes of this procedure, line work is **NOT** considered a rigging operation.
- 3.23 Live Boom A boom in which lowering is controlled by a brake without aid from other devices to slow the lowering speed. Per CAL-OSHA requirements a live boom is prohibited.

3.24 Load Binding

1) A situation in which the free movement of the load is prevented due to tight clearances or other conditions. LOAD BINDING results in higher loads on the lift as a result of friction or from the load becoming cocked / stuck.

2) The act of securing a load to a vehicle bed, pallet, table, work platform, or similar. This type of LOAD BINDING is **NOT** a rigging activity, and rigging (to include chainfalls, come-a-longs, slings, and shackles) **SHALL NOT** be used for LOAD BINDING



3.25 Load Path

The physical route of a load to be followed while suspended and supported by a crane or rigging. The load path **SHOULD** be clear of any obstructions and **SHOULD NOT** be over or near personnel. The load path **SHOULD** be such that if the load is dropped, damage to the load and nearby equipment is minimized.

3.26 Load Refusal

The point where the ultimate strength of rigging and lifting components is exceeded.

3.27 Loadweight (Deadweight)

The actual weight of the load and its container.

3.28 Man Basket

A metal basket designed to be suspended from a crane while holding one or more persons who **SHOULD** perform work from the suspended basket or **SHOULD** be transported to another location in the basket. The term "personnel platform" is synonymous.

3.29 Manufactured Bridal Assembly

Multiple leg rigging bridle made by a reputable rigging manufacturer with matched components to fit between a crane or hoist hook and pick points of a load with NO added rigging components which could change bridle leg loading.

3.30 Non-Crane Rigging

Non-Crane Rigging is manual rigging such as chainfalls, come-a-longs, etc.

3.31 Non-Engineer-Assisted Lift

A lift that does **NOT** have a detailed, approved procedure Liftor an approved engineered drawing for the specific load to be lifted. Use this procedure for site specific standards and guidelines for performing a non-engineer-assisted lift. (Refer to Engineer-Assisted Lift).

3.32 Non-Rigging Lifting Devices

Sked-Evac-Tripod by Skedco and other similar devices are considered as **NOT** Rigging".



RIGGING MANUAL

SO123-I-7.24
REV: 41

Page 17 of 109

- 3.33 Not Greater Than A method of estimating weight of a load where an exact weight **CANNOT** be determined. Specifications are established and a weight determined that the load absolutely could **NOT** exceed
- 3.34 NUREG 0612 Lift A HEAVY LOAD lifted with a NUREG 0612 Crane or NON-CRANE RIGGING that will pass OVER **OR** NEAR IRRADIATED FUEL. See SO123-I-1.13.
- 3.35 NUREG 0612 Rigger A rigger who has satisfied training requirements of SO23-XXI-TPD-MNT for NUREG 0612 training to receive qualifications ENCODES SSMM07 and SSMM16.
- 3.36 Padding Padding protects rigging, slings, and the load or structure from superficial damage due to rubbing, chaffing, indenting, fretting, etc. against other rigging and/or load. If padding fails to perform its function, there is NO danger of the sharp features of the load or structure cutting the sling thereby causing catastrophic rigging failure (a dropped load), although minor damage **MAY** result. Padding bears NO significant load. Padding **MAY** be reinforced rubber, leather, nylon, wood, fire hose, or similar. Padding **MAY NOT** be used in place of Softeners. (Refer to Softeners).
- 3.37 Parts-of-Line Refers to the runs of cable (reeving) connecting the load hook to the cable drum or hoist mechanism.
- 3.38 Permanent Permanently installed beams, columns, decking, roof trusses, civil guard rails, stairways, etc. that makeup the physical structure of a building. These are generally significant load bearing components.
- 3.39 Riding a Load Being on a load suspended from a crane or lifting device while the load is in motion (via the bridge, trolley, or hoist). Load riding is prohibited by this procedure, SCE Accident Prevention Manual, and CAL-OSHA. Being on a stationary, suspended load is **NOT** load riding. Workers **MAY** access a stationary, suspended load only if authorized by a written procedure or Work Order, **AND** a Job Safety Analysis has been approved for accessing the suspended load.
- 3.40 Rigger A rigger who has satisfied the training requirements of SO23-XXI-TPD-MNT to receive qualification ENCODES MQ740A or SSMM07.
- 3.41 Rigger Checklist A list used to ensure all requirements that apply to a lift are performed. Completion of the RIGGER CHECKLIST ensures compliance with the SONGS Human Performance Tools Handbook (Blue Book); SO123-XV-HU-3, Human Performance Program; and P-XVI-1, Occupational Safety & Health (OS&H) Program.
- 3.42 Rigging Anything used to connect a load to a lifting device such as slings, shackles, eyebolts, chainfalls, spreader beams, and any special lift fixture. (A lifting device **MAY** be a crane hook, and any member located below the hook)
- 3.43 Run of Pipe Length of pipe between two adjacent weight-bearing pipe supports (also pipe span).



RIGGING MANUAL

SO123-I-7.24

REV: 41

Page 18 of 109

- 3.44 Safe Load Path The physical route of a HEAVY load over or near irradiated fuel in the reactor vessel or in the spent fuel pool, or over/near safe shutdown equipment that minimizes the potential for plant/equipment damage in the event of a load drop. A SAFE LOAD PATH is required when any HEAVY LOAD (loads more than 1500 lbs) is lifted with NUREG 0612 CRANE or NON-NUREG 0612 CRANE RIGGING over a designated or calculated load path. For NUREG 0612 lifts, there is a requirement for marking the load path or having a load path drawing in hand during the lift. For a list of Safe Load Path drawings/procedures for NUREG 0612 lifts refer to SO123-I-1.13. (Refer to Load Path).
- 3.45 Sail Area Shape or configuration of a load that wind or air movement can react against. Wind **MAY** exert additional load on the rigging and the crane. See Section 6.11 for wind restrictions.
- 3.46 Secured Load A load with rigging attached that is prevented from falling by use of cribbing or a secondary support system (Refer to Attachment 1, 6.0.).
- 3.47 Seismically Secured A suspended load secured against movement so that in the event of an earth quake the load **CANNOT** damage itself or other equipment. (See SO123-HK-1)
- 3.48 Selvage Edge Finished edge of synthetic webbing to prevent unraveling.
- 3.49 Shock Load Occurs when the rigging is slack and a rapid change of movement or jerking is placed on the load. A Shock Load is generally significantly greater than the static load, and is prohibited. (Refer to Dynamic Loading)
- 3.50 Side Pull Tension An extra force present on all non-vertical rigging. It is the force that is trying to pull the rigging directly under the lifting device.
- 3.51 Site Rigging Program Manager Site Rigging Program Manager has the overall for the rigging program at SONGS.

The Site Rigging Program Manager is appointed by the Maintenance Director and must have at least ten years rigging experience and have experience lifting 100 ton or greater lifts.
- 3.52 Sling Angle Angle of the sling from the HORIZONTAL surface of load.
- 3.53 Softeners Softeners protect slings from sharp features on a load or support structure. Softeners increase the radius around sling contact points. The radius of the softener **SHALL** be taken into account when performing a D/d calculation. If a softener fails to perform its function, there is a danger of the sharp features of the load or structure cutting the sling and causing catastrophic rigging failure (a dropped load), since the softener bears a significant load. Softeners **SHALL** be substantial metal and/or load rated, that is, be engineered and have a Work Load Limit. Synthetic softeners have to be engineered and rated. Metal softeners only have to be metal (aluminum, brass, steel, etc.) with the proper D/d ratio.

	<h1 style="text-align: center;">RIGGING MANUAL</h1>	SO123-I-7.24 REV: 41
		Page 19 of 109

- 3.54 Structural Member (above the hook) Any structural (load bearing) member located above the (above the hook)hook. A structural member (such as a beam, structural tubing, or scaffold rigging beam) is **NOT** considered rigging when it is used to hang rigging and is located above the hook.
- 3.55 Suspended Load Any lift in which all or part of the load weight is carried by a lifting device. The suspended load weight includes the weight of the rigging
- 3.56 Tag Line A restraining line used to control position of a load during a lift. Line work.
- 3.57 Work Load Limit Work Load Limit (e.g., Safe Work Load) is the Maximum recommended load that **SHOULD** be exerted on a piece of rigging. WLL is a combination of dead weight and side pull tension and is the Safe lifting capacity of a piece of rigging.

	RIGGING MANUAL	SO123-I-7.24 REV: 41 <hr/> Page 20 of 109
-----------------------------------------------------------------------------------	-----------------------	---------------------------------------------------------------

4.0 **PRECAUTIONS AND LIMITATIONS**

4.1 **Precautions**

- 4.1.1 All new rigging ordered for use at the site **SHALL** be provided with the proper certification paperwork.
- 4.1.2 All vendor-supplied rigging **SHALL** be approved by the Site Rigging Program Manager **OR** the Responsible Manager to ensure the rigging is properly certified prior to use by the vendor. (Ref. Attachments 7 and 8)
- 4.1.3 The use of wrought iron chain slings is **NOT** permitted under this procedure.
- 4.1.4 The use of metal mesh slings is **NOT** permitted under this procedure.
- 4.1.5 The use of natural fiber and manila rope slings is **NOT** permitted under this procedure.
- 4.1.6 The use of a Boatswain's Chair is **NOT** permitted under this procedure.
- 4.1.7 The use of come-a-longs using wire rope or straps is **NOT** permitted under this procedure.
- 4.1.8 A magnetic manhole cover lifter is **NOT** considered rigging.
- 4.1.9 Be cautious of electric arc welders grounding through rigging.
- 4.1.10 Rigging from any Safety Related or Augmented Quality snubber is prohibited.

NOTE

Load binding is tying a load to another object such as a truck bed. Rigging may be used to drift a load and hold it in place, such as the equipment hatch missile shield doors, pipe fit-up, Alimak platforms, etc.

- 4.1.11 The use of rigging (to include chainfalls, come-a-longs, slings, **AND** shackles) is **NOT** authorized for LOAD BINDING.

NOTE

NUREG 0612 cranes are listed in SO123-I-1.13, NUREG 0612 Cranes, Rigging and Lifting Controls.

- 4.1.12 Except for NUREG 0612 hoists (which **SHALL** only be operated by NUREG 0612 qualified operators / personnel), motor-operated hoists **MAY** be operated by any qualified RIGGER.
- 4.1.13 Neither the crane hook nor its whip line **SHALL** be used for fall arrest or fall protection.

	RIGGING MANUAL	SO123-I-7.24 REV: 41 <hr/> Page 21 of 109
-----------------------------------------------------------------------------------	-----------------------	---------------------------------------------------------------

5.0 **PREREQUISITES**

- 5.1 **VERIFY** this document is current by using one of the methods described in SO123-XV-HU-3.
- 5.2 **VERIFY** Level of Use requirements on the first page of this procedure.
- 5.3 ALL non-Engineer-Assisted Lifts **SHALL** have a qualified Rigger present. Refer to Section 3.0, Rigging Definitions.

NOTE

1. **REFER** to Section 2.2.11, for rigger training requirements **AND** exemptions.
2. The San Onofre Nuclear Generating Station (SONGS) rigging program philosophy is to ensure individuals involved in lifts are trained **AND** qualified to a level sufficient to perform that type of lift. Accordingly, there are two levels of rigging qualifications: RIGGER, and NUREG 0612 RIGGER

CAUTION

Individuals **SHOULD** verify qualifications using eQIS (**OR** other approved method).

- 5.4 All rigging activities on site, including vendors who rig on site, **SHALL** be performed by **OR** performed under oversight of personnel who have satisfied training requirements of SO23-XXI-TPD-MNT (**OR** equivalent vendor program as approved **AND** documented by the Rigging Program Manager) to receive qualification of Rigger (AND NUREG 0612 Rigger where appropriate) unless a vendor rigging program has been approved per Attachment 8.
- 5.5 For Rigger, the completion of Rigger Qualification as defined in the Maintenance Training Program Description, SO23-XXI-TPD-MNT, (ENCODE SSMM07) is a requirement.
- 5.6 For NUREG 0612 Rigger, in addition to the completion of Rigger Qualification (Encode SSMM07), the completion of NUREG 0612 Training (Encode SSMM16, every 18 months) as defined in the Maintenance Training Program description, SO23-XXI-TPD-MNT is a requirement.
- 5.7 When rigging a Heavy Load that will pass OVER **OR** NEAR IRRADIATED FUEL, only a NUREG 0612 Rigger **SHALL** perform and direct the rigging. The NUREG 0612 Rigger **SHALL** consult SO123-I-1.13 for specific rigging practices **AND** load paths/zones.
- 5.8 Rigging using the Cask Handling Crane, The New Fuel Crane, and a mobile crane (when over or near irradiated fuel) requires a NUREG 0612 Rigger.

	RIGGING MANUAL	SO123-I-7.24 REV: 41 <hr/> Page 22 of 109
-----------------------------------------------------------------------------------	-----------------------	---------------------------------------------------------------

6.0 **PROCEDURE**

6.1 **Operating Cranes at SONGS**

6.1.1 Operating NUREG 0612 Cranes at SONGS

6.1.1.1 The following cranes are the NUREG 0612 Cranes at SONGS:

- S22109MZ006 New Fuel Bridge Crane - SO23-I-3.21
- S32109MZ006 New Fuel Bridge Crane - SO23-I-3.21
- S22203CR005 Cask Handling Crane - SO2-I-3.32
- S32203CR006 Cask Handling Crane - SO3-I-3.32
- ALL Mobile Cranes (Over/Near Irradiated Fuel Only) - SO123-I-7.22

6.1.1.2 **VERIFY** the NUREG 0612 crane has a current Quarterly Inspection, Annual Inspection, and Load Test (If required).

6.1.1.3 **INSPECT**, Pre-Operation Check and Operate NUREG 0612 cranes In accordance with their operating and check out procedures.

6.1.2 Operating Non-NUREG 0612 Cranes at SONGS

6.1.2.1 The following site cranes may be operated using the guidelines in this procedure **OR** the appropriate Manufacturers Operations and Maintenance Manual:

- S21318MZ025BPS Cartridge Filter Hoist
- S22101CR001 Polar Crane
- S22101CR001A Polar Crane Jib
- S22101CR050 Containment Jib Crane
- S22101MZ028 Equipment Hatch Hoist
- S22101MZ029 Equipment Hatch Hoist
- S22101MZ048 Transfer Tube Plug Hoist
- S22103MZ039 Penetration Building Roof Jib
- S22103MZ040 Fuel Handling Building Roof Jib Crane
- S22107MZ003 Diesel Building Bridge Crane (N)
- S22107MZ004 Diesel Building Bridge Crane (S)
- S22110CR003 Turbine Gantry Crane
- S22110MZ001 FW PP & Turb Brdg Crane (N)
- S22110MZ002 FW PP & Turb Brdg Crane (S)

INFORMATION USE



RIGGING MANUAL

SO123-I-7.24

REV: 41

Page 23 of 109

- S22126MZ005 Seaweed Jib Crane
- S22129MZ030 Aux Feedwater Pump Removal Hoist
- S22159MZ010 Safety Injection Pump Removal Hoist
- S22159MZ011 Safety Injection Pump Removal Hoist
- S22159MZ012 Safety Injection Pump Removal Hoist
- S22159MZ013 Safety Injection Pump Removal Hoist
- S22159MZ014 Safety Injection Pump Removal Hoist
- S22159MZ016 CCW PP Removal Hoist
- S22159MZ036 MSIV Jib Crane (SOUTH)
- S22159MZ037 MSIV Jib Crane (NORTH)
- S22159MZ075 Safety Injection PP Removal Hoist
- S31318MZ025 BPS Cartridge Filter Hoist
- S32101CR002 Polar Crane
- S32101CR002A Polar Crane Jib
- S32101CR050 Containment Jib Crane
- S32101MZ028 Equipment Hatch Hoist
- S32101MZ029 Equipment Hatch Hoist
- S32101MZ048 Transfer Tube Plug Hoist
- S32103MZ039 Penetration Building Roof Jib
- S32103MZ040 Fuel Handling Building Roof Jib Crane
- S32107MZ003 Diesel Building Bridge Crane (N)
- S32107MZ004 Diesel Building Bridge Crane (S)
- S32110CR004 Turbine Gantry Crane
- S32110CR004A Gantry Swing Jib
- S32110MZ001 FW PP & Turb Brdg Crane (S)
- S32110MZ002 FW PP & Turb Brdg Crane (N)
- S32126MZ005 Seaweed Jib Crane
- S32129MZ030 Aux Feedwater Pump Removal Hoist
- S32159MZ010 Safety Injection Pump Removal Hoist
- S32159MZ011 Safety Injection Pump Removal Hoist
- S32159MZ012 Safety Injection Pump Removal Hoist
- S32159MZ013 Safety Injection Pump Removal Hoist

INFORMATION USE



RIGGING MANUAL

SO123-I-7.24

REV: 41

Page 24 of 109

- S32159MZ014 Safety Injection Pump Removal Hoist
- S32159MZ016 CCW PP Removal Hoist
- S32159MZ036 MSIV Jib Crane (N)
- S32159MZ037 MSIV Jib Crane (S)
- S32159MZ075 Safety Injection PP Removal Hoist
- SA2161MZ007 Hot Machine Shop Crane
- SA2161MZ008 Radwaste 1 Ton Crane
- SA2161MZ009 Radwaste Truck Bay Crane
- SA2161MZ015 Cartridge Removal Hoist
- SA2161MZ026 Crud Tank Filter Removal Hoist
- SA2169MZ360 M.P.H.F. Crane
- SASHPHSTB44 B&C SHOP Mono HCH
- SASHPHSTB66 MACH SHP BRDG CRN HCH
- SYFMZ001 SOUTH YARD FAC MACH SHOP
- SYFMZ002 SO YD WELD SHOP RM 102
- SYFMZ003 SO YD RIGGING TEST RM 103
- SYFMZ004 SO YD REFUELING RM 114
- SYFMZ005 SO YD FAC RMS RBLD RM113
- SYFMZ006 SO YD FAC DCON SHP RM117
- SYFMZ007 SO YD FAC RMSWKARE RM116
- SSBMZ001 K-10 MACH. SHOP CRANE
- SA2169CR002 SY B&C SHOP (KUNDEL)
- SA2169CR001 B-62 SHOP (KUNDEL)

6.1.2.2 **VERIFY** the crane has a current Quarterly Inspection, Annual Inspection, and Load Test (if required).

6.1.2.3 **PERFORM** a visual inspection, pre-operational check, and operate the crane as follows:

6.1.2.4 **CHECK** the braking mechanism for evidence of slippage under load (If equipped).

6.1.2.5 Visually **INSPECT** the load cable for wear, twists, broken wire, and proper wrapping on the drum.

INFORMATION USE



RIGGING MANUAL

SO123-I-7.24

REV: 41

Page 25 of 109

- 6.1.2.6 Visually **INSPECT** the hooks for nicks, gouges, chemical damage or cracks.
- 6.1.2.7 Visually **INSPECT** hooks for excessive wear at the saddle. IF excessive wear is evidenced, THEN a more detailed inspection is necessary. Wear must not exceed 10% of the original dimension.
- 6.1.2.8 Visually **INSPECT** hooks for increased throat opening. IF throat opening is evidenced, THEN a more detailed inspection is necessary. Throat opening must not exceed 15% of the original dimension.
- 6.1.2.9 Visually **INSPECT** hooks for excessive twisting. IF twisting or bending appears excessive, THEN a more detailed inspection is necessary. A bend or twist must not exceed 10% from the plane of the hook.
- 6.1.2.10 Visually **INSPECT** pendent and pendent cable for cracks or wear (If equipped).
- 6.1.2.11 **CHECK** latch mechanism for damage or malfunction.
- 6.1.2.12 **WALK DOWN** the crane and travel path prior to use. No obstructions to the travel path should be present.
- 6.1.2.13 **ENSURE** power has been applied to the crane (if equipped).
- 6.1.2.14 **VERIFY** proper operation of each control function, prior to hoisting a load.
- 6.1.2.15 **PARK** the crane, **RETRACT** the hook to upper limit, **STOW** jibs and pendants, and **OPEN** the breaker to the crane upon completion of use.



6.2 Engineer-Assisted Lift Considerations

NOTE

1. Revisions/modifications to an Engineer-Assisted Lift can only be made by revising the approved procedure **OR** engineered drawing, including approval equivalent to that obtained for the original procedure/drawing.
2. Since calculation results are used to determine the Engineer-Assisted Lift, **AND** since the engineer preparing the calculation has the responsibility for understanding the requirements, the Engineer-Assisted Lift/engineered drawing must be prepared, verified, documented, approved, **AND** meet technical **AND** administrative requirements similar to the requirements in Engineering Standards Document CS-123-119.
3. **REFER** to Section 3.0 for definitions of Engineer-Assisted Lift and Engineered-Lift.
4. Qualified rigger maintains responsibility for all lifts, including Engineer-Assisted Lifts. Implementing SONGS Human Performance Tools, particularly a questioning attitude is required. **IF** an Engineer-Assisted Lift **DOES NOT** look safe, **THEN** the rigger **SHOULD STOP AND** seek assistance.

6.2.1 Riggers, Planners, **AND** Supervisors of work activities with rigging evolutions **SHOULD** consider requiring Engineer-Assisted Lift documents for the following (by writing a Notification):

- 6.2.1.1 Any lift where the generic guidance of this procedure **DOES NOT** supply adequate guidance for the lift being considered.
- 6.2.1.2 Any lift where the load weight **OR** center of gravity is uncertain.
- 6.2.1.3 Any lift where the load is 95% **OR** more of a mobile crane's chart rating for the maximum radius that will be experienced.
- 6.2.1.4 Any lift involving two mobile cranes, in this case, CAL-OSHA Paragraph 4994 applies.
- 6.2.1.5 Any Heavy lift with multiple tight clearances **OR** pinch points.
- 6.2.1.6 Any lift involving pre-cast, pre-fabricated panels, **OR** tilt-up panels.
- 6.2.1.7 Any lift involving underwater loads.

	<h1 style="text-align: center;">RIGGING MANUAL</h1>	SO123-I-7.24 REV: 41
		Page 27 of 109

- 6.2.1.8 Any lift where the fall path of the load **OR** rigging, (including mobile crane booms) **CANNOT** be controlled so that it could adversely affect:
 - 6.2.1.8.1 The safety of the rigging crew **OR** other site workers.
 - 6.2.1.8.2 Plant equipment which is required to maintain Technical Specification (Tech. Spec.) compliance.
 - 6.2.1.8.3 Populated areas without a sufficient intervening structure.
 - 6.2.1.8.4 Plant equipment that could cause a chemical **OR** radiological release.
 - 6.2.1.8.5 The erection **OR** dismantling of a fixed tower crane (CAL-OSHA 4966(a)).
- 6.2.2 Engineer-Assisted Lift plans being implemented for the first time **SHOULD** be reviewed by the qualified rigger responsible for the lift.

	<h1 style="text-align: center;">RIGGING MANUAL</h1>	SO123-I-7.24 REV: 41
		Page 28 of 109

6.3 Determine Appropriate Communications

- 6.3.1 During the Pre-Job Brief, the Rigger **AND** the crane operator **SHALL** establish pre-arranged standard hand signals **AND/OR** a suitable communications system.
- 6.3.1.1 The rigger **SHALL** be in constant communication with the crane operator throughout the operation, **AND SHALL** have a pre-arranged signal **OR** system to ensure immediate crane stop at any time.
- 6.3.1.2 Whenever the crane operator is obstructed in his/her view of the path of travel of any part of the equipment, its load, **OR** components, the rigger **SHOULD** be stationed in full view of the crane operator.
- 6.3.1.2.1 BRIEFING the crane operator when there will be a chance that the lift will be a Blind Lift. The pre-job brief **SHOULD** cover the means of communication being used **AND** the expectation that **IF** the crane operator does **NOT** receive any communication from the rigger, **THEN** the crane operator will immediately **STOP** the activity until communication has been re-established.
- 6.3.1.3 Where loads are picked up at one point **AND** lowered at another, two riggers **MAY** be required: one to direct the lift **AND** one to direct the descent.
- 6.3.1.4 The rigger **SHOULD** assist the crane operator by keeping the equipment under observation when it is out of view of the crane operator **AND** by communicating with crane operator by use of the pre-arranged communications system.
- 6.3.1.5 The rigger **SHOULD** be stationed in full view of the crane operator especially whenever the crane operator is obstructed in his/her view of the path of travel of any part of the equipment, its load, **OR** components.
- 6.3.1.5.1 When both the load **AND** rigger are out of view of the crane operator, continuous radio verbal communication (chatter) **SHOULD** be used. The crane operator **SHOULD STOP** all crane **OR** hoist motion immediately anytime the continuous chatter stops.
- 6.3.1.6 When two or more cranes are used to lift one load, a qualified rigger **SHALL** be in direct audible communication with both crane operators at all times to direct the lifting.

6.4 **Determine Load Weight**

6.4.1 Prior to selecting rigging for a lift, the load weight **SHOULD** be determined.

6.4.1.1 Weights can be obtained from:

6.4.1.1.1 Approved load charts

6.4.1.1.2 Calculations

6.4.1.1.3 Material charts (Can be found on the internet)

6.4.1.1.4 SONGS maintenance procedures

6.4.1.1.5 Shipping labels

6.4.1.1.6 Vendor manuals

6.4.1.2 For odd shaped loads, **CALCULATE** load as a square or rectangle.

6.4.1.3 IF any doubt, THEN weigh load using a dynamometer, OR contact Responsible Supervisor.

6.5 Determine Center of Gravity

NOTE

The center of gravity (CG) is point where the entire weight of a load can be considered concentrated, where a body will remain in equilibrium if supported at this point.

6.5.1 The CG of the load can be found by:

6.5.1.1 Supplier-provided information

6.5.1.2 Calculation

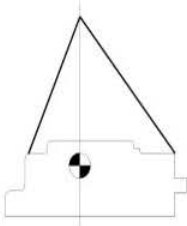
6.5.1.3 Trial lifts

CAUTION

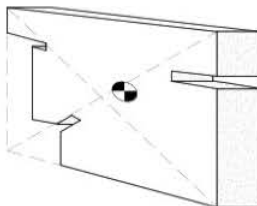
Rigging load below CG can result in load shifting and/or instability.

6.5.2 The lifting hook **SHOULD** be directly above the CG.

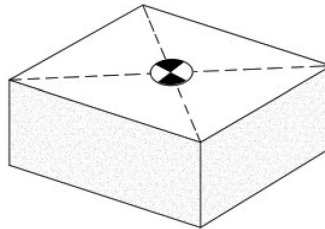
6.5.3 For irregularly shaped loads, **CALCULATE** the CG. For the load to hang level, **USE** unequal length slings.



6.5.4 For an irregularly shaped load, **FIND** the CG by turning the item into a rectangle **AND** intersecting the lines from opposite corners. The CG will be close to where the diagonal lines intersect.



- 6.5.5 For loads having rectangular shape with the weight concentrated at one end, the CG will be situated toward that end.



6.6 Determine Proper Rigging

NOTE

REFER to the SCE Rigging Standards Manual

- 6.6.1 **SELECT** the proper rigging (including baskets, tubs, skiffs, **AND** similar containers) for the load weight **AND** conditions for lift to ensure a safe lift.
- 6.6.2 When slings are to be used, **ENSURE** sharp corners of the load are properly softened to prevent damage to the slings during the lift.
- 6.6.3 Issues to consider for rigging selection include load weight, dynamic load factor, load path, load cell, load angle, **AND** restrictions.
- 6.6.4 The hoist rope **OR** chain **SHALL NOT** be wrapped around the load.
- 6.6.5 All rigging **SHALL** be used only in accordance with the manufacturer's recommendations.
- 6.6.6 For all lifts, **IF** speed is less than 20 feet per minute, **THEN** a 10 percent additional sling capacity **SHALL** be used for the dynamic load factor for the load to be lifted.
- 6.6.7 For all lifts, **IF** speed is 20 feet per minute or greater, **THEN** a 50 percent additional sling capacity **SHALL** be used for the dynamic load factor for the load to be lifted.
- 6.6.8 If using synthetic round slings see Step 6.7.5.8



6.7 Rigging Selection Method and Use

6.7.1 Man Basket (Personnel Platforms)

- 6.7.1.1 Man baskets **MAY** be used in accordance with California Code of Federal Regulations, Subchapter 4. Construction Safety Orders, Article 15. Cranes and Derricks in Construction, Section 1616.6. Hoisting Personnel.

6.7.2 Shackles, Eyebolts, and Eyenuts

NOTE

REFER to the SCE Rigging Standards Manual.

- 6.7.2.1 Shackles are used to make a choker, to attach a hook, **AND** to attach a sling to an eyebolt.

- 6.7.2.2 IF a ring is **NOT** available, THEN a shackle is used to attach slings to a hook.

6.7.3 Slings

NOTE

REFER to SCE Rigging Standards Manual for Slings use and for A over B Calculation.

- 6.7.3.1 To help determine type/length of sling, **CONSIDER** the following conditions/environment of sling to be used:

Head Room	Heat
Liquid	Steam
Vapor	Chemical
Sketch	Sling Angle
Weight (wire rope)	

- 6.7.3.1.1 To prevent the load from falling when rigging loose material, **CONSIDER** single **OR** double choker hitch, **OR** a single **OR** double basket hitch.

- 6.7.3.1.2 IF the sling angle is less than 85° from the horizontal, THEN the tension (force) on the sling **SHALL** be calculate as an A/B calculation.

- 6.7.3.1.3 For sling angles from 85° to 60° from the horizontal, a factor of 15% **SHOULD** be added.

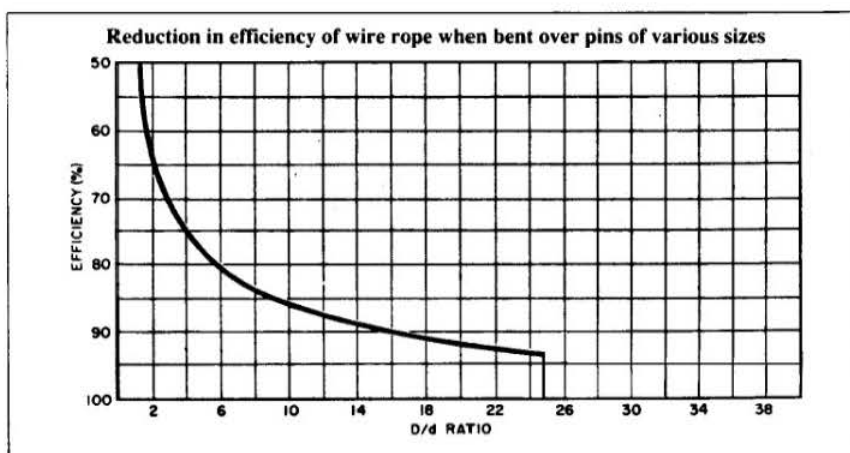
6.7.4 Wire Rope Slings and Bridles

NOTE

REFER to the SCE Rigging Standards Manual.

6.7.4.1 For determining IF wire rope is acceptable for use, **CONSIDER** the D over d ratio. See Definitions in Section 3.0 for D over d.

6.7.4.2 When wire rope is bent over a pin, for example, its strength is decreased. Amount of reduction depends on D/d ratio. In the table below, the curve is based on static loads only.



6.7.4.3 Most sling damage is caused by having wire rope wrapped around a diameter that is too small for the diameter of the wire rope.

NOTE

For manufactured bridle assemblies, the bridle **MAY** be used up to the manufacturer's WLL rating OR SONGS rating (as tagged), whichever is lower.

6.7.4.4 When using the 3 OR 4 part pick, **CALCULATE** Work Load Limit (WLL) for each sling to ensure each sling is adequate to bear at least 50% of the total load, including side pull tension AND dynamic loading.

6.7.4.5 **CONSIDER** using come-a-longs and chainfalls.



6.7.5 Synthetic Slings / Synthetic Round Slings

NOTE

REFER to the SCE Rigging Standards Manual.

CAUTION

Polyester slings DO **NOT** stretch as much as nylon slings. DO **NOT** mix and match sling types unless it is necessary to conduct the lift. Polyester and nylon slings are similar in color and look similar. Ensure the sling label is read for material type.

- 6.7.5.1 Synthetic slings **AND** straps are made of fibers such as nylon **AND** polyester web.
- 6.7.5.2 Synthetic fiber rigging is used when stretching is **NOT** a prime factor.
- 6.7.5.3 Synthetic fiber rigging is preferred for use with stainless steel.
- 6.7.5.4 Synthetic fiber slings are used where metal is prohibited, such as for batteries.
- 6.7.5.5 Synthetic fiber rigging **SHOULD NOT** be used around **OR** near corrosives, acids, caustic liquids, **OR** dry powder.
- 6.7.5.6 When approved for use, Plasma 12 Strand fiber rope slings are an alternative to steel chain slings **AND MAY** be used in saltwater, spent fuel pools, **AND** other applications that contain chemicals. Plasma slings **SHOULD NOT** be used without prior approval from the Rigging Program Manager.
- 6.7.5.7 Synthetic fiber slings are susceptible to cutting when contacting sharp **OR** rough surfaces. Always SOFTEN the corners of the load to protect slings from potential damage.
- 6.7.5.8 When synthetic round slings are going to be used:
 - 6.7.5.8.1 Wide body sling saver shackles **SHALL** be used.
 - 6.7.5.8.2 **OBTAIN** the minimum connection diameter requirements from the sling tag.
 - 6.7.5.8.3 **VERIFY** the pin diameter of the Wide Body Sling Saver shackle being used is the same size or greater than the minimum connection diameter listed on the sling tag.



CAUTION

The sling / Wide Body Sling Saver shackle combination must NOT exceed a bearing stress of **7000 psi**.

6.7.5.8.4 **CALCULATE** the sling / shackle bearing stress according to the following table.

Sling / Shackle Bearing Stress Calculation		
Step 1		
a. Measure inside shackle width (width the sling is occupying through the shackle).	= _____	In.
b. Determine <u>Curved Adjustment Factor</u> either .75 or 1.0 (.75 = Sling width reduced / bunched through shackle) (1.0 = Sling not reduced / not bunched through shackle)	= _____	Factor
c. Multiply "a" x "b" to obtain <u>Effective Sling Contact Width</u>	= _____	In.
Step 2		
d. Shackle Diameter (Example 5/8 = .62)	= _____	In.
e. Multiply "c" x "d" to obtain <u>Shackle Load Bearing Area</u>	= _____	In. ² Area
Step 3		
f. Determine Load Weight in pounds. (Weight sling is lifting)	= _____	Lbs.
g. Multiply "e" x "f" to obtain <u>Sling / Shackle Bearing Stress</u>	= _____	PSI

6.7.5.8.5 **IF** the sling / shackle bearing stress is more than 7000 psi, **THEN** **REWORK** the sling / shackle combination until the bearing stress is 7000 psi or less.



6.7.6 Steel Chain Slings

NOTE

Refer to SCE Rigging Standards Manual.

- 6.7.6.1 Carbon steel rigging used on stainless steel components **SHOULD** be avoided whenever possible.
- 6.7.6.2 Steel rigging **SHOULD NOT** be used near corrosives.
- 6.7.6.3 Chain slings **SHOULD NOT** pass over sharp corners OR edges. **USE** softeners to protect chain slings.

6.7.7 Softeners and Padding

NOTE

1. **REFER** to Section 3.0, Rigging Definitions.
2. **REFER** to Attachment 1, 9.0, Softeners and Padding.

CAUTION

Proper use AND selection of softeners is crucial. Two events at SONGS: a dropped box AND a dropped mobile crane both involved cutting/damage to slings. For heavy loads, always **USE** metal/manufacture-rated softeners OR equivalent for sling protection.

ENSURE ALL sharp corners of the load that could reasonably come into contact with slings are properly softened to prevent damage to the slings during the lift

- 6.7.7.1 When softeners are used, the rigger **SHOULD** set the load down after the initial lift AND inspect the softeners AND rigging to ensure NO damage is occurring prior to completing the lift.
- 6.7.7.2 IF damage appears either to the sling OR softener, THEN STOP the lift AND REEVALUATE the use of different types of softeners or slings to prevent further damage AND the possibility of dropping the load.



RIGGING MANUAL

SO123-I-7.24

REV: 41

Page 38 of 109

6.8 Rigging Inspection

NOTE

Rigging is considered "in use" when the load is applied to the rigging.

- 6.8.1 Immediately **REMOVE** from service rigging **NOT** passing any pre or post-lift inspection; LABEL unserviceable rigging until re-inspected.
- 6.8.2 **REFER** to the below table for reference to the attachment number for rigging item to be inspected.

Rigging Item	Inspection Required	For Inspection Criteria Refer To:	Annual Cert. Tag Required
Miscellaneous Rigging Accessories (rings, lugs, beam clamps, carriers (trolleys), swivel and double edge lifting plates, grabs, and pad eyes)	Prior-to-use AND at a minimum, daily while in use	Attachment 2, Section 16.0	NO
Synthetic Slings (Nylon and Polyester Web)	Prior-to-use AND at a minimum, daily while in use	Attachment 2, Section 3.0	NO
Shackles, Eyebolts, Eynuts, and Lifting Lugs	Prior-to-use AND at a minimum, daily while in use	Attachment 2, Section 6.0	NO
Softeners	Prior-to use AND at a minimum, daily while in use.	Attachment 2, Section 20.0	NO
Station Cranes	Prior-to-use AND at a minimum, daily while in use	Attachment 2, Section 19.0	NO
Steel Chain Slings	Prior-to-use AND at a minimum, daily while in use	Attachment 2, Section 17.0	YES
Synthetic Round or Rope Slings	Prior-to-use AND at a minimum, daily while in use	Attachment 2, Section 4.0	NO
Twin-Path Slings (For Engineer-Assisted Lifts Only)	Prior-to-each-use AND at a minimum, daily while in use, AND after-each-use	Attachment 2, Section 5.0	YES
Wire Rope Slings and Bridles, Cable Laid Rope, Braided Slings, Multi-Part and One Part Tri-Flex 3-Part Wire Rope Slings	Prior-to-use AND at a minimum, daily while in use	Attachment 2, Section 2.0	YES



6.9 Attach Rigging to Support and/or Load

6.9.1 Based on the calculated load **AND** the selected rigging, ATTACH rigging to the load.

NOTE

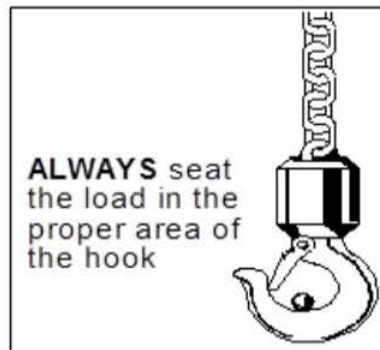
ANSI B.30.10 states: The use of a hook with a latch does **NOT** preclude the inadvertent detachment of a slack sling or a load from the hook. Visual verification of proper hook engagement is required in all cases (RCE 201217134-CA0004).

6.9.1.1 For sling use, **ENSURE** slings are properly positioned.

6.9.1.2 For softener use, **ENSURE** softeners are properly positioned.

6.9.1.3 For shackle use, **ENSURE** shackle is properly positioned **AND** pin threads completely engaged.

6.9.1.4 For hook use, always **SEAT** the load in the proper area of the hook. The load portion of the hook support **SHOULD** be directly in line with the hook shank.



6.9.1.5 For eyebolt use, **ENSURE** eyebolt is properly oriented for direction of pull.

6.9.1.6 For come-a-long and chainfall use, **ENSURE** chain is **NOT** twisted.

6.9.1.7 Slings **SHALL NOT** be shortened with knots, bolts, **OR** other makeshift devices.



6.10 Lift and Hold Test

NOTE

1. At the discretion of the Rigger, when a load is initially picked from a suspended location (for example, a fan motor is mounted to a structure which is approximately 15 feet above the floor), the "lift and hold test" **MAY** be modified, **OR** waived.
2. Taking pictures of heavy lifts is optional unless directed by the Supervisor or Rigger.

CAUTION

When rigging is slack, DO **NOT** jerk **OR** pull on rigging at a rapid change of speed. This action can cause Shock Load, which is prohibited.

Before starting to hoist, the hook **SHALL** be positioned over the load in such a manner as to prevent swinging of the load when lifted.

Before starting to hoist, if there is a slack rope condition, the rope **SHALL** be properly seated on the drum **AND** in the sheaves.

- 6.10.1 Still pictures **OR** video **MAY** be taken once the load is rigged **AND** ready to pick.
- 6.10.2 A lift and hold test **SHOULD** be performed on each lift.
 - 6.10.2.1 **LIFT** the load just high enough to suspend the load **AND** hold.
- 6.10.3 For all lifts, lift **AND** hold long enough to inspect the rigging **AND** to ensure the hoist brake is operable.
- 6.10.4 While holding the load, listen for any unusual noise, (i.e. popping). **IF** unusual noise is heard, **THEN** immediately STOP; DO **NOT** continue with the lift until ALL rigging has been re-inspected.



CAUTION

Proper use **AND** selection of softeners is crucial.
Two events at SONGS: a dropped box **AND** a dropped crane, both involved cutting/damage to slings. For non-Engineer-Assisted Lifts, only use metal **OR** engineered softeners marked with the load rating for sling protection.

Ensure ALL sharp corners of the load that come into contact with slings are properly softened to prevent damage to the slings during the lift.

6.10.5 While holding the load, **CHECK** all rigging/slugs, softeners, **AND** crane brake.

6.10.5.1 **ENSURE** rigging is installed properly **AND NOT** damaged.

CAUTION

DO **NOT** transport a load that is **NOT** balanced or level within reason.

6.10.5.2 **ENSURE** softeners are installed properly and **NOT** damaged.

6.10.5.3 **ENSURE** load is properly balanced.

6.10.5.4 **ENSURE** slugs are loaded as equally as possible.

6.10.5.4.1 When using manufactured bridle assemblies, bridles **MAY** be used up to the manufacturer's WLL rating **OR** SONGS rating (as tagged), whichever is lower. All of the bridle legs **MUST** be verified as being loaded (bridle legs are tight and NO slack) during the lift **AND** hold. **IF** any leg of the bridle **CANNOT** be verified to be loaded, **THEN** a review of the bridle component ratings **MUST** be performed to ensure the loaded bridle legs have adequate capacity.

6.10.5.5 **ENSURE** crane brake will hold on near-capacity loads.

6.10.6 **IF** using softeners, **RE-INSPECT** the slugs **AND** softeners. **ENSURE** NO rigging damage **AND** verify the proper position of slugs/softeners before continuing with the lift.

6.10.6.1 **IF** damaged or suspected damaged, **THEN STOP AND** reevaluate the use of different type softeners **AND/OR** slugs to prevent further damage **AND** the possibility of dropping the load.

6.10.6.2 When the load is lifted, after re-inspection, **HOLD** load long enough to ensure the rigging/load is stable to move.



6.11 Transport Load

- 6.11.1 **REVIEW** SO123-I-1.13 for NUREG 0612 requirements for the Safe Load Path when lifting heavy loads over OR near irradiated fuel.
- 6.11.1.1 The crane's limit switch **SHALL** never be used as an operating control unless designed for such use, in which case there **SHALL** be a second limit switch located behind the operating control limit switch.
- 6.11.2 **CONSIDER** lift size AND shape to determine "sail area" when calculating effect of wind velocities AND weather on a pick.

NOTE

See Attachment 1, 2.0 for specific wind-related requirements AND sources of wind data.

- 6.11.3 **CONSIDER** securing lifts if wind velocity reaches 20 miles per hour, as recommended by the crane operator, OR if load is being affected in any way by wind.
- 6.11.4 When wind velocities reach approximately 30 miles per hour OR greater, THEN the rigger AND crane operator **SHALL** terminate the lift AND secure the load, OR as recommended by the crane manufacturer, if less.
- 6.11.5 **CONSIDER** the dynamic load factor. For dynamic load factor **REFER** to steps 6.6.6 and 6.6.7.
- 6.11.6 **CONSIDER** safety of rigging crew AND other personnel as they are affected by the rigging operation as follows:
- 6.11.6.1 Before transporting the load, **TRAVEL** entire anticipated load path AND observe for any obstructions which could cause damage to equipment OR injury to personnel.
- 6.11.6.2 IF load is to pass over buildings, cargo containers, OR other structures/areas where people **MAY** be working, THEN **ENSURE** people are removed AND clear from under load path AND associated Impact Zone.

CAUTION

CONSIDER placing the barrier at a distance to contain the load **SHOULD** the load fall OR tip over. At NO time **SHOULD** the load be outside the load path.

- 6.11.6.3 **ERECT** barriers around load path AND associated Impact Zone OR assign look-outs to ensure load path AND Impact Zone remain clear of obstructions AND personnel. **REFER** to P-XVI-1.



RIGGING MANUAL

SO123-I-7.24

REV: 41

Page 43 of 109

- 6.11.6.4 Tag lines may be used.
- 6.11.6.4.1 Tag lines are to be used where rotation of the load is hazardous such as load swing **OR** load tilt.
- 6.11.6.4.2 Tag lines are to be long enough so the person handling the tag line is clear of the load **AND** never having to stand under the load, **AND** long enough to control the load.
- 6.11.6.4.3 Tag lines are **NOT** to be used where they can cause an unsafe condition such as dragging over fencing, dragging over equipment, **OR** spreading contamination.
- 6.11.6.4.4 Tag lines used near energized conductors **SHALL** be of a non-conductive type.
- 6.11.6.5 Employees **SHALL NOT** stand, pass, reach, **OR** work within the Impact Zone of a suspended load. **REFER** to Attachment 1, 6.0, (Standing, Passing, **OR** Working Under a Suspended Load), for requirements to secure a load so that personnel **MAY** access under the load.
- 6.11.6.6 Employees **SHALL NOT** ride on loads.
- 6.11.6.7 Controlling each lift from a point where Signal Person is visible to **OR** in communication with the Crane **OR** Hoist Operator **AND** the Signal Person can observe the lift.
- 6.11.7 When rotating the crane, sudden stops **SHALL** be avoided. Rotational speed **SHALL** be such that the load does **NOT** swing out beyond the safe radius.
- 6.11.8 Inadvertent contact with obstructions **SHALL** be prevented.
- 6.11.9 Hook-to-hook **OR** walking-the-load movement requires careful planning to be able to connect the second **AND** subsequent hooks into a pear ring (**OR** similar) with enough room. Also, the angle, support connections, **AND** stability of the lifting devices (such as chainfalls) needs to be considered.

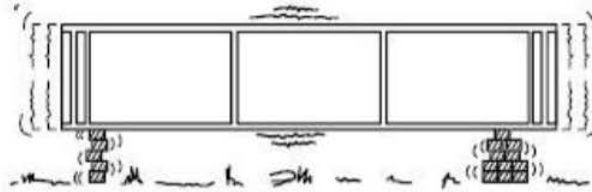
NOTE

REFER to Attachments 5 and 6 on Crane Signals.

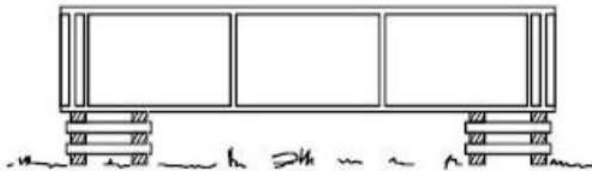
- 6.11.10 Before handing off from one signal person to another, the stop signal **SHALL** be given, crane movement shall come to a complete stop, **AND** the crane operator **SHALL** be advised of the identity of the new signal person.

6.12 Set Load Down

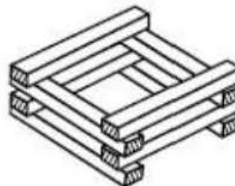
- 6.12.1 Prior to setting the load down, **ENSURE** NO obstructions are present in the laydown area.
- 6.12.2 **ENSURE** rigging crew **AND** other personnel are clear of the load **AND** laydown area.
- 6.12.3 Per CAL-OSHA requirements, when booms are being assembled **OR** disassembled on the ground, to prevent dropping, the boom **OR** boom sections **SHALL** be properly secured.
- 6.12.4 When using cribbing, **ENSURE** cribbing arrangement is of adequate strength **AND** size to support the load (NN 200525655).
 - 6.12.4.1 DO **NOT** stack cribbing in such a way that it will allow the load to topple if it is struck **OR** bumped, **OR** if there is a seismic event.
 - 6.12.4.2 Wherever possible, **USE** an alternate stacking arrangement so the cribbing is **NOT** stacked all in the same direction (see drawings below).



Incorrect



Correct



6.13 Disconnect Rigging

- 6.13.1 **VERIFY** that the load has been set on a suitable surface **AND** supported to prevent inadvertent movement prior to releasing **OR** detaching the rigging from the crane **OR** other hoisting apparatus.
- 6.13.2 **REMOVE** all rigging from load.

6.14 Inspect Rigging After Use

NOTE

In the case of repetitive lifts, the rigging **SHOULD** be inspected after every lift, however, inspecting the tag **AND** label, cleaning, **AND** proper storage **SHALL** be done at the completion of the series of lifts.

- 6.14.1 **INSPECT** all rigging for damage per Section 6.8, Rigging Inspection. Immediately **REMOVE** from service any damaged rigging; **LABEL** unserviceable rigging promptly.
 - 6.14.1.1 **WHEN** an annual certification tag must be present, **ENSURE** annual certification tag is **NOT** missing, data on tag is legible, **AND CHECK** certification date.
 - 6.14.1.2 **ENSURE** manufacturer certification tag/label is **NOT** missing, data on tag is legible, **AND CHECK** certification date.
 - 6.14.1.3 Properly **CLEAN** all rigging.
 - 6.14.1.4 **PREPARE** rigging for proper storage.

6.15 Post Job Debriefing

- 6.15.1 At completion of the lift or series of lifts, the responsible supervisor **SHOULD** conduct a debriefing with the crew/individual to ensure any **AND** all information that could be considered for lessons learned **OR** unsatisfactory condition/issue is properly documented **AND** reported per the maintenance program by submitting a Notification.
 - 6.15.1.1 Each individual/crew who has first-hand knowledge of any damage to rigging, load, equipment, **OR** unsatisfactory conditions related to the lift **SHALL** report the discrepancy to the responsible supervisor.

6.16 **Preservation and Proper Storage of Rigging**

6.16.1 **STORE** rigging in a central storage location such as a cargo container, building, large gang box, etc. with the proper housekeeping, environmental conditions, markings, shelving, hangers, cleanliness, corrosion protection, **AND** storage facilities.

6.16.1.1 Periodic inspections **SHALL** be undertaken by the responsible supervisor to assure that the storage area is properly maintained.

CAUTION

DO **NOT** store synthetic type slings in a chemically active area. Chemically active environments can affect sling strength to total degradation.

Heat sources and non-ventilated places **SHOULD** be avoided.

Contaminated TWIN-Path slings **SHOULD NOT** be stored in REMS boxes.
(Contact the Supervisor for direction.)

6.16.2 Store Twin-Path, nylon, polyester (synthetic type) slings in a clean, dry, **AND** cool place out of direct sunlight. They **SHOULD NOT** be subject to heat above 150°F.

6.16.3 Prior to storing steel slings, PRESERVE using a proper lubricant to prevent corrosion **AND** damage.

6.16.4 **STORE** chainfalls and come-a-longs out of the weather to prevent corrosion **AND** damage.

	<h1 style="text-align: center;">RIGGING MANUAL</h1>	SO123-I-7.24 REV: 41
		Page 47 of 109

6.17 Special Rigging Techniques

6.17.1 Rigging Off the Forklift Forks

NOTE

1. The forklift pintle hitch used to push/pull containers and similar loads is NOT considered rigging.
2. The forklift bollard removal / installing device is **NOT** considered rigging.

- 6.17.1.1 The forklift pintle hitch and the forklift bollard removal/installing device **SHALL** only be used for the specific applications for which they are designed.
- 6.17.1.2 Special forklift rigging attachments **SHALL** be used in accordance with the prerequisites, installation, and operating restrictions of the manufacturer's criteria.
- 6.17.1.3 Use of standard rigging (free rigging off the forklift tines for a below-the-tine lift) from the forklift forks **MAY** occur when the following criteria have been met:
 - 6.17.1.3.1 Only stable or safely arranged loads **SHALL** be handled, **AND**
 - 6.17.1.3.2 Caution **SHALL** be exercised when handling off-center loads which cannot be centered
 - 6.17.1.3.3 Manufacturer's documentation indicates the proposed lift is acceptable and within any specified limits **OR**
 - 6.17.1.3.4 Approval for the lift is obtained from a Registered Professional Engineer who **SHALL** perform a safety analysis.

	RIGGING MANUAL	SO123-I-7.24 REV: 41
		Page 48 of 109

7.0 **ACCEPTANCE CRITERIA**

7.1 NONE

8.0 **RETENTION OF RECORDS**

NOTE

The expectation is that the Rigger Checklist and picture/video (if taken) be kept only when the lift is unsatisfactory, rigging fails, or there is personal injury, or damage to the load.

8.1 After completion of the lift, Rigger Checklist (Attachment 4), and picture/video (if taken) of the heavy load lift **MAY** be discarded (or used to aid in a future lift such as a proceduralized Engineer-Assisted Lift).

	RIGGING MANUAL	SO123-I-7.24 REV: 41 <hr/> Page 49 of 109
-----------------------------------------------------------------------------------	-----------------------	---------------------------------------------------------------

9.0 **REFERENCES / COMMITMENTS**

9.1 **Implementing Reference**

9.1.1 **Procedures**

- 9.1.1.1 SO123-XV-HU-3, Human Performance Program
- 9.1.1.2 SO23-XXI-TPD-MNT, Maintenance Training Program Description.
- 9.1.1.3 SO123-CR-1, Cranes and Rigging Program
- 9.1.1.4 SO123-I-7.10, Periodic Inspection and Testing of Rigging and Accessories
- 9.1.1.5 SO123-I-7.13, Inspection and Testing of Chainfalls, Come-A-Longs, Other Portable Hoists and Hoisting Accessories.

9.1.2 **Programs and Guidelines**

- 9.1.2.1 P-XVI-1, Occupational Safety & Health (OS&H) Program

9.2 **Developmental References**

9.2.1 **Commitments**

- 9.2.1.1 CDM NO. C840917G-82: NRC Safety Evaluation Report Relating to Control of Heavy Loads (Phase I) at San Onofre 2 and 3, DATED August 27, 1984
- 9.2.1.2 CDM NO. C840917G-83: Control of Heavy Loads at Nuc Power Plants, San Onofre Nuc Generating Station Units 2/3 (Phase I), Rev July 1984
- 9.2.1.3 NRC Bulletin 96-02, Movement of Heavy Loads Over Spent Fuel, Over Fuel in the Reactor Vessel, or Over Safety Related Equipment
- 9.2.1.4 NUREG 0612, Control of Heavy Loads at Nuclear Power Plants
- 9.2.1.5 NRC Safety Evaluation Report for SONGS 2 & 3, dated August 27, 1984
- 9.2.1.6 INPO SOER 06-1, Rev 1, Rigging Lifting, and Material Handling
- 9.2.1.7 Letter, Robert E. Ramos (SCE) to Kathy Derham (CAL OSHA), dated February 14, 2012, Complaint 20831597-400-d. This letter explains SCE's position on what constitutes riding a load. Letter available from Site Safety.

9.2.2 **Corrective Actions and Corrective Actions to Prevent Recurrence (CAPR)**

- 9.2.2.1 RCE 201217134-CA0004


	<h1 style="text-align: center;">RIGGING MANUAL</h1>	SO123-I-7.24 REV: 41
		Page 50 of 109

9.2.3 Manuals

- 9.2.3.1 1814-AU557-M0001-0, Lift-It Catalog No. 104.
- 9.2.3.2 1814-AU557-M0002-0, Lift-It Slingmax Catalog No. 0111.
- 9.2.3.3 1814-AU570-M0001-0, Twin-Path Sling User Manual, Slingmax Rigging Products
- 9.2.3.4 1814-AU676-M0001-0, Puget Sound Rope (Plasma 12 Strand fiber rope slings)
- 9.2.3.5 Tandemloc Rotary Lift Lug (this manual can be found on the Internet)

9.2.4 Bulletins/Standards/References/ Historical Changes

- 9.2.4.1 Refer to REV 39 of this procedure for extensive list.

 SONGS	RIGGING MANUAL	SO123-I-7.24 REV: 41
		Page 51 of 109
SONGS Practices Not In the SCE Rigging Manual		Attachment 1

1.0 Twin-Path Slings For Engineer-Assisted Lifts

NOTE

1. At SONGS, Twin-Path slings are approved for use on Engineer-Assisted Lifts only.
2. For Engineer-Assisted Lift definition, **REFER** to Section 3.0, Rigging Definitions.
3. For Prior-To-Use Visual Inspections, **REFER** to Attachment 2, Section 5.0, Twin-Path Slings For Engineer-Assisted Lifts.

CAUTION

Twin-Path slings **SHOULD** be stored in a clean dry place. Heat sources **AND** non-ventilated places **SHOULD** be avoided. Chemically active environments can affect the strength of slings.

Twin-Path slings **SHALL** be removed from service if any unsatisfactory conditions are found. IF in any doubt, THEN the sling **SHALL NOT** be used.

DO **NOT** drop slings equipped with metal fittings.

DO **NOT** drag on floor or over abrasive surfaces.

Slings **SHALL NOT** be twisted beyond the manufacturer's recommendation **OR** tied in knots.

NO unusual noise should be heard while rigging. If load popping sounds are heard, sling **MAY** be experiencing sling overload **OR** failing from cutting.

Pin area of a shackle can cause slings to cut. DO **NOT** place slings on pin.

IF manufacturer's tag/label is missing or illegible, THEN sling **SHALL** be removed from service.

Other than by the manufacturer, repairs are PROHIBITED.

- 1.1 At SONGS, Twin-Path slings **MUST** be purchased from an ISO 9000 Certified vendor/facility **AND** have the Fiber Optics Option. Twin-Path slings are for Engineer-Assisted Lifts only.
- 1.2 Each path of a Twin-Path sling has 2.5:1 safety factor. Both paths combine to give a 5:1 safety factor. It is important to equally load both paths of the sling.

	<h1 style="text-align: center;">RIGGING MANUAL</h1>	SO123-I-7.24 REV: 41
		Page 52 of 109

SONGS Practices Not In the SCE Rigging Manual	Attachment 1
-----------------------------------------------	---------------------

- 1.3 Multiple slings can be connected to the same hook. Twin-Path slings **MAY** be squeezed **OR** bunched. Bunching **SHOULD** be minimized.
- 1.4 For better support to Twin-Path slings, Sling Saver shackles and Wide Body Sling Saver shackles **SHALL** be used.
 - 1.4.1 Sling Saver shackles and Wide Body Sling Saver shackles have a wider bow area that helps to improve wearability of slings.
 - 1.4.2 Shackles have a larger bow radius which increases the sling bearing area **AND** eliminates need for a thimble. Shackle pin is non-rotating.
- 1.5 **POSITION** the Twin-Path slings tell-tails so they can be seen.
 - 1.5.1 Tell-tails **SHOULD** be monitored during the Lift **AND** Hold Test. Any reduction in tell-tail length indicates potential internal failure **AND** requires the load to be placed in a safe condition as soon as possible.
- 1.6 **PAY** attention to noises during Lift **AND** Hold Test **AND** during crane movement. Popping noise indicates potential sling failure **AND** requires the load to be placed in a safe condition as soon as possible.

NOTE

Twin-Path slings **MAY** be specified as non-twisting during the purchase process.

- 1.7 Twin-Path sling twist is acceptable as long as there is no more than one 360 degree twist per four feet of sling.
- 2.0 Wind Speed
 - 2.1 Qualified rigger **AND** crane operator **SHOULD** consider securing the lift if wind speed reaches 20 miles per hour, **OR** if the load is being affected in any way by the wind.
 - 2.2 When wind speed reaches 30 miles per hour **OR** greater, the rigger **AND** crane operator **SHALL** terminate the lift **AND** secure the load.

3.0 Energized Clearances

- 3.1 NO part of the crane **OR** rigging **SHOULD** be closer to energized power lines than the minimum required clearance shown below (NN 201339704-7).

NOMINAL VOLTAGE (kV Phase to Phase)	MINIMUM REQUIRED CLEARANCE (feet)
0.6+ to 50	10
50+ to 175	15
175+ to 350	20
350+ to 550	27
550+ to 1000	45


- 3.1.1 All parts of the crane, rigging, **AND** load **SHALL** maintain the required clearance from an energized power line. IF the minimum required clearance from the table above can **NOT** be maintained with the working boom at 360 degrees, **THEN** a Qualified Electrical Worker is required **AND** the mobile crane **SHALL** be grounded.
- 3.1.2 The minimum required clearances shown above **SHALL NOT** be reduced by any strains, loads, **OR** work activities on the structures **OR** attachments that support the high-voltage lines.
- 3.1.3 These clearances DO **NOT** apply when used for authorized work on overhead conductors, structures, **OR** appurtenances, **AND** a Qualified Electrical Worker is used.
- 3.1.4 When transporting a crane, the 360 degree requirement does **NOT** apply. The boom **SHOULD** be retracted **AND** in a position to meet voltage clearance requirements.

4.0 Drifting A Load

CAUTION

1. Before starting to hoist, the hook **SHALL** be centered over the load to prevent swinging of the load when lifted. However, drifting is acceptable. Use caution when drifting a load from the vertical during hoisting. Drifting a load can cause the hoist cable to slip out of the drum groove.
2. Side loading of booms **SHALL** be limited to freely suspended loads, **AND** booms **SHALL NOT** be used for dragging loads sideways unless the boom is specifically designed **AND** constructed to withstand such side loading.

- 4.1 When field conditions warrant, drifting a load is permissible provided the drift does **NOT** allow the cables from slipping out of the drum grooves **OR** overlapping.
- 4.2 When drifting a load, monitor the drum to ensure the cables remain in the groove they ride in.

	<h1 style="text-align: center;">RIGGING MANUAL</h1>	SO123-I-7.24 REV: 41
		Page 54 of 109
SONGS Practices Not In the SCE Rigging Manual		Attachment 1

5.0 Suspended Loads

NOTE

1. Qualified crane operator can be the qualified rigger (if rigger qualified) for short duration **ONLY** if the crane operator can see the load.
2. A suspended load is defined as any lift in which all **OR** part of the load weight is carried by the lifting device, including weight of rigging.
3. Rigging used for side pull such as for pipe fit up or the equipment hatch missile shield doors may be left unattended.

5.1 A load suspended from a crane hook **SHALL NOT** be left unattended by the crane operator. The following special conditions apply during repair or emergency:

5.1.1 Loads **MAY** be left suspended if blocked **OR** otherwise supported from below.

5.1.2 Load **MAY** be left suspended if over a barricaded area.

5.1.3 Rigging has been left slack.

5.2 A suspended load **SHALL NOT** be left unattended by the qualified rigger except:

5.2.1 While in modes 5, 6, **OR** defueled, non-crane suspended piping loads **MAY** be left unattended by the rigger provided the following conditions are met:

5.2.1.1 The suspended load is in the Turbine building **AND/OR** MSIV area, **OR** an engineering review has been performed.

5.2.1.2 The rigger has determined the load is secure for suspension.

5.2.1.3 The area has an attendant **OR** a physical barrier under the load with warning tags stating "SUSPENDED LOAD DO **NOT** WALK UNDER".

5.3 Rigging such as chainfalls **AND** come-a-longs, without a load attached, used to position **OR** install equipment where installation is over a long period **MAY** be left unattended by the rigger if the chainfall, come-a-long, **AND** rigging are seismically secured (where the provisions of SO123-HK-1 apply).

5.4 Rigging used for side pull such as for pipe fit up or the equipment hatch missile shield doors may be left unattended.

5.5 A daily prior-to-use inspection of unattended chainfalls, come-a-longs, **AND** rigging is **NOT** required. A prior-to-use inspection is required prior to resuming active use of chainfall, come-a-long, **OR** rigging.

	<h1 style="text-align: center;">RIGGING MANUAL</h1>	SO123-I-7.24 REV: 41
		Page 55 of 109

SONGS Practices Not In the SCE Rigging Manual	Attachment 1
-----------------------------------------------	---------------------

6.0 Standing, Passing, or Working Under a Suspended Load

6.1 Employees **SHALL NOT** stand, pass, reach, **OR** work under a load suspended solely from rigging.

6.1.1 Standing, Passing, Reaching, **OR** Working under a load **SHALL** only occur if the load is secured. A secured load **SHALL** meet the following requirements:

6.1.1.1 Cribbing **OR** equivalent support means is installed to prevent a load drop; **OR**

6.1.1.2 A secondary support system is installed preventing a load drop due to rigging failure.

6.1.1.3 The load **SHALL** be temporarily suspended with a secondary system consisting of brake-free, static tensioning devices such as alloy chains, steel cables, **OR** nylon slings.

6.1.1.4 The secondary support system **SHALL** be capable of supporting the entire load without use of the primary system.

6.1.1.5 The secondary support system **SHALL** have a 2:1 safety factor (in addition to the built in safety factor of the tensioning device) **AND SHALL** be free of any type of braked hoisting device.


6.1.1.6 The secondary support system **SHALL** be installed under a specific WO/CWO work plan. The WO/CWO work plan **SHALL** document the load weight **AND** capacity of the support system. The installation **SHALL** be approved and documented after installation in the WO/CWO work plan section by a Rigger **AND** a Supervisor.

7.0 Lifting Personnel

7.1 All man basket (personnel platform) activities **SHALL** be performed in accordance with Cal/OSHA – Title 8 Regulations, Division 1. Department of Industrial Relations, Chapter 4. Division of Industrial Safety, Subchapter 4. Construction Safety Orders, Article 15. Cranes and Derricks in Construction, Section 1616.6 Hoisting Personnel.

8.0 Gas Cylinders

8.1 Per CAL-OSHA requirements, gas cylinders **SHALL** be rigged in a suitable cradle **OR** skip box; gas cylinders **SHALL NOT** be lifted by magnet, rope, chain slings, **OR** similar rigging.

 SONGS	RIGGING MANUAL	SO123-I-7.24 REV: 41
		Page 56 of 109
SONGS Practices Not In the SCE Rigging Manual		Attachment 1

9.0 Softeners And Padding

NOTE

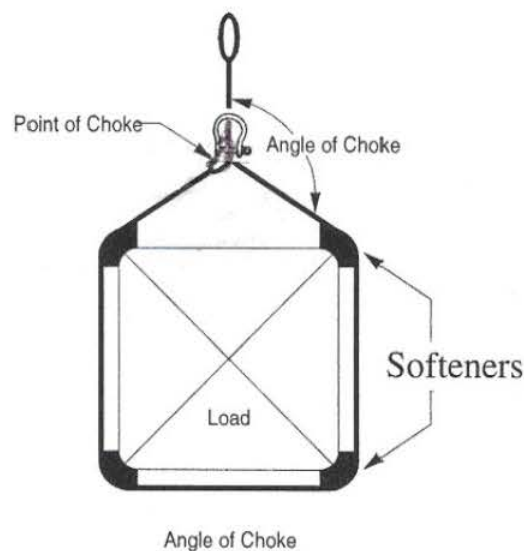
REFER to Section 3.0, Rigging Definitions, for definitions of Softeners, Padding, and additional information.

CAUTION

Failure to properly protect slings from cutting **OR** too sharp of a bend radius **AND** sharp corner of the load could damage slings causing the load to drop. Two events at SONGS: a dropped box **AND** a dropped mobile crane both involved cutting/damage to the slings. Ensure the proper softeners are properly used.


For non-Engineer-Assisted Lifts, only use metal **OR** engineered softeners marked with the load rating for sling protection.

Ensure ALL sharp corners of the load that come into contact with slings are properly softened to prevent damage to the slings during the lift.



Velcro engineered softeners **SHOULD NOT** be used with wire rope slings.

DO **NOT** fly empty rigging with Velcro engineered softeners attached. Velcro can wear due to continued use and **MAY** fall off.

	RIGGING MANUAL	SO123-I-7.24 REV: 41
		Page 57 of 109
SONGS Practices Not In the SCE Rigging Manual		Attachment 1

9.1 Softeners

- 9.1.1 For Velcro engineered softeners, prior to flying empty rigging, REMOVE all Velcro engineered softeners (**SHOULD** statement).

NOTE

1. For flat synthetic nylon fiber slings there is NO D/d. **ENSURE** there are NO sharp corners that can cut OR damage sling.
2. IF thimble is used with a wire rope, THEN NO need to calculate the D/d ratio. The thimble requires a shackle.

- 9.1.2 SOFTEN corners so D over d ratio is at least:

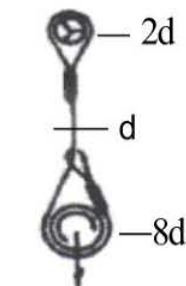
- 9.1.2.1 For wire rope 25:1, OR derate 50%, OR use the reduction in efficiency chart for wire rope. **REFER** to 6.7.4.1 and 6.7.4.2.

- 9.1.2.2 For endless wire rope slings 5 x body diameter.

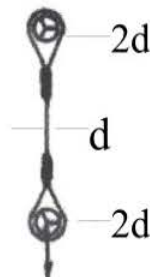
- 9.1.2.3 For One Tri-Flex 3-Part Wire Rope slings, 5:1 for finished diameter (basket hitch).

- 9.1.2.4 For Twin-Path slings, the recommended D/d is ½ the width of the sling.
REFER to Attachment 1, 9.2.4.1 Twin-Path Slings For Engineer-Assisted Lifts.


- 9.1.3 Synthetic fiber rope slings **SHALL** have a diameter of curvature of 2 times the rope diameter for eyes **AND** 8 times for the bight when contacting a surface, except for a choker hitch where the contact with the load surface may be 2 times the rope diameter.



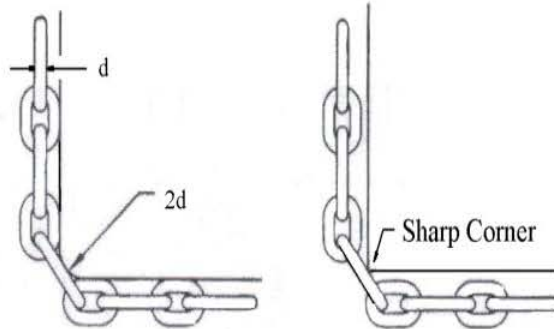
Choker Hitch



Vertical Hitch

	RIGGING MANUAL	SO123-I-7.24 REV: 41
		Page 58 of 109
SONGS Practices Not In the SCE Rigging Manual		Attachment 1

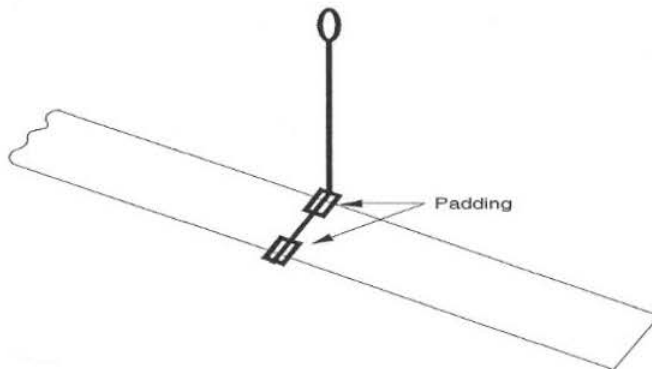
- 9.1.4 Chain slings **SHOULD NOT** pass over sharp corners or edges. ADD softeners so as **NOT** to reduce the capacity when using chain slings. For maximum capacity, minimum 2 times the chain diameter. If less than 2d, 30% reduction in capacity. If sharp corner, 50% reduction in capacity.



9.2 Padding

- 9.2.1 Padding for light loads can be pieces of the following, **OR** similar devices, to cushion edges of load to prevent sling **OR** load damage from rubbing, fretting, **AND** chafing. If in doubt about whether padding is sufficient, **USE** approved softeners.


- 9.2.1.1 Reinforced Rubber
- 9.2.1.2 Leather
- 9.2.1.3 Nylon
- 9.2.1.4 Fire Hose
- 9.2.1.5 Old Slings
- 9.2.1.6 Neoprene



CAUTION

Except for Light load applications which are approved by a Rigger, use only metal, or engineered softeners marked with the load rating for sling protection.

- 9.2.1.7 Padding, for light loads.

	RIGGING MANUAL	SO123-I-7.24 REV: 41
		Page 59 of 109
SONGS Practices Not In the SCE Rigging Manual		Attachment 1

10.0 Synthetic Rigging Non-Use

10.1 Synthetic rigging **SHOULD NOT** be used:

NOTE

Steel rigging **SHOULD NOT** be used near corrosives; but, they can withstand the effects of corrosives better than non-metal rigging. Synthetic rigging is used when moving batteries because steel could cause a potential short circuit OR grounding condition; extreme care is used.

- 10.1.1 Around OR near fumes, vapors, sprays, mists of corrosives, acids and/or caustic liquids OR dry powder.
- 10.1.2 Polypropylene web slings **SHALL NOT** be used at temperatures in excess of 150°F. The rigging could start to stretch AND/OR break. This includes areas where welding AND grinding are being performed.
- 10.1.3 Where the sling could contact abrasive OR sharp/cutting surfaces. When a synthetic sling is loaded it becomes even more susceptible to cutting when contacting sharp OR rough surfaces.

	RIGGING MANUAL	SO123-I-7.24 REV: 41 <hr/> Page 60 of 109
-----------------------------------------------------------------------------------	-----------------------	---------------------------------------------------------------

Prior-To-Use And Annual Certification Visual Inspections	Attachment 2
----------------------------------------------------------	---------------------


1.0 General Notes (Prior-To-Use Visual Inspection)

- 1.1 As a minimum, the visual inspection requirements of this procedure **SHALL** be followed.
- 1.2 Rigging is considered “in use” when a load is applied to the rigging.
- 1.3 Rigging having any unacceptable deficiencies **SHALL** either be destroyed after the Supervisor has been notified, **OR** removed from service for further evaluation.
- 1.4 Annual certification inspection tags are required only on rigging **AND** components that require inspection per SO123-I-7.10 **OR** SO123-I-7.13.
- 1.4.1 Items that require annual certification **SHOULD NOT** be used if the certification tag is missing, data on tag is illegible, **OR** has expired. For special conditions, **REFER** to steps 1.10 **AND** 1.12 of this attachment for accessible **AND** inaccessible rigging with expired tag.
- 1.5 Annual certification inspection tags are required on Twin-Path slings, wire rope slings, bridles, hooks, personal lifting devices, lifting structures (located below the hook), spreaders, frames, A-Frames, barrel/drum lift rigs, steel chain slings, chainfalls, come-a-longs, manually operated griphoist, **AND** cargo container lifting devices.
- 1.6 Annual certification inspection tags are **NOT** required on nylon slings, polyester web slings, synthetic fiber rope slings, beam clamps, carriers (trolleys), eyebolts, eyenuts, shackles, structural members (located above the hook), **AND** miscellaneous accessories.

CAUTION

DO **NOT** mark synthetic type slings. Using a magic marker **OR** paint, for example, can introduce chemicals which can degrade synthetic fibers/slugs.

- 1.7 In lieu of tagging, rigging **AND** accessories **MAY** be marked **OR** stenciled.
- 1.8 Inspections **SHALL** be performed prior-to-use **AND** at a minimum, daily while in use.
- 1.9 Rigging in Storage: Expired rigging which is in storage, such as in a gang box **OR** REMS box, **SHALL** be reinspected **AND** retagged prior to next use.
- 1.10 Accessible Rigging with expired tag: Work need **NOT** be held up while waiting for rigging to be tagged provided the rigger has FIRST HAND KNOWLEDGE the annual/periodic inspection has been performed satisfactorily by the Certification Inspector within the last 12 months. (This information is to be documented on WO.)

	<h1 style="text-align: center;">RIGGING MANUAL</h1>	SO123-I-7.24 REV: 41
		Page 61 of 109
Prior-To-Use And Annual Certification Visual Inspections		Attachment 2

- 1.11 Inaccessible Rigging with current tag: Prior-to-use inspections on rigging components which are **NOT** generally accessible (such as rigging in the overhead, rigging in spent fuel pool) **SHALL** be performed to the extent that personnel **AND** equipment safety is ensured. Binoculars **MAY** be used for inspection.
- 1.12 Inaccessible Rigging with expired or indeterminate tag: Prior-to-use inspections on rigging components which are **NOT** generally accessible (such as rigging in the overhead, rigging in spent fuel pool) **SHALL** be performed to the extent that personnel **AND** equipment safety is ensured.
 - 1.12.1 Binoculars **MAY** be used for inspection. In addition, the qualified rigger **SHALL** consider additional precautions (such as lift **AND** hold) to ensure personnel **AND** equipment safety.
- 1.13 The Prior-To-Use visual inspection is to be performed by a qualified rigger. The qualified rigger **SHOULD** ensure that rigging is **NOT** damaged, is in good working order, **AND** is **NOT** overdue on any scheduled inspection **OR** test.
- 1.14 For installed rigging that is an integral part of the load (such as lifting lugs, eyebolts, pins, trunnions, chains, slings, etc.) a prior-to-use visual inspection **SHALL** be performed. When the load rating of the installed rigging is indeterminate **OR** questionable, contact the Supervisor for resolution.
 - 1.14.1 Paint **MAY** be removed if present to permit an adequate inspection.
 - 1.14.2 A WO **SHOULD** be generated to ensure the rigging is repainted when paint has been removed.

	<h1 style="text-align: center;">RIGGING MANUAL</h1>	SO123-I-7.24 REV: 41
		Page 62 of 109

Prior-To-Use And Annual Certification Visual Inspections	Attachment 2
----------------------------------------------------------	---------------------

- 2.0 Wire Rope Slings and Bridles, Cable Laid Rope, Braided Slings, Multi-Part and One Tri-Flex 3-Part Wire Rope Slings
- 2.1 Slings, bridles, **AND** ropes are tagged with a current annual certification tag. For special conditions, **REFER** to steps 1.10 **AND** 1.12 of this attachment (located in the General Notes at the beginning of this attachment) for accessible **AND** inaccessible rigging with expired tag.
- 2.2 Wire rope slings are free of contaminants (other than preservative) which could hinder the visual inspection.
- 2.3 Cable laid, 6 x 19, and 6 x 37 slings **SHALL** have a minimum clear length of wire rope 10 times the component rope diameter between splices, sleeves, **OR** end fittings.
- 2.4 Braided slings **SHALL** have a minimum clear length of wire rope 40 times the component rope diameter between the loops **OR** end fittings.
- 2.5 Cable laid grommets, strand laid grommets, **AND** endless slings **SHALL** have a minimum circumferential length of 96 times their body diameter.
- 2.6 NO kinking, crushing, bird caging, signs of fatigue, heat damage, twists, knots, abnormal distortion, diameter reduction, stretching, scrubbing, **OR** protruding core, along entire length of sling.
- 2.7 Slings **SHALL** be removed from service if any of the following is observed:
 - 2.7.1 Six or more randomly distributed broken wires are found in one rope lay.
 - 2.7.2 Three or more broken wires are found in one strand in one rope lay, or
 - 2.7.3 One or more broken wires are found within one rope lay of the end attachments.
- 2.8 NO variation in size **OR** roundness of outside individual strands of the wire rope. The sling **SHOULD** be removed from service IF:
 - 2.8.1 A reduction of individual outside wire original diameter is one third (1/3) **OR** greater due to wear **OR** abrasion, OR
 - 2.8.2 It is believed that rated load capacity of the rope **OR** end attachment is reduced due to corrosion.
- 2.9 All end connections, accessories, **AND** attachments **SHOULD** be inspected per applicable sections of this procedure attachment.

2.10 Cable laid and braided slings:

Sling Body	Allowable Broken Wires per Lay or one Braid	Allowable Broken Strands per Sling Length
< 8 part braid	20	1
Cable laid	20	1
8 part and more	40	1

2.11 For One Tri-Flex 3-Part Wire Rope slings, ten randomly distributed broken wires in one rope lay, **OR** five broken wires in one strand in one rope lay.


2.12 If the certification tag has expired or the item is getting an initial tag:

2.12.1 An individual with ENCODE SSMM14, successfully perform this inspection and apply a tag to the sling/bridle with:

2.12.1.1 Identification number.

2.12.1.2 Next due date for certification.

2.12.1.3 Work Load Limit.

 <div>EDISON SONGS</div>	RIGGING MANUAL	SO123-I-7.24 REV: 41
		Page 64 of 109
Prior-To-Use And Annual Certification Visual Inspections		Attachment 2

3.0 Synthetic Slings (Nylon and Polyester Web)

NOTE

1. Nylon **AND** polyester web type slings **AND** straps DO **NOT** require annual certification tags.

CAUTION

1. Nylon and polyester web type slings **SHOULD NOT** be stored in direct sunlight. Ultraviolet light has a damaging affect **AND** can reduce sling capacity.
2. Polyester type slings DO **NOT** stretch as much as nylon type slings. DO **NOT** mix **AND** match sling types. Polyester **AND** nylon slings look similar. Ensure the sling label is read for material type.

3.1 Inspection **SHOULD** be performed prior-to-use **AND** at a minimum, daily while in use.

3.2 Perform hand-over-hand sling inspection while checking for evidence of damage.

NOTE


IF manufacturer's tag/label is missing **OR** illegible, THEN sling / strap **SHOULD** be returned to the manufacturer.

CAUTION

IF manufacturer's tag/label is missing or illegible, THEN sling **SHALL** be removed from service.

3.3 The manufacturer's tag/label identifies:

- 3.3.1 Name **OR** trademark of the manufacture.
- 3.3.2 Manufacturer's code **OR** stock number.
- 3.3.3 Rated load for the type hitches to be used (such as vertical, choker, vertical basket)
- 3.3.4 Type of material (core **AND**, if different, cover).
- 3.3.5 Sling length (bearing point to bearing point).

 EDISON SONGS	RIGGING MANUAL	SO123-I-7.24 REV: 41
		Page 65 of 109
Prior-To-Use And Annual Certification Visual Inspections		Attachment 2

- 3.4 Strap/sheath is clean **AND** dry.
- 3.5 Strap/sheath is **NOT** torn **OR** frayed.
- 3.6 NO snags, punctures, tears, **OR** cuts.
- 3.7 NO broken, **OR** worn stitches.
- 3.8 NO broken stitches at the eye, **OR** splice.
- 3.9 NO exposed red fiber, if present.
- 3.10 Selvage edges are **NOT** split from its woven width.
- 3.11 NO burns such as from acid **OR** caustic.
- 3.12 NO melting **OR** charring.

NOTE

DO **NOT** confuse bleached white with fading. Fading is normal. IF in doubt, THEN contact the Supervisor for sling evaluation.

CAUTION


A bleached white sling, normally yellow in color, is an indication that the capacity of a nylon sling is impaired. Bleached slings **SHOULD** be returned to the Supervisor for evaluation.

- 3.13 **NOT** bleached white (sling normally yellow in color).

NOTE

If evidence of elongation is suspected, the manufacturer **MAY** be contacted for specification for original dimension.

- 3.14 NO excessive wear or evidence of elongation. A new sling of the same original size **MAY** be used to compare for elongation.
- 3.15 NO distorted fittings, or fittings with sharp edges or projections.
- 3.16 Synthetic sling webbing **SHALL** be of uniform thickness and width.

 EDISON SONGS	RIGGING MANUAL	SO123-I-7.24 REV: 41
		Page 66 of 109
Prior-To-Use And Annual Certification Visual Inspections		Attachment 2

CAUTION

Other than by the manufacturer, repairs are PROHIBITED.

3.17 NO repairs, except by manufacturer.

4.0 Synthetic Round or Rope Slings


NOTE

1. Synthetic round or rope slings DO **NOT** require annual certification tags.
2. Synthetic round or rope slings **SHALL** be inspected prior to each use, at least daily while in use, **AND** after each use.
3. IF any visible damage causes doubt, THEN the sling **SHALL NOT** be used.
4. IF manufacturer's tag/label is missing **OR** illegible, THEN sling/strap **SHOULD** be returned to the manufacturer.

CAUTION

Synthetic round or rope slings **SHALL** be removed from service if any of the following conditions are unsatisfactory.

- 4.1 **ENSURE** manufacturer's certification tag / label is **NOT** missing, data on tag is legible, including the work load limit capacity.
- 4.2 NO acid or caustic burns.
- 4.3 NO discoloration, rotted, and/or brittle/stiff areas that **MAY** indicate chemical or UV sunlight damage.
- 4.4 NO charring or weld spatter of any part of the sling.
- 4.5 NO holes, tears, cuts, embedded particles, abrasive wear, or snags that expose the load carrying yarns.
- 4.6 NO broken, cut or damaged load carrying yarns.

	RIGGING MANUAL	SO123-I-7.24 REV: 41
		Page 67 of 109
Prior-To-Use And Annual Certification Visual Inspections		Attachment 2

- 4.7 NO broken or worn stitching in the cover which exposes the load carrying yarns.
- 4.8 NO slings that are knotted.
- 4.9 NO abnormal wear.
- 4.10 For hooks, see Section 8.0 on Hooks.
- 4.11 For fittings, see Section 16.0 on Miscellaneous Rigging Accessories.
- 4.12 NO visible red warning indicator thread.
- 4.13 NO repairs, except by the manufacturer.
- 4.14 NO other conditions, including visible damage that **MAY** cause doubt as to the continued use of the sling.

	<h1 style="text-align: center;">RIGGING MANUAL</h1>	SO123-I-7.24 REV: 41
		Page 68 of 109

Prior-To-Use And Annual Certification Visual Inspections	Attachment 2
----------------------------------------------------------	---------------------

5.0 Twin-Path Slings For Engineer-Assisted Lifts

NOTE

1. At SONGS, Twin-Path slings are approved for use on Engineer-Assisted Lifts only.
2. Twin-Path slings require annual certification tags. Twin-Path slings are to be 200% proof load tested by an ISO 9000 Certified vendor/facility.
3. For contaminated Twin-Path slings, with the Site Rigging Program Manager approval, the Supervisor **MAY** authorize the annual certification inspection, testing, AND tagging for contaminated Twin-Path slings.
4. Twin-Path slings **SHALL** be inspected prior to each use, at least daily while in use, AND after-each-use.
5. IF manufacturer's tag/label is missing OR illegible, THEN sling/strap **SHOULD** be returned to the manufacturer.
6. For better support of Twin-Path slings, Sling Saver shackles AND Wide Body Sling Saver shackles **SHALL** be used.

CAUTION

1. Twin-Path slings **SHOULD** be stored in a clean dry place. Heat sources AND non-ventilated places **SHOULD** be avoided. Chemically active environments can affect the strength of slings.
2. Twin-Path slings **SHALL** be removed from service if any unsatisfactory conditions are found. IF in doubt, THEN the sling **SHALL NOT** be used.
3. DO **NOT** drop slings equipped with metal fittings.
4. DO **NOT** drag slings on floor OR over abrasive surfaces.
5. Slings **SHALL NOT** be twisted OR tied in knots.

- 5.1 At SONGS, Twin-Path slings **MUST** be purchased from an ISO 9000 Certified vendor/facility AND have the Fiber Optics Option. Twin-Path slings are for Engineer-Assisted Lifts only.
- 5.2 Twin-Path slings have a cover AND are designed with two kinds of indicators: Tell-tails warn of overload AND a fiber optic cable warns of core fiber damage.



RIGGING MANUAL

SO123-I-7.24
REV: 41

Page 69 of 109

Prior-To-Use And Annual Certification Visual Inspections

Attachment 2

- 5.3 Twin-Path slings have two separate load bearing cores **AND** two separate seamless covers in a single sling. Twin-Path slings have two different color-coded covers: the outer cover **AND** the red inner cover. The contrasting colors help to determine if the sling has been cut. The outer cover is protection for the core against abrasion **AND** ultraviolet light from the sun.
- 5.4 The overload tell-tails that extend from the Twin-Path sling tag area **MAY** retract when the sling experiences a severe overload.
- 5.5 The fiber optic cable, located inside the sling, will aid in determining damage from crushing, heat exposure, cutting, **AND** chemicals. **IF** the continuity (uninterrupted connection of the fiber optic cable) is interrupted, **THEN** the sling **SHOULD** be removed from service **AND** returned to the manufacturer for repair evaluation.
- 5.6 Each path of a Twin-path sling has a 2.5:1 safety factor. Both paths combine to give a 5:1 safety factor. It is important to load both paths of the sling equally.
- 5.7 **PERFORM** hand-over-hand sling inspection while checking for evidence of damage, bulges, **OR** other anomalies.
- 5.8 Check fiber optic cable for uninterrupted connection by passing a light source over one end **AND** watch the other end for blinking which indicates sling **MAY** be satisfactory for use.

CAUTION


IF manufacturer's tag/label is missing **OR** illegible, **THEN** the sling **SHALL** be removed from service.

- 5.9 **ENSURE** manufacturer's certification tag/label is **NOT** missing, data on tag is legible, **AND** tag has **NOT** expired.
- 5.10 **ENSURE** annual certification tag is **NOT** missing, data on tag is legible, **AND** tag has **NOT** expired.
- 5.11 NO evidence of cutting, abrasion, **OR** tearing of the outer cover.
- 5.12 NO evidence of heat damage to the outer cover.

CAUTION

Other than by the manufacturer, repairs are PROHIBITED.

- 5.13 NO repairs, except by manufacturer.
- 5.14 Both tell-tails extend at least ½" past the tag area. **IF** both tell-tails are **NOT** ½" long or longer, **THEN** remove sling from service.

	<h1 style="text-align: center;">RIGGING MANUAL</h1>	SO123-I-7.24 REV: 41
		Page 70 of 109

Prior-To-Use And Annual Certification Visual Inspections	Attachment 2
----------------------------------------------------------	---------------------

- 5.15 If the certification tag has expired or the item is getting an initial tag:
- 5.16 An individual with ENCODE SSMM14, successfully perform this inspection and apply a tag to the twin path sling with:
 - 5.16.1 Identification number.
 - 5.16.2 Next due date for certification.
 - 5.16.3 Work Load Limit.

6.0 Shackles, Eyebolts, Eyenuts, and Lifting Lugs

- 6.1 Inspections **SHOULD** be performed prior to use **AND** at least daily while in use.
- 6.2 Shackles, eyebolts, **AND** eyenuts DO **NOT** require annual certification tags **OR** color coding. Shackles, eyebolts, **AND** eyenuts **MAY** be used, regardless of color, as long as the prior-to-use inspection is satisfactory.

CAUTION


Be particularly careful to evaluate integral rigging (such as eyebolts) installed by equipment vendors. Reference 201506140.

- 6.3 For proper inspection of installed rigging (lifting lugs, eyebolts, etc.) it **MAY** be necessary to remove the paint, If paint is present. IF paint is to be removed, THEN **ENSURE** a work order is generated for the Painters for repainting. Additionally, CONTACT the Supervisor if the load rating of installed rigging is indeterminate **OR** questionable.

CAUTION

All lifting lugs **AND** eyebolts that are installed on equipment, loads, **OR** in overhead beams are to be inspected prior to use.

- 6.3.1 NO cracks, severe nicks, or gouges.
- 6.3.2 NO signs of distortion.
- 6.3.3 NO indication of excessive wear.
- 6.3.4 NO worn threads as evidenced by thread damage.
- 6.3.5 NO shackle pin binding.

 <div>EDISON SONGS</div>	RIGGING MANUAL	SO123-I-7.24 REV: 41
		Page 71 of 109
Prior-To-Use And Annual Certification Visual Inspections		Attachment 2


6.3.6 NO bending **OR** overload.

6.3.7 NO broken welds. IF paint is present, THEN paint **MAY** be removed for proper inspection. **REQUEST/PERFORM** NDE if visual inspection is questionable.

NOTE

DO **NOT** back off pin on shackle.

6.3.8 Shackle pin is completely shouldered AND, as a minimum, pin is threaded flush with end of shackle.

	RIGGING MANUAL	SO123-I-7.24 REV: 41
		Page 72 of 109
Prior-To-Use And Annual Certification Visual Inspections		Attachment 2

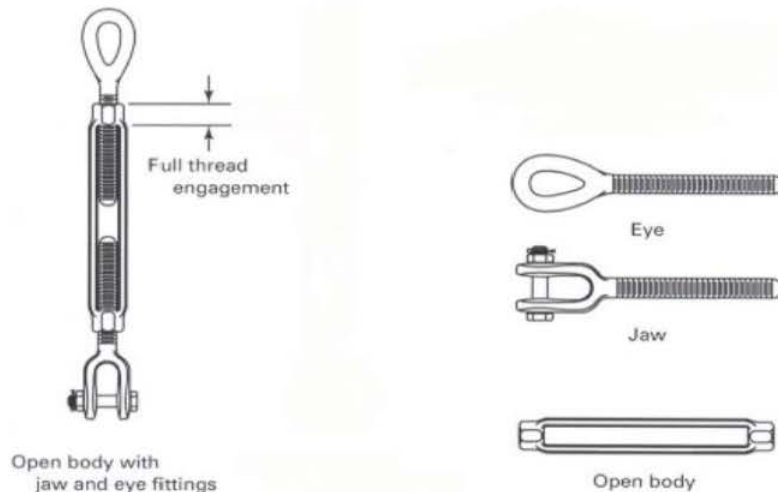
7.0 Turnbuckles

NOTE

Turnbuckle repairs, alterations, **OR** modifications **SHALL** be as specified by the manufacturer or a qualified person.

CAUTION

1. The use of pipe body type turnbuckles (conceal the length of thread engagement), **AND** hook type turnbuckles (NO mouse) are prohibited at SONGS.
2. Contact with obstructions that could damage or bend turnbuckles **SHOULD** be avoided.



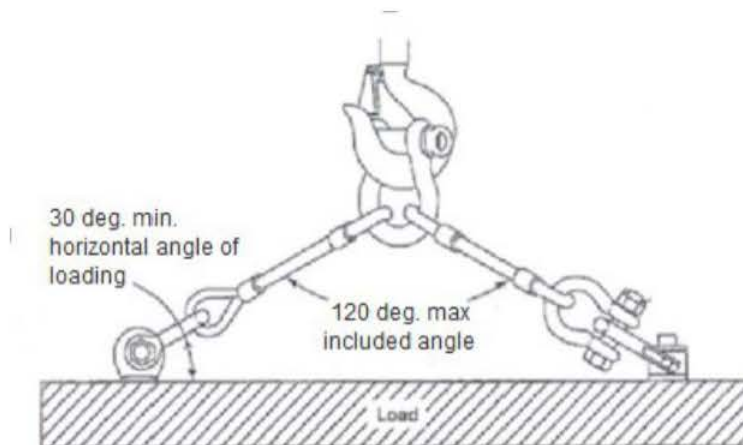
- 7.1 Turnbuckles, including components such as pins **AND** cotter pins used with jaw ends, **SHALL** be inspected for good working condition prior to use **AND** at least daily while in use.
- 7.2 Turnbuckles **SHALL** be marked with the name **OR** trademark of the manufacturer, size **OR** rated load, **AND** grade for alloy eyebolts. **IF** this identification is **NOT** legible, **THEN** DISCARD the turnbuckle.
- 7.3 DISCARD the turnbuckle if there are any cracks **OR** deformations in the end fittings **OR** the center piece.

- 7.4 DISCARD the turnbuckle if the male **OR** female threads are damaged **OR** bent.
- 7.5 Turnbuckle end fitting threads **SHALL** be fully engaged in the body threads.
- 7.6 Turnbuckles **SHOULD NOT** be dragged on an abrasive surface.
- 7.7 Shock loading **SHOULD** be avoided.

CAUTION


For safety, use only one turnbuckle per leg on multi-leg slings.

- 7.8 The load applied to the turnbuckle **SHOULD** be in line **AND** in tension. **REFER** to drawing below for angle of loading.

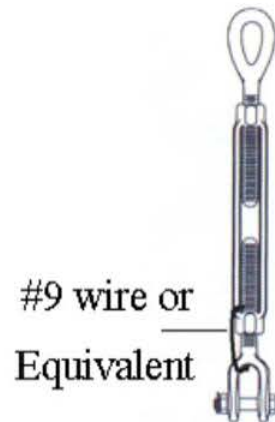


Horizontal Angle Degree	Stress Multiplier
90	1.0
60	1.2
45	1.5
30	2

- 7.9 Turnbuckles **SHOULD NOT** be side-loaded.
- 7.10 Turnbuckles **SHOULD** be adjusted with a properly sized wrench on the wrench flats of the turnbuckle body.

 <div>EDISON SONGS</div>	RIGGING MANUAL	SO123-I-7.24 REV: 41
		Page 74 of 109
Prior-To-Use And Annual Certification Visual Inspections		Attachment 2

- 7.11 Turnbuckles **SHOULD** be rigged OR secured to prevent unscrewing during the lift such as using a piece of #9 wire OR equivalent to lash the end pieces so the turnbuckle can **NOT** unscrew under load.



- 7.12 For long-term installations, turnbuckles **SHALL** be secured to prevent unscrewing such as using a piece of #9 wire OR equivalent to lash the end pieces so the turnbuckle can **NOT** unscrew under load.

8.0 Hooks

NOTE

1. Inspections **SHOULD** be performed prior to use **AND** at least daily while in use.
2. This section applies to all hooks used for rigging, such as crane, hoist, chainfall, Come-A-Long, griphoist hooks, and hooks attached to rigging slings.

- 8.1 Hooks are tagged with a current annual certification tag. For special conditions, **REFER** to steps 1.10 **AND** 1.12 (located in the General Notes at the beginning of this attachment) for accessible **AND** inaccessible rigging with expired tag.
- 8.2 Rigging components with integral hooks (such as chainfalls **AND** come-a-longs) DO **NOT** require a separate tag for the hook. A single tag covers the entire component.
- 8.3 NO cracks, chemical damage, severe nicks **OR** gouges.
- 8.4 NO distortion such as bending **OR** twisting from the plane of the unbent hook. Remove from service if bent **OR** twisted.
- 8.5 **CHECK** for hook spreading (increased throat opening). An increase in throat opening less than 5%, **NOT** to exceed 1/4", of the original dimension (**OR** as recommended by the manufacturer) is acceptable.
- 8.6 **CHECK** for excessive wear at the saddle (load bearing section). Wear **NOT** exceeding 10% of the original dimension (**OR** as recommended by the manufacturer) is acceptable.
- 8.7 NO latch mechanism damage **OR** malfunction (if latch is provided). Mechanism is fully operative **AND** fully bridges the throat opening.
- 8.8 **IF** hooks are painted, **THEN** **CHECK** for surface variations. Evidence of abnormal variations **MAY** require more detailed analysis.
- 8.9 If the certification tag has expired or the item is getting an initial tag:
 - 8.9.1 An individual with ENCODE SSMM14, successfully perform this inspection and apply a tag to the hook with:
 - 8.9.1.1 Identification number.
 - 8.9.1.2 Next due date for certification.
 - 8.9.1.3 Work Load Limit.

	<h1 style="text-align: center;">RIGGING MANUAL</h1>	SO123-I-7.24 REV: 41
		Page 76 of 109

Prior-To-Use And Annual Certification Visual Inspections	Attachment 2
----------------------------------------------------------	---------------------

9.0 Cargo Container Lifting Device (Tandemloc)

9.1 Prior to installation, **INSPECT** cargo container lift pocket. NO distortion **OR** damage which could prevent lift rig from properly working.

9.2 Cargo containers **AND** trailers for use in the protected area, industrial area, **AND** southyard area are to be stacked **AND** secured in accordance with SO23-XV-4.13.

9.3 Lifting Device (Tandemloc)

NOTE

Inspections **SHOULD** be performed prior to use **AND** at least daily while in use.

9.3.1 **CHECK** for a current annual certification tag. DO **NOT** use lifting device if certification tag is missing, data on tag is illegible, **OR** tag has expired. For special conditions, **REFER** to steps 1.10 and 1.12 of this attachment for accessible **AND** inaccessible rigging with expired tag.

9.3.2 **INSPECT** Tandemloc per manufacturer's recommendation, **AND** at a minimum, as follows:

9.3.2.1 NO damage to slings **AND** all connections.

9.3.2.2 **INSPECT** the four (4) lifting lugs for any distortion.

9.3.2.3 Manually **ACTUATE** lifting lugs by lifting the counter weight arm to its highest point.

9.3.2.4 While lowering counter weight arm, **ENSURE** all lifting lugs **AND** flags turn to the locked position.

9.3.2.5 Again, manually **ACTUATE** lifting lugs by lifting counter weight arm to its highest point.

9.3.2.6 While lowering counter weight arm, **ENSURE** all lugs **AND** flags smoothly rotate to the installation position.

9.4 If the certification tag has expired or the item is getting an initial tag:

9.4.1 An individual with ENCODE SSMM14, successfully perform this inspection and apply a tag to the lifting device with:

9.4.1.1 Identification number.

9.4.1.2 Next due date for certification.

9.4.1.3 Work Load Limit.

10.0 Rotary Lift Lug (Tandemloc)

NOTE

1. Inspections **SHOULD** be performed prior to use **AND** at least daily while in use.
2. The Tandemloc Rotary Lift Lug is designed to connect lifting slings to the bottom side apertures in ISO 668 type cargo container corner fittings (ISO 1161).
3. The Tandemloc Rotary Lift Lug 416000C-LTZ type has enhanced corrosion resistance.
4. The Tandemloc Rotary Lift Lug 416000C-LSTZ type has an added safety feature, a safety lock, to help prevent the lug from accidental dislodgment.
5. The rotating lift lug rotates to any angle of pull.
6. Rotating lift lugs DO **NOT** require shackles to connect to the sling.
7. Per manufacturer's recommendation, once the rotary lift lug is connected to its rigging, Loctite **SHOULD** be used on the threads of the setscrew to prevent unscrewing.
8. A set of four lift lugs are required per cargo container.


CAUTION

Rotating Lift lug ISO 1496 does **NOT** permit 40' cargo containers to be lifted from the bottom corners at an angle of less than 30° to the horizontal plane.

10.1 **INSPECT** Tandemloc Rotary Lift Lugs per manufacturer's recommendation, **AND** at a minimum, as follows:

- 10.1.1 **INSPECT** the four lifting lugs for evidence of distortion.
- 10.1.2 NO missing parts to lifting lug assembly.
- 10.1.3 NO cracks, severe nicks, or gouges.
- 10.1.4 NO indication of excessive wear.
- 10.1.5 NO damage to lug pin.
- 10.1.6 NO damage to lug crosspin.



	<h1 style="text-align: center;">RIGGING MANUAL</h1>	SO123-I-7.24 REV: 41
		Page 78 of 109
Prior-To-Use And Annual Certification Visual Inspections		Attachment 2

- 10.1.7 NO damage to bolt or bolt threads.
- 10.1.8 NO damage to set screw or set screw threads.

11.0 Load Bearing Rigging Designed and Fabricated by SCE


NOTE

1. Inspect temporary lifting structures, lifting beams, spreaders, A-Frames, barrel/drum lift rigs, skiffs, **AND** load bearing rigging components designed **AND** fabricated by SCE prior to use and at least daily while in use.
2. Lifting structures located below the hook are considered rigging. Structural members located above the hook are **NOT** considered rigging.
3. **REFER** to Attachment 3, 6.0, Temporary lifting Structures.
4. **REFER** to Attachment 3, 4.0., Permanent lifting Structures.

CAUTION

A-Frames are considered rigging **AND** are required to be inspected prior to use. It is important that parts are **NOT** changed out or substituted because A-Frames are designed **AND** certified with the original parts. **DO NOT** substitute bolts for missing pins. A-Frames manufactured by SCE **SHOULD NOT** be modified without an engineering drawing **AND** new load test being performed.

- 11.1 **CHECK** for a current annual certification tag. For special conditions, **REFER** to steps 1.10 and 1.12 (located in the General Notes at the beginning of this attachment) for accessible **AND** inaccessible rigging with expired tag.
- 11.2 NO cracks, severe nicks **OR** gouges.
- 11.3 NO signs of deformation, spreading, **OR** fatigue.
- 11.4 NO loose mounting fasteners.

	<h1 style="text-align: center;">RIGGING MANUAL</h1>	SO123-I-7.24 REV: 41
		Page 79 of 109
Prior-To-Use And Annual Certification Visual Inspections		Attachment 2

11.5 If the certification tag has expired or the item is getting an initial tag:

11.5.1 An individual with ENCODE SSMM14, successfully perform this inspection and apply a tag or stencil to the SCE fabricated rigging with:

11.5.1.1 Identification number.

11.5.1.2 Next due date for certification.

11.5.1.3 Work Load Limit.

12.0 Structural Members (located above the hook)

NOTE

1. Structural members such as structural beams, structural tubing, **AND** scaffold rigging beams are **NOT** considered rigging when they are used to hang rigging **AND** are located above the hook.
2. Structural members DO require a visual inspection prior to use.
3. Structural members DO **NOT** require annual tagging **OR** annual inspection.
4. Structural members DO require marking **OR** stenciling with the Work Load Limit as directed by Engineering.
5. Prior to use, all new, altered, modified, **OR** repaired structural members **SHALL** be inspected.

12.1 CONDUCT a prior-to-use visual inspection of structural members as follows:

12.1.1 NO visible cracks, severe nicks, or gouges.


12.1.2 NO signs of excessive deformation or fatigue.

12.1.3 NO loose mounting fasteners.

12.1.4 **PERFORM** any required load test per SO123-I-7.10.

12.1.5 **PERFORM** any required repairs per SO123-I-7.10.

12.1.6 **PERFORM** required non-destructive testing per SO123-I-7.10 IF cracks **OR** distortion are found.

	RIGGING MANUAL	SO123-I-7.24 REV: 41
		Page 80 of 109
	Attachment 2	

12.1.7 Any unacceptable deficiencies found in the structural member **SHALL** immediately be reported to Engineering for further evaluation. An unacceptable structural member **SHALL NOT** be used.

12.1.8 At completion of satisfactory inspection/test, MARK **OR** STENCIL with the Work Load Limit as directed by Engineering.

13.0 Chainfalls (Manually Operated)

NOTE

1. Inspections **SHOULD** be performed prior to use **AND** at least daily while in use.

13.1 **CHECK** for a current annual certification tag. For special conditions, **REFER** to steps 1.10 and 1.12 of this attachment (located in the General Notes at the beginning of this attachment) for accessible **AND** inaccessible rigging with expired tag.

NOTE


The brake drift test **MAY** be satisfied by observation during actual lifting evolutions during the day.

13.2 NO evidence of slippage under load indicated on braking mechanism.

13.3 NO wear, twists, broken, cracked, **OR** otherwise damaged links on load chain.

13.4 NO deposits of foreign material which **MAY** be carried into hoist mechanism. Properly **CLEAN** any deposits.


13.5 **INSPECT** hooks per Section 8.0 of this attachment.

	RIGGING MANUAL	SO123-I-7.24 REV: 41
		Page 81 of 109
	Attachment 2	

NOTE

Rigging rated at two times load lifted (including sling angle) equates to a 10:1 safety factor when considering the rigging safety factor for NUREG 0612 lifts. (If in doubt, always consider the SAFE SHUTDOWN equipment as operable)

- 13.6 For HEAVY LOADS lifted with NON-CRANE RIGGING (such as chainfalls, come-a-longs, etc.) that will pass OVER **OR** NEAR IRRADIATED FUEL **OR** operable SAFE SHUTDOWN EQUIPMENT, the rigging capacity **MUST** be rated a minimum of two times load lifted including sling angle. If this **CANNOT** be followed, or if in doubt, have the lift evaluated **AND** comply with the NUREG 0612 commitments of SO123-I-1.13.
- 13.7 **ENSURE** the chain dead head is affixed to the hoist body, **OR** has a dead head end link installed to keep the dead end of the chain from passing through the sheave.
- 13.8 If certification tag is expired or initial certification is required, an individual with ENCODE SSMM14, perform annual certification in accordance with SO123-I-7.14.

 EDISON SONGS	RIGGING MANUAL	SO123-I-7.24 REV: 41
		Page 82 of 109
Prior-To-Use And Annual Certification Visual Inspections		Attachment 2

14.0 Come-A-Longs

NOTE

Inspections **SHOULD** be performed prior to use **AND** at least daily while in use.

- 14.1 **CHECK** for a current annual certification tag. For special conditions, **REFER** to steps 1.10 **AND** 1.12 (under General Notes) at the beginning of this attachment for accessible **AND** inaccessible rigging with expired tag.

NOTE

The brake drift test **MAY** be satisfied by observation during actual lifting evolutions during the day.

- 14.2 NO evidence of slippage under load indicated on braking mechanism.
- 14.3 NO wear, twists, broken, cracked, **OR** otherwise damaged links on load chain.
- 14.4 NO deposits of foreign material which **MAY** be carried into hoist mechanism.
- 14.5 **INSPECT** hooks per Section 8.0 of this attachment.
- 14.6 **ENSURE** all lever **AND** ratchet plungers are free to move **AND** engage the hub **AND** ratchet properly.

NOTE

Rigging rated at 2 times load lifted (including sling angle) equates to a 10:1 safety factor when considering the rigging safety factor NUREG 0612 lifts. (If in doubt, always consider the SAFE SHUTDOWN equipment as operable.)

- 14.7 For **HEAVY LOADS** lifted with **NON-CRANE RIGGING** (such as chainfalls, come-a-longs, etc.) that will pass **OVER** **OR** **NEAR IRRADIATED FUEL** or operable **SAFE SHUTDOWN EQUIPMENT**, the rigging capacity **MUST** be rated a minimum of 2 times load lifted including sling angle. If this **CANNOT** be followed, or if in doubt, have the lift evaluated **AND** comply with NUREG 0612 commitments of SO123-I-1.13.
- 14.8 If certification tag is expired or initial certification is required, an individual with **ENCODE SSMM14**, perform annual certification in accordance with SO123-I-7.14.

15.0 Hoists (Electric, Pneumatic, Engine, and Shop Crane)

NOTE


1. Inspections **SHOULD** be performed prior to use **AND** at least daily while in use.
2. Perform only the steps applicable to the type of hoist being inspected.
3. Engine hoists DO **NOT** require an annual inspection, just prior-to-use inspections.

- 15.1 **CHECK** for current annual certification tag. For special condition, **REFER** to steps 1.10 **AND** 1.12 of this attachment for accessible **AND** inaccessible rigging with expired tag.
- 15.2 All controls **AND** operating mechanisms are properly operating **AND** plainly marked.
- 15.3 All safety devices are properly functioning.
- 15.4 NO air system deterioration **OR** leakage.
- 15.5 NO wear, twist, **OR** distortion to load chain **AND** wire rope.
- 15.6 NO improper dead ending of hoist drum.
- 15.7 NO deposits of foreign material which **MAY** be carried into hoist mechanism.
- 15.8 **INSPECT** hooks per Section 8.0 of this attachment.

NOTE

Many different types of engine hoists are available on site, each with different load ratings **AND** ways they can be used. **IF** you are **NOT** sure how the hoist is to be used, **THEN** contact your supervisor.

- 15.9 NO deformation **OR** corrosion to load bearing parts.
- 15.10 NO hydraulic leaks.
- 15.11 NO abnormal conditions such as cracked welds, **OR** damaged, loose, **OR** missing parts.
- 15.12 If certification tag is expired or initial certification is required, an individual with ENCODE SSMM14, perform annual certification in accordance with SO123-I-7.14.

	<h1 style="text-align: center;">RIGGING MANUAL</h1>	SO123-I-7.24 REV: 41
		Page 84 of 109
Prior-To-Use And Annual Certification Visual Inspections		Attachment 2

16.0 Miscellaneous Rigging Accessories

NOTE

1. Miscellaneous rigging accessories include rings, lugs, beam clamps (**REFER** to Attachment 3, 9.0), carriers (trolleys), swivel **AND** double edge lifting plates, grabs, **AND** pad eyes.
2. Miscellaneous rigging accessories DO **NOT** require annual certification tags **OR** color coding.
3. Miscellaneous rigging accessories **MAY** be used regardless of color as long as the prior-to-use inspection is satisfactory.

16.1 NO visible cracks, severe nicks, **OR** gouges.

16.2 NO signs of distortion **OR** deformation.

16.3 NO feathered edges.

16.4 NO indication of excessive wear.

NOTE

IF you are unsure of how to install **OR** use any type trolley, THEN STOP, **AND** contact your supervisor for assistance.

CAUTION

Care **SHALL** be taken to inspect the trolley for proper installation, operation, load rating, **AND** spacing to ensure the trolley will **NOT** come off the beam rail. IF it appears that someone has changed out any of the parts/bolts with anything other than in-kind parts, THEN DO **NOT** use.

16.5 **ENSURE** trolley is assembled **AND** installed in accordance with the manufacturer's instructions.

16.5.1 **ENSURE** NO cracks or excessive damage to carrier (trolley) wheels.

16.5.2 **ENSURE** wheels turn freely.

16.5.3 **ENSURE** all connections are tight.

16.5.4 Visually **CHECK** that all parts appear to be from the manufacturer.

17.0 Steel Chain Slings

NOTE

Only alloy chains are allowed to be used as rigging at SONGS. Wrought iron chains are **NOT** allowed to be used as rigging.

17.1 **CHECK** for a current annual certification tag. For special conditions, **REFER** to steps 1.10 **AND** 1.12 of this attachment for accessible **AND** inaccessible rigging with expired tag.

17.2 Each link hinges freely with adjoining link.

17.3 NO evidence of excessive wear at any point of any chain link. Evidence of excessive wear will require a more detailed inspection as follows:


17.3.1 Sling **SHALL** be removed from service if wear at any point of any chain link exceeds that shown in the following table:

Normal Chain Size(inches)	Maximum Allowable Wear (inches)	Minimum Allowable Wear (inches)
1/4	3/64	13/64
3/8	5/64	19/64
1/2	7/64	25/64
5/8	9/64	31/64
3/4	5/32	19/32
7/8	11/64	45/64
1	3/16	13/16
1-1/8	7/32	29/32
1-1/4	1/4	1
1-3/8	9/32	1-3/32
1-1/2	5/16	1-3/16
1-3/4	11/32	1-13/32

17.4 NO distortion of any link **OR** attachment.

17.5 NO visible cracks, severe nicks, gouges **OR** heat damage.

17.6 Makeshift links **OR** fasteners formed from bolts **OR** rods, **OR** other such attachments **SHALL NOT** be used.

	<h1 style="text-align: center;">RIGGING MANUAL</h1>	SO123-I-7.24 REV: 41
		Page 86 of 109
	Attachment 2	

17.7 If the certification tag has expired or the item is getting an initial tag:

17.7.1 An individual with ENCODE SSMM14, successfully perform this inspection and apply a tag or stencil to the steel chain sling with:

17.7.1.1 Identification number.

17.7.1.2 Next due date for certification and work load limit.

18.0 Barrel/Drum Lift Rigs

NOTE

1. Inspections **SHOULD** be performed prior to use **AND** at least daily while in use.

18.1 **CHECK** for a current annual certification tag. DO **NOT** use barrel/drum lift rig if certification tag is missing, data on tag is illegible, **OR** tag has expired. For special conditions, **REFER** to steps 1.10 **AND** 1.12 of this attachment for accessible **AND** inaccessible rigging with expired tag.

18.2 For barrel/drum lift nylon sling type, **OR** similar material, **PERFORM** hand-over-hand sling inspection for evidence of damage.


18.2.1 NO abnormal wear.

18.2.2 NO powdered fiber between strands.

18.2.3 NO variations in size **OR** roundness of strands.

18.2.4 NO discoloration **OR** rotting.

18.2.5 NO distortion of hardware in sling.

	<h1 style="text-align: center;">RIGGING MANUAL</h1>	SO123-I-7.24 REV: 41
		Page 87 of 109
	Attachment 2	

- 18.3 For Morse Corporation barrel/drum lift type rig, Model 85A, **OR** equivalent, inspect all moving parts, framework, **AND** contact areas.
- 18.3.1 NO signs of wear.
 - 18.3.2 NO signs of fatigue.
 - 18.3.3 NO signs of loosening.
 - 18.3.4 **TIGHTEN, ADJUST, OR REPLACE** parts as directed by the Supervisor.
 - 18.3.5 **LUBRICATE** ratchet, pawl, tilt locks, shafts, **AND** other moving parts as directed by the Supervisor.
- 18.4 If the certification tag has expired or the item is getting an initial tag:
- 18.4.1 An individual with ENCODE SSMM14, successfully perform this inspection and apply a tag or stencil to the barrel/drum lift rig with:
 - 18.4.1.1 Identification number.
 - 18.4.1.2 Next due date for certification.
 - 18.4.1.3 Work Load Limit.

	<h1 style="text-align: center;">RIGGING MANUAL</h1>	SO123-I-7.24 REV: 41
		Page 88 of 109

Prior-To-Use And Annual Certification Visual Inspections	Attachment 2
----------------------------------------------------------	---------------------

19.0 Station Cranes

NOTE

1. Station NUREG 0612 Cranes **SHALL** be operated by NUREG 0612 qualified operators/ personnel OR under the direction of a NUREG 0612 operator/person.
2. Station cranes **SHALL** be operated by qualified riggers OR under the direction of a qualified rigger.
3. Discrepancies discovered **SHALL** be reported to the responsible Maintenance Supervisor at the time of discovery. This Supervisor **SHALL** ensure that these discrepancies are properly documented per SO123-I-1.3 before work continues.

19.1 Visual inspection **SHALL** be performed each shift OR prior to use. Visual inspections include:

- 19.1.1 Inspecting the controls;
- 19.1.2 Inspecting the rigging, AND;
- 19.1.3 Inspecting the operating mechanisms.

19.2 Daily inspections **SHALL** be performed once in a 24 hour period OR prior to use. Daily inspections include:

- 19.2.1 Checking all mechanisms to ensure proper operation.
- 19.2.2 Checking proper operation of limit switches without a load on the block.
- 19.2.3 Inspecting lines, tanks, valves, pumps, AND other parts of air OR hydraulic systems for deterioration OR leakage.
- 19.2.4 Inspecting hooks per Section 8.0 of this attachment.
- 19.2.5 Inspecting hoist cable for excessive wear, broken wires, stretch, kinking, AND twisting.
- 19.2.6 Inspecting hoist chain for excessive wear, twist, AND distorted AND stretched links that would interfere with proper operation.

	<h1 style="text-align: center;">RIGGING MANUAL</h1>	SO123-I-7.24 REV: 41
		Page 89 of 109

Prior-To-Use And Annual Certification Visual Inspections	Attachment 2
----------------------------------------------------------	---------------------

20.0 Softeners

20.1 Inspections **SHOULD** be performed prior to use **AND** at least daily while in use.

20.2 For metal softeners:

20.2.1 NO cracks, severe nicks, or gouges.

20.2.2 NO signs of distortion.

20.2.3 NO indication of excessive wear.

20.2.4 NO damage that might cause damage to slings.


20.3 For synthetic softeners:

20.3.1 NO signs of distortion.

20.3.2 NO indication of excessive wear.

20.3.3 NO damage that might cause damage to slings.

20.3.4 Velcro straps functional.

 <div>EDISON SONGS</div>	RIGGING MANUAL	SO123-I-7.24 REV: 41
		Page 90 of 109
Rigging From Attachments		Attachment 3

1.0 Piping

NOTE


1. The work order **SHALL** control the installation **AND** removal of rigging that is attached to piping.
2. IF the desired load is greater than allowed in Section 3.0 of this Attachment **AND/OR** the conditions below **CANNOT** be satisfied, **THEN** an engineering evaluation **SHALL** be performed. This evaluation **SHALL** specify if a 10CFR 50.59 screen is required. This evaluation **SHALL** be documented in the Engineering approved Work Order.

CAUTION

Heat Traced piping **SHOULD NOT** be used for rigging.

- 1.1 PIPING: Safety-related **AND** non safety-related piping **MAY** be used to support rigging provided the following criteria are met:

- 1.1.1 The maintenance planner **SHOULD** either include a separate operation in the Work Order, **OR** prepare a separate Work Order that states the applicable line number, pipe diameter, location of work, **AND** maximum allowable load (Refer to Section 3.0 this Attachment).
- 1.1.2 The affected piping system **SHALL** be declared out of service **AND** depressurized while rigging is attached to the pipe.
- 1.1.3 When fluid is present in the line, the work order **SHALL** have engineering evaluation for the potential responses to a rupture (consequences to other systems, structures, **AND** components from a pipe rupture caused by the rigging activity).
- 1.1.4 The work order **SHOULD** include a step **AND** signature block which verifies removal of the rigging.

	RIGGING MANUAL	SO123-I-7.24 REV: 41
		Page 91 of 109
	Attachment 3	

NOTE

1. A run of pipe is defined as the length of pipe between two adjacent weight bearing (vertical) pipe supports.
2. A snubber is **NOT** considered a pipe support. Therefore, when determining the length of a run of pipe, neither end of the pipe run **MAY** end at a snubber.
3. A rod hanger is **NOT** considered a pipe support for the purposes of this rigging evaluation. Therefore, neither end of a run of pipe **MAY** end at a rod hanger.

- 1.1.5 Only straight **AND** horizontal runs of pipe **SHOULD** be used for rigging.
- 1.1.6 Spring cans, if present, **MAY** bottom out. Block spring cans to prevent bottoming out.
- 1.1.7 There **SHOULD** be NO valves, flanges, **OR** other components on the affected run of piping.
- 1.1.7.1 Rigging **SHOULD** be suspended from the pipe by a nylon/fabric strap only.
- 1.1.8 Angle picks up to 30° from vertical **SHOULD** be made only from pipe that is secured from side movement at the span pipe support.
- 1.1.9 Weight of load **SHOULD** be obtained per Section 6.4.
- 1.1.10 **USE** Section 3.0 of this Attachment. to determine the maximum allowable load that **MAY** be applied to the pipe.

	<h1 style="text-align: center;">RIGGING MANUAL</h1>	SO123-I-7.24 REV: 41
		Page 92 of 109

Rigging From Attachments	Attachment 3
--------------------------	---------------------

2.0 Pipe Supports

NOTE


1. The Work Order **SHOULD** control the installation AND removal of rigging that is attached to pipe supports.
2. IF the desired load is greater than allowed on Attachment . AND/OR the conditions below **CANNOT** be satisfied, THEN an engineering evaluation **SHOULD** be performed. This evaluation **SHOULD** specify if a 10CFR 50.59 screen is required. This evaluation **SHOULD** be documented in the Engineering approved Work Order.

- 2.1 Safety-related AND non safety-related pipe supports **MAY** be used to support rigging provided the following criteria are met:

- 2.1.1 The maintenance planner **SHOULD** either include a separate operation in the Work Order, OR prepare a separate Work Order that states the applicable line number/support number, pipe diameter, location of work, AND maximum allowable load (Refer to Attachment .) The Work Order **SHOULD** include a step AND signature block which verifies removal of the rigging.
- 2.1.2 All piping supported by the pipe support **SHOULD** be declared out of service while rigging is attached to the pipe support.
- 2.1.3 When rigging from the pipe support, the associated piping need NOT be depressurized.
- 2.1.4 The rigging **SHOULD** be suspended from the pipe support by a nylon/fabric strap only.

- 2.2 Rod hanger supports, snubber supports, AND spring hanger supports **MAY NOT** be used for rigging:

- 2.2.1 Only pipe supports which carry the weight of the pipe **MAY** be used for rigging. DO NOT use supports which only restrain the pipe in the horizontal direction.
- 2.2.2 Refer to Section 3.0 of this Attachment for the allowable maximum vertical load which **MAY** be applied to weight bearing pipe supports. Section 3.0 of this Attachment is applicable to all shapes of pipe supports that are loaded vertically.
- 2.2.3 For square tube AND round section pipe supports, the loads specified in Section 3.0, loads **MAY** be applied to the pipe support up to 30° from vertical.

	<h1 style="text-align: center;">RIGGING MANUAL</h1>	SO123-I-7.24 REV: 41
		Page 93 of 109
Rigging From Attachments		Attachment 3

2.2.4 Section 3.0 of this Attachment is **NOT** applicable to angle picks on pipe supports other than square tube and round section. For other shapes (such as an I-beam, angle iron, channel) contact Engineering for review. This review **SHOULD** be documented in the Engineering approved Work Order.

2.2.5 IF a support is supporting more than one pipe, THEN the larger/largest diameter pipe **MAY** be selected for determining the maximum allowable load in Section 3.0 of this Attachment.

2.2.6 The weight of the load **SHOULD** be obtained per Section 6.4.

2.3 **USE** Section 3.0 of this Attachment to determine the maximum allowable load that **MAY** be applied to the pipe support.

3.0 Rigging Chart For Piping And Pipe Supports

NOTE

The following table is based on the conservative assumption pipe is schedule 10 (carbon or stainless steel). The table takes into account the weight of fluid.

3.1 To use this chart first determine diameter of applicable pipe.

3.2 Next, verify distance between pipe supports (span) is less than the maximum allowable span.



RIGGING MANUAL

SO123-I-7.24

REV: 41

Page 94 of 109

Rigging From Attachments

Attachment 3


3.3 Finally, read maximum allowable load.

CAUTION

DO **NOT** exceed maximum allowable load shown on chart below. Review Sections 1.0 and 2.0 of this Attachment . prior to using this chart, since there are angle limitations.

UNIT 2 and 3 - Piping and Pipe Support Chart		
PIPE SIZE (in.)	MAXIMUM SPAN (ft.)	MAXIMUM ALLOWABLE LOAD
4	17	150
6	21	300
8	24	400
10	27	600
12	30	800
14	32.5	1100
16	35	1400
18	37	1600
20	39	1900
22	40.5	2100
Larger than 22	40.5	2100

- Example No. 1 Pipe Support: A pipe support for a 10 inch diameter pipe is directly above work location. Maximum allowable weight supported by pipe support is 600 lbs.
- Example No. 2 Pipe: A 6 inch pipe runs overhead. Distance between pipe supports (span) measured to be 18 ft. Maximum allowable weight hung from this pipe is 300 lbs.
- Example No. 3 Pipe: A 4 inch pipe runs overhead. Distance between pipe supports (span), however is 18 ft. which is greater than maximum allowable span of 17 ft. DO **NOT** hang any weight from this pipe. Notify Engineering to perform an evaluation.


	<h1 style="text-align: center;">RIGGING MANUAL</h1>	SO123-I-7.24 REV: 41
		Page 95 of 109
	Attachment 3	

4.0 Permanent Lifting Structures

NOTE

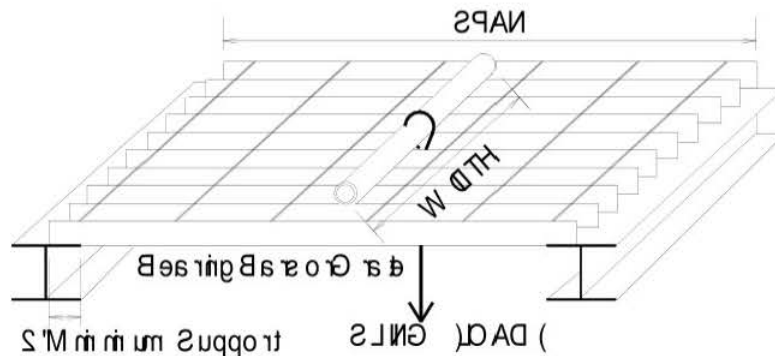
Permanently installed lifting structures or beams DO **NOT** require testing after installation.

- 4.1 A lifting structure **OR** beam (including padeyes and lifting lugs) which is permanently installed for the purpose of attaching a lifting device. The load rated capacity **SHOULD** be permanently marked **AND** visible from the ground or floor.
- 4.2 A structural beam is any beam installed to provide support to the building **OR** structure. Structural beams **MAY** be used for lifting up to 1500 lbs. For lifts above 1500 lbs, Engineering approval **SHOULD** be obtained using an Engineering approved work order.

	<p style="text-align: center;">RIGGING MANUAL</p>	<p>SO123-I-7.24 REV: 41</p>
		<p>Page 96 of 109</p>
<p>Rigging From Attachments</p>	<p>Attachment 3</p>	

5.0 Floor Grating

- 5.1 The allowable lifted load provided in table below includes weight of lifted load plus all related components including shackles, cribbing, chainfall, etc.
- 5.2 The supporting calculation is C-256-02.18 CCN 17, **AND** allows for a factor of safety of 1.67, minimum.
- 5.3 Allowable loadings for other than the turbine building **AND** containment **SHOULD** be provided on a case-by-case basis **AND SHOULD** generally be less than that indicated below.
- 5.4 The rigger **SHALL** surround the work area **AND** the supporting grating with barriers to ensure that NO additional loads are acting on the grating. (A physical barricade, barrier tape **AND/OR** an individual **MAY** be used to ensure NO additional loads are acting on the grating during a suspended load. **REFER** to P-XVI-1 for barrier requirements.)
- 5.5 To provide for the required width, the rigging **SHALL** be composed of a sling through the bars of the grating from below and toggled around a prescribed length support of 2" diameter steel pipe, tubloc scaffold pipe **OR** wood 4x4, minimum, **OR** similar. The toggled support **SHALL** be laid across the bearing bars and firmly attached to the grating with wire **OR** similar.



- 5.6 The span of the grating **MAY** be measured from the face of the support beams, providing at least 2" of support is provided for the ends of the grating at each end. The grating **SHOULD** be firmly held in place with clips, wire **OR** similar.
- 5.7 The bearing bars for turbine building grating are 1-1/4" deep by 3/16" thick. The bearing bars for containment building grating are 2" deep by 3/16" thick.

NOTE

The allowable loads shown in the below table were incorporated from Calc C-256-02.18 CCN 17. Note that the allowable load for the 2" deep bearing bar grating inside the containment is less than the allowable load for the 1-1/4" deep bearing bar grating in the turbine building due to seismic requirements.


TURBINE BUILDING W/B-6: 1-1/4" x 3/16"				CONTAINMENT BUILDING W/B-10: 2" x 3/16"			
SPAN (ft.)	WIDTH (ft.)			SPAN (ft.)	WIDTH (ft.)		
	1'	2'	3'		1'	2'	3'
3'-0"	800 lbs	1600 lbs	2400 lbs	3'-0"	620 lbs	1250 lbs	1875 lbs
4'-0"	600 lbs	1200 lbs	1800 lbs	4'-0"	460 lbs	930 lbs	1400 lbs
5'-0"	480 lbs	960 lbs	1450 lbs	5'-0"	375 lbs	750 lbs	1125 lbs
6'-0"	400 lbs	800 lbs	1200 lbs	6'-0"	300 lbs	600 lbs	925 lbs

6.0 Temporary Lifting Structures

NOTE

Temporary lifting structures include beams, scaffolding **AND** A-Frames.

- 6.1 A lifting structure, A-Frame, **OR** beam which is temporarily installed for the purpose of attaching a lifting device **SHOULD** be load rated **AND** the load rated capacity permanently marked **AND** visible from the ground **OR** floor.
- 6.2 Once a lifting beam with sleeves (Attachment 3, Section 8.0) has been load rated **AND** approved for use, the components **SHOULD** be marked with the same identifying I.D. number. The beam **OR** sleeves **SHOULD NOT** be used as separate components.
- 6.3 Tube Loc Scaffolding (**REFER** to Attachment 3, Sections 8.0 or 9.0) **MAY** be used as legs **OR** supports for a Lifting Beam for lifts up to 1500 pounds provided:
 - 6.3.1 Qualified rigger **SHALL** ensure load to be lifted is less than 1500 pounds.
 - 6.3.2 Lifting beam is mated to sleeves designed to accept Tube Loc Scaffold (Attachment 3, Section 8.0) **OR** lifting beam is mated to beam clamps designed to accept Tube Loc Scaffold (Attachment 3, Section 9.0).
 - 6.3.3 Lifting beam is marked with the Working Load Limit.
 - 6.3.4 A Tube Loc Leg is used on each side of the Sleeve (Attachment 3, Section 8.0) **OR** beam (Attachment 3, Section 9.0).
 - 6.3.5 Each Leg is **NOT** more than 10 degrees from vertical in a side direction **OR** more than 3 degrees forward.
 - 6.3.6 Scaffold legs are supported, braced, **AND** tied off per SO123-I-1.34.
 - 6.3.7 Scaffold configuration differences from Attachment 3, Sections 8.0 and 9.0 should be reviewed by Engineering.
- 6.4 Other configurations utilizing temporary structures for rigging (greater loads, lifting beam configuration, scaffold arrangement **OR** type, etc.) **MAY** be used provided specific engineering approval is obtained **AND** documented via a Notification **OR** in the work done section of a work order.

	<h1 style="text-align: center;">RIGGING MANUAL</h1>	SO123-I-7.24 REV: 41
		Page 99 of 109
	Attachment 3	

7.0 Miscellaneous Components

7.1 Jib Crane, Cable Type

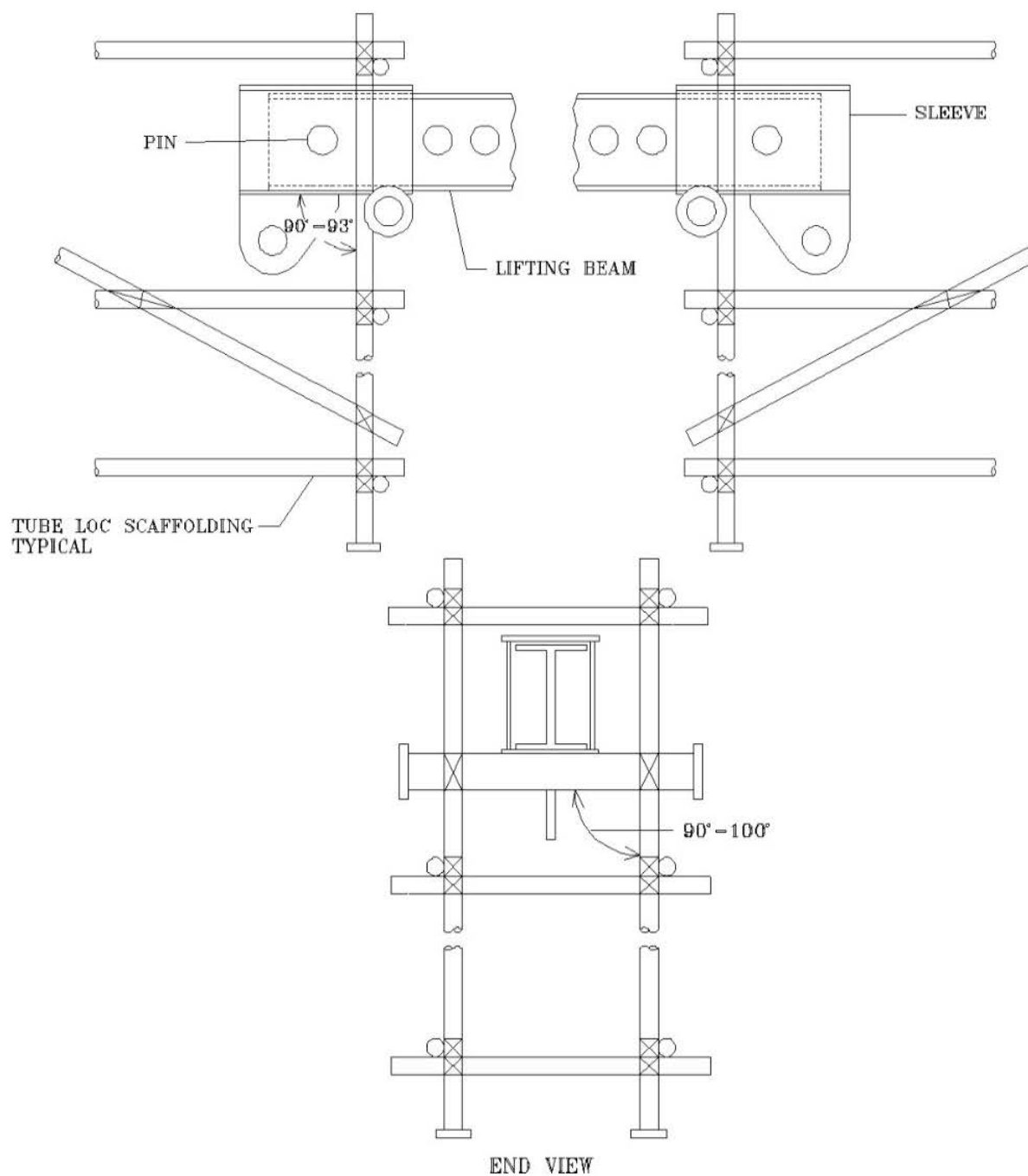
- 7.1.1 Before starting to hoist, the hook **SHALL** be positioned over the load in such a manner as to prevent swinging of the load when lifted.
- 7.1.2 **TAKE** the weight of the load gently to avoid shock load when lowering/moving the load.
- 7.1.3 A Lift **AND** Hold Test **SHOULD** be performed on the suspended load.
- 7.1.4 DO **NOT** swing the load. PUSH, rather than pull on suspended load.

CAUTION

DO **NOT** allow hoist to TWO-Block. Always EASE into upper limits.
Reference OE14316.

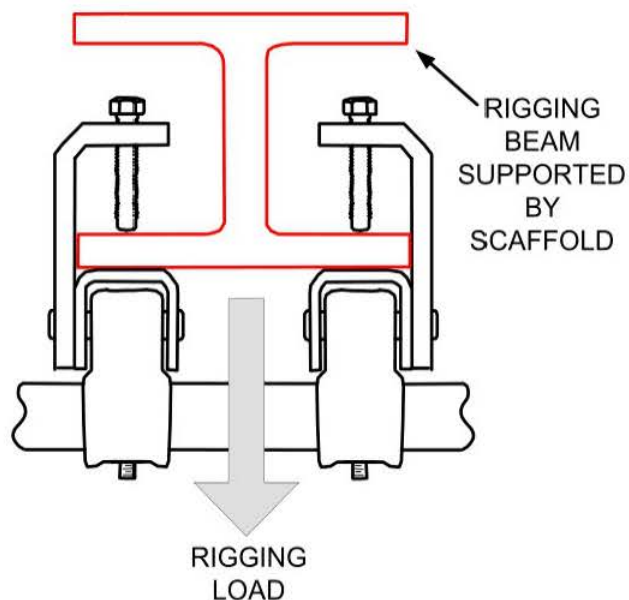
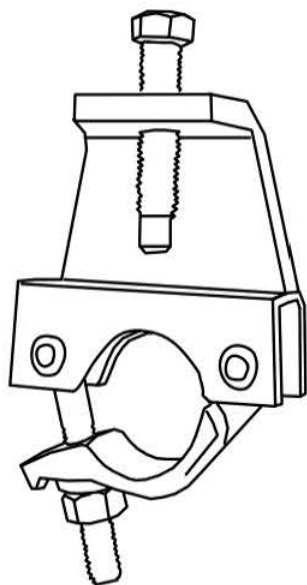
- 7.1.5 DO **NOT** let the trolleys crash into travel stops.
- 7.1.6 DO **NOT** shock **OR** side load the jib crane.
- 7.1.7 DO **NOT** drag the load on the ground.

8.0 Lifting Beams With Tube Loc Scaffolding (Sleeves)



8.1 **REFER** to Attachment 3, 6.0 for limitations and requirements.

9.0 Lifting Beams With Tube Loc Scaffolding (Beam Clamps)



9.1 **REFER** to Attachment 3, 6.0 for limitations and requirements.

9.2 The standard (non-swivel) beam to scaffold clamps with hardened cup point setscrew **MAY** be used in pairs only on the bottom of the beam.

9.3 Do **NOT** install clamps upside down. Using the standard clamp on the top flange of the beam would put full load on the set screw and is **NOT** acceptable. Ensure that the round clamping part has a radius compatible with tube loc elements to assure an adequate bearing area on the tube.

9.4 Do **NOT** use the swivel type beam scaffold clamp. The swivel clamp does **NOT** provide a secure bearing for the rigging beam supported by the tubelok elements.



DO NOT USE

9.5 Beams using these clamps **MAY** be of steel or aluminum material. The beam flange **MAY** be rectangular or tapered.

9.6 The beam **MUST** meet design, inspection, and marking / tagging requirements of SO123-I-7.10 – Periodic Inspection and Testing of Rigging and Accessories.

NOTE

The WLL values below include a 10% dynamic load factor and assume 100 lbs total weight from the rigging and Trolley. Note the importance of top flange bracing for long spans. (Ref. NN 201536357)

9.7 Use the WLL data (lbs) in the following table for S8 x 6.35 aluminum beams (from NN 201536357).

Vertical Support Dist. (ft.)	No Top Flange Brace	5.0 ft. Top Flange Horiz Brace Distance	7.5 ft. Top Flange Horiz Brace Distance	10.0 ft. Top Flange Horiz Brace Distance	11.5 ft. Top Flange Horiz Brace Distance
7.5	4100	----	----	----	----
10	1800	6300	----	----	----
15	500	4100	2000	----	----
20	Not Allowed	3100	1500	900	----
23	Not Allowed	2700	1300	800	400

1.0 Rigger Checklist

NOTE

1. Attachment 4 is **REFERENCE USE**.
2. The signed Rigger's Checklist is to be retained until the lift has been completed. IF problems are encountered during the lift, THEN the completed, signed checklist **SHALL** be added to the work package **AND** retained for review until the problem has been investigated **AND** resolved.

Record the following information below:

Item Name / Equipment Identification Number of item to be lifted _____ / _____ Date

Approximate Lift Weight or NOT to Exceed Weight: _____ lbs.

Heavy Load ☐ Light Load ☐ Engineer-Assisted Lift ☐

Item	Question	YES	NO	N/A
1	Has a SAFER conversation been conducted in accordance with the Human Performance Tools Handbook (Blue Book) for low risk lifts; or, a Pre-Job Brief in accordance with SO123-XV-HU-3 (Pre-Job Brief Checklist) for medium or high-risk lifts?	<input type="checkbox"/>	<input type="checkbox"/>	
2	Are all involved personnel qualified with the EQIS encode for their function?	<input type="checkbox"/>	<input type="checkbox"/>	
3	Do all participants understand their responsibilities?	<input type="checkbox"/>	<input type="checkbox"/>	
4	Do all participants understand the importance of remaining clear of the load's IMPACT ZONE, including NOT reaching under the load?	<input type="checkbox"/>	<input type="checkbox"/>	
5	Is a Qualified Electrical Worker present if standoff distance is inadequate?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	Are you prepared to STOP and SECURE outdoor lifts at wind speeds of 30 mph?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	Are you aware that the sail area of load SHALL be considered at lower wind speeds?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8	Do all participants understand appropriate communications, such as for blind crane operations (hand signals, radios, horns, etc.)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9	Have you had a peer recheck the load weight?	<input type="checkbox"/>	<input type="checkbox"/>	
10	Have you calculated and/or determined the center of gravity and load stability?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11	Did you consider obtaining help if you have not performed a similar lift in the last month?	<input type="checkbox"/>	<input type="checkbox"/>	
12	IF load weight or center of gravity is in doubt, or if hang-ups or load binding are possible, have you considered using stop work criteria?	<input type="checkbox"/>	<input type="checkbox"/>	
13	IF the load has any contents that can shift when lifted, have they been secured?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14	Is the rating of the rigging selected adequate for the lift including appropriate WLL and dynamic loading based on hook speeds? (See Section 6.6)	<input type="checkbox"/>	<input type="checkbox"/>	
15	IF the sling angle is less than 85° from the horizontal, have you performed an A/B calculation, or for angles from 60° to 85° added 15%?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



RIGGING MANUAL

SO123-I-7.24
REV: 41

Page 104 of 109

Rigging Checklist

Attachment 4

Item	Question	YES	NO	N/A
16	IF using a 3 or 4 part bridle, can any two slings hold total weight of the load including side pull tension and dynamic loading? (Refer to Step 6.7.4.4)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17	For NUREG 0612 lifts, IF using NON-CRANE RIGGING (chainfalls, come-a-longs, etc), is rigging capacity at least twice the total load weight including side pull tension and dynamic loading?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18	Have all sharp corners been fixed by softeners? IF using wire rope, is the D/d at least 25:1? IF NOT, add softeners or derate rigging. per Attachment 1, Step 9.1.2.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19	Have you considered whether the rigging requires the use of metal softeners (with the proper D/d ratio) or synthetic softeners (engineered and marked with the load rating) due to increased sling angle or weight of the load?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20	Have you inspected the rigging and determined how it will be attached to the load?	<input type="checkbox"/>	<input type="checkbox"/>	
21	Are you prepared to perform a LIFT AND HOLD Test check per Section 6.10 to inspect the rigging and stability of the load?	<input type="checkbox"/>	<input type="checkbox"/>	
22	IF softeners are used, have you prepared to set the load down and inspect the softeners and slings for damage and movement, then repeat the lift and hold BEFORE moving the load?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23	Are the load travel path and destination prepared and have personnel been cleared from under the load path and associated Impact Zone? Will spotters, barricades, or signage be posted to ensure travel path and destination remain clear of unauthorized personnel?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24	Do you understand the SAFE LOAD Path per NUREG 0612 AND crane capacity (IF this is a NUREG 0612 lift)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25	Have you considered any lift height restrictions and head room?	<input type="checkbox"/>	<input type="checkbox"/>	
26	Are you prepared to perform a Post-Use Inspection of the rigging?	<input type="checkbox"/>	<input type="checkbox"/>	
27	Are you prepared to properly preserve and store the rigging?	<input type="checkbox"/>	<input type="checkbox"/>	
28	Are you and everyone involved comfortable with the lift?	<input type="checkbox"/>	<input type="checkbox"/>	
29	DO NOT proceed with the lift IF the answer to any of the above questions is NO. Either correct the condition OR contact Supervisor for assistance and authorization to proceed!			

_____/_____/_____
Responsible Qualified Rigger (PERFORMED BY) print and signature

Date

Time

_____/_____/_____
Supervisor (designee) (PERFORMED BY) print and signature

Date

Time

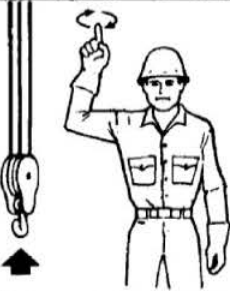
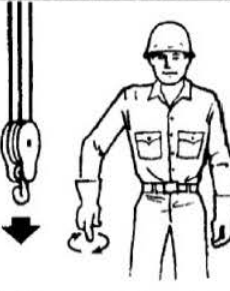
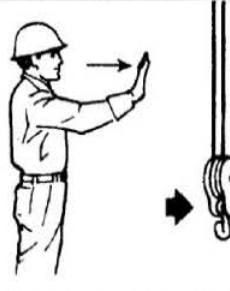

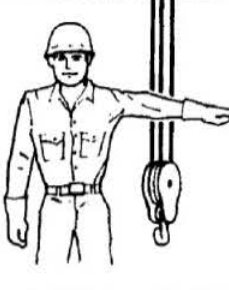
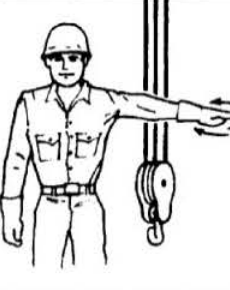
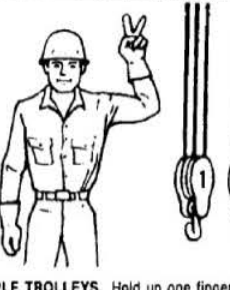
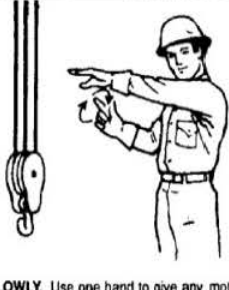
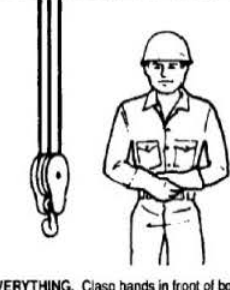
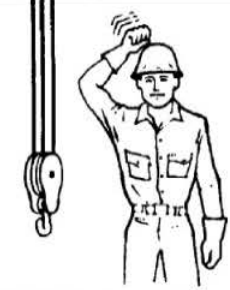

*** Signature required for all NUREG 0612 Heavy Load lifts **AND** for all situations in Item 29 where Rigging Supervisor is contacted.

***For non-NUREG 0612 Heavy Lifts the Supervisor may delegate the requirement to an independent Rigger **OR** waive the signature requirement based upon a SAFER risk assessment.

Overhead Gantry Crane Signals

Attachment 5

1.0 Overhead Gantry Crane Signals

 <p>HOIST. With forearm vertical, forefinger pointing up, move hand in small horizontal circle.</p>	 <p>LOWER. With arm extended downward, forefinger pointing down, move hand in small horizontal circle.</p>	 <p>BRIDGE TRAVEL. Arm extended forward, hand open and slightly raised, make pushing motion in direction of travel.</p>
 <p>TROLLEY TRAVEL. Palm up, fingers closed, thumb pointing in direction of motion, jerk hand horizontally.</p>	 <p>STOP. Arm extended, palm down, hold position rigidly.</p>	 <p>EMERGENCY STOP. Arm extended, palm down, move hand rapidly right and left.</p>
 <p>MULTIPLE TROLLEYS. Hold up one finger for block marked "1" and two fingers for block marked "2." Regular signals follow.</p>	 <p>MOVE SLOWLY. Use one hand to give any motion signal and place other hand motionless in front of hand giving the motion signal. (Hoist slowly shown as example.)</p>	 <p>DOG EVERYTHING. Clasp hands in front of body.</p>
 <p>USE MAIN HOIST. Tap first on head; then use regular signals.</p>	 <p>USE WHIPLINE. (Auxiliary Hoist). Tap elbow with one hand; then use regular signals.</p>	



RIGGING MANUAL

SO123-I-7.24
REV: 41

Page 106 of 109

Standard Signals Using Boom-Type Equipment

Attachment 6

1.0 Standard Signals For Derricks, Cranes, And Distribution And Transmission Trucks Using Boom-Type Equipment

<p>TELESCOPING BOOM TWO HANDS</p> <p>EXTEND BOOM. Both fists in front of body with thumbs pointing outward.</p>	<p>TELESCOPING BOOM TWO HANDS</p> <p>RETRACT BOOM. Both fists in front of body with thumbs pointing toward each other.</p>	<p>RETRACT BOOM ONE HAND</p> <p>RETRACT BOOM. (Telescoping Boom). With arm extended downward, elbow slightly bent outward and fist closed, extend middle and forefinger pointing downward and slightly apart.</p>	<p>EXTEND BOOM ONE HAND</p> <p>EXTEND BOOM. (Telescoping Boom). With forearm vertical and fist closed, extend middle and forefinger pointing upward and slightly apart.</p>	<p>USE MAIN HOIST</p> <p>USE MAIN HOIST. Tap fist on head, then use regular signals.</p>
<p>USE WHIP LINE</p> <p>USE WHIP LINE. (Auxiliary Hoist). Tap elbow with one hand, then use regular signals.</p>	<p>RAISE BOOM</p> <p>RAISE BOOM. Arm extended, fingers closed, thumb pointing upward.</p>	<p>LOWER BOOM</p> <p>LOWER BOOM. Arm extended, fingers closed, thumb pointing downward.</p>	<p>HOIST</p> <p>HOIST. With forearm vertical, forefinger pointing up, move hand in small horizontal circles.</p>	<p>LOWER</p> <p>LOWER. With arm extended downward, forefinger pointing down, move hand in small horizontal circles.</p>
<p>MOVE SLOWLY</p> <p>MOVE SLOWLY. Use one hand to give any motion signal and place other hand motionless in front of hand giving the motion signal. (Hoist slowly shown as example.)</p>	<p>RAISE THE BOOM AND LOWER THE LOAD</p> <p>RAISE THE BOOM AND LOWER THE LOAD. With arm extended, thumb pointing up, flex fingers in and out as long as load movement is desired.</p>	<p>LOWER THE BOOM AND RAISE THE LOAD</p> <p>LOWER THE BOOM AND RAISE THE LOAD. With arm extended, thumb pointing down, flex fingers in and out as long as load movement is desired.</p>	<p>SWING</p> <p>SWING. Arm extended, point with finger in direction of swing of boom.</p>	<p>STOP</p> <p>STOP. Arm extended, palm down, hold position rigidly.</p>
<p>EMERGENCY STOP</p> <p>EMERGENCY STOP. Arm extended, palm down, move hand rapidly right and left.</p>	<p>TRAVEL</p> <p>TRAVEL. Arm extended forward, hand open and slightly raised, make pushing motion in direction of travel.</p>	<p>DOG EVERYTHING</p> <p>DOG EVERYTHING. Clasp hands in front of body.</p>		



RIGGING MANUAL

SO123-I-7.24
REV: 41

Page 107 of 109

Guidelines For Approval Of Lifting Hooks And Devices

Attachment 7

1.0 Guidelines For Approval Of Lifting Hooks And Devices

NOTE

1. These guidelines below address lifting hooks **OR** other similar components fabricated onsite **OR** provided by a vendor for special **OR** non-routine rigging use.
2. Standard vendor rigging hardware (i.e., slings, shackles, eyebolts, etc.) may be utilized provided it meets the inspection, maintenance, and testing requirements of ASME/ANSI (TABLE A below))

- 1.1 The lifting component **SHOULD** have a documented engineering calculation to establish the WLL.
- 1.2 The lifting component **SHOULD** have a documented load test to 125% (**OR** other value specified in the applicable ANSI standard) of the WLL.
- 1.3 The lifting component **SHOULD** be marked **OR** tagged with its WLL.
- 1.4 Items 1.1 and 1.2 above **SHOULD** be presented to the Site Rigging Program Manager for review and approval prior to use

TABLE A

1. California Code of Regulations, Title 8. Industrial Relations, Division 1. Department of Industrial Relations, Chapter 4. Division of Industrial Safety Safety Orders:
 1. Subchapter 7. General Industry Safety Orders, Group 13. Cranes and Other Hoisting Equipment, Article 101. Slings (4-1-90). Synthetic slings SHALL meet inspection criteria or be removed from service and SHALL only be repaired by the manufacturer.
 2. Subchapter 7. General Industry Safety Orders, Group 13. Cranes and Other Hoisting Equipment, Article 98. Operating Rules, Section 5004. Crane or Derrick Suspended Personnel Platforms, (d). Operational Criteria, (2) - Register 92, No.33, 8-14-92.
 3. Subchapter 7, General Industry Safety Orders, Group 13, Article 98, Paragraph 4994.
 4. Subchapter 7, General Industry Safety Orders, Group 13, Article 98, Paragraph 4995, "No employee shall be permitted to ride on loads, hooks, or slings of any derrick, hoist, or crane.

ASME B30.5-2004	Mobile Cranes
ANSI B30.9-1991 and -2003	Slings
ANSI B30.9, Addendum C, 1997 Chapter 5	Synthetic Webbing Slings
ANSI B30.9, Addendum C, 1998 Chapter 6	Synthetic Round Slings
ANSI B30.10-1993, -1999, and -2005	Hooks
ASME B30.21-2005	Manually Lever Operated Hoists
ASME B30.26-2004	Rigging Hardware

	<h1 style="text-align: center;">RIGGING MANUAL</h1>	SO123-I-7.24 REV: 41
		Page 108 of 109

Guidelines For Approval Of Vendor Rigging Programs	Attachment 8
----------------------------------------------------	---------------------

1.0 Guidelines For Approval Of Vendor Rigging Programs

NOTE

NUREG 0612 lifting activities **MAY** be performed under an alternate rigging program provided the requirements of SO123-I-1.13, NUREG 0612 Cranes, Rigging and Lifting Controls are met, **AND** the alternate rigging program is approved by the Site Rigging Program Manager.

- 1.1 Adherence to this procedure by vendors is **NOT** required for non-NUREG 0612 lifting activities if an alternate rigging program provides direction essentially equivalent to this procedure **AND** is approved in accordance with step 1.3 of this attachment.
- 1.2 The alternate rigging program **SHOULD** include:
 - 1.2.1 The special standards **AND** bases for the requirements of the program (e.g., NOA, ASME, ANSI, CMAA, etc.) **AND** any exceptions.
 - 1.2.2 Rigging qualifications (i.e., How riggers are qualified).
 - 1.2.3 Planning structure for high consequence **AND/OR** complex lifting activities.
 - 1.2.4 Rigging control: storage, maintenance, **AND** certification if using non-SONGS rigging.
 - 1.2.5 Technical requirements for planning **AND** implementing lifting activities, including but **NOT** limited to:
 - Hitch selection.
 - Use of bridles **AND** spreader assemblies.
 - Calculation of load center of gravity.
 - Load weight estimation.
 - Rigging selection, including use of softeners **AND** D/d calculation.
 - Side pull tension.
- 1.3 The vendor's alternate rigging program **MUST** be performed per an approved SONGS procedure. The procedure **SHOULD** have a thorough interdisciplinary review including Nuclear Oversight, Engineering, Responsible Work Group Division Management, **AND** the Site Rigging Program Manager.

	RIGGING MANUAL	SO123-I-7.24 REV: 41
		Page 109 of 109

Summary of Changes	Attachment 9
--------------------	---------------------

Author: (b)(7)(C)
 PAX: 89219
 Location: D4D

NN, Order, or Other Action	Description of Change	Reviewer(s)	50.59	Step, Section, Attachment or Page
NN 203389060	Reinstate procedure			All
Betterment	Change QA level to L1QA	Orewyler	DNA	1
	Update references			Throughout
	Change misidentified CAPR to CA			9.2.2

Nuclear Training Division
Units 1, 2 and 3

Lesson Plan Number: MT740A
Lesson Plan Encode Number: MT740A
Revision Number: 1

Program: Maintenance Training

Course: Mechanical

Segment: Rigging

Lesson: Advanced Rigging

Type of Lesson Plan: ☒ Classroom ☐ Laboratory ☐ Simulator
 ☐ Independent Study Manual (ISM)
 ☐ Web-Based Training

Additional Encodes:

Length of Training: 16 Hours

Prepared By:	(b)(7)(C)	Date: 5/27/09
	Training Materials Developer	
Reviewed By:	(b)(7)(C)	Date: 5/27/09
	Technical Reviewer	
Approved By:	(b)(7)(C)	Date: 5/27/09
	Cognizant Line Management	
Approved By:	(b)(7)(C)	Date: 5/27/09
	Cognizant Training Manager	

Lesson Plan Modification Record

Change Number	Description of Change	Affected Pages	Entered By	Date Entered	TS Approval
0-1	Due to an erroneous NDMS entry, this Mod is being submitted for the sole purpose of matching what is in NDMS to the Master File.	None	RGC	4/22/04	DBR
0-2	This Mod is being submitted for the sole purpose of having the dates of Mods match what is in NDMS.	None	RGC	6/21/04	DBR
0-3	Changed prerequisite from MQ7400 to MT7400.	vi	CEL	8/3/04	
1-0	This revision is to have current signatures on LP as a result of MF Audit	All	PQL	5/27/09	
1-1	Removed tailboard from the Lesson plan, changed procedure and section numbers	4,5 9,and 12	DMW	8/14/10	SH
1-2	Updated PPE requirements, Fall height, working voltage, removed procedure section numbers. 0612 crane list	3,4,5,7 and 8	DMW	11/26/12	SMG
1-3	Fixed typo's in PPT and added Ices Report #305245 ANO 1	li,V,Vii and 57	DMW	5/29/13	<i>Smg</i>

--	--	--	--	--	--

Table of Contents

Section	Page
1.0 Objectives.....vi	vi
Enabling Objectives.....vi	vi
2.0 References.....vi	vi
3.0 Prerequisites.....vii	vii
4.0 Instructor Information..... 1	1
4.1 Instructor Notes..... 1	1
4.2 Instructor Materials and Equipment..... 1	1
5.0 Lesson Introduction..... 2	2
5.1 Lesson Purpose..... 2	2
5.2 Lesson Overview..... 2	2
6.0 Lesson Presentation..... 3	3
6.1 Rigging Safety Practices..... 3	3
6.2 Types of NUREG 0612 Cranes..... 6	6
6.3 Responsibilities of a Heavy Rigger..... 8	8
6.4 Lessons Learned..... 10	10
6.5 Planning a Heavy Lift Rigging Evolution..... 11	11
6.6 Offset Center of Gravity..... 12	12
6.7 Load Stresses on Attachment Points..... 15	15
6.8 Spreader and Equalize Beams..... 16	16
6.9 Situational Uses of Different Rigging Hitches..... 17	17
6.10 Upending and Inverting a Load..... 18	18
6.11 Walking a Load..... 20	20
6.12 Types of Knots..... 22	22
7.0 Lesson Summary..... 24	24
7.1 Presentation Summary..... 24	24
7.2 Review Questions..... 24	24
7.3 Closing Statements..... 24	24
8.0 Evaluation..... 25	25
8.1 Written Examination upon completion of the lesson with 80% as minimum mastery..... 25	25
8.2 Task Performance Evaluation..... 25	25
8.3 Task Qualification to follow successful completion of class work and practicum..... 25	25
9.0 Attachments..... 26	26
9.1 Attachment 1, OE11872..... 26	26
9.2 Attachment 2, AR 001102028..... 26	26

9.3	Attachment 3, OE12404.....	26
9.4	Attachment 4, OE12688.....	27
9.5	Attachment 5 OE12693.....	27
9.6	Attachment 6 OE12712.....	27
9.7	Attachment 7, OE 12449.....	28
9.8	Attachment 8, OE12298.....	28
9.9	Attachment 9, OE 12272.....	29
9.10	Attachment 10, OE 12236.....	29
9.11	Attachment 11, Ices Report #305245.....	57

1.0 Objectives

1.1 Terminal Objective

- 1.1.1 When you complete this class, you will be able to Explain advanced rigging practices, IAW and with the aid of SO123-I-7.24 and SO123-I-1.13. Written test must be completed with 80% mastery.

Enabling Objectives

- .1 State the industrial safety practices associated with rigging evolutions.
- .2 Identify the types of NUREG 0612 cranes used at SONGS.
- .3 Explain the responsibilities of a qualified heavy rigger.
- .4 Discuss lessons learned from past rigging accidents.
- .5 Explain the major aspects of planning a heavy lift rigging evolution.
- .6 Determine the offset center of gravity for a load and the considerations involved in rigging an irregular-shaped load.
- .7 Determine load stresses on attachment points when inverting, transferring a load from hook-to-hook, or walking a load.
- .8 Explain the use of spreader and equalizer beams.
- .9 Distinguish the situational uses of a double-wrap choker, double-wrap basket hitch, and multiple-leg bridle hitches.
- .10 Explain the process and concerns with upending and inverting a load.
- .11 Explain the process for walking a load and transferring a load from hook-to-hook.
- .12 Identify the types, and the situations requiring certain knots when rigging a load.

2.0 References

SO123-I-7.24, Rigging Standards, Guidelines, and Prior-to-Use Inspections

SO123-I-1.13, NUREG 0612 Cranes, Rigging and Lifting Controls

NUREG 0612, Control of Heavy Loads at Nuclear Power Plants

Edison Rigging Standards Manual, Sept. 1988

Rigger's Bible, Leach, Robert P.

CAL/OSHA Title 8, Article 101, Slings

ASME B30.9, 1990, Slings

ASME B30.20, Below-the-hook Lifting Devices

SCE Accident Prevention Manual, General Rules 126, 127, 128, 147

Rigging Manual, Construction Safety Association of Ontario, 1996

The Crosby Group Product Application Seminar Workbook, Edition 5, 2000

Ices Report #305245 Significant Industrial Accident at Arkansas Nuclear One
Caused by Failed Turbine Generator Stator Lifting Equipment Device

3.0 Prerequisites

Basic Rigging, MT7400

4.0 Instructor Information

4.1 Instructor Notes

- 4.1.1 This is an advanced rigging course for all crafts and disciplines. Participants will be introduced to the more advanced aspects of rigging and lifting. Safety issues will parallel those presented during basic rigging. The steps involved in planning a heavy lift. The need for inspecting rigging equipment, the proper use of rigging equipment in advanced applications, and the lifting and moving of a heavy load will be emphasized. The instructor may use the OEs discussed in the attachments as indicated in the activity column of the lesson plan. Copies of the OEs may be distributed to the class.

4.2 Instructor Materials and Equipment

Materials/Equipment	Location
Student Handout	Master File

5.0 Lesson Introduction**Activities**

5.1 Lesson Purpose

- 5.1.1 To introduce the advanced aspects of rigging, lifting and moving a load that is more than 1500 pounds.

5.2 Lesson Overview

- 5.2.1 This class offers a more in-depth understanding of heavy rigging and its importance here at SONGS. Participants will be introduced to the more advanced aspects of rigging and lifting a heavy load. Safety issues will parallel those presented during basic rigging. The steps involved in planning a heavy lift. The need for inspecting rigging equipment, the proper use of rigging equipment in advanced applications, and several specialized techniques for lifting and moving heavy loads will be emphasized.

6.0 Lesson Presentation	Activities
6.1 Rigging Safety Practices	Objective 1: State the industrial safety practices associated with rigging evolutions.
<p>6.1.1 Error Likely Situational Evaluation</p> <ul style="list-style-type: none"> .1 When planning the rigging and lifting of a heavy load, give consideration to the following: <ul style="list-style-type: none"> 1.1 Do you feel Complacent or Overconfident? 1.2 Is there a change in the plan or conditions? 1.3 Is the lift a first time evolution? Does the lift have high consequences? 1.4 What is the irreversible point of action? 1.5 Inexperience with task or activity? 1.6 High work load/Fatigue/Stress? 1.7 Complex problem requiring expert support? 1.8 Historical problem activity? 1.9 Unclear mental picture of system, process, or scientific principles? <p>6.1.2 PPE Requirements</p> <ul style="list-style-type: none"> .1 There are many potential hazards associated with maintenance tasks at SONGS: mechanical, electrical, chemical, and radiological. Injuries may be avoided by wearing the appropriate PPE in every instance where it is required. It is the employee's responsibility to choose the appropriate PPE for each task they are involved in, and to inspect each item prior to use to 	<p>No heavy lift is that routine! Challenge all assumptions. Weather might influence the situation. What else?</p> <p>Go over lift plan with an experienced rigging supervisor. Maybe something has been neglected.</p> <p>Safe load path? Over or near Safe shutdown equipment? Over or near irradiated fuel? At what point do we become committed to lifting the load? Go over lift plan with an experienced rigging supervisor. Long hours from outage or emergent work.</p> <p>Engineering, outside vendor, other department Ask for help.</p> <p>Re-think</p>

6.0 Lesson Presentation	Activities
<p>ensure it is in good condition. Items "a" through "f" below are governed by the requirements set forth in SONGS Procedure SO123-XVI-7, Personal Protective Equipment."</p> <p>.2 Hardhat - As site areas are dynamic regarding work activities, all employees, contractors, visitors, and vendors, shall wear general personal protective equipment (PPE) inside the Protected Area (PA), Switchyard, or any other area where industrial work activities occur (e.g., Unit 1 Industrial Area and South Yard, shops, warehouses, and remote work locations) unless otherwise posted. General PPE is comprised of hard hat, sturdy footwear, and ANSI Z87.1 approved primary eye protection...</p> <p>3 Ear Plugs - Worn in designated areas, and during work operations that generate high noise exposures.</p> <p>.4 Safety Glasses with Side Shields - Approved eye protection must be worn at all times in designated areas.</p> <p>.5 Proper Clothing and Shoes - Clothing appropriate to the job must be worn at all times, such as long-sleeved shirts when working with chemicals or in the switchyard, etc. Specific guidance relative to acceptable criteria for footwear while working on Site may be obtained by reviewing section for "Foot Protection" of the above referenced procedure.</p> <p>.6 Face Shields and Gloves - When the nature of the job assignment requires it approved face and hand protection must be worn. Leather gloves</p>	

6.0 Lesson Presentation	Activities
<p>Shall be worn when working with wire slings.</p>	
<p>.7 Fall Protection - While working in unsecured elevated positions (above 6 feet), employees shall use appropriate and approved fall restraint and/or fall arrest devices. Exceptions to this requirement must be addressed in accordance with SONGS Procedure SO123-XVI-10, "Fall Protection."</p>	
<p>6.1.3 Barriers</p>	<p>Note: No load, regardless of weight, should be passed over any equipment or personnel if it can be avoided. Refer to SO123-I-1.13</p>
<p>.1 Erect barriers around the load path or assign lookouts to ensure the load path remains clear of obstructions and personnel.</p>	
<p>.2 Safe Load Paths</p>	<p>Note: Inadvertent deviation from an established safe load path is prohibited except in cases of equipment failure or unsafe conditions.</p>
<p>2.1 Prior to lifting any Heavy Load, safe load paths SHALL be clearly defined by the use of permanent or temporary markings.</p>	
<p>2.2 The procedure that defines a safe load path, restricted or no path areas SHALL be carried in-hand by a second person assigned to walkdown the lift.</p>	<p>Refer to SO123-I-7.24,</p>
<p>6.1.4 Working distance from energized power lines</p>	<p>Refer to SO123-I-1.13</p>
<p>.1 No part of a crane or rigging should be any closer to energized power lines than the minimum required clearance delineated in the procedure.</p>	
<p>6.1.5 Miscellaneous NUREG 0612 Commitments</p>	

6.0 Lesson Presentation	Activities
<p>.1 Interlocks and protective devices Shall Not be overridden or bypassed unless authorized by an approved maintenance order.</p> <p>.2 In safety related areas, hook speeds shall be maintained as low as practicable to reduce the dynamic load induced during movement.</p> <p>.3 Slings shall have a minimum 10% additional capacity to account for dynamic loading based on a maximum hoist speed of 20 feet per minute.</p> <p>.4 A 50% additional sling capacity shall be used for the Polar Crane, Turbine Gantry and Cask Crane auxiliary hoists when crane speeds are 20 feet per minute or greater.</p> <p>6.1.6 NUREG 0612 OSHA Remarks</p> <p>.1 Operator error is the greatest contributor to all crane accidents.</p> <p>.2 Improved training, qualification, and use of procedures will reduce accidents.</p>	<p>Additional sling capacity for mobile crane hook speed should be considered when lifting loads around safety equipment.</p>
6.2 Types of NUREG 0612 Cranes	Objective 2: Identify the types of NUREG 0612 cranes used at SONGS.
<p>6.2.1 Introduction</p> <p>.1 In a nuclear power plant, heavy loads may be handled in several plant areas. If these loads were to drop at certain locations in the plant, they may impact spent fuel, fuel in the core, or equipment that may be required to achieve safe shutdown.</p> <p>.2 If sufficient spent fuel or fuel in the core were</p>	<p>Give students a brief overview of each section</p>

6.0 Lesson Presentation	Activities
<p>damaged and if the fuel is highly radioactive due to its irradiation history, the potential releases of radioactive material could result in offsite doses that exceed 10 CFR Part 100 limit.</p> <p>.3 If the load were to damage equipment associated with redundant safe shutdown paths; the capability to achieve safe shutdown may be defeated.</p> <p>6.2.2 Consequences of Dropping a Heavy Load</p> <p>.1 Release of radioactivity could exceed 10 CFR Part 100.</p> <p>.2 Depending on condition of fuel and magnitude of drop, fuel could become critical.</p> <p>6.2.3 NUREG 0612 Cranes</p> <p>.1 Turbine Gantry Cranes</p> <p>.2 Turbine Gantry Jib Crane</p> <p>.3 Polar Cranes</p> <p>.4 The Polar Crane Jib Hoists</p> <p>.5 Cask Handling Cranes</p> <p>.6 New Fuel Cranes</p> <p>.7 SI Pump Monorail Hoist</p> <p>.8 CCW Pump Monorail Hoist</p> <p>.9 Penetration Jib Cranes</p>	<p>See SO123-I-1.13</p> <p>NUREG 0612 CRANE OPERATOR, When floor plugs are removed or being removed.</p> <p>Qualified Rigger</p> <p>NUREG 0612 CRANE OPERATOR,</p> <p>NUREG 0612 CRANE OPERATOR,</p> <p>If traveling over Safety Related Equipment, these cranes qualify as NUREG 0612</p> <p>If traveling over Safety Related Equipment, these cranes qualify as NUREG 0612</p>

6.0 Lesson Presentation	Activities
<p>.10 AFW Pump Bridge Crane</p> <p>.11 MSIV Jib Crane #</p> <p>.12 Mobile Hydraulic Cranes/Lattice Boom Cranes</p> <p>.13 Fuel Handling Roof Jib & Trolley #</p>	
6.3 Responsibilities of a Heavy Rigger	Objective 3: Explain the responsibilities of a qualified heavy rigger.
<p>6.3.1 Qualified Crane Operator Responsibilities</p> <p>.1 Has the ultimate responsibility for knowing the crane capacity and its limitations.</p> <p>.2 Ensuring the lift is made safely, the crane is undamaged, and there are no injuries to personnel or innocent bystanders.</p> <p>.3 Ensuring standard hand signals, communication, and speed are agreed upon during the Pre-job brief. Ensure a reference copy of standard hand signals is posted somewhere on the crane.</p> <p>.4 Where possible, a visual check of the lift to ensure the load is safe to lift.</p> <p>.5 Responsible for voicing any concern prior to or during the lift, including stopping the lift if necessary.</p> <p>6.3.2 Qualified Rigger Responsibilities</p>	<p>Refer to SO123-I-7.24</p> <p>Where isn't it possible in the plant?</p> <p>Review all the responsibilities section of SO123-I-7.24 in detail with the students.</p> <p>Review the Rigger Checklist,</p>

6.0 Lesson Presentation	Activities
<p>.1 All lifts performed on-site to have a qualified rigger for the level of rigging to be performed.</p> <p>.2 Pre-Job brief the lift with the entire rigging crew and crane operator. Management Expectation: Use Pre-Job brief/ checklist in SO123-XVI-HU-2 and SO123-I-7.24.</p> <p>.3 Shut down a lift where accepted standards are not followed.</p> <p>.4 Determine the location for the lift.</p> <p>.5 Calculate the load weight or determine a not greater than load weight and ensure the rigging has the necessary capacity.</p> <p>.6 Ensure the rigging selected has the sufficient capacity for the job and is in safe working condition.</p> <p>.7 Determine the proper rigging & correct hitching assembly for the load.</p> <p>.8 Ensure the correct softener/padding is properly used.</p> <p>.9 Ensure the load to be lifted is free from interference.</p> <p>.10 Seismic controls</p> <p>.11 Safety of the rigging crew (Erect barriers, assign look outs)</p> <p>.12 Designate a signal person (must be qualified rigger)</p>	SO123-XV-1.20 Lifting Devices Section

6.0 Lesson Presentation	Activities
<p>.13 Use tag lines</p> <p>.14 Ensure load is sitting on a stable surface prior to removing rigging.</p> <p>.15 Review SO123-I-1.13 for possible NUREG 0612 restrictions.</p> <p>6.3.3 1. For Heavy Lifts, a management level employee must ensure that adequate preparations have been made to make the lift activity safe and successful. The Rigging Supervisor shares ultimate responsibility for the lifting activity and is responsible to ensure that the assigned rigger has adhered to the requirements of this procedure when preparing for the lift. The Qualified Rigging Supervisor must sign the Rigger Checklist prior to the lift acknowledging that responsibility.</p>	Review the procedure requirements of SO123-I-7.24
6.4 Lessons Learned	Objective 4: Discuss lessons learned from past rigging accidents
<p>6.4.1 Introduction</p> <p>.1 Past accidents will be covered at applicable points throughout the lesson plan.</p> <p>6.4.2 Attachment 1, OE 11872</p> <p>.1 Failure of ratchet chain puller (Come-along)</p> <p>6.4.3 Attachment 2, AR 001102028</p>	

6.0 Lesson Presentation	Activities
<p>.1 ACE SONGS Dropped LSA Box</p> <p>6.4.4 Attachment 3, OE 12404</p> <p>.1 Gantry Crane Load Drop due to Sling Failure</p> <p>6.4.5 Attachment 4, OE12688</p> <p>.1 Fall of grating in the Millstone Unit 2 Enclosure Building</p> <p>6.4.6 Attachment 5, OE12693</p> <p>.1 Nylon lifting slings with markings not in accordance with ASME B30.9</p> <p>6.4.7 Attachment 6, OE12712</p> <p>.1 K-SPEC sling rigging failure near miss event</p> <p>6.4.8 Attachment 7, OE 12449</p> <p>.1 Individual Fractured Wrist During Chain Block Inspection</p> <p>6.4.9 Attachment 8, OE 12298</p> <p>.1 Use of Wrong Size Eyebolt For Lifting Load</p> <p>6.4.10 Attachment 9, OE 12272</p> <p>.1 Inadvertent Destruction Of Bioshield Wall Bolting</p> <p>6.4.11 Attachment 10, 12236</p> <p>.1 Contractor Injury - Individual was Struck with an Electric Chain Hoist</p>	
6.5 Planning a Heavy Lift Rigging Evolution	Objective 5: Explain the major aspects of planning a heavy lift rigging evolution.
6.5.1 Introduction	Refer to SO123-I-1.13

6.0 Lesson Presentation	Activities
<ul style="list-style-type: none"> .1 Plan the lift 1.1 Determine the weight of the load 1.2 Check the balance of the load 1.3 Measure clearances and check load path .2 Is there any height restriction? .3 Any equipment restrictions, clearance around equipment? .4 Potential damage to equipment? .5 Potential danger to personnel? .6 Is the receiving location site ready? .7 Are there obstacles? .8 Maintain minimum required clearances of energized power lines for cranes or rigging equipment. .9 Select equipment .10 Inspect equipment .11 Use equipment properly .12 Organize the rigging crew (Pre-Job brief) .13 Move the load .14 Use standard hand signals 	<p>Describe the different hand signals mobile vs. overhead cranes. NOTE: The signal person SHALL be a qualified rigger.</p>
6.6 Offset Center of Gravity	Objective 6: Determine the offset center of gravity for a load.
6.6.1 Introduction	See illustration in student handout.
<ul style="list-style-type: none"> .1 The difference between an offset center of gravity load and one whose center of gravity is in the 	

6.0 Lesson Presentation

Activities

middle of the load is that the offset center of gravity represents a larger percentage of the load weight on one or more sling legs than on other slings in the lift.

- .2 When lifting a load, it is very important that the load be lifted as level as possible. This will not only make for a better lift, but it will be a safer lift, especially if the load being lifted is a hazardous liquid or a portion of a precision machine such as a turbine hood or turbine rotor.

- .3 One way of Determining offset center of gravity

- .4 For a load to be stable, the center of gravity must be directly below the hook and below the lift points.

6.6.2 Other methods of finding the offset center of gravity

- .1 Supplier provided information

- .2 Calculation

- 2.1 Break a complex shape into sections and determine the weight and center of gravity of each section to help determine the total weight and center of gravity for the entire load.

- 2.2 A variation of the previous method is to determine the proportional weight each segment represents and place the center of gravity closer to the heavier section.

- .3 Another method is to use a load cell to weigh each side of the load. The proportional weight results are then used to locate the load's center of gravity.

Perform example for class:

$$\frac{D^1 \times w + D^2 \times w + D^3 \times w}{\text{Total Weight}}$$

Perform example for class:

$$\frac{D^1 \times w + D^2 \times w + D^3 \times w}{\text{Total Weight}}$$

See illustration in student handout.

See illustration in student handout.

6.0 Lesson Presentation	Activities
.4 The vertical load weight of each corner can be calculated if necessary.	
.5 Trial lifts or Trial and error	
5.1 The least desirable method for determining a load's center of gravity.	
5.2 Care must be taken not to overload slings and other rigging equipment.	
5.3 Raise the load and use a plumb line to mark a vertical line directly below the load hook.	
5.4 Change the sling lengths and raise the load again. Mark another vertical line directly below the load hook.	
5.5 The intersection of the two lines represents the load's center of gravity.	
6.6.3 Rigging an Irregular-shaped load	
.1 Good load control begins with rigging to the center of gravity. This means that no matter what shape of the load, the main load hook must be above its balance point.	
.2 A load properly rigged to its center of gravity will lift level and not tip over.	
.3 Remember that the load will always shift its balance point to directly below the load hook.	
6.6.4 Load Control	
.1 Keep angle "A" much greater than angle "B".	
.2 Keep distance from center of gravity to sling as	

6.0 Lesson Presentation	Activities
large as possible. In other words, the attached rigging is above the center of gravity.	
6.7 Load Stresses on Attachment Points	Objective 7: Determine the load stresses on attachment points when inverting, transferring a load from hook-to-hook, or walking a load.
6.7.1 Introduction	
.1 All slings and rigging equipment are rated for a certain maximum working load limit. As you have learned from previous training and experience with lifting light loads, the capacity of a sling varies according to how it is rigged. The key element being sling tension. Sling tension is affected by four factors other than the weight of the load: sling angle, bends in the sling, the type of hitch, and the number of sling legs. Simple calculations and rigging tables help determine sling tension for any hoisting situation.	
6.7.2 Sling Angle Review	
.1 Tension is least when slings are vertical. The more a sling's angle departs from vertical, the more tension is produced. 1.1 Once sling angle passes 60° from vertical, the tension on a single leg of a two-leg hitch is greater than the entire weight of the load, even though there are two sling legs to share the load. 1.2 The flatter the sling angle, the greater the load capacity needed to accomplish the lift. 1.3 At sling angles greater than 80° from vertical, EACH sling leg should have a rated capacity at	

6.0 Lesson Presentation	Activities
<p>least three times greater than the weight of the load.</p> <p>.2 Although it may be convenient to estimate sling tension, a simple calculation can be used to figure sling tension exactly.</p> <p>2.1 If the load requires sling legs of different lengths, the calculation must be performed separately for each leg.</p>	
6.8 Spreader and Equalizer Beams	Objective 8: Explain the use of Spreader and Equalizer Beams.
<p>6.8.1 Introduction</p> <p>.1 Spreader and equalizer beams are used to support long and hard to handle or unbalanced loads.</p> <p>6.8.2 Safety Concerns: Permanent markings must be displayed:</p> <p>.1 Manufacturer's name and address</p> <p>.2 Serial number</p> <p>.3 Weight of lifting device, if over 100 pounds</p> <p>.4 Rated load</p> <p>.5 Design factor of 3</p> <p>.6 All welding IAW ANSI/AWS D1.1</p> <p>.7 Periodic inspections for structural deficiencies</p> <p>6.8.3 Spreader/ Equalizing Beams</p> <p>.1 Reduces load tipping and bending.</p> <p>.2 Adjustable for a multitude of uses.</p>	<p>Regulatory codes: 29 CFR 1910.184 (OSHA), ASME/ANSI B30.20, ASME/ANSI B30.9 (Slings), ASME/ANSI B30.10 (Hooks)</p> <p>See illustrations in student handout.</p>

6.0 Lesson Presentation	Activities
<p>.3 Various models exist with a wide range of sizes and lifting capacities.</p> <p>.4 Lifting lugs can accommodate shackles or sling attachments.</p> <p>.5 Normally fabricated to suit a specific application; ensure beam has the proper width, depth, length, and load capacity.</p>	(Some to 200 tons)
6.9 Situational Uses of Different Rigging Hitches	Objective 9: Distinguish the situational uses of a double-wrap choker, double-wrap basket hitch, and multiple-leg bridle hitches.
<p>6.9.1 Double-Wrap Choker</p> <p>.1 Double Wrap choker hitches are used to give the sling an extra grip on the load. The additional wrap around the load prevents the choker from slipping along the length of the load while it is being lifted.</p> <p>.2 Double-wrap chokers are usually used in pairs.</p> <p>6.9.2 Double-Wrap Basket Hitch</p> <p>.1 A double-wrap basket hitch grips the load tighter and keeps the sling from slipping.</p> <p>6.9.3 Multiple-Leg Bridle Hitch</p> <p>.1 Multiple-leg Bridle Hitches may be made with two, three, or more legs - whatever is needed for the load. Each leg usually attaches to an eye on the load with a shackle. Typically, the legs are gathered at a ring that attaches to the load hook of the lifting device. Multiple-leg slings are often</p>	<p>See illustration in student handout.</p> <p>See illustration in student handout.</p> <p>See illustration in student handout.</p>

6.0 Lesson Presentation	Activities
<p>made up in advance for one particular job. Sometimes, the length of each leg must be adjusted to position the load hook directly above a load's center of gravity.</p>	
<p>6.10 Upending and Inverting a Load</p>	<p>Objective 10: Explain the process and concerns with upending and inverting a load.</p>
<p>6.10.1 Upending a Load</p> <p>.1 The process of rotating an object so that it rests upon its side or end.</p> <p>1.1 This hoisting technique can be performed either with a crane or with a chainfall that travels on an overhead track.</p> <p>.2 The most critical part of the process is selecting the lift point to be used.</p> <p>2.1 This is accomplished by locating the center of gravity and the tip point.</p> <p>2.2 A load's tip point is the corner on which it will pivot when upended.</p> <p>2.3 The optimum lift point is found just below a line extending through the load's center of gravity and the proposed lift point.</p> <p>2.4 Rigging can then be attached to the load and tilted on its side by raising the crane or chainfall and allowing a slight amount of travel.</p> <p>2.5 If attached too high, the load will not tilt over and</p>	

6.0 Lesson Presentation	Activities
<p>rest on its side.</p> <p>2.6 If attached too low, the load will tip over suddenly.</p> <p>2.7 Not allowing for hoist travel causes the load to slide.</p> <p>.3 The two keys to success: Select the right lift point and allow the hoist to travel.</p>	
6.10.2 Inverting a Load	
<p>.1 Always use safe standard rigging procedures when turning over a load.</p> <p>1.1 Pad all sharp corners.</p> <p>1.2 Use blocking where necessary.</p> <p>1.3 Select chainfalls that will each support the full weight of the load.</p> <p>.2 Connect chainfalls to load using two, two-part/two-leg bridle slings.</p> <p>.3 Using the main hook, raise the load off the ground to avoid rubbing the load while turning it over.</p> <p>.4 Raise chainfall 1 while lowering chainfall 2. This should be done in such a manner as to keep the load off the ground, but still allow the chainfalls to divide the load.</p> <p>.5 When all tension is off chainfall 2 (chainfall 1 is supporting the entire load) remove the slings and</p>	

6.0 Lesson Presentation	Activities
<p>rotate the load 180°.</p> <p>.6 Re-rig chainfall 2 slings to pick up the load from the backside. Use padding.</p> <p>.7 Start raising chainfall 2, when the bottom of the load is past center and the chainfall load is straight, start lowering chainfall 1 while still raising chainfall 2. Be sure to use padding on the sharp corners as the load rolls.</p> <p>.8 When the load is level, place blocking under the load and lower it using the main hook.</p>	
6.10.3 Two-Hook Turning	
<p>.1 Perform this technique only when absolutely necessary. It is the most difficult type of rigging operation and requires careful preparation and caution.</p> <p>.2 Used for turning loads freely in the air while the load is supported.</p> <p>.3 One sling on the main hoist supports the load and acts as the pivot around which the turn is made.</p> <p>.4 A second sling acts as an auxiliary hoist to provide control.</p>	
6.11 Walking a Load	Objective 11: Explain the process for walking a load and transferring a load from hook-to-hook.
6.11.1 Introduction	
<p>.1 Walking a load is a technique for moving a load horizontally when normal tools for transporting loads, such as cranes or rollers are either not</p>	

6.0 Lesson Presentation	Activities
<p>available or not practical. Two or more hoists can be used to complete the process.</p>	
6.11.2 The simplest way: Two Hoists	
.1 Begin by getting the load in the air using one hoist.	
.2 When the load is off the ground, attach the second hoist to the same shackle as the first hoist.	
.3 Then, the first hoist is cranked up so the load will be a little higher off the floor. The second hoist is raised to take up the slack in the load chain. At this point, both hoists are supporting the load's weight.	
.4 As the second hoist pulls the load to the side, the first is let out to keep the load at about the same height.	
.5 Now you are walking a load. Moving a load from hoist to hoist in short steps.	
.6 When the first hoist goes slack, the load will be directly beneath the second hoist, the first hoist can be removed and moved beyond the second and the process repeated.	
6.11.3 Three or more hoists	
.1 Commonly used for long or bulky loads. Where you have to use two hoists just to get the load off the ground.	
.2 Add a third hoist along the direction of intended travel. As you tighten up on hoist #3, the load travels toward the intended direction.	
.3 Once hoists #1 and #3 are supporting the load, hoist #2 and can be moved to the trailing end of	

6.0 Lesson Presentation	Activities
<p>the load.</p> <p>.4 Hoist #1 can be slacked off until the load is supported by hoists 2 and 3. Then, hoist #1 can be moved and the process repeated.</p> <p>6.11.4 Transferring from hook-to-hook</p> <p>.1 Virtually the same as walking a load. In fact, when using two hoists to walk a load, the removal of one hoist results in a transfer from hook to hook.</p>	
6.12 Types of Knots	Objective 12: Identify the types and the situations requiring certain knots when rigging a load.
<p>6.12.1 Introduction</p> <p>.1 During rigging functions, fiber rope is used to help manipulate and control the load or used to secure loads while being transported. Several different types of knots can be used. There are four locally that you should be able to use.</p> <p>6.12.2 Square Knot</p> <p>.1 Good knot for joining ropes of the same diameter together.</p> <p>.2 Can be hard to untie if subjected to a heavy pull.</p> <p>.3 Unsuitable for wet or slippery ropes and should be used with caution since it unties easily when either free end is jerked.</p> <p>6.12.3 Clove Hitch</p> <p>.1 Good knot to use when securing a rope to a post, railing or pole that will not roll.</p> <p>.2 It has a tendency to slip when used at the end of a</p>	<p>Note: Knots and bends cut rope strength in half.</p> <p>Have students' practice tying a clove hitch.</p>

6.0 Lesson Presentation	Activities
<p data-bbox="491 245 1051 272">rope. Use a half hitch or two to prevent this.</p> <p data-bbox="242 298 576 326">6.12.4 Two Half-Hitches</p> <ul data-bbox="370 347 1149 630" style="list-style-type: none"><li data-bbox="370 347 1149 407">.1 Generally used for fastening to an object for a right-angle pull.<li data-bbox="370 428 1149 488">.2 It is quickly tied, reliable, and can be put to almost any general use.<li data-bbox="370 509 1149 570">.3 Nothing more than a half hitch tied twice. It's that simple.<li data-bbox="370 591 1072 630">.4 Used in conjunction with other knots normally. <p data-bbox="242 651 527 678">6.12.5 Bowline Knot</p> <ul data-bbox="370 699 1149 1008" style="list-style-type: none"><li data-bbox="370 699 1119 727">.1 One of the most used and best-known loop knots.<li data-bbox="370 748 1149 808">.2 Never jams or slips if properly tied. It is easily tied and untied.<li data-bbox="370 829 1149 889">.3 Will work just fine when used to attach a tag line to a load.<li data-bbox="370 911 1149 1008">.4 So, since we don't rig using manila or sisal type rope, using a bowline knot as a tagline shouldn't be an issue. <p data-bbox="370 1029 1149 1198">4.1 Make an overhand loop with the end of the rope held toward you. Pass the end of the rope up through the loop, then up behind the standing part and back down through the loop. Draw up tight.</p>	

7.0 Lesson Summary**Activities**

7.1 Presentation Summary

- 7.1.1 Today, we've discussed advanced rigging practices, some specialized lifting techniques, and how to use rigging equipment for heavy lifts.
 - 7.1.2 We were exposed to proper safety habits for heavy riggers.
 - 7.1.3 You should have a strong grasp of the responsibilities of a qualified heavy rigger.
 - 7.1.4 The critical aspects of planning a heavy rigging evolution.
 - 7.1.5 Along the way, we learned about some rigging accidents here at SONGS and at other plants.
-

7.2 Review Questions

- 7.2.1 The instructor should review each objective taught that day at the end of each day's teaching.
 - 7.2.2 Instructor should ask the class what questions they may have; base further review on the answers received.
-

7.3 Closing Statements

- 7.3.1 Ask the class if any more review is necessary.
- 7.3.2 Remind the class that when rigging, safety is the number one priority.

8.0 Evaluation	Activities
8.1 Written Examination upon completion of the lesson with 80% as minimum mastery.	
8.2 Task Performance Evaluation	
8.3 Task Qualification to follow successful completion of class work and practicum.	

9.0 Attachments	Activities
<div>9.1 Attachment 1, OE11872</div> <div><div>9.1.1</div><div>9.1.2</div><div>(b)(4)</div></div>	Refer to VISION database
<div>9.2 Attachment 2, AR 001102028</div> <div><div>9.2.1</div><div>9.2.2</div><div>(b)(4)</div></div>	
<div>9.3 Attachment 3, OE12404</div> <div><div>9.3.1</div><div>9.3.2</div><div>(b)(4)</div></div>	Or AR01051833, Safety's Evaluation is informative

9.0 Attachments**Activities****9.4 Attachment 4, OE12688**

9.4.1

(b)(4)

9.4.2

9.5 Attachment 5 OE12693

9.5.1

(b)(4)

9.5.2

9.6 Attachment 6 OE12712

9.0 Attachments	Activities
9.6.1 9.6.2	(b)(4)
9.7 Attachment 7, OE 12449	(b)(4)
9.7.1 9.7.2	
9.8 Attachment 8, OE12298	

9.0 Attachments		Activities
9.8.1	<div>(b)(4)</div>	
9.8.2		
9.9 Attachment 9, OE 12272		
9.9.1	<div>(b)(4)</div>	
9.9.2		
9.10 Attachment 10, OE 12236		

9.0 Attachments**Activities**

9.10.1

(b)(4)

9.10.2

Attachment 1, OE11872

Subject: OE11872 -

(b)(4)

(b)(4)

Attachment 1, OE11872

Subject: OE11872 -

(b)(4)

(b)(4)

Attachment 1, OE11872

Subject: OE11872 -

(b)(4)

(b)(4)

(b)(4)



Attachment 3, OE 12404 or AR 010501833

Subject: OE12404 -

(b)(4)

(b)(4)

Attachment 3, OE 12404 or AR 010501833

Subject: OE12404 -

(b)(4)

(b)(4)

Attachment 4, OE12688

(b)(4)



(b)(4)



Attachment 4, OE12688

(b)(4)



(b)(4)



(b)(4)



Attachment 5, OE12693

Subject: OE12693

(b)(4)

(b)(4)

Attachment 5, OE12693

Subject: OE12693 -

(b)(4)

(b)(4)

Attachment 6, OE12712

Subject: OE12397 -

(b)(4)

(b)(4)

Attachment 7, OE12449

Subject: OE12449 -

(b)(4)

(b)(4)

Attachment 7, OE12449

Subject: OE12449 -

(b)(4)

(b)(4)

Attachment 8, OE 12298

Subject: OE12298 -

(b)(4)

(b)(4)

(b)(4)

Attachment 8, OE 12298

Subject: OE12298 -

(b)(4)

(b)(4)

Attachment 8, OE 12298

Subject: OE12298 -

(b)(4)

(b)(4)

Attachment 9, OE 12272

Subject: OE12272 -

(b)(4)

(b)(4)

(b)(4)

(b)(4)

(b)(4)

(b)(4)

(b)(4)



Attachment 11, #305245

(b)(4)



Attachment 11. #305245

(b)(4)



Attachment 11, #305245

(b)(4)

A large rectangular area of the page is redacted, indicated by a blue border. The text "(b)(4)" is written in the top-left corner of this redacted area.

**Pool to Pad Desktop Guide
G-XV93-PTP**

7.1 PTP Oversight Specialist Qualification

Date Assigned	Completion date	Candidate's Name/Badge#	Candidate's Mentor
10/2/2017	10/10/2017	(b)(7)(C)	
COG Oversight Manager Waiver Recommendation (if applicable)			Signature / Date
*Already familiar + using OSD3 (b)(7)(C)			(b)(7)(C) 10-4-17
PTP OS or COG OM, unless otherwise indicated		Date	Signature
Complete basic Site access and Indoctrination Training		10-4-17	(b)(7)(C)
Complete SCE training Principles of Contract Management		10/2/2017	
Complete SCE training Contractor Safety Management		10/2/2017	
Discuss SCE-EHS-SAFETY-ST-2, Contractor Safety Management		10-4-17	
Discuss SCE-EHS-SAFETY-HB-1, Environmental, Health and Safety Handbook for Contractors		10-4-17	
SCE HR Policy #301 – Professional Conduct		10-4-17	
Discuss Decommissioning Quality Assurance Program (DQAP) Manual		10-4-17	
Discuss D-003, Decommissioning Safety Culture and Safety Conscious Work Environment		10-4-17	
Self-study Contract		10/3/2017	
Self-study G-XV93-01 General Contractor Oversight Guideline		10/3/2017	
Self-study G-XV93-02 DGC Oversight Schedule Desktop Guide		10/3/2017	
Self-study G-XV93-04 Perform Assessment Desktop Guide		10/3/2017	
Self-study G-XV93-05 Complete Oversight Tasks Desktop Guide		10/3/2017	
Self-study G-XV93-06 Comment Resolution Desktop Guide		10/3/2017	
Discuss the HOLTEC Health and Safety Program		10-4-17	
Self-study Project Risk Oversight Plan		10/4/2017	
Self-study of station requirements for Hazard Communications, Emergency Action Plans, Fire Prevention Plans, HAZWOPER awareness, Ergonomics.		10/11/2017	
Discuss station requirements for Hazards Assessments, PPE, Exposure Monitoring, Incident Accident Investigation and Reporting and Medical response.		10-4-17	
Conduct familiarization on the OSD3		10-4-17	
Discuss Oversight Behaviors and Processes training		10-4-17	

**Pool to Pad Desktop Guide
G-XV93-PTP**

Date Assigned	Completion date	Candidate's Name/Badge#	Candidate's Mentor
10-2-17	10/10/2017	(b)(7)(C)	

PTP OS or COG OM, unless otherwise indicated	Date	Signature
Discuss station Corrective Action, Nuclear Oversight, and Safety Culture Programs	10-4-17	(b)(7)(C)
Discuss HOLTEC event notification and response plan	10-9-17	
Discuss HOLTEC Lifting and Handling Program	10-9-17	
* Conduct and document (1) Assessment in the OSDB	10-4-17	
* Conduct and document in the OSDB, (2) hours of in-the-field observations of the contractor activities	10-4-17	
* Conduct and document in the OSDB, (2) hours of in-the-field observations of the contractor activities (with a different OS)	10-4-17	
* Conduct and document in the OSDB (1) document review task	10-4-17	
* Conduct and document in the OSDB (1) area inspection task	10-4-17	
Review licensing documents (FSAR/COC)	10/3/2017	
Conduct a self-study of HOLTEC PTP procedure HPP-2464-100 and discuss with OS	10-9-17	
Conduct a self-study of HOLTEC PTP procedure HPP-2464-200 and discuss with OS	10-9-17	
Conduct a self-study of HOLTEC PTP procedure HPP-2464-300 and discuss with OS	10-9-17	
Conduct a self-study of HOLTEC PTP procedure HPP-2464-400 and discuss with OS	10-9-17	
Conduct a self-study of HOLTEC PTP procedure HPP-2464-500 and discuss with OS	10-9-17	
Conduct a self-study of HOLTEC PTP procedure HPP-2464-600 and discuss with OS	10-9-17	
Conduct a review and discussion of recent OEs or problem investigations with the COG OM	10-9-17	
Candidate is ready for Interview	10-9-17	
Final interview complete. Candidate released to perform PTP OS duties	10/10/17	
I understand my responsibilities as a PTP OS	10/10/17	

**Pool to Pad Desktop Guide
G-XV93-PTP**

7.1 PTP Oversight Specialist Qualification

Date Assigned	Completion date	Candidate's Name/Badge#	Candidate's Mentor
10/2/17	10/11/17	(b)(7)(C)	
COG Oversight Manager Waiver Recommendation (if applicable)			Signature / Date
*Already familiar and utilizing OSDB (b)(7) 10-10-17			(b)(7)(C) 10-10-17
PTP OS or COG OM, unless otherwise indicated		Date	Signature
Complete basic Site access and Indoctrination Training		10-3-17	(b)(7)(C)
Complete SCE training Principles of Contract Management		10/3/17	
Complete SCE training Contractor Safety Management		10/3/17	
Discuss SCE-EHS-SAFETY-ST-2, Contractor Safety Management		10-10-17	
Discuss SCE-EHS-SAFETY-HB-1, Environmental, Health and Safety Handbook for Contractors		10-10-17	
SCE HR Policy #301 – Professional Conduct		10-10-17	
Discuss Decommissioning Quality Assurance Program (DQAP) Manual		10-10-17	
Discuss D-003, Decommissioning Safety Culture and Safety Conscious Work Environment		10-10-17	
Self-study Contract		10/3/17	
Self-study G-XV93-01 General Contractor Oversight Guideline		10/3/17	
Self-study G-XV93-02 DGC Oversight Schedule Desktop Guide		10/3/17	
Self-study G-XV93-04 Perform Assessment Desktop Guide		10/3/17	
Self-study G-XV93-05 Complete Oversight Tasks Desktop Guide		10/3/17	
Self-study G-XV93-06 Comment Resolution Desktop Guide		10/3/17	
Discuss the HOLTEC Health and Safety Program		10-10-17	
Self-study Project Risk Oversight Plan		10/4/17	
Self-study of station requirements for Hazard Communications, Emergency Action Plans, Fire Prevention Plans, HAZWOPER awareness, Ergonomics.		10/4/17	
Discuss station requirements for Hazards Assessments, PPE, Exposure Monitoring, Incident Accident Investigation and Reporting and Medical response.		10-10-17	
Conduct familiarization on the OSDB		10-10-17	
Discuss Oversight Behaviors and Processes training		10-10-17	

**Pool to Pad Desktop Guide
G-XV93-PTP**

Date Assigned	Completion date	Candidate's Name/Badge#	Candidate's Mentor
10.2.17	10/11/17	(b)(7)(C)	

PTP OS or COG OM, unless otherwise indicated	Date	Signature
Discuss station Corrective Action, Nuclear Oversight, and Safety Culture Programs	10.10.17	(b)(7)(C)
Discuss HOLTEC event notification and response plan	10.10.17	
Discuss HOLTEC Lifting and Handling Program	10.10.17	
* Conduct and document (1) Assessment in the OSDB	10.10.17	
* Conduct and document in the OSDB, (2) hours of in-the-field observations of the contractor activities	10.10.17	
* Conduct and document in the OSDB, (2) hours of in-the-field observations of the contractor activities (with a different OS)	10.10.17	
* Conduct and document in the OSDB (1) document review task	10.10.17	
* Conduct and document in the OSDB (1) area inspection task	10.10.17	
Review licensing documents (FSAR/COC)	10/3/17 10.10.17	
Conduct a self-study of HOLTEC PTP procedure HPP-2464-100 and discuss with OS	10.10.17	
Conduct a self-study of HOLTEC PTP procedure HPP-2464-200 and discuss with OS	10.10.17	
Conduct a self-study of HOLTEC PTP procedure HPP-2464-300 and discuss with OS	10.10.17	
Conduct a self-study of HOLTEC PTP procedure HPP-2464-400 and discuss with OS	10.10.17	
Conduct a self-study of HOLTEC PTP procedure HPP-2464-500 and discuss with OS	10.10.17	
Conduct a self-study of HOLTEC PTP procedure HPP-2464-600 and discuss with OS	10.10.17	
Conduct a review and discussion of recent OEs or problem investigations with the COG OM	10.10.17	
Candidate is ready for Interview	10.10.17	
Final Interview complete. Candidate released to perform PTP OS duties	10/11/17	
I understand my responsibilities as a PTP OS	10/11/17	

**Pool to Pad Desktop Guide
G-XV93-PTP**

7.1 PTP Oversight Specialist Qualification

Date Assigned	Completion date	Candidate's Name/Badge#	Candidate's Mentor
11-6-17	11-30-17	(b)(7)(C)	
COG Oversight Manager Waiver Recommendation (if applicable)			Signature / Date
* Training not available for DA network.			(b)(7)(C)
PTP OS or COG OM, unless otherwise indicated		Date	Signature
	Complete basic Site access and Indoctrination Training	11-30-17	(b)(7)(C)
*	Complete SCE training Principles of Contract Management	11-30-17	
	Complete SCE training Contractor Safety Management	11/7/17	
	Discuss SCE-EHS-SAFETY-ST-2, Contractor Safety Management	11/7/2017	
	Discuss SCE-EHS-SAFETY-HB-1, Environmental, Health and Safety Handbook for Contractors	11/7/2017	
	SCE HR Policy #301 – Professional Conduct	11/7/2017	
	Discuss Decommissioning Quality Assurance Program (DQAP) Manual	11/7/2017	
	Discuss D-003, Decommissioning Safety Culture and Safety Conscious Work Environment	11/7/2017	
	Self-study Contract	11/8/17	
	Self-study G-XV93-01 General Contractor Oversight Guideline	11/8/17	
	Self-study G-XV93-02 DGC Oversight Schedule Desktop Guide	11/9/17	
	Self-study G-XV93-04 Perform Assessment Desktop Guide	11/9/17	
	Self-study G-XV93-05 Complete Oversight Tasks Desktop Guide	11/10/17	
	Self-study G-XV93-06 Comment Resolution Desktop Guide	11/10/17	
	Discuss the HOLTEC Health and Safety Program		
	Self-study Project Risk Oversight Plan	11/13/17	
	Self-study of station requirements for Hazard Communications, Emergency Action Plans, Fire Prevention Plans, HAZWOPER awareness, Ergonomics.	11/15/17	
	Discuss station requirements for Hazards Assessments, PPE, Exposure Monitoring, Incident Accident Investigation and Reporting and Medical response.	11/16/2017	
	Conduct familiarization on the OSDB	11/16/2017	
	Discuss Oversight Behaviors and Processes training	11/21/2017	

**Pool to Pad Desktop Guide
G-XV93-PTP**

Date Assigned	Completion date	Candidate's Name/Badge#	Candidate's Mentor
11-6-17	11-30-17	(b)(7)(C)	

PTP OS or COG OM, unless otherwise indicated	Date	Signature
Discuss station Corrective Action, Nuclear Oversight, and Safety Culture Programs	11/6/2017	(b)(7)(C)
Discuss HOLTEC event notification and response plan	11/6/17	
Discuss HOLTEC Lifting and Handling Program	11/16/2017	
Conduct and document (1) Assessment in the OSDB	11/27/2017	
Conduct and document in the OSDB, (2) hours of in-the-field observations of the contractor activities	11/28/2017	
Conduct and document in the OSDB, (2) hours of in-the-field observations of the contractor activities (with a different OS)	11/8/17	
Conduct and document in the OSDB (1) document review task	11/27/2017	
Conduct and document in the OSDB (1) area inspection task	11/28/2017	
Review licensing documents (FSAR/COC)	11/27/17	
Conduct a self-study of HOLTEC PTP procedure HPP-2464-100 and discuss with OS	11/21/17	
Conduct a self-study of HOLTEC PTP procedure HPP-2464-200 and discuss with OS	11/21/17	
Conduct a self-study of HOLTEC PTP procedure HPP-2464-300 and discuss with OS	11/21/17	
Conduct a self-study of HOLTEC PTP procedure HPP-2464-400 and discuss with OS	11/21/17	
Conduct a self-study of HOLTEC PTP procedure HPP-2464-500 and discuss with OS	11/21/17	
Conduct a self-study of HOLTEC PTP procedure HPP-2464-600 and discuss with OS	11/21/17	
Conduct a review and discussion of recent OEs or problem investigations with the COG OM	11-30-17	
Candidate is ready for interview	11-30-17	
Final interview complete. Candidate released to perform PTP OS duties	11/30/17	(b)(7)(C)
I understand my responsibilities as a PTP OS	11/30/17	

**Pool to Pad Desktop Guide
G-XV93-PTP R2**

7.1 PTP Oversight Specialist Qualification

Date Assigned	Completion date	Candidate's Name/Badge#	Candidate's Mentor
1/29/2018	2/23/18	(b)(7)(C)	
PTP Oversight Manager Waiver Recommendation (if applicable)			Signature / Date
N/A			PTP OVERSIGHT MANAGER (b)(7)(C) 2/23/18
			Date Signature
1	Complete basic Site access and Indoctrination Training	2/6/18	(b)(7)(C)
2	Complete SCE training Contractor Safety Management	2/6/18	
3	Discuss SCE-EHS-SAFETY-ST-2, Contractor Safety Management	2/6/18	
4	Discuss SCE-EHS-SAFETY-HB-1, Environmental, Health and Safety Handbook for Contractors	2/6/18	
5	SCE HR Policy #301 – Professional Conduct	2/6/18	
6	Discuss Decommissioning Quality Assurance Program (DQAP) Manual	2/6/18	
7	Discuss D-003, Decommissioning Safety Culture and Safety Conscious Work Environment	2/6/18	
8	Self-study Contract	2/7/18	
9	Self-study G-XV93-01 General Contractor Oversight Guideline	2/7/18	
10	Self-study G-XV93-02 DGC Oversight Schedule Desktop Guide	2/7/18	
11	Self-study G-XV93-04 Perform Assessment Desktop Guide	2/7/18	
12	Self-study G-XV93-05 Complete Oversight Tasks Desktop Guide	2/7/18	
13	Self-study G-XV93-06 Comment Resolution Desktop Guide	2/7/18	
14	Discuss the HOLTEC Health and Safety Program	2/7/18	
15	Self-study Project Risk Oversight Plan	2/7/18	
16	Self-study of station requirements for Hazard Communications, Emergency Action Plans, Fire Prevention Plans, HAZWOPER awareness, Ergonomics.	2/7/18	
17	Discuss station requirements for Hazards Assessments, PPE, Exposure Monitoring, Incident Accident Investigation and Reporting and Medical response.	2/7/18	
18	Conduct familiarization on the OSDB	2/7/18	
19	Discuss Oversight Behaviors and Processes training	2/7/18	

**Pool to Pad Desktop Guide
G-XV93-PTP R2**

Date Assigned	Completion date	Candidate's Name/Badge#	Candidate's Mentor
1/29/2018	2/22/18	(b)(7)(C)	
		Date	Signature
20	Discuss station Corrective Action, Nuclear Oversight, and Safety Culture Programs	2/6/18	
21	Discuss HOLTEC event notification and response plan	2/7/18	
22	Discuss HOLTEC Lifting and Handling Program	2/7/18	
23	Conduct and document (1) Assessment in the OSDB	2/19/18	
24	Conduct and document in the OSDB, (2) hours of in-the-field observations of the contractor activities	2/7/18	
25	Conduct and document in the OSDB, (2) hours of in-the-field observations of the contractor activities (with a different OS)	2/22/18	
26	Conduct and document in the OSDB (1) document review task	2/19/18	
27	Conduct and document in the OSDB (1) area inspection task	2/21/18	
28	Review licensing documents (FSAR/COC)	2/10/18	
29	Conduct a self-study of HOLTEC PTP procedure HPP-2464-100 and discuss with OS	2/6/18	
30	Conduct a self-study of HOLTEC PTP procedure HPP-2464-200 and discuss with OS	2/6/18	
31	Conduct a self-study of HOLTEC PTP procedure HPP-2464-300 and discuss with OS	2/6/18	
31	Conduct a self-study of HOLTEC PTP procedure HPP-2464-400 and discuss with OS	2/6/18	
33	Conduct a self-study of HOLTEC PTP procedure HPP-2464-500 and discuss with OS	2/6/18	
34	Conduct a self-study of HOLTEC PTP procedure HPP-2464-600 and discuss with OS	2/6/18	
35	Conduct a review and discussion of recent OEs or problem investigations with the PTP OM	2-22-18	
36	Discuss stop work criteria / candidate is ready for interview	2-22-18	
37	Final interview complete. Candidate released to perform PTP OS duties	2/22/18	
38	I understand my responsibilities as a PTP OS	2/22/18	

(b)(7)(C)

**Pool to Pad Desktop Guide
G-XV93-PTP**

7.1 PTP Oversight Specialist Qualification

Date Assigned	Completion date	Candidate's Name/Badge#	Candidate's Mentor
10-1-17	12-5-17	(b)(7)(C)	
COG Oversight Manager Waiver Recommendation (if applicable)			Signature / Date
N/A			(b)(7)(C) 11-17-17
PTP OS or COG OM, unless otherwise indicated		Date	Signature
Complete basic Site access and Indoctrination Training		10-17-17	(b)(7)(C)
Complete SCE training Principles of Contract Management		10/11/17	
Complete SCE training Contractor Safety Management		10/11/17	
Discuss SCE-EHS-SAFETY-ST-2, Contractor Safety Management		10/17/2017	
Discuss SCE-EHS-SAFETY-HB-1, Environmental, Health and Safety Handbook for Contractors		10/17/2017	
SCE HR Policy #301 – Professional Conduct		10/17/2017	
Discuss Decommissioning Quality Assurance Program (DQAP) Manual		10/17/2017	
Discuss D-003, Decommissioning Safety Culture and Safety Conscious Work Environment		10/17/2017	
Self-study Contract		10/17/17	
Self-study G-XV93-01 General Contractor Oversight Guideline		10/19/17	
Self-study G-XV93-02 DGC Oversight Schedule Desktop Guide		10/19/17	
Self-study G-XV93-04 Perform Assessment Desktop Guide		10/19/17	
Self-study G-XV93-05 Complete Oversight Tasks Desktop Guide		10/19/17	
Self-study G-XV93-06 Comment Resolution Desktop Guide		10/19/17	
Discuss the HOLTEC Health and Safety Program		10/17/2017	
Self-study Project Risk Oversight Plan		10/10/17	
Self-study of station requirements for Hazard Communications, Emergency Action Plans, Fire Prevention Plans, HAZWOPER awareness, Ergonomics.		10/12/17	
Discuss station requirements for Hazards Assessments, PPE, Exposure Monitoring, Incident Accident Investigation and Reporting and Medical response.		10/16/2017	
Conduct familiarization on the OSDB		10/17/2017	
Discuss Oversight Behaviors and Processes training		10/14/2017	

**Pool to Pad Desktop Guide
G-XV93-PTP**

Date Assigned	Completion date	Candidate's Name/Badge#	Candidate's Mentor
10.9.17	12.5.17	(b)(7)(C)	

PTP OS or COG OM, unless otherwise indicated	Date	Signature
Discuss station Corrective Action, Nuclear Oversight, and Safety Culture Programs	10/14/2017	(b)(7)(C)
Discuss HOLTEC event notification and response plan	10.17.17	
Discuss HOLTEC Lifting and Handling Program	10.17.17	
Conduct and document (1) Assessment in the OSDB	10-24-2017	
Conduct and document in the OSDB, (2) hours of in-the-field observations of the contractor activities	10-18-2017	
Conduct and document in the OSDB, (2) hours of in-the-field observations of the contractor activities (with a different OS)	9/11/17	
Conduct and document in the OSDB (1) document review task	10-18-2017	
Conduct and document in the OSDB (1) area inspection task	10-18-2017	
Review licensing documents (FSAR/COC)	10/11/17	
Conduct a self-study of HOLTEC PTP procedure HPP-2464-100 and discuss with OS	10.17.17	
Conduct a self-study of HOLTEC PTP procedure HPP-2464-200 and discuss with OS	10.17.17	
Conduct a self-study of HOLTEC PTP procedure HPP-2464-300 and discuss with OS	10.17.17	
Conduct a self-study of HOLTEC PTP procedure HPP-2464-400 and discuss with OS	10.17.17	
Conduct a self-study of HOLTEC PTP procedure HPP-2464-500 and discuss with OS	10.17.17	
Conduct a self-study of HOLTEC PTP procedure HPP-2464-600 and discuss with OS	10.17.17	
Conduct a review and discussion of recent OEs or problem investigations with the COG OM	10.17.17	
Candidate is ready for interview	11.17.17	
Final interview complete. Candidate released to perform PTP OS duties	12/5/17	
I understand my responsibilities as a PTP OS	12.5.17	

**Pool to Pad Desktop Guide
G-XV93-PTP**

7.1 PTP Oversight Specialist Qualification

Date Assigned	Completion date	Candidate's Name/Badge#	Candidate's Mentor
10/9/17	11-16-17	(b)(7)(C)	
COG Oversight Manager Waiver Recommendation (if applicable)			Signature / Date
N/A			(b)(7)(C) 11-16-17
PTP OS or COG OM, unless otherwise indicated		Date	Signature
Complete basic Site access and Indoctrination Training		11-15-17	(b)(7)(C)
Complete SCE training Principles of Contract Management		10/18/17	
Complete SCE training Contractor Safety Management		10/11/17	
Discuss SCE-EHS-SAFETY-ST-2, Contractor Safety Management		11/5/17	
Discuss SCE-EHS-SAFETY-HB-1, Environmental, Health and Safety Handbook for Contractors		11/5/17	
SCE HR Policy #301 – Professional Conduct		11/5/17	
Discuss Decommissioning Quality Assurance Program (DQAP) Manual		11/5/17	
Discuss D-003, Decommissioning Safety Culture and Safety Conscious Work Environment		11/5/17	
Self-study Contract		10/13/17	
Self-study G-XV93-01 General Contractor Oversight Guideline		10/17/17	
Self-study G-XV93-02 DGC Oversight Schedule Desktop Guide		10/17/17	
Self-study G-XV93-04 Perform Assessment Desktop Guide		10/20/17	
Self-study G-XV93-05 Complete Oversight Tasks Desktop Guide		10/20/17	
Self-study G-XV93-06 Comment Resolution Desktop Guide		10/20/17	
Discuss the HOLTEC Health and Safety Program		11/5/17	
Self-study Project Risk Oversight Plan DG-011		10/11/17	
Self-study of station requirements for Hazard Communications, Emergency Action Plans, Fire Prevention Plans, HAZWOPER awareness, Ergonomics.		10/13/17	
Discuss station requirements for Hazards Assessments, PPE, Exposure Monitoring, Incident Accident Investigation and Reporting and Medical response.		11/5/17	
Conduct familiarization on the OSDB		11/5/17	
Discuss Oversight Behaviors and Processes training		11/5/17	

**Pool to Pad Desktop Guide
G-XV93-PTP**

Date Assigned	Completion date	Candidate's Name/Badge#	Candidate's Mentor
10/9/17	11-16-17	(b)(7)(C)	

PTP OS or COG OM, unless otherwise indicated	Date	Signature
Discuss station Corrective Action, Nuclear Oversight, and Safety Culture Programs	11/15/17	(b)(7)(C)
Discuss HOLTEC event notification and response plan	11/15/17	
Discuss HOLTEC Lifting and Handling Program	11/15/17	
Conduct and document (1) Assessment in the OSDB	11/14/17	
Conduct and document in the OSDB, (2) hours of in-the-field observations of the contractor activities	11/15/17	
Conduct and document in the OSDB, (2) hours of in-the-field observations of the contractor activities (with a different OS)	10/18/17	
Conduct and document in the OSDB (1) document review task	11/15/17	
Conduct and document in the OSDB (1) area inspection task	11/9/17	
Review licensing documents (FSAR/COC)	11/25/17	
Conduct a self-study of HOLTEC PTP procedure HPP-2464-100 and discuss with OS	11/15/17	
Conduct a self-study of HOLTEC PTP procedure HPP-2464-200 and discuss with OS	11/15/17	
Conduct a self-study of HOLTEC PTP procedure HPP-2464-300 and discuss with OS	11/15/17	
Conduct a self-study of HOLTEC PTP procedure HPP-2464-400 and discuss with OS	11/15/17	
Conduct a self-study of HOLTEC PTP procedure HPP-2464-500 and discuss with OS	11/15/17	
Conduct a self-study of HOLTEC PTP procedure HPP-2464-600 and discuss with OS	11/15/17	
Conduct a review and discussion of recent OEs or problem investigations with the COG OM	11/16/17	
Candidate is ready for Interview	11/16/17	
Final interview complete. Candidate released to perform PTP OS duties	11/16/17	
I understand my responsibilities as a PTP OS	4/14/17	

**Pool to Pad Desktop Guide
G-XV93-PTP R2**

7.1 PTP Oversight Specialist Qualification

Date Assigned	Completion date	Candidate's Name/Badge#	Candidate's Mentor
02/19/2018	6/5/18	(b)(7)(C)	
PTP Oversight Manager Waiver Recommendation (if applicable)		Signature / Date	
N/A (b)(7)(C) 6-4-18		PTP OVERSIGHT MANAGER (b)(7)(C) 6-4-18	

Date	Signature
4-9-18	(b)(7)(C)
4/9/18	
4/8/18	
4/8/18	
4/8/18	
4/8/18	
4/8/18	
4/8/18	
2/19	
2/19	
2/19	
2/20	
2/20	
4/8/18	
2/21	
2/21	
4/8/18	
5/7/18	
4/8/18	

**Pool to Pad Desktop Guide
G-XV93-PTP R2**

Date Assigned	Completion date	Candidate's Name/Badge#	Candidate's Mentor
2-19-18	6/5/18	(b)(7)(C)	

		Date	Signature
20	Discuss station Corrective Action, Nuclear Oversight, and Safety Culture Programs	4/8/18	(b)(7)(C)
21	Discuss HOLTEC event notification and response plan	4/11/18	
22	Discuss HOLTEC Lifting and Handling Program	4/11/18	
23	Conduct and document (1) Assessment in the OSDB	5/16/18	
24	Conduct and document in the OSDB, (2) hours of in-the-field observations of the contractor activities	5/16/18	
25	Conduct and document in the OSDB, (2) hours of in-the-field observations of the contractor activities (with a different OS)	6/4/18	
26	Conduct and document in the OSDB (1) document review task	5/16/18	
27	Conduct and document in the OSDB (1) area inspection task	5/16/18	
28	Review licensing documents (FSAR/COC)	4/11/18	
29	Conduct a self-study of HOLTEC PTP procedure HPP-2464-100 and discuss with OS	4/6/18	
30	Conduct a self-study of HOLTEC PTP procedure HPP-2464-200 and discuss with OS	4/6/18	
31	Conduct a self-study of HOLTEC PTP procedure HPP-2464-300 and discuss with OS	4/6/18	
31	Conduct a self-study of HOLTEC PTP procedure HPP-2464-400 and discuss with OS	4/8/18	
33	Conduct a self-study of HOLTEC PTP procedure HPP-2464-500 and discuss with OS	4/9/18	
34	Conduct a self-study of HOLTEC PTP procedure HPP-2464-600 and discuss with OS	4/9/18	
35	Conduct a review and discussion of recent OEs or problem investigations with the PTP OM	6-4-18	
36	Discuss stop work criteria / candidate is ready for interview	6-4-18	
37	Final interview complete. Candidate released to perform PTP OS duties	6/5/18	
38	I understand my responsibilities as a PTP OS	6/5/18	

**Pool to Pad Desktop Guide
G-XV93-PTP**

7.1 PTP Oversight Specialist Qualification

Date Assigned	Completion date	Candidate's Name/Badge#	Candidate's Mentor
10/16/17	12/6/17	(b)(7)(C)	
COG Oversight Manager Waiver Recommendation (if applicable)			Signature / Date
N/A			(b)(7)(C) 12-6-17
PTP OS or COG OM, unless otherwise indicated		Date	Signature
Complete basic Site access and Indoctrination Training	12-6-17	(b)(7)(C)	
Complete SCE training Principles of Contract Management	10/8/17		
Complete SCE training Contractor Safety Management	10/24/17		
Discuss SCE-EHS-SAFETY-ST-2, Contractor Safety Management	10/30/17		
Discuss SCE-EHS-SAFETY-HB-1, Environmental, Health and Safety Handbook for Contractors	10/30/17		
SCE HR Policy #301 – Professional Conduct	10/30/17		
Discuss Decommissioning Quality Assurance Program (DQAP) Manual	10/30/17		
Discuss D-003, Decommissioning Safety Culture and Safety Conscious Work Environment	10/25/17		
Self-study Contract	10/24/17		
Self-study G-XV93-01 General Contractor Oversight Guideline	10/17/17		
Self-study G-XV93-02 DGC Oversight Schedule Desktop Guide	10/17/17		
Self-study G-XV93-04 Perform Assessment Desktop Guide	10/18/17		
Self-study G-XV93-05 Complete Oversight Tasks Desktop Guide	10/18/17		
Self-study G-XV93-06 Comment Resolution Desktop Guide	10/18/17		
Discuss the HOLTEC Health and Safety Program	11/1/17		
Self-study Project Risk Oversight Plan	10/24/17		
Self-study of station requirements for Hazard Communications, Emergency Action Plans, Fire Prevention Plans, HAZWOPER awareness, Ergonomics.	10/24/17		
Discuss station requirements for Hazards Assessments, PPE, Exposure Monitoring, Incident Accident Investigation and Reporting and Medical response.	10/30/17		
Conduct familiarization on the OSDB	11/1/17		
Discuss Oversight Behaviors and Processes training	10/30/17		

**Pool to Pad Desktop Guide
G-XV93-PTP**

Date Assigned	Completion date	Candidate's Name/Badge#	Candidate's Mentor
10/16/17	12/6/17	(b)(7)(C)	

PTP OS or COG OM, unless otherwise indicated	Date	Signature
Discuss station Corrective Action, Nuclear Oversight, and Safety Culture Programs	10/30/17	(b)(7)(C)
Discuss HOLTEC event notification and response plan	10/30/17	
Discuss HOLTEC Lifting and Handling Program	10/30/17	
Conduct and document (1) Assessment in the OSDB	11/10/17	
Conduct and document in the OSDB, (2) hours of in-the-field observations of the contractor activities	11/1/17	
Conduct and document in the OSDB, (2) hours of in-the-field observations of the contractor activities (with a different OS)	11/27/17	
Conduct and document in the OSDB (1) document review task	11/1/17	
Conduct and document in the OSDB (1) area inspection task	11/10/17	
Review licensing documents (FSAR/COC)	10/25/17	
Conduct a self-study of HOLTEC PTP procedure HPP-2464-100 and discuss with OS	11/20/17	
Conduct a self-study of HOLTEC PTP procedure HPP-2464-200 and discuss with OS	11/20/17	
Conduct a self-study of HOLTEC PTP procedure HPP-2464-300 and discuss with OS	11/20/17	
Conduct a self-study of HOLTEC PTP procedure HPP-2464-400 and discuss with OS	11/20/17	
Conduct a self-study of HOLTEC PTP procedure HPP-2464-500 and discuss with OS	11/20/17	
Conduct a self-study of HOLTEC PTP procedure HPP-2464-600 and discuss with OS	11/20/17	
Conduct a review and discussion of recent OEs or problem investigations with the COG OM	12-6-17	
Candidate is ready for Interview	12-6-17	
Final interview complete. Candidate released to perform PTP OS duties	12/6/17	
I understand my responsibilities as a PTP OS	12/6/17	

**Pool to Pad Desktop Guide
G-XV93-PTP**

7.1 PTP Oversight Specialist Qualification

Date Assigned	Completion Date	Candidate's Name/Badge#	Candidate's Mentor
10/4/17	11/17/17	(b)(7)(C)	
COG Oversight Manager Waiver Recommendation (if applicable)			Signature / Date
N/A			(b)(7)(C) 11-7-17
PTP OS or COG OM, unless otherwise indicated		Date	Signature
	Complete basic Site access and Indoctrination Training	11-1-17	(b)(7)(C)
	Complete SCE training Principles of Contract Management	10/4/17	
	Complete SCE training Contractor Safety Management	10/4/17	
	Discuss SCE-EHS-SAFETY-ST-2, Contractor Safety Management	10/25/17	
	Discuss SCE-EHS-SAFETY-HB-1, Environmental, Health and Safety Handbook for Contractors	10/25/17	
	SCE HR Policy #301 – Professional Conduct	10/25/17	
	Discuss Decommissioning Quality Assurance Program (DQAP) Manual	10/31/17	
	Discuss D-003, Decommissioning Safety Culture and Safety Conscious Work Environment	10/25/17	
	Self-study Contract	10/5/17	
	Self-study G-XV93-01 General Contractor Oversight Guideline	10/5/17	
	Self-study G-XV93-02 DGC Oversight Schedule Desktop Guide	10/9/17	
	Self-study G-XV93-04 Perform Assessment Desktop Guide	10/9/17	
	Self-study G-XV93-05 Complete Oversight Tasks Desktop Guide	10/10/17	
	Self-study G-XV93-06 Comment Resolution Desktop Guide	10/11/17	
	Discuss the HOLTEC Health and Safety Program	10/31/17	
	Self-study Project Risk Oversight Plan	10/12/17	
	Self-study of station requirements for Hazard Communications, Emergency Action Plans, Fire Prevention Plans, HAZWOPER awareness, Ergonomics.	10/16/17	
	Discuss station requirements for Hazards Assessments, PPE, Exposure Monitoring, Incident Accident Investigation and Reporting and Medical response.	10/31/17	
	Conduct familiarization on the OSDB	10/30/17	
	Discuss Oversight Behaviors and Processes training	10/31/17	

**Pool to Pad Desktop Guide
G-XV93-PTP**

Date Assigned	Completion date	Candidate's Name/Badge#	Candidate's Mentor
10/4/17	11/7/17	(b)(7)(C)	
PTP OS or COG OM, unless otherwise indicated		Date	Signature
Discuss station Corrective Action, Nuclear Oversight, and Safety Culture Programs		10/30/17	(b)(7)(C)
Discuss HOLTEC event notification and response plan		10/30/17	
Discuss HOLTEC Lifting and Handling Program		10/30/17	
Conduct and document (1) Assessment in the OSDB		11/1/17	
Conduct and document in the OSDB, (2) hours of in-the-field observations of the contractor activities		10/30/17	
Conduct and document in the OSDB, (2) hours of in-the-field observations of the contractor activities (with a different OS)		11/1/17	
Conduct and document in the OSDB (1) document review task		10/30/17	
Conduct and document in the OSDB (1) area inspection task		10/30/17	
Review licensing documents (FSAR/COC)		10/11/17	
Conduct a self-study of HOLTEC PTP procedure HPP-2464-100 and discuss with OS		10/25/17	
Conduct a self-study of HOLTEC PTP procedure HPP-2464-200 and discuss with OS		10/25/17	
Conduct a self-study of HOLTEC PTP procedure HPP-2464-300 and discuss with OS		10/25/17	
Conduct a self-study of HOLTEC PTP procedure HPP-2464-400 and discuss with OS		10/25/17	
Conduct a self-study of HOLTEC PTP procedure HPP-2464-500 and discuss with OS		10/25/17	
Conduct a self-study of HOLTEC PTP procedure HPP-2464-600 and discuss with OS		10/25/17	
Conduct a review and discussion of recent OEs or problem investigations with the COG OM		11-7-17	
Candidate is ready for interview		11-7-17	
Final interview complete. Candidate released to perform PTP OS duties		11/7/17	
I understand my responsibilities as a PTP OS		11/7/17	

**Pool to Pad Desktop Guide
G-XV93-PTP**

7.1 PTP Oversight Specialist Qualification

Date Assigned	Completion date	Candidate's Name/Badge#	Candidate's Mentor
10/2/17	11/7/17	(b)(7)(C)	
COG Oversight Manager Waiver Recommendation (if applicable)			Signature / Date
N/A			(b)(7)(C) 11-7-17
PTP OS or COG OM, unless otherwise indicated		Date	Signature
Complete basic Site access and Indoctrination Training		10-26-17	(b)(7)(C)
Complete SCE training Principles of Contract Management		7/27/17	
Complete SCE training Contractor Safety Management		7/27/17	
Discuss SCE-EHS-SAFETY-ST-2, Contractor Safety Management		10/17/2017	
Discuss SCE-EHS-SAFETY-HB-1, Environmental, Health and Safety Handbook for Contractors		10/17/2017	
SCE HR Policy #301 – Professional Conduct		10/17/2017	
Discuss Decommissioning Quality Assurance Program (DQAP) Manual		10/17/2017	
Discuss D-003, Decommissioning Safety Culture and Safety Conscious Work Environment		10/17/2017	
Self-study Contract		7/27/17	
Self-study G-XV93-01 General Contractor Oversight Guideline		10/2/17	
Self-study G-XV93-02 DGC Oversight Schedule Desktop Guide		10/2/17	
Self-study G-XV93-04 Perform Assessment Desktop Guide		10/2/17	
Self-study G-XV93-05 Complete Oversight Tasks Desktop Guide		10/2/17	
Self-study G-XV93-06 Comment Resolution Desktop Guide		10/2/17	
Discuss the HOLTEC Health and Safety Program		10/17/2017	
Self-study Project Risk Oversight Plan		10/2/2017	
Self-study of station requirements for Hazard Communications, Emergency Action Plans, Fire Prevention Plans, HAZWOPER awareness, Ergonomics.		10/17/17	
Discuss station requirements for Hazards Assessments, PPE, Exposure Monitoring, Incident Accident Investigation and Reporting and Medical response.		10/17/2017	
Conduct familiarization on the OSDB		10/2/17	
Discuss Oversight Behaviors and Processes training		10/17/2017	

**Pool to Pad Desktop Guide
G-XV93-PTP**

Date Assigned	Completion date	Candidate's Name/Badge#	Candidate's Mentor
10/2/17	11/7/17	(b)(7)(C)	

PTP OS or COG OM, unless otherwise indicated	Date	Signature
Discuss station Corrective Action, Nuclear Oversight, and Safety Culture Programs	10/17 2017	(b)(7)(C)
Discuss HOLTEC event notification and response plan	10/17 2017	
Discuss HOLTEC Lifting and Handling Program	10/17 2017	
Conduct and document (1) Assessment in the OSDB	11/1/2017	
Conduct and document in the OSDB, (2) hours of in-the-field observations of the contractor activities	10/17 2017	
Conduct and document in the OSDB, (2) hours of in-the-field observations of the contractor activities (with a different OS)	11/1/17	
Conduct and document in the OSDB (1) document review task	10/17 2017	
Conduct and document in the OSDB (1) area inspection task	11/1/17	
Review licensing documents (FSAR/COC)	10/17 2017	
Conduct a self-study of HOLTEC PTP procedure HPP-2464-100 and discuss with OS	10/17 2017	
Conduct a self-study of HOLTEC PTP procedure HPP-2464-200 and discuss with OS	10/17 2017	
Conduct a self-study of HOLTEC PTP procedure HPP-2464-300 and discuss with OS	10/17 2017	
Conduct a self-study of HOLTEC PTP procedure HPP-2464-400 and discuss with OS	10/17 2017	
Conduct a self-study of HOLTEC PTP procedure HPP-2464-500 and discuss with OS	10/17 2017	
Conduct a self-study of HOLTEC PTP procedure HPP-2464-600 and discuss with OS	10/17 2017	
Conduct a review and discussion of recent OEs or problem investigations with the COG OM	11-7-17	
Candidate is ready for Interview	11-7-17	
Final interview complete: Candidate released to perform PTP OS duties	11/7/17	
I understand my responsibilities as a PTP OS	11/7/17	

**Pool to Pad Desktop Guide
G-XV93-PTP**

7.1 PTP Oversight Specialist Qualification

Date Assigned	Completion date	Candidate's Name/Badge#	Candidate's Mentor
10-5-17	10-19-17	(b)(7)(C)	
COG Oversight Manager Waiver Recommendation (if applicable)		Signature / Date	
N/A		(b)(7)(C) 10-19-17	
PTP OS or COG OM, unless otherwise indicated		Date	Signature
Complete basic Site access and Indoctrination Training		10-19-17	(b)(7)(C)
Complete SCE training Principles of Contract Management		10-18-17	
Complete SCE training Contractor Safety Management		10-18-17	
Discuss SCE-EHS-SAFETY-ST-2, Contractor Safety Management		10-19-2017	
Discuss SCE-EHS-SAFETY-HB-1, Environmental, Health and Safety Handbook for Contractors		10-19-2017	
SCE HR Policy #301 – Professional Conduct		10-19-2017	
Discuss Decommissioning Quality Assurance Program (DQAP) Manual		10-19-2017	
Discuss D-003, Decommissioning Safety Culture and Safety Conscious Work Environment		10-19-2017	
Self-study Contract		10-13-17	
Self-study G-XV93-01 General Contractor Oversight Guideline		10-5-17	
Self-study G-XV93-02 DGC Oversight Schedule Desktop Guide		10-5-17	
Self-study G-XV93-04 Perform Assessment Desktop Guide		10-5-17	
Self-study G-XV93-05 Complete Oversight Tasks Desktop Guide		10-5-17	
Self-study G-XV93-06 Comment Resolution Desktop Guide		10-5-17	
Discuss the HOLTEC Health and Safety Program		10-19-2017	
Self-study Project Risk Oversight Plan		10-5-17	
Self-study of station requirements for Hazard Communications, Emergency Action Plans, Fire Prevention Plans, HAZWOPER awareness, Ergonomics.		10-5-17	
Discuss station requirements for Hazards Assessments, PPE, Exposure Monitoring, Incident Accident Investigation and Reporting and Medical response.		10-19-2017	
Conduct familiarization on the OSDB		10-19-17	
Discuss Oversight Behaviors and Processes training		10-19-2017	

**Pool to Pad Desktop Guide
G-XV93-PTP**

Date Assigned	Completion date	Candidate's Name/Badge#	Candidate's Mentor
10-5-17	10-19-17	(b)(7)(C)	

PTP OS or COG OM, unless otherwise indicated	Date	Signature
Discuss station Corrective Action, Nuclear Oversight, and Safety Culture Programs	10-19-2017	(b)(7)(C)
Discuss HOLTEC event notification and response plan	10-19-17	
Discuss HOLTEC Lifting and Handling Program	10-19-17	
Conduct and document (1) Assessment in the OSDB	10-19-17	
Conduct and document in the OSDB, (2) hours of in-the-field observations of the contractor activities	10/19/2017	
Conduct and document in the OSDB, (2) hours of in-the-field observations of the contractor activities (with a different OS)	10/19/17	
Conduct and document in the OSDB (1) document review task	10/19/2017	
Conduct and document in the OSDB (1) area inspection task	10-19-17	
Review licensing documents (FSAR/COC)	10-19-17	
Conduct a self-study of HOLTEC PTP procedure HPP-2464-100 and discuss with OS	10/19/2017	
Conduct a self-study of HOLTEC PTP procedure HPP-2464-200 and discuss with OS	10/19/2017	
Conduct a self-study of HOLTEC PTP procedure HPP-2464-300 and discuss with OS	10/19/2017	
Conduct a self-study of HOLTEC PTP procedure HPP-2464-400 and discuss with OS	10/19/2017	
Conduct a self-study of HOLTEC PTP procedure HPP-2464-500 and discuss with OS	10/19/2017	
Conduct a self-study of HOLTEC PTP procedure HPP-2464-600 and discuss with OS	10/19/2017	
Conduct a review and discussion of recent OEs or problem investigations with the COG OM	10-19-17	
Candidate is ready for Interview	10-19-17	
Final interview complete. Candidate released to perform PTP OS duties	10/19/17	
I understand my responsibilities as a PTP OS	10-19-17	

**Pool to Pad Desktop Guide
G-XV93-PTP R2**

7.1 PTP Oversight Specialist Qualification

Date Assigned	Completion date	Candidate's Name/Badge#	Candidate's Mentor
11-7-17	12-7-17	(b)(7)(C)	
PTP Oversight Manager Waiver Recommendation (if applicable)			Signature / Date
N/A			PTP OVERSIGHT MANAGER (b)(7)(C)
		Date	Signature
1	Complete basic Site access and Indoctrination Training	11-20-17	(b)(7)(C)
2	Complete SCE training Contractor Safety Management	11-8-17	
3	Discuss SCE-EHS-SAFETY-ST-2, Contractor Safety Management	11/7/17	
4	Discuss SCE-EHS-SAFETY-HB-1, Environmental, Health and Safety Handbook for Contractors	11/7/17	
5	SCE HR Policy #301 – Professional Conduct	11/7/17	
6	Discuss Decommissioning Quality Assurance Program (DQAP) Manual	11/7/17	
7	Discuss D-003, Decommissioning Safety Culture and Safety Conscious Work Environment	11/7/17	
8	Self-study Contract	11-8-17	
9	Self-study G-XV93-01 General Contractor Oversight Guideline	11-8-17	
10	Self-study G-XV93-02 DGC Oversight Schedule Desktop Guide	11-8-17	
11	Self-study G-XV93-04 Perform Assessment Desktop Guide	11-8-17	
12	Self-study G-XV93-05 Complete Oversight Tasks Desktop Guide	11-9-17	
13	Self-study G-XV93-06 Comment Resolution Desktop Guide	11-9-17	
14	Discuss the HOLTEC Health and Safety Program	11/7/17	
15	Self-study Project Risk Oversight Plan	11-9-17	
16	Self-study of station requirements for Hazard Communications, Emergency Action Plans, Fire Prevention Plans, HAZWOPER awareness, Ergonomics.	11-9-17	
17	Discuss station requirements for Hazards Assessments, PPE, Exposure Monitoring, Incident Accident Investigation and Reporting and Medical response.	11/9/17	
18	Conduct familiarization on the OSDB	11/9/17	
19	Discuss Oversight Behaviors and Processes training	11/9/17	

**Pool to Pad Desktop Guide
G-XV93-PTP R2**

Date Assigned	Completion date	Candidate's Name/Badge#	Candidate's Mentor
11-7-17	12-7-17	(b)(7)(C)	

		Date	Signature
20	Discuss station Corrective Action, Nuclear Oversight, and Safety Culture Programs	11/7/17	(b)(7)(C)
21	Discuss HOLTEC event notification and response plan	11/16/17	
22	Discuss HOLTEC Lifting and Handling Program	11/16/17	
23	Conduct and document (1) Assessment in the OSDB	12/7/17	
24	Conduct and document in the OSDB, (2) hours of in-the-field observations of the contractor activities	11/8/17	
25	Conduct and document in the OSDB, (2) hours of in-the-field observations of the contractor activities (with a different OS)	12/7/17	
26	Conduct and document in the OSDB (1) document review task	12/7/17	
27	Conduct and document in the OSDB (1) area inspection task	12/7/17	
28	Review licensing documents (FSAR/COC)	11-20-17	
29	Conduct a self-study of HOLTEC PTP procedure HPP-2464-100 and discuss with OS	11/20/17	
30	Conduct a self-study of HOLTEC PTP procedure HPP-2464-200 and discuss with OS	11/20/17	
31	Conduct a self-study of HOLTEC PTP procedure HPP-2464-300 and discuss with OS	11/20/17	
31	Conduct a self-study of HOLTEC PTP procedure HPP-2464-400 and discuss with OS	11/20/17	
33	Conduct a self-study of HOLTEC PTP procedure HPP-2464-500 and discuss with OS	11/20/17	
34	Conduct a self-study of HOLTEC PTP procedure HPP-2464-600 and discuss with OS	11/20/17	
35	Conduct a review and discussion of recent OEs or problem investigations with the PTP OM	12-7-17	
36	Discuss stop work criteria / candidate is ready for interview	12-7-17	
37	Final interview complete. Candidate released to perform PTP OS duties	12/7/17	
38	I understand my responsibilities as a PTP OS	12-7-17	

**Pool to Pad Desktop Guide
G-XV93-PTP R2**

7.1 PTP Oversight Specialist Qualification

Date Assigned	Completion date	Candidate's Name/Badge#	Candidate's Mentor
1/29/18	2-21-18	(b)(7)(C)	
PTP Oversight Manager Waiver Recommendation (if applicable)		Signature / Date	
N/A		PTP OVERSIGHT MANAGER 2-21-18 (b)(7)(C)	
		Date	Signature
1	Complete basic Site access and Indoctrination Training	2-6-18	(b)(7)(C)
2	Complete SCE training Contractor Safety Management	2-6-18	
3	Discuss SCE-EHS-SAFETY-ST-2, Contractor Safety Management	2-7-2018	
4	Discuss SCE-EHS-SAFETY-HB-1, Environmental, Health and Safety Handbook for Contractors	2-7-2018	
5	SCE HR Policy #301 – Professional Conduct	2-7-2018	
6	Discuss Decommissioning Quality Assurance Program (DQAP) Manual	2-12-2018	
7	Discuss D-003, Decommissioning Safety Culture and Safety Conscious Work Environment	2-7-2018	
8	Self-study Contract	2-12-18	
9	Self-study G-XV93-01 General Contractor Oversight Guideline	2-5-18	
10	Self-study G-XV93-02 DGC Oversight Schedule Desktop Guide	2-5-18	
11	Self-study G-XV93-04 Perform Assessment Desktop Guide	2-5-18	
12	Self-study G-XV93-05 Complete Oversight Tasks Desktop Guide	2-5-18	
13	Self-study G-XV93-06 Comment Resolution Desktop Guide	2-6-18	
14	Discuss the HOLTEC Health and Safety Program	2-12-2018	
15	Self-study Project Risk Oversight Plan	2-7-18	
16	Self-study of station requirements for Hazard Communications, Emergency Action Plans, Fire Prevention Plans, HAZWOPER awareness, Ergonomics.	2-7-18	
17	Discuss station requirements for Hazards Assessments, PPE, Exposure Monitoring, Incident Accident Investigation and Reporting and Medical response.	2/9/18	
18	Conduct familiarization on the OSDB	2/9/18	
19	Discuss Oversight Behaviors and Processes training	2-12-2018	

**Pool to Pad Desktop Guide
G-XV93-PTP R2**

Date Assigned	Completion date	Candidate's Name/Badge#	Candidate's Mentor
1/29/18	2-21-18	(b)(7)(C)	

		Date	Signature
20	Discuss station Corrective Action, Nuclear Oversight, and Safety Culture Programs	2/9/18	(b)(7)(C)
21	Discuss HOLTEC event notification and response plan	2/9/18	
22	Discuss HOLTEC Lifting and Handling Program	2/9/18	
23	Conduct and document (1) Assessment in the OSDB	2/19/2018	
24	Conduct and document in the OSDB, (2) hours of in-the-field observations of the contractor activities	2/19/2018	
25	Conduct and document in the OSDB, (2) hours of in-the-field observations of the contractor activities (with a different OS)	2/19/18	
26	Conduct and document in the OSDB (1) document review task	2/19/2018	
27	Conduct and document in the OSDB (1) area inspection task	2/19/2018	
28	Review licensing documents (FSAR/COC)	2/8/18	
29	Conduct a self-study of HOLTEC PTP procedure HPP-2464-100 and discuss with OS	2/6/2018	
30	Conduct a self-study of HOLTEC PTP procedure HPP-2464-200 and discuss with OS	2/6/2018	
31	Conduct a self-study of HOLTEC PTP procedure HPP-2464-300 and discuss with OS	2/7/2018	
31	Conduct a self-study of HOLTEC PTP procedure HPP-2464-400 and discuss with OS	2/9/18	
33	Conduct a self-study of HOLTEC PTP procedure HPP-2464-500 and discuss with OS	2/9/18	
34	Conduct a self-study of HOLTEC PTP procedure HPP-2464-600 and discuss with OS	2/9/18	
35	Conduct a review and discussion of recent OEs or problem investigations with the PTP OM	2-21-18	
36	Discuss stop work criteria / candidate is ready for interview	2-21-18	
37	Final interview complete. Candidate released to perform PTP OS duties	2/21/18	
38	I understand my responsibilities as a PTP OS	2-21-18	

Procedure Usage Requirements		Sections
Information Use	<ul style="list-style-type: none"> The user may complete the task from memory. However, the user is responsible for performing the activity according to the procedure. Information use documents that contain a specific process order are performed in the given order unless otherwise specified within the document. 	All

Color Usage	Location
This Document Does Not Contain Relevant Color	N/A

Level 1 – QA PROGRAM AFFECTING

50.59 DNA / 72.48 DNA / RX DNA

Procedure Type
Nuclear Safety Culture

Procedure Owner
(b)(7)(C)

	Employee Concerns Program & Decommissioning Safety Culture Program	SO123-XV-50.2 REVISION 29 Page 2 of 40
-----------------------------------------------------------------------------------	-----------------------------------------------------------------------------------	----------------------------------------------------------

TABLE OF CONTENTS

<u>Section</u>	<u>Page</u>
1.0 PURPOSE AND SCOPE	3
2.0 RESPONSIBILITIES	5
3.0 DEFINITIONS	6
4.0 PRECAUTIONS AND LIMITATIONS	7
5.0 PREREQUISITES	7
6.0 PROCEDURE	8
6.1 Employee Concerns Program Functions	8
6.2 Administration of the Employee Concerns Program	9
6.3 Assigned ECP Investigators	11
6.4 Submitting ECP Concerns	12
6.5 Processing Issues	13
6.6 Feedback to Site Workers	16
6.7 Appeal Process	17
6.8 Policy on Harassment, Intimidation, Retaliation, or Discrimination (HIRD)	18
6.9 Follow-up Actions Resulting from ECs	18
6.10 Employee Concerns Program Confidentiality	18
6.11 Protecting the Identity of Concerned Individuals	19
6.12 NRC Allegations	20
6.13 Program Review/Audit/Assessment	20
6.14 Documentation	21
6.15 Policies	22
6.16 Assessing On-Site Contractor(s) Safety Culture Programs	29
6.17 Communications:	31
6.18 Expectations for Leaders of SCWE/GWE Groups:	31
7.0 ACCEPTANCE CRITERIA	32
8.0 RETENTION OF RECORDS	32
9.0 REFERENCES / COMMITMENTS	33
ATTACHMENT	
1 SCWE/GWE Communications Strategy	36
2 SCWE/GWE Group Weekly Status Update Template	37
3 SCWE/GWE Group Process for Closure Review Form	38
4 Summary of Changes	40

INFORMATION USE

	Employee Concerns Program & Decommissioning Safety Culture Program	SO123-XV-50.2 REVISION 29
		Page 3 of 40

1.0 **PURPOSE AND SCOPE**

NOTE

Terms defined in Section 3.0, DEFINITIONS, appear for the first time in ***bold italics*** in this procedure.

- 1.1 Southern California Edison (SCE) is committed to the safe operation of San Onofre Nuclear Generating Station (SONGS) and to establishing a ***Safety Conscious Work Environment*** (SCWE) in which workers feel free to raise concerns both to SCE and the Nuclear Regulatory Commission (NRC) without fear of retaliation (Reference 9.1.2.1). Thus, SCE's policy addresses two specific concepts:

- 1.1.1 SONGS' Decommissioning Safety Culture Program, which is this organization's values and behaviors modeled by its leaders and internalized by its members that serves to make nuclear safety the overriding focus.
- 1.1.2 To build and maintain a strong Decommissioning Safety Culture Program, a key component is the establishment and maintenance of effective lines of communication for safety concerns such that workers are encouraged to raise concerns and that such concerns are promptly reviewed, properly prioritized, and resolved with timely feedback to workers.

1.2 **Employee Concerns Program (ECP)**

- 1.2.1 The ECP, as described in the procedure, provides an alternate, confidential means, independent of the worker's supervision, to report concerns.
- 1.2.2 The ECP is responsible for the investigation and/or resolution of issues identified to the ECP.
- 1.2.3 To describe:
 - 1.2.3.1 ECP policies.
 - 1.2.3.2 The administrative functions of the ECP.
 - 1.2.3.3 The analysis and disposition of ***Employee Concerns*** and other kinds of issues submitted to the ECP (Section 3.0, DEFINITIONS).
 - 1.2.3.4 The Nuclear Organization's confidentiality policy regarding the ECP.

INFORMATION USE

	Employee Concerns Program & Decommissioning Safety Culture Program	SO123-XV-50.2 REVISION 29
		Page 4 of 40

1.3 Decommissioning Safety Culture Program

1.3.1 This procedure implements the management of SONGS' Decommissioning Safety Culture Program.

1.3.2 This procedure establishes the processes for analyzing, monitoring and responding to nuclear safety culture and work environment issues or potential trends.

1.4 Decommissioning Safety Culture and Safety Conscious Work Environment Policies

1.4.1 This procedure describes the Decommissioning Organization's policies regarding:

1.4.1.1 Defining and establishing a healthy Decommissioning Safety Culture.

1.4.1.2 Defining and establishing a Safety Conscious Work Environment.

1.4.1.3 The free flow of safety information and achieving and maintaining an environment in which workers feel free to raise their concerns.

1.4.1.4 SONGS Open Door Policy.

1.5 On-Site Contractor(s) Employee Concerns Program (-ECP)

1.5.1 On-site Contractor(s) will implement their own Employee Concerns Program in accordance with the their specific ECP Procedure.

	Employee Concerns Program & Decommissioning Safety Culture Program	SO123-XV-50.2 REVISION 29
		Page 5 of 40

2.0 **RESPONSIBILITIES**

2.1 Management and Administration of the Decommissioning Safety Culture Program

2.1.1 The Decommissioning Safety Culture Program Staff is responsible for the following:

- Decommissioning Safety Culture Program policies, procedures, guidelines and desk instructions including this document and related Procedures.
- Managing the Decommissioning Safety Culture Program, including reporting concerns and potential trends to upper management, and/or senior leadership.
- Using the Corrective Action Program for issues or potential trends so that the line organizations are responsible for addressing work environment issues in their groups.
- Ensuring that pulse surveys are conducted to assess the Decommissioning Safety Culture at SONGS.
- Periodic self or other assessments, or benchmarking of the Decommissioning Safety Culture Program.
- Working with SONGS Communications for the development, coordination and implementation of Decommissioning Safety Culture, General Work Environment and Safety Conscious Work Environment communications.
- Integration of the Decommissioning Safety Culture Components into other site programs and policies.
- Conducting the routine monitoring of the SONGS safety culture and work environment as outlined in this procedure.
- Analyzing and reporting out on the data collected for routine monitoring and identifying issues and potential trends.
- Supporting site wide surveys and assessments of work environment and Decommissioning Safety Culture.
- Conducting assessments or cause evaluations and development of corrective actions.

3.0 **DEFINITIONS**

- | | | | | | | | | | | |
|----------|-----------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|-------------------------------------------------------------|----------|---------------------------------------------------------------------|----------|-----------------------------------------------------------------------|----------|--------------------------------------|
| 3.1 | <u>Chilling Effect</u> | The perceived consequences of actions taken, or not taken, by an employer, company representative, or other employee(s) which creates an atmosphere where individuals, or a group, refrain from identifying nuclear safety concerns or engaging in other protected activities based on a fear of some type of reprisal. | | | | | | | | |
| 3.2 | <u>Decommissioning Safety Culture</u> | The core values and behaviors resulting from a collective commitment by leaders and individuals to emphasize safety over competing goals to ensure protection of people and the environment. (Reference 9.2.6.1) | | | | | | | | |
| 3.3 | <u>ECP Investigator</u> | Individual(s) designated by the Manager, Regulatory Affairs & Nuclear Oversight (or designee) to conduct an investigation. | | | | | | | | |
| 3.4 | <u>Employee Concern</u> | A concern about nuclear safety, about personal radiological safety, about the health and safety of the public, about decommissioning, about compliance with regulations, SONGS Safety Conscious Work Environment, about harassment, intimidation, retaliatory action, or discrimination relating to raising safety concerns. | | | | | | | | |
| 3.5 | <u>Employee Concerns Program</u> | A confidential, independent, alternative way to raise nuclear safety concerns and have them investigated and resolved. It also investigates claims of harassment, intimidation, retaliation or discrimination for raising safety concerns. | | | | | | | | |
| 3.6 | <u>Four Pillar SCWE Model</u> | <table border="0" style="width: 100%;"> <tr> <td style="padding-right: 20px;">Pillar 1</td> <td>Effective management support of workers in raising concerns</td> </tr> <tr> <td>Pillar 2</td> <td>Effective normal resolution process Corrective Action Program (CAP)</td> </tr> <tr> <td>Pillar 3</td> <td>Effective alternate resolution process Employee Concerns Program, NRC</td> </tr> <tr> <td>Pillar 4</td> <td>Detecting and preventing retaliation</td> </tr> </table> | Pillar 1 | Effective management support of workers in raising concerns | Pillar 2 | Effective normal resolution process Corrective Action Program (CAP) | Pillar 3 | Effective alternate resolution process Employee Concerns Program, NRC | Pillar 4 | Detecting and preventing retaliation |
| Pillar 1 | Effective management support of workers in raising concerns | | | | | | | | | |
| Pillar 2 | Effective normal resolution process Corrective Action Program (CAP) | | | | | | | | | |
| Pillar 3 | Effective alternate resolution process Employee Concerns Program, NRC | | | | | | | | | |
| Pillar 4 | Detecting and preventing retaliation | | | | | | | | | |
| 3.7 | <u>General Work Environment</u> | That sub-set of Nuclear Safety Culture Program issues that are diverse and far reaching and can, for example, include non-safety related equipment, industrial safety, frequently non-functioning office equipment, employee relationships and SCWE. | | | | | | | | |
| 3.8 | <u>HIRD</u> | Harassment, Intimidation, Retaliation, Discrimination for raising safety concerns or engaging in protected activity. | | | | | | | | |
| 3.9 | <u>Nuclear Safety Concern</u> | A concern about nuclear safety, about personal radiological safety, about the health and safety of the public, about decommissioning, about compliance with regulations, SONGS Safety Conscious Work Environment, about harassment, intimidation, retaliatory action, or discrimination relating to raising safety concerns. | | | | | | | | |

INFORMATION USE

	Employee Concerns Program & Decommissioning Safety Culture Program	SO123-XV-50.2 REVISION 29
		Page 7 of 40

- 3.10 Protected Activity Protected activities include but are not limited to:
1. Identifying a safety issue through the use of internal problem reporting systems, such as creating an Action Request or contacting the ECP.
 2. Identifying a safety issue to supervision,
 3. Providing the NRC information about possible violations of requirements imposed under either of the above statutes,
 4. Requesting the NRC institute action against an employer for the administration or enforcement of these requirements or,
 5. Testifying in any NRC proceeding (10CFR50.7).
- 3.11 Safety Conscious Work Environment Freedom of employees to raise safety concerns without fear of retaliation.
- An environment where employees are encouraged to raise concerns and where such concerns are promptly reviewed, given the proper priority based on their potential safety significance, and appropriately resolved with timely feedback to employees.
- 3.12 Site Worker Any person (contractor or Edison) working at the SONGS site or performing duties relating to NRC licensed activities. A person is considered a site worker for 180 days after the end of their employment at the site or on NRC licensed activities.

4.0 **PRECAUTIONS AND LIMITATIONS**

- 4.1 None

5.0 **PREREQUISITES**

- 5.1 **VERIFY** this document is current by using one of the methods described in SO123-XV-HU-3.
- 5.2 **VERIFY** Level of Use requirements on the first page of this procedure.

	Employee Concerns Program & Decommissioning Safety Culture Program	SO123-XV-50.2 REVISION 29
		Page 8 of 40

6.0 **PROCEDURE**

6.1 **Employee Concerns Program Functions**

6.1.1 All employee concerns involving any of the below topics submitted to the ECP **SHALL** be evaluated, investigated, corrective actions taken, and records retained as described in Section 8.0:

- Nuclear Safety
- Radiological safety
- Health and safety of the public
- Decommissioning
- Compliance with NRC regulations
- Identifies existing or potential circumstances, or actual or arguable facts of discrimination, harassment, intimidation, or retaliatory actions possibly relating to a ***protected activity***.
- Involves actions possibly contrary to maintaining a Safety Conscious Work Environment.


6.1.2 Other matters not on the subjects outlined in Section 6.1.1 may be characterized as:

6.1.3 All personnel have an obligation to cooperate in any review or investigation of an identified concern or issue. (Reference 9.1.3.1)

6.1.4 If an individual has notified the NRC or other federal authority of their concern, then they **SHALL NOT** be compelled to involuntarily reveal their concern to SCE.

6.1.5 The ECP makes no assumptions whether an issue is substantiated or unsubstantiated, but does assume each issue is important and should be promptly reviewed, given the proper priority based on their potential safety significance, and appropriately resolved with timely feedback to employees.

6.1.6 Concerns received from other than **site workers** **SHALL** be treated as anonymous.

	Employee Concerns Program & Decommissioning Safety Culture Program	SO123-XV-50.2 REVISION 29
		Page 9 of 40

6.2 Administration of the Employee Concerns Program

- 6.2.1 The ECP Investigator is responsible for management and functional supervision of the ECP, including investigation of reported concerns.
- 6.2.2 The ECP Investigator participates in Decommissioning Safety Culture Program monitoring.
- 6.2.3 The ECP Investigator performs the following:
 - 6.2.3.1 Ensures suitable and appropriate mechanisms are available for personnel to contact the ECP.
 - 6.2.3.2 Provides guidance and direction to individuals assigned to investigate Employee Concerns.
 - 6.2.3.3 Prepares and presents ECP information to the Manager, Regulatory Affairs & Nuclear Oversight.
 - 6.2.3.4 Prepares and revises the ECP procedure and other related program documents.
 - 6.2.3.5 Prepares periodic ECP status reports.
 - 6.2.3.6 Develops and implements a training/retraining plan for ECP personnel that includes:
 - Timing and frequency of training (to be determined periodically)
 - 6.2.3.7 Analyzes and trends results of the ECP.
 - 6.2.3.8 Responds to NRC allegations.
- 6.2.4 The ECP Investigator **SHOULD**:
 - 6.2.4.1 Establish criteria to determine if a concern from a contract worker should be sent to the contract organization for investigation.
 - 6.2.4.2 Establish criteria for assigning a priority to concerns.
 - 6.2.4.3 Establish a schedule to conduct periodic benchmarking, self-assessments, and Program Review/Audit/Assessment.

	Employee Concerns Program & Decommissioning Safety Culture Program	SO123-XV-50.2 REVISION 29
		Page 10 of 40

NOTES

No worker is required to complete an exit form.

- 6.2.4.4 IF a concern is from a contract worker, THEN the ECP Investigator, using the established criteria, **SHOULD** determine if the concern should be sent to the contract organization for investigation.
- 6.2.4.5 IF a concern is to be referred to the worker organization, THEN the ECP Investigator, using the established criteria, **SHOULD** determine if the concern should be sent to the Concerned Individual's (CI) organization for investigation.
- 6.2.4.6 Be a Point of Contact for direction and follow-up from Concerned Individual on concerns falling under the roles and responsibilities of other groups, such as: Human Resources, Labor, etc.
- 6.2.4.7 Provide clear and detailed requirements for ECP Case documentation from initial investigation through case closure documentation.
- 6.2.4.8 Provide records management policies to include storage, archiving of records including E-mail.
- 6.2.4.9 Establish criteria to determine if a concern should be referred to the worker's chain of command for investigation.
- 6.2.5 The ECP Investigator selects a course of action, such as:
 - 6.2.5.1 Investigation by ECP personnel.
 - 6.2.5.2 Investigation by the cognizant organization(s).
 - 6.2.5.3 Investigation by both the ECP and the cognizant organization(s).
 - 6.2.5.4 Other means to resolve the concern.
 - 6.2.5.5 No action.
- 6.2.6 **ECP Investigators SHOULD** solicit feedback and demonstrate ownership, follow-up with CI's regarding the resolution of concerns brought to the ECP, including those concerns falling under the roles and responsibilities of other groups (e.g., Human Resources, Labor, etc.).

	Employee Concerns Program & Decommissioning Safety Culture Program	SO123-XV-50.2 REVISION 29
		Page 11 of 40

6.3 **Assigned ECP Investigators**

- 6.3.1 ECP Investigators are required to respond to issues affecting nuclear safety of the plant, wrongdoing, or imminent threat to personnel safety.
- 6.3.2 ECP Investigators **SHOULD** receive, maintain, and process ECs, and NRC allegations. These duties include:
 - 6.3.2.1 Investigate identified concerns and NRC allegations.
 - 6.3.2.2 Prepare related case documentation.
 - 6.3.2.3 Maintain case files.
 - 6.3.2.4 Conduct ECP training, as requested.
 - 6.3.2.5 Track corrective actions resulting from ECP cases, as directed.
 - 6.3.2.6 Act for the Manager, Regulatory Affairs & Nuclear Oversight in his or her absence.
- 6.3.3 ECP Investigators **SHOULD** periodically meet face-to-face with the line organizations to communicate the Four Pillars Model.

	Employee Concerns Program & Decommissioning Safety Culture Program	SO123-XV-50.2 REVISION 29
		Page 12 of 40

6.4 **Submitting ECP Concerns**

- 6.4.1 Any site worker, Edison employee, contractor or other, may submit ECP concerns using any of the methods listed below.
- 6.4.2 Contract workers may raise concerns to SCE's ECP or to their employer's Employee Concerns or similar programs.
- 6.4.2.1 A worker's chain of command usually is responsible for the investigation and resolution of safety concerns identified by a worker to the worker's chain of command.
- 6.4.2.2 IF a worker raises a safety concern, informs the chain of command that they intend to raise a concern or to contact the ECP or the NRC, OR if the chain of command believes that a worker has already contacted the ECP or the NRC or raised a concern, THEN the chain of command must treat the worker in the same manner as before and consistent with the treatment of other workers. This includes, but is not limited to, work schedules, overtime, work assignments, promotions, and performance appraisals.
- 6.4.3 Submittals by any method may be made anonymously.
- 6.4.4 Concerns may be submitted by:
- Deposit concern in a designated drop box.
 - Forward concern by company mail, U.S. mail, company E-mail, or FAX to the ECP.
 - Contact the ECP using the ECP Hotline or other PAX numbers associated with the ECP (e.g., manager, investigator).
 - Submit concern in person to an ECP Investigator.
 - Submit a concern by Internet E-mail.
 - Contacts with either the NRC or the ECP may be made on SCE or contractor time, consistent with existing requirements for coordination of absence from work locations.
 - Unless directed to do so by the ECP, workers are not authorized to use SCE or contractor time to investigate and resolve concerns that have been identified to the ECP.
 - IF workers wish to investigate concerns they have already raised, THEN they may, on their own time, have reasonable access to regularly available sources of information (not including confidential records)

	Employee Concerns Program & Decommissioning Safety Culture Program	SO123-XV-50.2 REVISION 29
		Page 13 of 40

6.4.5 Internet Messages:

- 6.4.5.1 IF the Internet message is from a named site worker and it can be verified it was sent by a site worker, THEN the concern **SHALL** be processed the same as for other concerns from site workers.
- 6.4.5.2 IF the Internet message is *not* from a named site worker, THEN the concern should be assumed to be anonymous and processed accordingly.
- 6.4.5.3 IF a worker raises a safety concern, informs the chain of command that they intend to raise a concern or to contact the ECP or the NRC, **OR** if the chain of command believes that a worker has already contacted the ECP or the NRC or raised a concern, THEN the chain of command must treat the worker in the same manner as before and consistent with the treatment of other workers. This includes, but is not limited to, work schedules, overtime, work assignments, promotions, and performance appraisals.

6.5 Processing Issues

6.5.1 The ECP Investigator:

- 6.5.1.1 Checks drop boxes on a periodic (usually weekly) basis.
- 6.5.1.2 Checks ECP hotline answering machine periodically (usually each business day).
- 6.5.1.3 Receives concerns directly, by telephone, or through other media from CI's.

6.5.2 The ECP Investigator reviews the identified issue and determines if it meets one of the following ECP criteria:

6.5.2.1 Criteria for categorizing a case as an EC:

- Nuclear Safety of the plant
- Personal radiological safety
- Health and safety of the public
- Decommissioning
- Compliance with regulations
- SONGS Safety Conscious Work Environment
- Existing or potential circumstance(s), actual or arguable facts of discrimination, harassment, intimidation, or retaliatory actions possibly relating to a protected activity



Employee Concerns Program & Decommissioning Safety Culture Program

SO123-XV-50.2
REVISION 29

Page 14 of 40

- 6.5.3 Promptly brief the VP Decommissioning and Chief Nuclear Officer on employee concerns meeting the following criteria:
- Concerns resulting in a required report to the NRC (LER, Red Phone, etc.) or other regulatory body.
 - Concerns involving wrongdoing or discrimination for engaging in protected activities involving a Manager.
- 6.5.4 The assigned Investigator meets with the CI to discuss the concerns.
- 6.5.4.1 For employee concerns, the assigned Investigator **SHOULD** confirm the issue with the CI.
- EXCEPTION:** IF the CI does not want such a confirmation, THEN the confirmation will not need to be provided.
- 6.5.4.2 The assigned Investigator may interact with the CI on a periodic basis.
- 6.5.5 The Manager, Regulatory Affairs & Nuclear Oversight **SHALL** be informed of new NRC Allegations, and employee concerns.
- EXCEPTION:** The ECP Investigator may, for a specific concern, determine it is inappropriate to inform the Manager, Regulatory Affairs & Nuclear Oversight and/or Chief Nuclear Officer. In such cases, the ECP Investigator may report the concern to the CNO, the Vice President & Ethics/Compliance Officer, or the Senior Vice President and General Counsel.
- 6.5.6 IF an employee concern identifies a claim of Harassment, Intimidation, Retaliation or Discrimination (HIRD), **AND** sufficient information is identified in initial meetings with the CI to conclude that HIRD may have occurred, THEN, the ECP Investigator should immediately brief the Manager, Regulatory Affairs & Nuclear Oversight and other senior leaders to allow for conservative decision making to take place about resource allocation, priorities, timeliness, and additional risk oversight.

	Employee Concerns Program & Decommissioning Safety Culture Program	SO123-XV-50.2 REVISION 29
		Page 15 of 40

6.5.7 Timeliness Goals

6.5.7.1 Not more than 45 days for ECs NOT involving harassment, intimidation, retaliation, or discrimination.

6.5.7.2 Not more than 60 days for ECs involving harassment, intimidation, retaliation, or discrimination.

6.5.7.3 IF the criteria of Section 6.6.1 for ECs cannot be met, THEN the reason **SHALL** be documented in the case file.

6.5.8 Other investigating organizations **SHALL** regard each issue referred as important, and **SHALL** conduct a thorough and complete investigation.

6.5.9 No individual **SHALL** attempt to determine the identity of a CI, except when SCE is compelled by law.

6.5.10 WHEN an employee concern is investigated by a cognizant organization, THEN:

6.5.10.1 A written response to the Manager, Regulatory Affairs & Nuclear Oversight **SHALL** be provided including:

6.5.10.1.1 A description of facts discovered during the investigation for each concern identified.

6.5.10.1.2 The conclusions reached, and whether the concern was substantiated or unsubstantiated.

6.5.10.1.3 Corrective actions taken or planned, if any.

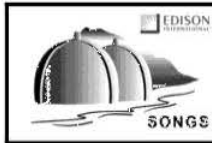
6.5.11 For investigations conducted by ECP personnel involving harassment, intimidation, retaliation, or discrimination, the advice of Corporate Law or other counsel designated by Corporate Law **MAY** be obtained.

6.5.12 The ECP Investigator **SHALL** review and approve the findings and conclusions of the investigation, and confirm or identify any necessary corrective actions.

	Employee Concerns Program & Decommissioning Safety Culture Program	SO123-XV-50.2 REVISION 29
		Page 16 of 40

6.6 **Feedback to Site Workers**

- 6.6.1 IF the CI does not request otherwise, THEN final feedback to the CI **SHOULD** be provided in a meeting or by phone.
- 6.6.1.1 IF the concern was submitted anonymously (including Internet E-mail), THEN a memorandum for file or other closure basis document **SHOULD** be retained in the case files.
- 6.6.2 The following information **SHOULD** be discussed with the CI and described in the closure documents:
- A description of each issue investigated.
 - A summary of relevant facts discovered during the investigation.
 - A summary of the conclusions.
 - Corrective actions taken or planned, if any.
- 6.6.3 IF a CI is not satisfied with the response to an employee concern, THEN the CI may use the appeal process per Section 6.7, **OR** the CI may choose to continue to examine the issue on his or her own time.
- 6.6.4 The ECP case file **SHOULD** be completed within 30 days of closure with the CI.
- 6.6.4.1 IF a case file cannot be completed within 30 days of the date of closure of a case, THEN the reason for the delay **SHOULD** be documented in the case file.
- 6.6.5 IF the CI provides additional facts during the closure meeting, THEN the ECP Investigator may choose to have the issue reexamined.
- 6.6.5.1 IF reexamination occurs, THEN the results of the reexamination **SHOULD** be communicated to the CI.



Employee Concerns Program & Decommissioning Safety Culture Program

SO123-XV-50.2
REVISION 29

Page 17 of 40

NOTES

1. The appeals process is **NOT** a confidential process.
2. Participation in the appeal process may be in addition to, or instead of, generating an Action Request using the Action Request system, discussing a concern with supervision, taking an issue to the Onsite Review Committee (OSRC), or taking an issue to the NRC.

6.7 Appeal Process

- 6.7.1 The Manager, Regulatory Affairs & Nuclear Oversight, **SHOULD** designate a manager to work with the ECP Investigator to resolve each appeal.
- 6.7.2 Technical Issues or Harassment, Intimidation, Retaliation, or Discrimination, Issues
 - 6.7.2.1 IF within 14 days of initially receiving the results of the employee concern investigation the CI feels a safety question(s) has not been adequately addressed or a safety question remains, THEN the CI may proceed as follows:
 - 6.7.2.2 Provide the designated manager with a written request for further review of the issue(s).
 - 6.7.2.3 In order to allow the designated manager to effectively review the issue, the CI **SHALL** state the reason additional review is needed and should, if possible, provide documents or other information pertaining to the issue.
 - 6.7.2.4 The CI **SHALL** describe each issue under contention. The CI **SHALL** be as specific as possible in describing the issues under contention and why the CI disagrees with them.
 - 6.7.2.5 The ECP Investigator **SHALL** provide the designated manager with any information needed to review the issue.
 - 6.7.2.6 The designated manager may obtain additional information from the CI or from other sources.
 - 6.7.2.7 Within 30 days of the written request, designated manager **SHOULD** provide the submitter with a written statement of the results of his review and a list of any actions that have been or may be taken to resolve the safety issue.
 - 6.7.2.8 The designated manager may engage the services of technical consultants.

INFORMATION USE

	Employee Concerns Program & Decommissioning Safety Culture Program	SO123-XV-50.2 REVISION 29
		Page 18 of 40

6.8 **Policy on Harassment, Intimidation, Retaliation, or Discrimination (HIRD)**

- 6.8.1 ECP personnel **SHALL** investigate worker complaints of harassment, intimidation, retaliation, or discrimination as a result of a worker engaging in a protected activity.
 - 6.8.1.1 IF harassment, intimidation, retaliation, or discrimination as a result of a worker engaging in a protected activity are determined to have occurred, THEN the ECP Investigator **SHALL** ensure required actions are taken.
 - 6.8.1.2 SCE will not tolerate retaliation against workers who identify safety concerns or the establishment of a hostile work environment. SCE will investigate worker complaints of discrimination, harassment, intimidation, retaliatory actions, or of hostile work environments.
 - 6.8.1.2.1 Failure on the part of a SCE employee to comply with this policy may result in disciplinary action, up to and including termination.
 - 6.8.1.2.2 Failure on the part of a contractor or subcontractor to comply with this policy in dealing with its own workers may result in adverse contractual actions up to and including termination of the contract or denial of site access.

6.9 **Follow-up Actions Resulting from ECs**

- 6.9.1 Responsibility for performing and tracking completion of follow-up actions belongs to the management responsible for the actions.
- 6.9.2 The ECP Investigator **SHALL**:
 - 6.9.2.1 Maintain a list of outstanding follow-up actions.
 - 6.9.2.2 Verify implementation of the actions.

6.10 **Employee Concerns Program Confidentiality**

- 6.10.1 To control confidentiality, the ECP Investigator (or designee) **SHALL**:
 - 6.10.1.1 Maintain ECP files and documentation in a locked cabinet or room.
- 6.10.2 The ECP Hotline answering machine is located in a secured room or facility.
- 6.10.3 Ensure individuals assigned or provided ECP information to an ECP investigation sign an *ECP Non-disclosure Statement* before being given access to ECP information.
- 6.10.4 Ensure information sources referring to the ECP emphasize the program is confidential.

	Employee Concerns Program & Decommissioning Safety Culture Program	SO123-XV-50.2 REVISION 29
		Page 19 of 40

6.11 Protecting the Identity of Concerned Individuals

- 6.11.1 The ECP personnel **SHALL** attempt to protect the identity of workers submitting a concern.

NOTES

1. Due to the nature of some concerns, other people may guess the identity of a person raising a concern.
2. Allegations of harassment, intimidation, retaliation, or discrimination usually require the identity of the workers submitting the allegation to be revealed. Therefore, no commitment of identity protection will normally be made. The CI **SHALL** be informed that their identity may be revealed.

EXCEPTION: If the CIs reveal their participation in the ECP or raise the issues to their chain of command, then the ECP **SHALL** assume the CIs are no longer interested in keeping their identity protected.

- 6.11.2 While conducting any related investigation, SCE **SHALL** attempt to avoid actions that could result in the disclosure of the CI's identity to individuals contacted.
- 6.11.3 The identity of a CI may be released within SCE or its contractors to only those employees with a specific *need-to-know* to resolve the concern.
- 6.11.4 IF the CI's take an action inconsistent with and override the purpose of protecting their identity **OR IF** disclosure is necessary to pursue a wrongdoing investigation, THEN the identity of CI's may be released within SCE or its contractors.
- 6.11.5 The identity of a CI may be released outside of SCE only to resolve an overriding safety issue, if ordered by a court, or to respond to a request by a Federal or State regulatory agency.

	Employee Concerns Program & Decommissioning Safety Culture Program	SO123-XV-50.2 REVISION 29 Page 20 of 40
-----------------------------------------------------------------------------------	-----------------------------------------------------------------------------------	-----------------------------------------------------------

6.12 NRC Allegations

NOTE

NRC allegation letters are provided to the ECP Investigator by Regulatory Affairs or the office of the Corporate Officer receiving the allegation.

- 6.12.1 The ECP Investigator is responsible for receiving and responding to NRC allegations forwarded to SCE as requests for information.
- 6.12.2 Responses to NRC allegations **SHALL** be prepared in the same manner as responses to employee concerns, per this procedure.
- 6.12.3 Responses to the NRC **SHALL** be reviewed by the Manager, Regulatory Affairs & Nuclear Oversight (or designee), and the manager(s) of the organization(s) affected by the response, and are normally sent to the NRC by the Manager, Regulatory Affairs & Nuclear Oversight.
- 6.12.4 Copies of the responses and associated files **SHALL** be kept by the ECP Investigator for later review by the NRC.
- 6.12.5 Corrective actions from allegation responses **SHALL** be tracked using the Corrective Action Program.
- 6.12.6 Information obtained in the course of an ECP investigation may be used by SCE in legal proceedings.

6.13 Program Review/Audit/Assessment

- 6.13.1 The ECP Investigator **SHOULD** select an organization to review the ECP Program periodically.
 - 6.13.1.1 The periodic review determines the program's effectiveness and compliance with procedures or other aspects of the program.
- 6.13.2 The periodic review organization presents its recommendations and findings to the Chief Nuclear Officer and the Manager, Regulatory Affairs & Nuclear Oversight.

	Employee Concerns Program & Decommissioning Safety Culture Program	SO123-XV-50.2 REVISION 29 Page 21 of 40
-----------------------------------------------------------------------------------	-----------------------------------------------------------------------------------	-----------------------------------------------------------

6.14 Documentation

NOTE

Due to the wide variety of subject matters that are contained in ECP cases, the exact file contents depend on the nature of the case.

6.14.1 Employee Concerns Program Case Files

- 6.14.1.1 The records of each case **SHOULD** identify and contain objective evidence of the following. IF, for some reason, objective evidence of a particular fact is not available, THEN the absence of objective evidence and the reason for its absence **SHOULD** be noted in the case file.
- 6.14.1.2 Intake documentation.
- 6.14.1.3 A case file contents check list.
- 6.14.1.4 Interviews conducted (phone and in person).
- 6.14.1.5 A case summary or Memorandum for file documenting the logic and basis for the conclusion reached.
- 6.14.1.6 Written documents consulted. IF a document is an official record at SONGS and can be found in Records Management, THEN only the cover page containing sufficient information to relocate that document in the future is required to be in the case file. For short documents or at the discretion of the investigator, the entire document may be included.
- 6.14.1.7 Investigation reports from other groups, if used, that articulate the basis for the conclusions drawn.
- 6.14.1.8 Investigation reports from other organizations or reference to the other organizations case file by number or other identifier.
- 6.14.1.9 The screening and assigning of a priority to the case.
- 6.14.1.10 Printed copies of E-mails related to the case.
- 6.14.1.11 Actions taken.

INFORMATION USE

	Employee Concerns Program & Decommissioning Safety Culture Program	SO123-XV-50.2 REVISION 29
		Page 22 of 40

6.15 **Policies**

6.15.1 Decommissioning Safety Culture and Traits

- 6.15.1.1 SONGS' Safety Culture is defined as the core values and behaviors resulting from a collective commitment by leaders and individuals to emphasize safety over competing goals to ensure protection of people and the environment. (Reference 9.2.6.1 and 9.2.6.5)
- 6.15.1.2 SONGS' Decommissioning Safety Culture is a collective responsibility. The concept of Decommissioning Safety Culture applies to every employee in the nuclear organization, from the board of directors to the individual contributor. No one in the organization is exempt from the obligation to ensure safety first.
- 6.15.1.3 Every nuclear organization has many important behaviors and actions specified within its procedures, processes, written standards, and expectations. This document highlights those behaviors and actions that are most critical to creating and maintaining a healthy decommissioning safety culture.
 - 6.15.1.3.1 All individuals take personal responsibility for safety. Responsibility and authority for nuclear safety are well defined and clearly understood. Reporting relationships, positional authority, and team responsibilities emphasize the overriding importance of nuclear safety.
 - 6.15.1.3.2 Individuals avoid complacency and continuously challenge existing conditions and activities in order to identify discrepancies that might result in error or inappropriate action. All employees are watchful for assumptions, anomalies, values, conditions, or activities that can have an undesirable effect on plant safety.
 - 6.15.1.3.3 Communications maintain a focus on safety. Safety communication is broad and includes plant-level communication, job-related communication, worker-level communication, equipment labeling, operating experience, and documentation. Leaders use formal and informal communication to convey the importance of safety. The flow of information up the organization is considered to be as important as the flow of information down the organization.
 - 6.15.1.3.4 Leaders demonstrate a commitment to safety in their decisions and behaviors. Executive and senior managers are the leading advocates of nuclear safety and demonstrate their commitment both in word and action. The nuclear safety message is communicated frequently and consistently, occasionally as a stand-alone theme. Leaders throughout the nuclear organization set an example for safety. Corporate policies emphasize the overriding importance of nuclear safety.

	Employee Concerns Program & Decommissioning Safety Culture Program	SO123-XV-50.2 REVISION 29
		Page 23 of 40

- 6.15.1.3.5 Decisions that support or affect nuclear safety are systematic, rigorous, and thorough. Operators are vested with the authority and understand the expectation, when faced with unexpected or uncertain conditions, to place the plant in a safe condition. Senior leaders support and reinforce conservative decisions.
- 6.15.1.3.6 Trust and respect permeate the organization. A high level of trust is established in the organization, fostered, in part, through timely and accurate communication. Differing professional opinions are encouraged, discussed, and resolved in a timely manner. Employees are informed of steps taken in response to their concerns.
- 6.15.1.3.7 Opportunities to learn about ways to ensure safety are sought out and implemented. Operating experience is highly valued, and the capacity to learn from experience is well developed. Training, self-assessments, and benchmarking are used to stimulate learning and improve performance. Nuclear safety is kept under constant scrutiny through a variety of monitoring techniques, some of which provide an independent “fresh look.”
- 6.15.1.3.8 Issues potentially impacting safety are promptly identified, fully evaluated, and promptly addressed and corrected commensurate with their significance. Identification and resolution of a broad spectrum of problems, including organizational issues, are used to strengthen safety and improve performance.
- 6.15.1.3.9 A safety-conscious work environment (SCWE) is maintained where personnel feel free to raise safety concerns without fear of retaliation, intimidation, harassment, or discrimination. The station creates, maintains, and evaluates policies and processes that allow personnel to raise concerns freely.
- 6.15.1.3.10 The process of planning and controlling work activities is implemented so that safety is maintained. Work management is a deliberate process in which work is identified, selected, planned, scheduled, executed, closed, and critiqued. The entire organization is involved in and fully supports the process.
- 6.15.2 Decommissioning Safety Culture Program
- 6.15.2.1 Procedures, databases, processes and documents are used to identify, analyze, review and track the status of SONGS Decommissioning Safety Culture.

	Employee Concerns Program & Decommissioning Safety Culture Program	SO123-XV-50.2 REVISION 29
		Page 24 of 40

6.15.3 Safety Conscious Work Environment

- 6.15.3.1 Southern California Edison Company (SCE) is committed to the safe decommissioning of the San Onofre Nuclear Generating Station (SONGS) and to establishing a Safety Conscious Work Environment (SCWE) in which workers feel free to raise concerns both to SCE and the Nuclear Regulatory Commission (NRC) without fear of retaliation. Thus, SCE's policy is to establish and maintain effective lines of communication for safety concerns such that workers are encouraged to raise concerns and that such concerns are promptly reviewed, properly prioritized, and resolved with timely feedback to workers.
- 6.15.3.2 Every worker, supervisor, manager and executive is responsible for establishing and maintaining a SCWE.
- 6.15.3.3 The Manager, Regulatory Affairs & Nuclear Oversight, with the assistance of the Vice President Decommissioning & Chief Nuclear Officer are responsible for managing the SCWE.
- 6.15.3.4 Leader responsibilities for maintaining a healthy work environment
 - 6.15.3.4.1 The safety and success of the San Onofre Nuclear Generating Station depends upon trust, cooperation, and responsiveness between and among site managers, supervisors, and front line workers. We must create and maintain an environment in which trust permeates the organization, in which personnel are willing to report concerns, and in which problems and issues are promptly evaluated and addressed.
 - 6.15.3.4.2 Leaders are accountable to create and maintain a SCWE within the groups for which they are responsible. Similarly, the SCE management personnel responsible for oversight of the performance of contractor organizations must ensure that the contractor management of those organizations understands and accepts these same responsibilities for their work groups.

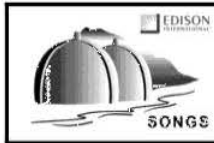
	Employee Concerns Program & Decommissioning Safety Culture Program	SO123-XV-50.2 REVISION 29
		Page 25 of 40

6.15.4 Leader Behaviors

6.15.4.1 Leaders are accountable for all these aspects of the work environment:

- Leaders encourage personnel to feel free to raise safety concerns without fear of retaliation.
- Leaders are responsible for ensuring that conditions that might chill the reporting of safety concerns are promptly addressed.
- Leaders ensure personnel understand the various avenues available for raising a concern, such as preparing an Action Request, reporting it to their supervisor or other management, reporting it to the Employee Concerns Program, or reporting it to the Nuclear Regulatory Commission.
- Leaders maintain familiarity with the work environments within their organizations and are aware of the concerns and problems reported by members of their organization.
- Leaders should encourage employees to follow up on issues they have raised and assist them to obtain feedback on how their concerns have been addressed.
- When problems or issues arise within work groups that indicate mistrust, reluctance to raise issues, or fear of retaliation, leaders must act promptly to address those problems or issues and should consult with appropriate resources (Human Resources, Employee Relations, Labor Relations, Legal, or the Safety Culture organization) for assistance.
- Leaders should periodically meet with employees (e.g., one on one meetings, group meetings) to actively request employees to report problems and concerns and actively assist employees in preparing Action Requests so that those problems and concerns can be addressed through the Corrective Action Program. (Reference 9.2.6.4)

6.15.4.2 Southern California Edison has a number of processes and programs to help foster a strong Safety Conscious Work Environment at SONGS. To foster the kind of environment that is needed, all station leaders along with their employees need to take responsibility for the work environment in their organizations and hold themselves, their team members and each other accountable for that environment.



Employee Concerns Program & Decommissioning Safety Culture Program

SO123-XV-50.2
REVISION 29

Page 26 of 40

6.15.5 Safety Conscious Work Environment, Four Pillar Model

6.15.5.1 The SCWE at SONGS is established and managed in terms of the four pillar model. The policies, procedures, documents, processes, training, etc. which implement these pillars are available to all workers. This includes all SCE employees and all supplemental or contract workers and their contract organization.

6.15.5.2 **Pillar 1: Workforce willingness to raise concerns to management using normal processes Without Fear of Retaliation:** All workers have the right to raise decommissioning safety or other issues using any of the means described in section 6.15.6.1 to raise safety or other issues without fear of retaliation. At SONGS we are committed to promoting effective dialog with workers and management and encourage everyone to raise issues up through their management. We expect that supervisors and managers will treat their workers with respect and show gratitude to those who raise the concerns. We further expect that supervisors and management will take actions appropriate to the significance of the issue.

6.15.5.2.1 Policies, procedures, and programs which implement this pillar include:

- HR Policy Manual: Policy Numbers: 201, General Employment, 204 Contingent Workers, 209 Employee Mobility, 301 Professional Conduct, 302 Corrective Action, 303 Fitness for Duty, 304 Focus on Resolution, 307 Violence Free Workplace, 401 Performance Management, 801 Equal Employment Opportunity, 802 Prohibition Against Inappropriate Sexual Conduct, Including Sexual Harassment and others.

6.15.5.3 **Pillar 2: Effective Normal Problem Resolution Methods:** All workers **SHALL** have available to them various means to raise safety concerns (See section 6.15.6) and these means shall effectively allow for creation, screening, evaluation, action development and implementation. All supervisors and managers at SONGS, including supplemental work force management, shall provide means for workers to enter their issues or concerns into the Corrective Action Program. SONGS expects that supervisors and managers will assist workers to ensure that the issues or concerns get appropriate attention and feedback is provided when requested. The effectiveness of the normal problem resolution methods shall be periodically evaluated.

6.15.5.3.1 Policies, procedures, and programs which implement this pillar include:

- SO123-XV-50, Corrective Action Program




Employee Concerns Program & Decommissioning Safety Culture Program

SO123-XV-50.2
REVISION 29

Page 27 of 40

- 6.15.5.4 **Pillar 3: Effective Alternate Problem Resolution Methods:** In addition to the normal means of problem resolution noted above, alternate means **SHALL** be established where any worker can raise a safety concern. These means include the Employee Concerns Program and the Nuclear Regulatory Commission. Although SONGS encourages workers to enter issues through the normal resolution process, we recognize that it is most important to identify and get issues addressed, so we fully support all methods for raising concerns.
- 6.15.5.4.1 Policies, procedures, programs and other methods which implement this pillar include, but are not limited to:
- The Ethics and Compliance Helpline
 - SONGS Open Door Policy
 - SCE's Equal Opportunity Program or the Equal Employment Opportunity (EEO) Program of supplemental employers
 - The grievance process for represented employees, the Focus on Resolution process for SCE non-represented, SCE's Human Resources and Employee Relations programs for SCE, and similar programs for supplemental employers
 - The Industrial Safety Hotline
 - The NRC's Allegation Program
- 6.15.5.5 **Pillar 4: Effective Methods to Detect and Prevent Retaliation:** The four pillar process with metrics will be used to establish methods to detect and prevent retaliation or to identify the negative effect of employment or organizational actions on the SCWE. Management oversight of these methods for raising concerns and the ECP enable the station to proactively identify SCWE issues so that appropriate actions can be implemented.
- 6.15.5.5.1 Policies, procedures, programs and other methods which implement this pillar include:
- D-045, Executive Review Board.
 - In-house and independent SCWE assessments, surveys, and to pulse the organization.
 - Establishing mitigation and communication plans.
 - Defining action plans and communicating SCWE performance to the station and external agencies.

	Employee Concerns Program & Decommissioning Safety Culture Program	SO123-XV-50.2 REVISION 29
		Page 28 of 40

6.15.6 Free Flow of Safety Information

6.15.6.1 Workers may report concerns:

- Through their supervisor (Edison or Contractor),
- Up their chain of command (Edison or Contractor),
- By creating an Action Request in the Corrective Action Program electronically or on paper.
- Through their contractor's Employee Concerns Program or Edison's Employee Concerns Program, or
- To the NRC.

6.15.6.1.1 A supervisor's permission is **NOT** required to create an Action Request.

6.15.6.1.2 Workers choose how, by what means, and when to raise a concern.

6.15.6.2 Because SCE bears the primary responsibility for safe decommissioning of SONGS, SCE expects workers to raise safety and compliance concerns to their chain of command, by creating an Action Request, or alternatively to the ECP or the NRC.

6.15.6.3 SCE's expectation that workers will raise safety concerns to their chain of command, by creating an Action Request, or to the ECP, does not mean that workers may not go directly to the NRC. SCE encourages workers to go to the NRC at any time they believe the NRC should be aware of their concerns.

6.15.6.4 Since workers also have a responsibility for maintaining a safe environment, SCE expects, but does not require, that workers will normally have raised the concern with SCE either prior to or contemporaneously with going to the NRC.

6.15.6.5 IF a worker has notified the NRC or another federal authority of a concern, THEN the worker **SHALL NOT** be compelled to reveal their concern to SCE, although all workers are encouraged to do so.

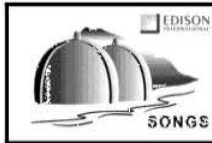
6.15.6.6 All supervisors, all managers and all workers (SCE and contractor) are responsible for ensuring an atmosphere exists that encourages workers to raise safety concerns without fear of discrimination, harassment, intimidation, or retaliation.

6.15.6.7 SONGS executives, supervisors and managers **SHALL** have an "Open Door" policy to encourage workers to bring safety issues to their attention.

	Employee Concerns Program & Decommissioning Safety Culture Program	SO123-XV-50.2 REVISION 29
		Page 29 of 40

6.16 Assessing On-Site Contractor(s) Safety Culture Programs

- 6.16.1 On-site Contractor(s) Safety Culture personnel will implement the process to assess and evaluate their Safety Culture Program on a periodic frequency. This assessment may be documented in accordance with SO123-XII-1.3. Examples of elements to be evaluated are listed below:
- Random pulse surveys per on-site Contractor Program
 - Scheduled surveys
 - Interviews
 - Program audits of on-site Contractor effectiveness
 - Status update
 - On-site Contractor Program compliance
- 6.16.2 All issues or concerns identified that involve any of the below topics shall be immediately communicated to the Employee Concerns Program (ECP):
- Identifies existing or potential circumstances, or actual or arguable facts of discrimination, harassment, intimidation, or retaliatory actions possibly relating to a ***protected activity*** or relating to raising safety concerns.
 - Involves actions possibly contrary to maintaining a Safety Conscious Work Environment.



Employee Concerns Program & Decommissioning Safety Culture Program

SO123-XV-50.2
REVISION 29

Page 30 of 40

NOTE

A truncation of keyword search words should be used to ensure that all variations of the word are found (e.g., Harass, retaliation, discrimination).

6.16.3 On a monthly basis the Decommissioning Safety Culture program group should **perform** the following:

- **REVIEW** the Action Requests for the calendar month to identify issues or potential trends.
- **REVIEW** anonymous Action Requests and/or condition reports for the calendar month to identify issues or potential trends.
- **PERFORM** a Monthly Work Environment Keyword search of Action Requests for the following keywords: Nuclear Safety Concern, harassment, intimidation, reprisal, retaliation, discrimination, chilled, retribution, reluctant, hesitant, afraid, trust, fear, SCWE, employee concern, risk taking, production over safety, slow corrective action, risk, hostile, schedule pressure, lack of action, inappropriate manager/supervisor behaviors and questioning attitude.
- IF the keyword search of Action Requests results in finding an Action Request associated with any of these words, THEN GENERATE an Action Request AND ASSIGN tasks to the ECP group to determine if issues need to be addressed or if appropriate actions are being taken.
- WHEN trends are identified, THEN INITIATE an Action Request to ensure the work group is accountable for the actions to resolve the identified trend. For site level work environment issues, tasks should be assigned to the appropriate work group (e.g. Corporate Communications, ECP, Decommissioning Safety Culture).

6.16.4 Surveys and Assessments

6.16.4.1 The Decommissioning Safety Culture Group is responsible to **ENSURE** that data collected from surveys and assessments are analyzed and actions are captured and tracked in the Corrective Action Program.

6.16.4.2 The Decommissioning Safety Culture Group should **TRACK** the status of cause evaluations, corrective actions and effectiveness reviews for those associated with pulse surveys or assessments entered in the Corrective Action Program for timeliness and quality closure and report out to the Manager, Regulatory Affairs & Nuclear Oversight.

	Employee Concerns Program & Decommissioning Safety Culture Program	SO123-XV-50.2 REVISION 29
		Page 31 of 40

6.17 **Communications:**

- 6.17.1 Working with SONGS Communications, the Decommissioning Safety Culture Staff shall **ENSURE** that an annual SCWE Communications Strategy is prepared to provide station personnel (Managers, Supervisors, Workers, Supplemental Employees, Contractors, etc.) with reinforcement of the avenues to raise concerns, SCE open door policy, the zero tolerance for retaliation, the status of SCWE performance issues, improvement plans, self-assessment and survey results, and external agency findings and issues. (See Attachment 1 for a typical example)
- 6.17.1.1 During the fourth quarter of each year, Decommissioning Safety Culture shall generate a communications strategy for the upcoming year.

6.18 **Expectations for Leaders of SCWE/GWE Groups:**

- 6.18.1 Decommissioning Safety Culture Program and a Safety Conscious Work Environment remain high priorities. Addressing and maintaining a healthy nuclear safety culture, SCWE and GWE remain high priorities.
- 6.18.2 Line Management owns the safety culture, which includes the SCWE and GWE of its group. This means:
 - 6.18.2.1 Line Management owns his/her action group's Action Plans to address SCWE, GWE or other work environment issues.
 - 6.18.2.2 While others may support activities to complete actions in the groups Action Plan, Line Management must maintain ownership of SCWE, GWE and Action Plans for his/her group.
- 6.18.3 Line Management is responsible for ensuring implementation of and tracking status of his/her group's Action Plan actions. Line Management will **SUBMIT** weekly status of completion of SCWE/GWE Improvement Plan actions to the Manager, Regulatory Affairs & Nuclear Oversight.
- 6.18.4 IF the Manager, Regulatory Affairs, & Nuclear Oversight determines that insufficient progress is being achieved, **THEN** monthly meetings will be required with the Chief Nuclear Officer to review progress, develop check and adjust actions, and evaluate effectiveness.
- 6.18.5 The Action Plans should include success measures to determine completion of Action Plan.
- 6.18.6 All Action Plan actions must be entered into the Corrective Action Program (CAP) no later than 7 days after the Action Plan is finalized.

	Employee Concerns Program & Decommissioning Safety Culture Program	SO123-XV-50.2 REVISION 29 Page 32 of 40
-----------------------------------------------------------------------------------	-----------------------------------------------------------------------------------	-----------------------------------------------------------

7.0 **ACCEPTANCE CRITERIA**

7.1 None

8.0 **RETENTION OF RECORDS**

8.1 **Employee Concern Case Files**

8.1.1 Employee Concern case files **SHALL** be retained for seven years after closure.


8.1.2 Employee Concern case files older than seven years **SHALL** be archived in accordance with the approved Divisional, Non-Quality Affecting Records agreement.

NOTE

Since e-mails needed as objective evidence for a case file are to be printed out (see Step 6.14.1.10), electronic versions of e-mails do not need to be archived.

8.1.3 Each Employee Concerns Program staff member may archive E-mails.

8.1.4 Hard copy of archived cases **SHALL** be shredded.

	Employee Concerns Program & Decommissioning Safety Culture Program	SO123-XV-50.2 REVISION 29
		Page 33 of 40

9.0 **REFERENCES / COMMITMENTS**

9.1 Implementing Reference

9.1.1 Procedures

- 9.1.1.1 SO123-XV-HU-3, Human Performance Program
- 9.1.1.2 SO123-XV-50, Corrective Action Program
- 9.1.1.3 SO123-XV-60.1, Onsite Review Committee (OSRC)

9.1.2 NRC Commitments

- 9.1.2.1 NRC Policy Statement, Freedom of Employees in the Nuclear Industry to Raise Safety Issues without Fear of Retaliation, 61 Fed Reg 24336, dated 5/14/96
- 9.1.2.2 Title 10 of the Code of Federal Regulations, Part 50.7, Employee Protection
- 9.1.2.3 NRC Regulatory Issue Summary 2005-18, Guidance for Establishing and Maintaining a Safety Conscious Work Environment, United States Nuclear Regulatory Commission, August 25, 2005
- 9.1.2.4 NRC Inspection Manual, Inspection Procedure 71152, Identification and Resolution of Problems
- 9.1.2.5 NRC Policy Statement, Protecting the Identity of Allegers and Confidential Sources, 61 Fed Reg 25924, dated 5/23/96
- 9.1.2.6 NRC Policy Statement, *Conduct of Nuclear Power Plant Operations*. 54 Federal Registrar 3424, dated 1/24/89.
- 9.1.2.7 NRC Inspection Manual, Manual Chapter 0305, Operating Reactor Assessment Program.


9.1.3 Corporate Policies

- 9.1.3.1 SCE Policy 301, Professional Conduct

9.1.4 Other

- 9.1.4.1 SCWE RCE 200709479, Safety Conscious Work Environment
- 9.1.4.2 HRP-G-SO123-G-2, San Onofre Nuclear Generating Station (SONGS) Human Resources Processes
- 9.1.4.3 Focus On Resolution

INFORMATION USE

	Employee Concerns Program & Decommissioning Safety Culture Program	SO123-XV-50.2 REVISION 29
		Page 34 of 40

9.2 Developmental References

9.2.1 Commitments

9.2.1.1 None

9.2.2 Corrective Actions to Prevent Recurrence (CAPR)

9.2.2.1 None

9.2.3 Procedures

9.2.3.1 SO123-XV-50.3.1, Nuclear Safety Culture (NSC) Programs Process for Monitoring and Responding to Safety Culture and Safety Conscious Work Environment Issues and Potential Trends (superseded)

9.2.3.2 SO123-XV-50.3.2, Nuclear Safety Culture Monitoring (superseded)

9.2.3.3 SO123-XV-200, Instructions for Handling Differing Professional Opinions (historical)

9.2.4 Directives

9.2.4.1 D-003, Decommissioning Safety Culture and Safety Conscious Work Environment (historical)

9.2.4.2 D-004, Management Responsibilities for the Units 2/3 Control Room Command Function and Unit 1 Storage and Handling of Spent Fuel (historical)

9.2.4.3 D-008, Resolution of Employee Concerns (historical)

9.2.4.4 D-009, Formality and Attention to Detail (historical)

9.2.4.1 D-045, Executive Review Board (historical)

9.2.5 Other


9.2.5.1 SCE Policy 209, Employee Mobility (historical)

9.2.5.2 SCE Policy 302, Employee Discipline

	Employee Concerns Program & Decommissioning Safety Culture Program	SO123-XV-50.2 REVISION 29
		Page 35 of 40

9.2.6 Policy References

- 9.2.6.1 Institute for Nuclear Power Operations, INPO 12-012, Traits of a Healthy Nuclear Safety Culture, December 2012
- 9.2.6.2 IAEA Safety Series No. 75-INSAG-4, *Safety Culture*; A report by the International Nuclear Safety Advisory Group, International Atomic Energy Agency, February 1991
- 9.2.6.3 Protecting the Identity of Allegers and Confidential Sources; Policy Statement, 61 Fed. Reg. 25924, May 23, 1996
- 9.2.6.4 201261911-CA0005, CA 1.3 (b) Establish a process for group leaders to solicit safety concerns from members of their groups and document in the CAP
- 9.2.6.5 201819580-0001, Add anchor for NRC Regulatory Issue Summary (RIS 2012-01)

	Employee Concerns Program & Decommissioning Safety Culture Program	SO123-XV-50.2 REVISION 29
		Page 36 of 40
	SCWE/GWE Communications Strategy	

Objective 1:

Raise awareness of SONGS Employee Concerns/Decommissioning Safety Concerns Program

- Office Location
- Accessibility for all working at SONGS
- Educate employees on what is a safety concern

Objective 2:

Raise awareness of Safety Conscious Work Environment at SONGS

- Reinforce the avenues to raise concerns
- SCE open door policy
- Zero tolerance for retaliation
- Status of SCWE performance issues
- Improvement Plans
- Self-assessment and survey results
- External agency findings and issues

Tactics for Objective 1:

The ECP Staff shall:

- Provide a simple brochure, for ECP Program, to re-educate employees about the program.

Tactics for Objective 2:

The ECP/SC Staff shall ensure:

- Communications provides station personnel, utilizing broadcast e-mails; handout; Station Stand-up meetings, etc. with the following information once every quarter:
 - The avenues to raise concerns
 - SCE's open door policy
 - Zero tolerance for retaliation
- Communications are provided to station personnel associated with SCWE survey results as they are conducted.



Employee Concerns Program & Decommissioning Safety Culture Program

SO123-XV-50.2
REVISION 29

Page 37 of 40

SCWE/GWE Group Weekly Status Update Template

Attachment 2

[INSERT ORGANIZATION NAME]
SCWE/GWE GROUP IMPROVEMENT PLAN
WEEKLY STATUS: [INSERT DATE]

Issue	Action	Owner	Due Date	CAP Reference	Current Status			Objective Evidence in Action Request or ECP case file (include reference number)?			Pre-Job Brief with Safety Culture org. complete?	
					On track	Complete	Overdue	Y	N	Ref #	Y	N



**Employee Concerns Program & Decommissioning
Safety Culture Program**

**SO123-XV-50.2
REVISION 29**

Page 38 of 40

SCWE/GWE Group Process for Closure Review Form

Attachment 3

Name of Group: _____

Basis for Identification as SCWE/GWE Group (include identification of evaluation/survey in which group was identified and date of identification):

Date(s) of Initiation of Action Plan: _____

Status of Action Plan Completion:

Results of Evaluations/Surveys of Group since Initial Identification:

Evaluation/Date: _____

Results: _____

Evaluation/Date: _____

Results: _____

Any Substantiated SCWE Allegations in Group in Past Year? Yes__ No__

Results of Review of Allegations/ECP Concerns Indicate Current SCWE or Significant General Work Environment Problem in Group? Yes__ No__

Author: (b)(7)(C)

AR, Order, or Other Action	Description of Change	Reviewer	Step, Section, Attachment or Page
0517-43404	Revise to support SDS transition and include all Contractor's Safety Culture Programs: DGC title change Revise verbiage Revise Section title and add step for Assessing On-Site Contractor(s) Safety Culture	Owner	Sections 1.5, 6.4 Steps 6.1.5 and 6.16.2 Page 2 and Step 6.16.1
Betterment	Update Nuclear Notification to Action Request. Update position titles.		Step 3.10; NOTE at Step 6.7; Step 6.15.4.1; Sections 6.15.6, 6.16.3; and Att 2 Steps 3.3, 6.2.3.3, 6.3.2.6, 6.16.4.2; Sections 6.5, 6.7, 6.12, 6.13, 6.15.3, 6.18; and Att 3

Reviewer Title	Reviewer Name:
Owner	(b)(7)(C)
Approvers:	
CFDM / Designee:	(b)(7)(C)

Operating Experience Program

1.0 PREREQUISITES

- 1.1 DA is permitted to share switchyard and related OE with SDG&E.
- 1.2 There are no training qualification requirements to implement this Attachment.

2.0 PROCEDURE

2.1 General Information

- 2.1.1 The SONGS OPERATING EXPERIENCE (OE) Program evaluates incoming NRC Part 21 reports to the site for their information and evaluation.
- 2.1.2 Refer to the table below to determine when to create an AR for an incoming OE document, the typical analysis approach, task due dates, and the appropriate approval level.

Document	Analysis	Due Dates	Approval
NRC Part 21-Related Documents			
10 CFR 21 Report addressed to SONGS	Per Step 2.2.1	60 days from "Generic" assignment Part 21 Evaluation creation	Supervisor

2.2 Processing Incoming Industry Information

- 2.2.1 Processing Incoming 10 Code of Federal Regulations Part 21 (10 CFR 21) Issues
- 2.2.1.1 Possible sources (not-inclusive) from which a Part 21 issue can be identified:
- Vendor Notification via Letter to Nuclear Oversight
 - Vendor Notification via Letter to a Site Manager
 - Vendor Notification via Letter to Procurement
 - Vendor Notification via Letter to Licensing
 - Vendor Notification via Letter to Engineering
 - Direct Notification from the NRC
 - From the NRC Part 21 web page
 - From a Preliminary Event Notification (PEN) from the NRC web page

Operating Experience Program

- 2.2.1.2 IF the source of the Part 21 identifies SONGS as a Utility affected by the Part 21 issue, OR if the source is unknown, THEN the person identifying the Part 21 issue applicable to SONGS SHOULD generate an AR.

NOTE

10 CFR 21 (Part 21) issues identified as applicable to SONGS are addressed by Operations in accordance with other SONGS procedures and Regulatory Guidance. Other Assignments will be generated to support those programs in the AR. The timeliness for completion of the additional Assignments is established by the other programs.

- 2.2.1.2.1 The AR SHOULD contain the following information (minimum) to provide appropriate tracking of the issue by the responsible work group:

- The PROBLEM Description SHOULD include "Part 21-" and refer to the source document.
- ATTACH the document initiating the Part 21 to the AR.

NOTE

Assignments associated with Part 21 issues have a 60-day completion date from the date the Assignment is generated.

- Generate an Assignment for the responsible work group (Engineering, Procurement, or other as identified by reviewer) to determine if the equipment identified in the source document was purchased by SONGS and if the purchased equipment was used in SONGS or SONGS' work orders.

- 2.2.1.2.2 IF the work group determines the issue has a potential effect on Functionality, AND Operations concurs, THEN PERFORM the following, OTHERWISE exit this step.

Operating Experience Program

2.2.2 Processing Incoming Vendor Correspondences

2.2.2.1 IF the Vendor information document is identified Part 21 affecting SONGS safety related equipment, THEN process the document per Step 2.2.1.

2.2.2.2 IF the Vendor information document identifies equipment provided by the Vendor to SONGS, THEN the SME or SME Supervisor will generate an AR.

2.2.2.2.1 The AR SHOULD contain the following information (minimum) to provide appropriate tracking of the issue:

- Include the Vendor ID number and information on the source document
- The PROBLEM Description SHOULD include the Vendor ID number and the Full Title of the Source Document

NOTE

Assignments associated with Part 21 issues have a **60-day** completion date from the date the Assignment was generated.

- Generate an Assignment for the Engineering Manager or Engineering Oversight Manager or designee to evaluate any issues based on the Vendor recommendations.

2.2.2.2.2 ATTACH the document initiating the Assignment to the AR.

2.2.3 Processing External Operating Experience

2.2.3.1 IF external OPERATING EXPERIENCE is identified that significantly affects SONGS, AND there are Lessons to Learn from this OPERATING EXPERIENCE, THEN it is recommended that an AR be generated.

2.2.3.1.1 The AR SHOULD contain the following information (minimum) to provide appropriate tracking of the issue:

- Include the document reference and information on the source document
- The PROBLEM Description SHOULD include the document reference and the Full Title of the Source Document

NOTE

Assignments associated with Part 21 issues have a **60-day** completion date from the date the task was generated.

- Generate an Assignment for the SME or SME Supervisor to evaluate any issues based on the reference document.

2.2.3.1.2 ATTACH the reference document initiating the AR to the AR.

Operating Experience Program

2.2.4 Security events of interest to the nuclear industry are addressed by the Security Division.

2.2.5 Possible Sources of External Operating Experience:

- Participation in industry used-fuel management conferences.
- Participation in vendor users' groups.
- CERTREC daily notices.
- Participation in CERTREC quarterly ISFSI Utility Group phone calls.
- Participation in shutdown sites' phone calls.
- Benchmarking trips or through participation in Audits or Self-Assessments at other facilities.

2.3 Routine Use of OE

2.3.1 Internal OE – use Electronic Document Management System or other search tool provided.

2.3.2 Additional Sources of OE:

2.3.2.1 EPRI website.

2.3.2.2 Internet searches for OE reports outside the commercial nuclear industry. For many applications, there is more non-nuclear OE available on the World Wide Web than in commercial nuclear OE.

2.3.3 Shift Briefings/Pre-Job Briefs:

2.3.3.1 Discuss pertinent OE in shift and pre-job briefings. Include event prevention, human performance, or mitigation of events.

2.3.3.2 Use the EPRI documents to expand/refresh worker knowledge of plant-specific policies/procedures that, if applied correctly, might prevent similar events at SONGS.

2.3.4 Work Planning and Pre-job Briefings:

2.3.4.1 It is recommended that work packages include a search of internal and industry OPERATING EXPERIENCE and discussion of Lessons Learned.

NOTIFICATION AND REPORTING OF SIGNIFICANT EVENTS

TABLE OF CONTENTS

<u>SECTION</u>	<u>PAGE</u>
1.0 OBJECTIVES.....	2
2.0 REFERENCES	2
3.0 PREREQUISITE.....	4
4.0 PRECAUTIONS	4
5.0 CHECKLIST(S)	4
6.0 PROCEDURE	4
6.1 Shift Manager Responsibilities	4
6.2 Notification Guidelines	6
6.3 NRC Telephone Notification Guidelines	7
6.4 Conditions Requiring Immediate Follow-up Telephone Notification.....	10
6.5 Operations Interdepartmental Notification Guidelines	11
6.6 Written Reports	11
7.0 RECORDS	11

ATTACHMENTS

1	Event Index.....	12
2	Operations Reporting Requirements	16
3	Technical Specification Initiated and EPIP Notifications	22
4	Loss of Safety Function Notifications	28
5	Emergency Response and Assessment Notifications	29
6	Radioactive Material and Exposure Notifications.....	30
7	Outside Agency Notifications	33
8	Definitions.....	35
9	Communications Systems Reportability Worksheet	38
10	Notification and Reporting of Significant Events Developmental Resources.....	40

NOTIFICATION AND REPORTING OF SIGNIFICANT EVENTS

1.0 OBJECTIVES

- 1.1 To identify the conditions that require notification to the United States Nuclear Regulatory Commission (USNRC) by telephone or e-mail and provide instructions to accomplish this notification.
- 1.2 To provide a comprehensive listing of events that require Operations Notifications to Station Management, offsite agencies and other SCE organizations.

2.0 REFERENCES

2.1 NRC Commitments

- 2.1.1 Unit 1 Permanently Defueled Technical Specifications (PDTs)
- 2.1.2 Units 2 and 3 Technical Specifications
- 2.1.3 Units 2 and 3 Licensee Controlled Specifications (LCS)
- 2.1.4 10 CFR 20, Appendix B, to Paragraphs 20.1001-2401
- 2.1.5 10 CFR 20.2201, Reports of Theft or Loss of Licensed Material
- 2.1.6 10 CFR 20.2202, Notification of Incidents
- 2.1.7 10 CFR 50.54, Conditions of Licenses
- 2.1.8 10 CFR 50.72, Immediate Notification Requirements for Operating Nuclear Power Reactors
- 2.1.9 10 CFR 72.74, Reports of Accidental Criticality or Loss of Special Nuclear Material
- 2.1.10 10 CFR 72.75, Reporting Requirements for Specific Events and Conditions
- 2.1.11 NUREG-1022, Revision 3, Event Reporting Guidelines 10 CFR 50.72 and 50.73
- 2.1.12 Unit 1, 2, and 3 Offsite Dose Calculation Manual - ODCM
- 2.1.13 Decommissioning Quality Assurance Program (DQAP)
- 2.1.14 PDEP-1, SONGS Permanently Defueled Emergency Plan
- 2.1.15 Certificate of Compliance No. 72-1029 and Technical Specifications for Dry Cask Storage System, SO1-207-1-M210, Rev 2 (Certificate of Compliance for Spent Fuel Storage Casks Technical Specifications for the Advanced NUHOMS System Operating Controls and Limits)

2.0 REFERENCES (Continued)

2.1 NRC Commitments (Continued)

- 2.1.16 Document from the NOAA National Marine Fisheries Service, dated September 18, 2006; Subject: Endangered Species Act Section 7 Consultation, Biological Opinion and Incidental Take Statement. This permit allows incidental taking of turtles during the operation of SONGS contingent on meeting specific requirements (LCHG-019 and AR 061101550)
- 2.1.17 Certificate of Compliance No. 72-1040 Amendment No. 2 and Technical Specifications for HI-STORM UMAX Canister Storage System.

2.2 Other

- 2.2.1 IE Information Notice 89-89, Event Notification Worksheets
- 2.2.2 NRC Region V Letter to Dr. L. T. Papay from R. H. Engleken, dated September 4, 1981.
- 2.2.3 NRC Region V Letter to Dr. L. T. Papay from R. H. Engleken, dated April 27, 1982.
- 2.2.4 Memorandum for File, dated October 31, 2006, by A. E. Scherer. Subject: Unusual Environmental Events and Unusual Fish Kill Events Reporting Considerations in accordance with Operating License Appendix B, Section 4.1, San Onofre Nuclear Generating Station, Units 2 and 3 (AR 060800001-6) (CW-012.1)
- 2.2.5 Memo, J. G. Haynes to R. W. Krieger, dated September 26, 1984, Standby Statements of Press Releases.
- 2.2.6 Letter to J. R. Tate from M. P. Short, November 23, 1981, Notification of Shift Technical Advisors
- 2.2.7 CAR SO-P-974, Snubber Stroke Testing Program
- 2.2.8 System Operating Bulletins
 - .1 SOB-012, Reports to the Grid Control Center
 - .2 SOB-085, Reports to the Generation Operation Center
 - .3 SOB-800, Major Disaster Notification Procedure
- 2.2.9 ISEG Evaluation of IN 96-71 Action Request 971000268, dated October 8, 1997; Subject: NRC Information Notice 96-71, "Licensee Response to Indications of Tampering, Vandalism or Malicious Mischief". Requires notification of Security of suspected tampering, sabotage, or malicious mischief. (ACA-825)
- 2.2.10 NRC RIS 2005-28, Scope of For-Cause Fitness-for-Duty Testing Required by 10 CFR 26.24(a)(3) (ACC-194)

3.0 PREREQUISITE

- 3.1 **VERIFY** this document is current by using one of the methods described in SO123-XV-HU-3.

4.0 PRECAUTIONS

- 4.1 None.

5.0 CHECKLIST(S)

- 5.1 None.

6.0 PROCEDURE

NOTE

The capitalized words or phrases in the steps of this procedure are defined in Attachment 8.

6.1 Shift Manager Responsibilities

- 6.1.1 The SM is responsible for making all NRC Operations Center Notifications.

GUIDELINE

Since more than one reportability requirement may exist under which a notification/report must be made, ALL of Attachment 1 should be reviewed for all reportable events.

- 6.1.2 Review Attachment 1 to identify ALL reportable events.
- .1 Identify event(s) listed in Attachments 2 through 7.
- .2 It may be necessary to undertake an evaluation in order to determine if an event or condition is reportable. The evaluation should proceed on a time schedule commensurate with the safety significance of the issue. Whenever significant doubts begin to arise, appropriate actions, including reporting, should be taken.
- 6.1.3 The SM shall evaluate for reportability, calling NRA, SMEs and management for conference as required, and documenting the decision, including the basis.
- .1 An RPT assignment to NRA may be added to the AR as a validation for the reportability decision that was made by the SM.
- 6.1.4 Licensees are permitted and encouraged to voluntarily report any event or condition that does not meet the criteria for required reporting, if the licensee believes that the event or condition might be of safety significance or of generic interest or concern. (Ref. 2.1.11)

6.0 PROCEDURE (Continued)

- 6.1.5 It is the responsibility of the SM to ensure that the NRC Operations Center is notified via the red phone (ENS), if operative, and that the notification is documented. Regulatory Affairs is available on 24 hour call for advice, and may make the notification over the ENS for the SM if both agree to such action.
- .1 The SM should notify the SONGS NRC Region IV Contacts per Section 6.3.4 of all Red Phone notifications to the NRC Operations Center.
- .2 The SM should ensure that a log entry is made for all telephone NOTIFICATIONS.
- .3 If the NRC raises a major concern, then the Shift Manager should send out an email to notify Site Leadership of the concern to assist in the timely resolution.
- .4 Within the time available, during normal working hours, the SM should confer with Station Management; however, Station Management concurrence is not required prior to NRC notification.
- 6.1.6 After determination that a notification to the NRC is to be made, then follow Sections 6.2 and 6.3 to make the notification.
- 6.1.7 For non-NRC reportable occurrences which could trigger media or public concern, it is the SM responsibility to ensure that the Operations Manager or designee, is promptly informed. This ensures a decision can be made as to whether a follow-up briefing of senior management is required.

6.0 PROCEDURE (Continued)

6.2 Notification Guidelines

- 6.2.1 SO123-VIII-ERO-2, Shift Manager/Emergency Director Checklist, provides detailed checklists of reporting requirements, and therefore is the controlling document during a Declared Emergency.
- 6.2.2 Notify the NRC Operations Center per Section 6.3.
- 6.2.3 Notify the SONGS NRC Region IV Contacts per Section 6.3.4 or 6.3.4.4 as directed by Attachment 2, and for all events listed in Attachments 3 through 7.
- .1 Notify the Operations Manager, and Regulatory Affairs Manager.
- 6.2.4 Notifications to the GOC or GCC should be made without intentional delay.
- 6.2.5 When making event related notifications to Operations Management and/or Site Leadership by email, then ensure the notification contains all pertinent information (e.g., summary of event, regulatory notifications, injuries, equipment damage, AOI(s) implemented and EALs evaluated and/or entered).
- .1 Complete form "Shift Manager Incident Notification to Management" located on the Portal under Org Units>Nuclear.
- .2 Send the "Shift Manager Incident Notification to Management" form to the applicable personnel, designated at the bottom of the form, by email.
- 6.2.6 For additional guidance on reportability, review NUREG-1022, Rev 3.

END OF SECTION 6.2

6.0 PROCEDURE (Continued)

6.3 **NRC Telephone Notification Guidelines**

- 6.3.1 Notify NRC Operations Center as soon as possible, of the occurrence of an event as directed by Attachment 2, and for all events listed in Attachments 3 through 7, using the "Red Phone" (ENS), and in all cases within the required criteria of one, four, eight, or twenty four hours. (10 CFR 26.719, 10 CFR 50.72, 10 CFR 72.74, and 10 CFR 72.75)

NOTE

Safeguards Information should not be conveyed on an unsecured / commercial phone line.

- .1 If the Red Phone is inoperative, then the licensee shall make the required notifications via commercial telephone service, other dedicated telephone system, or any other method which will ensure that a report is made as soon as practical to the NRC Operations Center. (10 CFR 50.72)
 - .2 Review Attachment 5, Step 1.2 for ENS Inoperability Reporting Requirements.
 - .3 The SM should notify the SONGS NRC Region IV Contacts per Section 6.3.4 of all Red Phone notifications to the NRC Operations Center.
- 6.3.2 If the "Red Phone" call is being made to report the initial declaration of an Emergency Class, then prior to initiating the call, attempt to determine Emergency Class termination criteria (through discussion with the Emergency Director), and communicate this information over the "Red Phone", if asked.
- .1 Completing as much of NRC Form 361 (OPS Web Page> On Shift Operations> NRC FORM 361-Event Notification Checklist) as possible will make reporting to the NRC easier since the duty officers manning the NRC Operations Center use this form.

CONTINUED ON NEXT PAGE

6.0 PROCEDURE (Continued)

6.3.3 Telephone notification to the NRC Operations Center:

GUIDELINES

1. When using the Red phone, it is not necessary to dial a 9 for an outside line.
2. "Red Phone" (ENS) and backup system (PAX) Inoperability is reportable as a MAJOR LOSS OF COMMUNICATIONS CAPABILITY per Attachment 5, Step 1.2.
3. On-Shift Operations personnel are responsible for making notifications via the Red Phone (ENS). Regulatory Affairs can assist with report if available.
4. When initiating notification to the NRC of a security threat, then the authentication code should be provided. (NRC Security Advisory SA-07-01)
5. Safeguards Information should not be conveyed on an unsecured / commercial phone line.

- .1 To use the Red Phone (ENS), lift the receiver from cradle and dial one of the numbers listed on the phone. (The first number listed is the primary number, the remaining numbers are alternates.)
- .2 If the Red Phone is inoperative, then contact the NRC Operations Center using the Commercial Telephone System:
(References 2.2.2 and 2.2.3)
 - (301) 816-5100 (primary)
 - (301) 951-0550 (backup)
 - (301) 816-5151 (FAX)
- .3 If the NRC Operations Center notifies SONGS that the Red Phone (ENS) is inoperable, then there is no need for a subsequent notification.
(Reference 2.1.11, NN 200162194)
- .4 When initial notification Red Phone reports are made, then notify the SONGS NRC Region IV Contacts per Section 6.3.4.
- .5 Write the daily NRC Authentication Code on the Control Room Red Phone door placard. This Code is given by the NRC during the daily plant status communications check and will be verified during communications with the NRC. Between the hours of 0100 to 0500 (Pacific Time), the previous day's code is in effect. (AR 070100491)
- .6 Ensure an AR is initiated to document the initial NRC notification Red Phone report.
 - Attach the completed NRC Form 361 to the AR.
 - Create an assignment to have a reportability assessment completed by Regulatory Affairs on the AR.

6.0 PROCEDURE (Continued)

6.3.4 Telephone notification to the SONGS NRC Region IV Contacts:

NOTE

1. Notification of the SONGS NRC Region IV Contacts should be made between the hours of 0700 and 2100 (CST) on normal work days (Monday through Friday). If notification is required outside of the normal work days and hours, then email notification is performed in lieu of telephone call per Step 6.3.4.4.
2. Safeguards Information should not be conveyed on an unsecured / commercial phone line.

- .1 Call the first SONGS NRC Region IV Contact below.
If no answer then leave a message, and call the next SONGS NRC Region IV Contact.
 - Ray Kellar (817) 200-1191
 - Rachel Browder (817) 200-1452
 - Lee Brookhart (817) 200-1549
 - Robert Evans (817) 200-1234
 - .2 Document date and time call(s) were made and whether call was answered or message left in the Log.
 - .3 If verbal contact was not made with either SONGS NRC Region IV Contact, then in the Control Room Log, document date and time calls were made, and that messages were left.
 - .4 If notification is to be made outside of the normal work days and times, then email notification should be made by sending a group email to the following SONGS NRC Region IV Contacts: (email notification is also used for off-hours reports)
 - Ray Kellar Ray.Kellar@nrc.gov
 - Rachel Browder Rachel.Browder@nrc.gov
 - Linda Howell Linda.Howell@nrc.gov
 - Mark Shaffer Mark.Shaffer@nrc.gov
- .1 Include the Shift Manager telephone number as a call-back number.
 - .2 Document date and time email(s) were sent in the Control Room Log.

END OF SECTION

6.0 PROCEDURE (Continued)

6.4 **Conditions Requiring Immediate Follow-up Telephone Notification**

- 6.4.1 With respect to the telephone NOTIFICATIONS made in Attachments 3 through 7, immediately report the following conditions during the course of the event: [10 CFR 50.72(c)]

GUIDELINE

On-Shift Operations personnel is responsible for making follow up notifications via the Red Phone. Support may be obtained from Regulatory Affairs and other responsible departments.

- Any further degradation in the level of safety of the plant, or other worsening plant conditions (including those that require the declaration of any of the Emergency Classes, if such a declaration has not been previously made)
 - Any change from one Emergency Class to another
 - A termination of the Emergency Class
 - The results of ensuing evaluations or assessments of plant conditions
 - The effectiveness of response or protective measures taken
 - Information related to plant behavior that is not understood
- 6.4.2 When requested by the NRC, then maintain an open, continuous communication channel with the NRC Operations Center via the Red Phone.

END OF SECTION

6.0 PROCEDURE (Continued)

6.5 Operations Interdepartmental Notification Guidelines

- 6.5.1 Use Attachment 2 as a reference for Operations notification requirements to Station Management and other organizations.

6.6 Written Reports

- 6.6.1 Regulatory Affairs is responsible for all written reports required for operating events.

GUIDELINE

The SM has no responsibility to make written reports.

- 6.6.2 When the SM is made aware of a situation which requires a report to the NRC, then he/she should ensure an Action Request is initiated with an assignment to have a reportability assessment completed by Regulatory Affairs. The Action Request may be the same AR written to document the reported problem and should include as much relevant information as is available.

7.0 RECORDS

- 7.1 Notification to the NRC shall be documented in the Unit/Station Log.
- 7.1.1 The SM is responsible for ensuring all notifications are logged.
- 7.2 Scan completed logs into eDMRM in accordance with RPA 99-0068E.

EVENT INDEX

EVENT	ATT/STEP(S)/ DOCUMENT	TIME
ONE HOUR REPORTS		
Tech. Spec Deviation per 10 CFR 50.54	Att 3, Step 1.1	1 HR
Temporary Suspension of Security Measures in accordance with 10 CFR 50.54(x) and (y) or 10 CFR 72.32(d), or during severe weather or other hazardous conditions	Att 3, Step 1.3 Att 2, Step 2.1.5 Att 2, Step 2.1.6	1 HR N/A N/A
Any Event Requiring Immediate One-Hour Telephone Notification to the NRC per 10 CFR 20 or 10 CFR 50. (AR 080300666)	Att 2, Step 2.1.3 Att 7, Step 1.1	1 HR 1 HR
Emergency Plan Entry	Att 3, Step 1.4 Att 2, Step 1.1	1 HR N/A
Events Involving Special Nuclear Material including ISFSI related material	Att 6, Step 2.1	1 HR
Overexposure of an Individual	Att 6, Step 2.2 Att 6, Step 5.1	1 HR 24 HR
Unplanned release of fission products	Att 6, Step 2.3 Att 3, Step 2.1.2	1 HR 4 HR
ISFSI: Accidental Criticality or Loss of ISFSI related Special Nuclear Material	Att 6, Step 2.1	1 HR
Emergency Plan Entry	Att 3, Step 1.4.3	1 HR
License deviation per 10 CFR 72.32(d)	Att 3, Step 2.1.1	4 HR
Other ISFSI events	Att 3, Step 2.1 Att 3, Step 3.1 Att 3, Step 4.2	4 HR 8 HR 24 HR
Security Events or Equipment Issues per SO123-IV-11.2 (AR 080300666, CA 203187718-0012) or other Security Related Notifications	Att 3, Step 1.2 Att 2, Step 2.1.2 Att 2, Step 2.1.3 Att 2, Step 2.1.5 Att 2, Step 2.1.6 Att 2, Step 2.1.7 Att 2, Step 4.0 Att 7, Step 1.2	1 HR N/A N/A N/A N/A N/A N/A N/A
Cyber Security Event	Att 2, Step 11.0	N/A

EVENT	ATT/STEP(S)/ DOCUMENT	TIME
FOUR HOUR REPORTS		
News Release or Government Agency Notification Required (AR 08030066)	Att 3, Step 2.1.2 Att 7, Step 1.1 Att 7, Step 2.1	4 HR N/A 4 HR
Loss, Theft, or Missing Licensed Material a. Quantities greater than or equal to 1000 times the quantity specified in 10 CFR 20 Appendix C <i>where exposure could result.</i> b. After 30 days that Licensed Material in quantities greater than 10 times the quantity specified in 10 CFR 20 Appendix C is still missing.	Att 6, Step 3.1 Att 6, Step 3.2	4 HR 4 HR
Subsequent recovery of previously reported Lost, Stolen, or Missing Licensed Material	Att 6, Step 3.3	4 HR
Threatened or Endangered Species found dead or requiring human assistance to leave the Plant side OCA, Parking Lot 2, and/or Parking Lot 3	Att 7, Step 2.1	4 HR
Personnel Injury (AR 080300666)	Att 2, Step 1.1.8 Att 2, Step 1.3 Att 2, Step 3.1.2 Att 3, Step 2.1.2 Att 3, Step 3.1.3 Att 6, Step 4.1 Att 7, Step 1.4	N/A N/A N/A 4 HR 8 HR 8 HR N/A

END OF 4 HOUR REPORTS

EVENT	ATT/STEP(S)/ DOCUMENT	TIME
EIGHT HOUR REPORTS		
Unanalyzed Condition	Att 4, Step 1.1	8 HR
Major Loss of Emergency Assessment Capability	Att 5, Step 1.1.1	8 HR
Unavailability of Command Center and designated Backup Command Center	Att 5, Step 1.1.2 Att 2, Step 1.3.6	8 HR N/A
Transportation of Contaminated Personnel	Att 3, Step 3.1.3 Att 6, Step 4.1	8 HR 8 HR
Major Loss of Communication Capability	Att 5, Section 1.2 Att 9, ALL	8 HR 8 HR
TWENTY-FOUR HOUR REPORTS		
Violation of Dry Cask Storage System Technical Specification 2.1	Att 2, Step 1.1 Att 3, Step 4.1	N/A 24 HR
Violation of UMAX Appendix B, Section 2.1, Fuel Specifications and Loading conditions.	Att 2, Step 1.1 Att 3, Step 4.3	N/A 24 HR
Use of any Abnormal Operating Instruction	Att 2, Step 2.1.1	24 HR
Environmental Impact	Att 7, Step 3.1	24 HR
Fitness for Duty Failure	Att 2, Section 8.0	24 HR

EVENT	ATT/STEP(S)/ DOCUMENT	TIME
OTHER REPORTS		
Red Phone Reports or Non-Compliance Which Will Likely Result in NRC Enforcement Action	Att 2, Step 1.1 Att 2, Step 1.2 Att 2, Step 2.1.3	N/A N/A N/A N/A
Airborne Release	Att 2, Step 7.1.2 Att 6, Step 1.0	N/A N/A
Liquid Release	Att 2, Step 7.1.2 Att 6, Step 1.0	N/A N/A
Equipment Problems (AR 080300666)	Att 2, Step 1.3 Att 2, Step 3.1 Att 7, Step 1.4	N/A N/A N/A N/A N/A N/A
Communication with GOC and/or GCC (AR 080300666)	Att 2, Section 9.0 Att 7, Section 1.0	N/A N/A
Performance Error Resulting in Equipment Damage, Personnel Injury, or Violation of the APM (AR 080300666)	Att 7, Step 1.4	N/A
Fire, Explosion, Bomb Threat, or Natural Disaster (AR 080300666)	Att 2, Step 4.1.2 Att 2, Step 6.1 Att 7, Step 1.2 Att 7, Step 1.3 Att 7, Step 1.5 Att 7, Step 1.7	N/A N/A N/A N/A N/A N/A
Hazard to Any Line, Equipment, or Installation (AR 080300666)	Att 2, Step 6.1 Att 7, Step 1.6	N/A N/A
Both Aircraft Lights Out (Unit 2/3)	Att 2, Step 5.1	N/A
Hazardous Waste	SO23-4-6	N/A
Plant Status Control Error or Human Performance Error (AR 080300666)	Att 2, Step 1.1 Att 2, Step 1.2	N/A N/A
Spill Contingency Plan	Att 7, Step 1.5 SO123-XV-17.3 and/or SDS-EV1-PLN-0004	N/A
Beach Walkway Closure	Att 2, Section 10.0	N/A

OPERATIONS REPORTING REQUIREMENTS

GUIDELINES

Depending on the severity of the event, NRC Telephone Notifications, Section 6.3 (main body) may be required per Attachments 3 through 7.

1.0 NOTIFICATION OF PLANT MANAGEMENT

- 1.1 The Shift Manager as soon as practical, shall notify the Operations Manager, or designee, of the following conditions:
- The SM should also ensure additional notifications are made.
 - The Operations Manager will notify appropriate Station Management.
- 1.1.1 Any event listed in Attachments 3 through 7.
- 1.1.2 A Technical Specification, Licensee Controlled Specification (LCS), Dry Cask Storage System Tech. Spec., or HI-STORM System Tech. Spec. is exceeded. (Ref. 2.1.15, 2.1.17)
- 1.1.3 Loss of Off-Site Power (for evaluation of voluntary NRC Notification)
- 1.1.4 Non-spurious events requiring Red Phone reports.
- 1.1.5 Serious noncompliance which will likely result in NRC enforcement action.
- 1.1.6 Any Tech. Spec. or LCS Action requiring an Engineering Evaluation.
- 1.1.7 Items of potential extensive media interest. [Courtesy call to the SONGS NRC Region IV Contacts per Section 6.3.4 (main body).]
- 1.1.8 Injuries and human performance. These items may also require notification to Site Safety or FFD as soon as possible per D-006, Fitness for Duty and Behavioral Observation Program policy. A for-cause test may be warranted by Site Safety or FFD. (AR 051200119)
- .1 Plant Status Control Error.
 - .2 Significant Human Performance Error. [Notification call to the SONGS NRC Region IV Contacts per Section 6.3.4 (main body).]
 - .3 Significant personal injury (any injury involving medical treatment beyond first aid; typically classified as OSHA recordable).

1.0 NOTIFICATION OF PLANT MANAGEMENT (Continued)

- 1.2 Report the following promptly, but do not call between 2200 and 0500:
 - 1.2.1 Spurious events requiring Red Phone reports.
 - 1.2.2 Responses to inquiries from higher management or regulatory bodies.
 - 1.2.3 Human Performance Errors not meeting the criteria of Section 1.1.8.
- 1.3 Report the following by 0600 next day:
 - 1.3.1 Items "held" between 2200 and 0500.
 - 1.3.2 "Near miss" circumstances of interest.
 - 1.3.3 Non-lost time accident.
 - 1.3.4 Major equipment problems.
 - 1.3.5 Initiation of divisional investigations.
 - 1.3.6 Unavailability of either the primary and designated backup Command Center (ERF).

GUIDELINES

- 1. When possible, Duplicate courtesy notifications of the Operations Manager should be made.
- 2. Direct contact of higher management should only be initiated by Operations Manager.
- 3. Managers will respond fully to any inquiries from higher management or regulatory bodies.

END OF SECTION 1.0

2.0 NOTIFICATION OF SONGS NRC REGION IV CONTACTS

- 2.1 Notify the SONGS NRC Region IV Contacts per Section 6.3.4 (main body), or Section 6.3.4.4 (main body), if directed, and make a log entry under the following conditions: (NN 20083110)
 - 2.1.1 Use of any AOI [24 hour NRC e-mail notification per Section 6.3.4.4 (main body)] (NN 203318188)
 - 2.1.2 Logging of **SECURITY EVENTS**. A Security Event is defined in the **Safeguards Contingency Plan**.
 - 2.1.3 All Red Phone reports to NRC Operations Center (excluding follow-up reports).
 - 2.1.4 Notification for One-hour Safeguards Event Reports as covered in SO123-IV-11.2.
 - 2.1.5 Temporary suspension of Safeguards measures
 - 2.1.6 After Security measures are restored from Temporary Suspension of Safeguards
 - 2.1.7 Suspicious activities
 - 2.1.8 Potential Tampering/Vandalism Events (Report promptly, but do not call between 2200 and 0500.)
 - 2.1.9 Items of potential extensive media interest. [Courtesy call to the SONGS NRC Region IV Contacts per Section 6.3.4 (main body).]

3.0 NOTIFICATION OF ENGINEERING

- 3.1 The Shift Manager shall ensure Engineering Manager is notified for the following conditions: (Reference 2.2.6)
 - 3.1.1 Any unexpected hydraulic transients having the potential to cause damage to equipment and/or associated supports/snubbers. (Reference 2.2.7)
 - 3.1.2 Immediately notify the Edison International Corporate Risk Management Division of the following incidents involving SCE personnel or property, and refer to SO123-CI-1, Claims and Insurance Reporting Requirements for Property Damage.
 - .1 Damage to property or loss by fire.
 - .2 Any threat of serious or substantial damage to SCE or Non-SCE property involving SCE personnel or property.

4.0 NOTIFICATION OF SECURITY

- 4.1 The following events shall be immediately reported to the appropriate security personnel:
- 4.1.1 Any breach of the Security Safeguards Contingency Plan reported to Operations.
 - 4.1.2 Any bomb threat received by Operations.
 - 4.1.3 The loss of any security-related keys.
 - 4.1.4 Any loss of security-related equipment.
 - 4.1.5 If a hostage is taken inside or outside the Station.
 - 4.1.6 Any suspected tampering, sabotage or malicious mischief. (Ref. 2.2.9)
 - 4.1.7 Any suspicious activity (including aircraft). (NRC IA-06-05)

5.0 NOTIFICATION OF THE FEDERAL AVIATION ADMINISTRATION

- 5.1 If both Aircraft Obstruction Warning Light Systems fail (dome lights out), then request the Lockheed-Martin Flight Services at (877) 487-6867, that a Notice to Airmen (NOTAM) be issued.
- 5.1.1 After NOTAM has been requested, then notify the following Camp Pendleton personnel of the NOTAM is recommended:
- Long Rifle Division at (760) 725-3974
 - Range Control Officer at (760) 725-6355

6.0 NOTIFICATION TO CAMP PENDLETON FIRE DEPARTMENT (OSM-911)

- 6.1 Any reports of fire, releases of toxic gasses, or hazardous materials.

7.0 REPORTS TO REGULATORY AFFAIRS

- 7.1 In addition to previously noted NRC notifications, report to Regulatory Affairs:
- 7.1.1 Any event having a significant implication for public health and safety, or common defense and security.
 - 7.1.2 Any unplanned or uncontrolled release of radioactive material (e.g., gas or liquid) to the environs that either
 - Violates the ODCM, Tech. Spec., or LCS requirements, or
 - Occurs through a non-credited pathway (e.g., not monitored by radiation monitor or grab sample)

8.0 NOTIFICATION FOR A REPORT OF A FITNESS FOR DUTY FAILURE (10 CFR 26.719)

- 8.1 The following significant FFD policy violations and programmatic failures must be reported to the NRC Operations Center by telephone within 24 hours after the licensee or other entity discovers the violation:
- 8.1.1 The use, sale, distribution possession, or presence of illegal drugs, or the consumption or presence of alcohol within the Protected Area.
- 8.1.2 Any acts by FFPD program personnel, or any supervisory personnel subject to the FFD program, if such acts:
- Involve the use, sale, or possession of controlled substance
 - Result in a determination that the individual has violated the licensee's or other entity's FFD policy
- 8.2 Fitness for Duty normally notifies Access Authorization, who notifies Regulatory Affairs. Regulatory Affairs will notify the NRC Operations Center via the Red Phone. (24 hour report)

9.0 REPORTS TO THE GENERATION OPERATION CENTER (GOC) (SOB-85)

- 9.1 Required notifications to the GOC or GCC are done per Attachment 7, Section 1.0.

10.0 NOTIFICATION TO THE STATE PARKS

NOTE

Notification of the State Parks of Beach Walkway closure does not require NRC Notification since it has little significance to radiological health and safety or protection of the environment. (NN 203231525)

- 10.1 If closure of the Beach Walkway is required, then notify the State Parks of the closure and reason for the closure.

11.0 NOTIFICATION OF CYBER SECURITY INCIDENT RESPONSE TEAM (CSIRT)

11.1 When notified of any ***potential or actual*** Cyber Security Event,
then perform the following:

11.1.1 Send an email to cybersecurity@sce.com stating the event involves San Onofre SSEP systems. The email address is monitored 24/7.

11.1.2 Using Edison directory for phone numbers and beepers, or Edison operator at (b)(6) Contact SONGS CSIRT directly.

- CSIRT MANAGER 1st Responder MIKE CHANDLER
- CSIRT Alternate 1st Responder STEVEN JORDAN

.1 If NO SONGS CSIRT person is available,
then Contact Corporate CSIRT.

- CORP CSIRT ROB ROEL
- Alternate STEPHEN GABRIEL
- CORP CSIRT MANAGER KEVIN GRANT

END OF ATTACHMENT

TECHNICAL SPECIFICATION INITIATED AND EPIP NOTIFICATIONS

1.0 ONE HOUR NOTIFICATIONS TO NRC OPERATIONS CENTER

GUIDELINE

The Emergency Plan should be reviewed for possible Emergency Event classification for bracketed [] steps.

- 1.1 Any deviation from the Technical Specifications authorized by 10 CFR 50.54(x):
[10 CFR 50.72(b)(1)]
 - 1.1.1 A licensee may take reasonable action that departs from a license condition or a Technical Specification (contained in a license issued under this part) in an emergency when:
 - .1 The action is immediately needed to protect the public health and safety.
 - .2 No action consistent with license conditions and technical specifications that can provide adequate or equivalent protection is immediately apparent.
 - 1.1.2 Implementation of SO23-13-2, Operation from the Alternate Command Center.

CONTINUED ON NEXT PAGE

1.0 ONE HOUR NOTIFICATIONS TO NRC OPERATIONS CENTER (Continued)

NOTE

As soon as a he/she is made aware of a potential Security Event or equipment issue, the SM should review SO123-IV-11.2 for reportability. Review should be concurrent with Security review.

- [1.2] Notification for One-hour Safeguards Event Reports per SO123-IV-11.2 (10 CFR 73, Appendix G, as modified by NRC Generic Letter 91-03, Regulatory Guide 5.62, NUREG-1304, and Draft Regulatory Guide DG-5008)
- [1.3] Temporary Suspension of Safeguards Measures

NOTE

For Units 2/3 - 10 CFR 73.55(a) states that suspending safeguards measures of 10 CFR 73.71 in accordance with 10 CFR 50.54(x) and 10 CFR 50.54(y) is allowed and reportable.

- 1.3.1 **Units 2 and 3 - Temporary Suspension of Security Measures in accordance with 10 CFR 50.54(x) and 10 CFR 50.54(y). (AR 040601881)**
 - .1 As a minimum, this suspension must be approved by the Shift Manager prior to taking the action.
 - .2 The action is immediately needed to protect the public health and safety.
 - .3 No action consistent with license conditions and technical specifications that can provide adequate or equivalent protection is immediately apparent.
 - .4 Temporary suspension of safeguards measures made under 10 CFR 50.54(x) are reportable under 10 CFR 50.72(b)(1) and need not be duplicated under 10 CFR 73.71.
 - .5 In addition to notifications required per Attachment 2, Temporary Suspension of Safeguards Measures requires notification of the NRC Region IV Office as soon as practical. (PSP 19.3)
 - .6 As soon as practical after Security Measures are restored notify the NRC Region IV Office and the NRC Operations Center. (PSP 19.3)

CONTINUED ON NEXT PAGE

1.0 ONE HOUR NOTIFICATIONS TO NRC OPERATIONS CENTER (Continued)

- 1.3.2 Units 2 and 3 - Temporary Suspension of Security Measures during circumstances such as imminent, severe, or hazardous weather conditions. [(Physical Security Plan) 19.2]**
- .1 The action is immediately needed to protect the personal health and safety of the SONGS Security Force personnel.**
 - .2 No action consistent with license conditions and technical specifications that can provide adequate or equivalent protection is immediately apparent.**
 - .3 The authority to approve temporary suspension of affected security measures is given to the Shift Manager with input from the Security Shift Supervisor or Security Manager.**
 - .4 In addition to notifications required per Attachment 2, Temporary Suspension of Safeguards Measures requires notification of the NRC Region IV Office as soon as practical. (PSP 19.3)**
 - .5 As soon as practical after Security Measures are restored notify the NRC Region IV Office and the NRC Operations Center. (PSP 19.3)**

NOTE

For ISFSI - 10 CFR 72.32(d) states that a licensee may take reasonable action that departs from a license condition or a technical specification and such action is reportable.

- 1.3.3 ISFSI - Suspension of Security Measures in accordance with 10 CFR 72.32(d) at the Independent Spent Fuel Storage Installation (ISFSI). (AR 040601881, AR 050500642)**
- .1 As a minimum, this suspension must be approved by the Shift Manager prior to taking the action. (AR 050500642-2)**
 - .2 The action is immediately needed to protect the public health and safety.**
 - .3 No action consistent with license or certificate of compliance conditions or technical specifications that can provide adequate or equivalent protection is immediately apparent.**
 - .4 Suspension of security measures under 10 CFR 72.32(d) are reportable under 10 CFR 72.75(b)(1).**
 - .5 In addition to notifications required per Attachment 2, Temporary Suspension of Safeguards Measures, requires notification of the NRC Region IV Office as soon as practical. (PSP 19.3)**
 - .6 As soon as practical after Security Measures are restored notify the NRC Region IV Office and the NRC Operations Center. (PSP 19.3)**

1.0 ONE HOUR NOTIFICATIONS TO NRC OPERATIONS CENTER (Continued)

- 1.4 The declaration of any of the emergency classes specified in PDEP-2, SONGS Permanently Defueled Emergency Plan Emergency Action Level Technical Bases Manual. [10 CFR 50.72(a)(1)(i)]
- 1.4.1 Make the appropriate supervisory notifications per Attachment 2, terminate the use of this procedure and proceed with the EPIPs.
- 1.4.2 If an emergency class is entered and exited prior to recognition, then the Red Phone notification shall report the fact that an emergency class had existed. It is not necessary to declare the emergency class. (Ref. 2.1.11)

NOTE

The Emergency Plan referenced in 10 CFR 72 is satisfied by Site EPIPs.

- 1.4.3 Declaration of an emergency related to the ISFSI is also reportable per 10 CFR 72.75(a).

2.0 FOUR HOUR NOTIFICATIONS TO NRC OPERATIONS CENTER

GUIDELINE

10 CFR 72 applies to Spent Fuel when the fuel is placed in the Dry Shielded Canister (DSC).

- 2.1 Non-emergency notifications involving any of the following events or conditions involving Spent Fuel, High Level Waste (HLW), or Reactor-Related Greater than Class C (GTCC) Waste: [10 CFR 72.75(b)]
 - 2.1.1 An action taken in an emergency that departs from a condition or a technical specification contained in a license or certificate of compliance issued under this part when the action is immediately needed to protect the public health and safety and no action consistent with license or certificate of compliance conditions or technical specifications that can provide adequate or equivalent protection is immediately apparent. [10 CFR 72.32(d)]
 - 2.1.2 Any event or situation related to the health and safety of the public or onsite personnel, or protection of the environment, for which a news release is planned or notification to other Government agencies has been or will be made. Such an event may include an onsite fatality or inadvertent release of radioactively contaminated materials.

3.0 EIGHT HOUR NOTIFICATIONS TO NRC OPERATIONS CENTER

GUIDELINE

10 CFR 72 applies to Spent Fuel when the fuel is placed in the Dry Shielded Canister (DSC).

- 3.1 Non-emergency notifications involving any of the following events or conditions involving Spent Fuel, High Level Waste (HLW), or Reactor-Related Greater than Class C (GTCC) Waste: [10 CFR 72.75(c)]
- 3.1.1 A defect in any spent fuel, HLW, or reactor-related GTCC waste storage structure, system, or component that is important to safety.
- 3.1.2 A significant reduction in the effectiveness of any spent fuel, HLW, or reactor-related GTCC waste storage confinement system during use.
- 3.1.3 Any event requiring the transport of a radioactively contaminated person to an offsite medical facility for treatment.

4.0 TWENTY-FOUR HOUR NOTIFICATIONS TO NRC OPERATIONS CENTER

- 4.1 Violation of any Dry Cask Storage System Tech. Spec. 2.1 requirements. (Dry Cask Storage System Tech. Spec. 2.3.b) (Ref. 2.1.15)

GUIDELINE

10 CFR 72 applies to Spent Fuel when the fuel is placed in the Dry Shielded Canister (DSC).

- 4.2 Non-emergency notifications involving any of the following events involving Spent Fuel in the DSC, High Level Waste (HLW), or Reactor-Related Greater than Class C (GTCC) Waste: [10 CFR 72.75(d)]
- 4.2.1 An event in which important to safety equipment is disabled or fails to function as designed when:
- The equipment is required by regulation, license condition, or certificate of compliance to be available and operable to prevent releases that could exceed regulatory limits, to prevent exposures to radiation or radioactive materials that could exceed regulatory limits, or to mitigate the consequences of an accident
- AND**
- No redundant equipment was available and OPERABLE to perform the required safety function
- 4.3 Violation of Appendix B, Section 2.1, Fuel Specification and Loading Condition of Certificate of Compliance No. 72-1040 Amendment No. 2 and Technical Specifications for HI-STORM UMAX Canister Storage System. (Ref. 2.1.17)

LOSS OF SAFETY FUNCTION NOTIFICATIONS

1.0 EIGHT HOUR NOTIFICATIONS TO NRC OPERATIONS CENTER

1.1 Any event or condition that results in:

1.1.1 The condition of the NUCLEAR POWER PLANT, including its PRINCIPAL SAFETY BARRIERS, being seriously degraded.
[10 CFR 50.72(b)(3)(ii)(A)]

1.1.2 The NUCLEAR POWER PLANT being in an UNANALYZED CONDITION that significantly compromises plant safety.
[10 CFR 50.72(b)(3)(ii)(B)]

1.2 Any event or condition that at the time of discovery could have prevented the fulfillment of the safety function of structures or systems that are needed to:

GUIDELINES

1. The only remaining Safety Function is Spent Fuel Pool Level.
2. Reportability of the loss of any of the safety functions listed in Steps 1.2.1 and 1.2.2 is independent of power or plant mode. It is also independent of whether: (Ref. 2.1.11)
 - the system or structure was demanded at the time of discovery
 - the cause of a potential failure of the system was corrected before an actual demand for the safety function could occur
 - other systems or structures were available that could have or did perform the safety function
 - the entire system or structure is specified as ESF or safety related
 - the problem occurs in a non-safety portion of a system
3. Events covered in Section 1.0 may include one or more procedural errors, equipment failures, and/or discovery of design, analysis, fabrication, construction, and/or procedural inadequacies.

1.2.1 Control the release of radioactive material. [10 CFR 50.72(b)(3)(v)(c)]

1.2.2 Mitigate the consequences of an accident. [10 CFR 50.72(b)(3)(v)(D)]

END OF ATTACHMENT

EMERGENCY RESPONSE AND ASSESSMENT NOTIFICATIONS

1.0 EIGHT HOUR NOTIFICATIONS TO NRC OPERATIONS CENTER

GUIDELINE

1. The Emergency Plan should be reviewed for possible Emergency Event classification for bracketed [] steps.
2. Further guidance on a major loss of Emergency Assessment capability and unavailability of the Command Center can be found in NEI 13-01.

1.1 Any event that results in a MAJOR LOSS OF: [10 CFR 50.72(b)(3)(xiii)]

[1.1.1] Emergency assessment capability (e.g., Significant portion of Control Room indication). (In this case, a judgment will be necessary and management input should be obtained prior to making the NOTIFICATION, time permitting.)

1.1.2 Unavailability of the Command Center and designated Backup Command Center.

GUIDELINES

1. Guidelines for Communications Systems Reporting Requirements are provided in Attachment 9.
2. Communication loss may be discovered during communication checks per SO123-VIII-ADMIN-1.

1.2 Any event that results in a MAJOR LOSS OF OFFSITE COMMUNICATIONS CAPABILITY [e.g., Emergency Notification System (ENS)]. Assess impact on all Units. [10 CFR 50.72(b)(3)(xiii)]

END OF ATTACHMENT

RADIOACTIVE MATERIAL AND EXPOSURE NOTIFICATIONS

1.0 EFFLUENT GUIDELINES FOR 10 CFR 50.72 NRC REPORTABILITY TO NRC OPERATIONS CENTER

- 1.1 Review PDEP-2, SONGS Permanently Defueled Emergency Plan Emergency Action Level Technical Bases Manual, for Emergency Event Declaration, due to high radiation.
- 1.2 If effluent release to the unrestricted area outside the Exclusion Area Boundary, then evaluate reportability:

PLANNED RELEASE?	MONITORED RELEASE?	REPORTABILITY EVALUATION
Y	Y	Covered under the ODCM and is not 10 CFR 50.72(b)(2)(iv)(A) reportable
Y	N	Covered under the ODCM and effluent monitoring procedures and is not 10 CFR 50.72(b)(2)(iv)(A) reportable
N	Y	Must be evaluated for reportability
N	N	May require Event Classification per the EIPs and is reportable as an LER, or may require a report to be generated per the Decommissioning Quality Assurance Program (DQAP).

CONTINUED ON NEXT PAGE

2.0 ONE HOUR NOTIFICATIONS TO NRC OPERATIONS CENTER

- 2.1 Any of the following 10 CFR 70.52, 10 CFR 74.11, or 10 CFR 72.74 events involving special nuclear material:
 - 2.1.1 Accidental criticality involving special nuclear material.
 - 2.1.2 Discovery of any loss, theft, or unlawful diversion incident involving special nuclear material.
 - 2.1.3 Any attempted theft, or unlawful diversion incident has been made or is believed to have been made involving special nuclear material.
- 2.2 Any of the following 10 CFR 20.2202(a) events where any incident involving by-products, source, or special nuclear material may have caused or threatens to cause:
 - 2.2.1 A total effective dose equivalent (TEDE) of 25 REM or more of radiation, or an eye dose equivalent of 75 REM or more, or a shallow-dose equivalent to the skin or extremities of 250 RADs or more of radiation to an individual.
 - 2.2.2 The release of radioactive material inside or outside of a restricted area, such that had an individual been present for 24 hours, the individual could have received an intake of five times the occupational annual limit on intake (ALI) for such materials in 10 CFR 20, Appendix B to Paragraphs 20.1001-2401.
- 2.3 Any accident which could result in the unplanned release of fission products in excess of allowable limits established by the NRC. (Ref. Facility Operating License Section 2.H)

3.0 FOUR HOUR NOTIFICATIONS TO NRC OPERATIONS CENTER

- 3.1 A loss of, theft of, or missing LICENSED MATERIAL, has occurred in such quantities equal to or greater than 1000 times the quantity specified in 10 CFR 20 Appendix C to Paragraphs 20.1001-2401 that it appears to the licensee that an *exposure could result* to persons in unrestricted areas. [10 CFR 20.2201(a)(1)(i)]
- 3.2 Within 30 days after the occurrence of any lost, stolen, or missing LICENSED MATERIAL becomes known, all licensed material in a quantity greater than 10 times the quantity specified in 10 CFR 20 Appendix C, that is still missing at this time. [10 CFR 20.2201(a)(1)(ii), NRC RIS 2005-21]
- 3.3 Upon subsequent recovery of LICENSED MATERIAL, initiate an AR to Licensing to generate a written report per 10 CFR 20.2201 within 30 days.

4.0 EIGHT HOUR NOTIFICATIONS TO NRC OPERATIONS CENTER

GUIDELINE

Review Emergency Plan for possible Emergency Event classification for bracketed [] steps.

- 4.1 Any event requiring the transport of a RADIOACTIVELY CONTAMINATED person to an offsite medical facility for treatment. [10 CFR 50.72(b)(3)(xii)]

5.0 TWENTY FOUR HOUR NOTIFICATIONS TO NRC OPERATIONS CENTER

- [5.1] Any 10 CFR 20.2202(b) event involving licensed material that could have caused, or threaten to cause:
- 5.1.1 A total effective dose equivalent (TEDE) of 5 REM or more of radiation; or an eye dose equivalent of 15 REM or more or a shallow-dose equivalent to the skin or extremities of 50 REM or more of radiation to an individual.
- 5.1.2 The release of radioactive material inside or outside of a restricted area, such that had an individual been present for 24 hours, the individual could have received an intake in excess of one occupational annual limit on intake (ALI) for such materials in 10 CFR 20, Appendix B to Paragraphs 20.1001-2401.

END OF ATTACHMENT

GUIDELINE

Unless otherwise indicated, braced { } items indicate that the Grid Control Center (GCC) should be contacted in addition to the GOC.

1.0 WITHOUT INTENTIONAL DELAY (Reporting to the GOC or GCC) (AR 080300666)

- 1.1 Any telephone reports made to the NRC as a result of the one-hour reporting requirements listed in 10 CFR 20 or 10 CFR 50. (Ref. SOB-085)
- {1.2 } Acts of sabotage, terrorism, cyber attacks, vandalism (not including acts of burglary), or bomb threats. (Ref. SOB-012 and SOB-085)
- {1.3 } Fires affecting or threatening the station facilities. (Ref. SOB-012 and SOB-085)
- {1.4 } Accidents that result in injury or hospitalization. (Ref. SOB-012)
- {1.5 } All information involving such items as fires, explosions, accidents of any nature, property damage, Tsunami waves, floods, oil line or gas line ruptures, oil spills involving SCE facilities, or any case that is likely to cause public comment. (Ref. SOB-012, SOB-085, and/or SOB-800, SO123-XV-17.3 and/or SDS-EV1-PLN-0004)
- {1.6 } All available facts regarding a known or expected equipment hazard or if information regarding such a hazard is received from an outside source. (Ref. SOB-012 and SOB-085)
- {1.7 } Information regarding earthquakes or tremors. (Ref. SOB-012 and SOB-085)

END OF SECTION 1.0

2.0 FOUR HOUR NOTIFICATIONS TO NRC OPERATIONS CENTER

- 2.1 Any event or situation, related to the health and safety of the public or onsite personnel, or protection of the environment, for which a news release is planned or NOTIFICATION to other government agencies has been or will be made. [10 CFR 50.72(b)(2)(xi)]

2.1.1 Examples of reportable events include: (Ref. 2.1.11 and Ref. 2.1.16)

NOTES

1. "Taking", as used in this procedure, is defined as either finding a threatened or endangered species that is dead or needs human assistance to leave the OCA (Plant side), Parking Lot 2, and/or Parking Lot 3. (AR 030901543)
2. Seals and Sea Lions are not threatened or endangered species.

- "taking" of a threatened or endangered species (See Tech. Spec. Appendix B, "Environmental Protection Plan," Section 4.1)
- release of radioactivity contaminated tools or equipment to public areas
- unusual or abnormal releases of radioactive effluents
- onsite fatality
- Shipments rejected by a recycling vendor, identified as originating at SONGS, and returned to SCE under a DOT-SP permit as a result of a radiation monitor alarm. (Request for permit is considered NOTIFICATION to other government agency) [NN 200933851]

GUIDELINE

Events that **NEED NOT BE REPORTED** include Notifications to other government agencies of events considered routine and having little significance relative to radiological health and safety or protection of the environment.

2.1.2 Examples of events that **NEED NOT BE REPORTED** include: (Ref. 2.1.11)

- minor deviations from sewage or chlorine effluent limits
- minor non-radioactive, onsite chemical spills
- problems with aviation warning lights
- peaceful demonstrations
- reports of exceeding limits on circulation water return temperature or differential temperature
- routine reports of effluent releases
- radiation monitoring alarms transmitted to the state (however, radioactive releases must be reported in accordance with Att. 6).

3.0 TWENTY FOUR HOUR NOTIFICATIONS TO NRC OPERATIONS CENTER

- 3.1 Any occurrence of an unusual or important event that results, or could result, in significant environmental impact (Unit 1 PDTS Section 6.15.2.b; Units 2 and 3, Appendix B, Environmental Protection Plan, Section 4.1).

DEFINITIONS

GUIDELINE

These definitions are intended for guidance only and must be applied with "good engineering judgment".

1. AHSM - Advanced Horizontal Storage Module
2. EMERGENCY NOTIFICATION SYSTEM - The Red Phone or Commercial Telephone System to NRC Operations Center.
3. ISFSI - Independent Spent Fuel Storage Installation.
4. LICENSED MATERIAL - Source material, special nuclear material, or by-product material received, possessed, used, transferred or disposed of under a general or specific license issued by the NRC. [Source: 10 CFR 20.1003]
5. MAJOR LOSS OF EMERGENCY ASSESSMENT CAPABILITY, OFFSITE RESPONSE CAPABILITY OR COMMUNICATIONS CAPABILITY - Examples of events that this criterion is intended to cover are those in which any of the following are not available:
 - a. Emergency Response Facilities (ERFs).
 - b. Emergency communications facilities and equipment including the Emergency Notification System (ENS).
 - c. Commercial telephone lines.
 - d. Plant monitors necessary for accident assessment.[Source: Federal Register pg. 39043, Vol 48, No. 168, August 29, 1983]
6. MULTI-PURPOSE CANISTER (MPC) - MPCs are sealed spent nuclear fuel canisters which consist of a honeycombed fuel basket contained in a cylindrical canister shell which is welded to a baseplate, lid with welded port corner plates, and closure ring. The MPC provides the confinement boundary for the contained radioactive materials.
7. NATURAL PHENOMENON OR OTHER EXTERNAL CONDITION - Acts of nature (e.g., tornadoes, earthquakes, floods, etc.) and external hazards (e.g., railroad tank car explosion) where the threat or damage challenges the ability of the plant to continue to operate in a safe manner (including the orderly shutdown and maintenance of shutdown conditions). [Source: Federal Register, pg. 39041, Vol. 48, No. 168, Monday, August 29, 1983]

8. NOTIFICATION - Legally required transmission within specified time limits of event-related information to offsite agencies, such as the NRC, Corporate Headquarters, State or Local government. [Source: Regulatory Affairs]
9. NUCLEAR POWER PLANT - Nuclear Steam Supply System (NSSS), including the Reactor Coolant System and all of those systems or components necessary for transfer of heat from the Reactor Core to the ultimate heat sink. [Source: Regulatory Affairs]
10. PREPLANNED SEQUENCE - Those operations of the NSSS and its auxiliaries that are performed in accordance with a written and properly approved procedure. [Source: Regulatory Affairs]
11. PRINCIPAL SAFETY BARRIERS -
 - a. Fuel Cladding
 - b. Reactor Coolant System Pressure Boundary
 - c. Containment[Source: Regulatory Affairs]
12. RADIOACTIVELY CONTAMINATED - Radioactively contaminated clothing and/or person. If there is a potential for contamination, e.g., an initial onsite survey for radioactive contamination is required but has not been completed before transport of the person offsite for medical treatment, then NOTIFICATION is required. (Ref. 2.1.11)
[Source: Regulatory Affairs]
13. SERIOUSLY DEGRADED -
 - a. Fuel cladding failures in the Reactor or in the storage pool, that exceed expected values, or that are unique or widespread, or caused by unexpected factors, and would involve a release of significant quantities of fission products.
14. SIGNIFICANTLY HAMPERS SITE PERSONNEL IN THE PERFORMANCE OF DUTIES NECESSARY FOR THE SAFE OPERATION OF THE PLANT - Prevents or inhibits Operators, or other responsible personnel, from taking the action necessary to prevent or mitigate the consequences of any abnormal occurrence, or from performing a Tech. Spec. required activity. One way to evaluate this is to ask if one could seal the room in question (or disable the function in question) for a substantial period of time and still operate the plant safely. [Source: Regulatory Affairs]

15. UNANALYZED CONDITION - Any event or condition not within the design or licensing basis as currently docketed and approved by the NRC. [Source: Ref. 2.1.11]

GUIDELINE

Engineering judgment and experience may be used to determine whether an unanalyzed condition existed. It is not intended that this apply to minor variations in individual parameters, or to problems concerning single pieces of equipment. For example, at any time, one or more safety-related components may be out of service due to testing, maintenance or a fault that has not yet been repaired. Any trivial single failure or minor error in performing surveillance tests could produce a situation in which two or more often unrelated, safety-grade components are out-of-service. Technically, this is an unanalyzed condition. However, these events should be reported only if they involve functionally-related components or if they significantly compromise plant safety. When applying engineering judgment, and there is a doubt regarding whether to report or not, then the NRC policy is that we should make the report. [Source: Federal Register pg. 39042, Vol. 48, No. 168, Monday, August 29, 1983]

16. VERTICAL VENTILATED MODULE (VVM) – The VVM is subterranean type overpack which receives and contains the sealed MPC for interim storage at the ISFSI. The VVM supports the MPC in a vertical orientation and provide gamma and neutron shielding and also provides air flow through cooling passages to promote heat transfer from the MPC to the environs.

COMMUNICATIONS SYSTEMS REPORTABILITY WORKSHEET

1.0 Communications Failure

NOTE

Communication system failures should be evaluated per Attachment 2, Section for Notification of Cyber Security Incident Response Team (CSIRT) in addition to this Attachment.

- 1.1 If any of the following communication systems (table Section 1.4) fail, then ensure that at least one of the indicated backup systems is Operable.
 - 1.1.1 If none of the indicated backup systems are Operable, then the failure is reportable as a 8-hour notification pursuant to 10 CFR 50.72(b)(3)(xiii).
 - 1.1.2 If the Red Phone (ENS) is Inoperable, and the backup system is inoperable, then the failure is reportable as a 8-hour notification pursuant to 10 CFR 50.72(b)(3)(xiii). However, if the NRC Operations Center notifies SONGS that the Red Phone (ENS) is inoperable, then there is no need for a subsequent notification.
(Reference 2.1.11, NN 200162194)
- 1.2 For backup notifications, the Generation Operations Center (GOC) and/or Grid Control Center (GCC) can contact all offsite jurisdictions.
- 1.3 Any failure should be assessed for impact on all Units.

CONTINUED ON NEXT PAGE

1.0 **Communication Failures** (Continued)

1.4 Indicate system status in the table below:

<u>NOTES</u>	
1.	The GOC can be contacted either by PAX or the VHF/UHF Radio.
2.	Either dial out from SCE PAX telephones or direct dial from lines located in the Command Center.
3.	If the NRC Operations Center notifies the licensee that an ENS line is Inoperable, then there is no need for a subsequent licensee notification.

SYSTEM	SYSTEM OPERABILITY		BACKUP SYSTEM	BACKUP OPERABILITY	
	OPERABLE	FAILED		OPERABLE	FAILED
Emergency Notification System (ENS or RED) Phone			PAX/Direct Dial, cell phones, Satellite phones (NOTES 2 and 3)		
CR (Control Room) Satellite Telephone			PAX/Direct Dial, cell phones, Satellite phones (NOTE 2)		
Satellite Telephones			PAX/Direct Dial, cell phones, Satellite phones (NOTE 2)		

END OF SECTION

NOTIFICATION AND REPORTING OF SIGNIFICANT EVENTS DEVELOPMENTAL RESOURCES

1.0 NRC

- 1.1 IA-06-05, Subject: Updated Suspicious Flight Activity Reporting Procedures Dated December 8, 2006

2.0 Procedures

- 2.1 SO123-CI-1, Claims and Insurance Reporting Requirements for Property Damage
- 2.2 SO123-XV-HU-3, Human Performance Program
- 2.3 SO123-VIII-ADMIN-1, Emergency Preparedness Program Maintenance
- 2.4 SO123-VIII-ERO-2, Shift Manager/Emergency Director Checklist
- 2.5 SO123-IV-11.2, Reporting Safeguards Events
- 2.6 SO123-XV-17.3, Spill Contingency Plan
- 2.7 SDS-EV1-PLN-0004, Spill Contingency Plan

3.0 Operating Instructions

- 3.1 SO23-4-6, Containment of Oil and Hazardous Material Spills
- 3.2 SO23-13-2, Operation from the Alternate Command Center

4.0 Manuals

- 4.1 PDEP-2, SONGS Permanently Defueled Emergency Plan Emergency Action Level Technical Bases Manual

SUMMARY OF CHANGES
SO123-0-A7 REVISION 47

Author: Frank Grovich

AR	Description of Change	Reviewer(s)	Page(s)
0818-77987	<p>Added direction that it may be necessary to undertake an evaluation to determine if an event or condition is reportable.</p> <p>Clarified that the NRC encourages the licensee to report events which do not meet the reporting requirements, but believe might be of safety significance or generic interest or concern.</p> <p>Added statement that additional guidance on reporting requirements is available in NUREG-1022, Rev 3.</p>	See Below	4, 5, 6, 12
0818-48519	<p>Deleted NRC reportability requirements for Cyber Security incidents and previous Attachment 8. Notifications to Cyber Security Incident Response Team is still performed. Moved CSIRT from SO123-XV-104, Attachment 8 to Attachment 2. 10 CFR 73.54 requirements for Cyber Security Plan were removed per LAR.</p>		2, 7, 12, 21, 35, 38

Document Reviewers:	Name:
Operations	Jason Janke
Cyber Security	Paul Anderson
Approvers:	
CFDM or Designee Final Approval:	John Davis

NOTIFICATION AND REPORTING OF SIGNIFICANT EVENTS

TABLE OF CONTENTS

<u>SECTION</u>	<u>PAGE</u>
1.0 OBJECTIVES.....	2
2.0 REFERENCES.....	2
3.0 PREREQUISITE.....	4
4.0 PRECAUTIONS	4
5.0 CHECKLIST(S)	4
6.0 PROCEDURE	5
6.1 Shift Manager Responsibilities	5
6.2 Notification Guidelines	6
6.3 NRC Telephone Notification Guidelines	7
6.4 Conditions Requiring Immediate Follow-up Telephone Notification	10
6.5 Operations Interdepartmental Notification Guidelines	11
6.6 Written Reports	11
7.0 RECORDS	11
 <u>ATTACHMENTS</u>	
1 Event Index.....	12
2 Operations Reporting Requirements	16
3 Technical Specification Initiated and EPIP Notifications	21
4 Loss of Safety Function Notifications	27
5 Emergency Response and Assessment Notifications	28
6 Radioactive Material and Exposure Notifications	29
7 Outside Agency Notifications	32
8 Cyber Security Notifications	34
9 Definitions	35
10 Communications Systems Reportability Worksheet	38
11 Notification and Reporting of Significant Events Developmental Resources.....	40

NOTIFICATION AND REPORTING OF SIGNIFICANT EVENTS

1.0 OBJECTIVES

- 1.1 To identify the conditions that require notification to the United States Nuclear Regulatory Commission (USNRC) by telephone or e-mail and provide instructions to accomplish this notification.
- 1.2 To provide a comprehensive listing of events that require Operations Notifications to Station Management, offsite agencies and other SCE organizations.

2.0 REFERENCES

2.1 NRC Commitments

- 2.1.1 Unit 1 Permanently Defueled Technical Specifications (PDTS)
- 2.1.2 Units 2 and 3 Technical Specifications
- 2.1.3 Units 2 and 3 Licensee Controlled Specifications (LCS)
- 2.1.4 10 CFR 20, Appendix B, to Paragraphs 20.1001-2401
- 2.1.5 10 CFR 20.2201, Reports of Theft or Loss of Licensed Material
- 2.1.6 10 CFR 20.2202, Notification of Incidents
- 2.1.7 10 CFR 50.54, Conditions of Licenses
- 2.1.8 10 CFR 50.72, Immediate Notification Requirements for Operating Nuclear Power Reactors
- 2.1.9 10 CFR 72.74, Reports of Accidental Criticality or Loss of Special Nuclear Material
- 2.1.10 10 CFR 72.75, Reporting Requirements for Specific Events and Conditions
- 2.1.11 10 CFR 73.77, Cyber Security Event Notifications
- 2.1.12 NUREG-1022, Revision 3, Event Reporting Guidelines 10 CFR 50.72 and 50.73
- 2.1.13 Unit 1, 2, and 3 Offsite Dose Calculation Manual - ODCM
- 2.1.14 Decommissioning Quality Assurance Program (DQAP)
- 2.1.15 PDEP-1, SONGS Permanently Defueled Emergency Plan
- 2.1.16 Certificate of Compliance No. 72-1029 and Technical Specifications for Dry Cask Storage System, SO1-207-1-M210, Rev 2 (Certificate of Compliance for Spent Fuel Storage Casks Technical Specifications for the Advanced NUHOMS System Operating Controls and Limits)

2.0 REFERENCES (Continued)

2.1 NRC Commitments (Continued)

- 2.1.17 Document from the NOAA National Marine Fisheries Service, dated September 18, 2006; Subject: Endangered Species Act Section 7 Consultation, Biological Opinion and Incidental Take Statement. This permit allows incidental taking of turtles during the operation of SONGS contingent on meeting specific requirements (LCHG-019 and AR 061101550)
- 2.1.18 Certificate of Compliance No. 72-1040 Amendment No. 2 and Technical Specifications for HI-STORM UMAX Canister Storage System.

2.2 Other

- 2.2.1 IE Information Notice 89-89, Event Notification Worksheets
- 2.2.2 NRC Region V Letter to Dr. L. T. Papay from R. H. Engleken, dated September 4, 1981.
- 2.2.3 NRC Region V Letter to Dr. L. T. Papay from R. H. Engleken, dated April 27, 1982.
- 2.2.4 Memorandum for File, dated October 31, 2006, by A. E. Scherer. Subject: Unusual Environmental Events and Unusual Fish Kill Events Reporting Considerations in accordance with Operating License Appendix B, Section 4.1, San Onofre Nuclear Generating Station, Units 2 and 3 (AR 060800001-6) (CW-012.1)
- 2.2.5 Memo, J. G. Haynes to R. W. Krieger, dated September 26, 1984, Standby Statements of Press Releases.
- 2.2.6 Letter to J. R. Tate from M. P. Short, November 23, 1981, Notification of Shift Technical Advisors
- 2.2.7 CAR SO-P-974, Snubber Stroke Testing Program
- 2.2.8 System Operating Bulletins
 - .1 SOB-012, Reports to the Grid Control Center
 - .2 SOB-085, Reports to the Generation Operation Center
 - .3 SOB-800, Major Disaster Notification Procedure
- 2.2.9 ISEG Evaluation of IN 96-71 Action Request 971000268, dated October 8, 1997; Subject: NRC Information Notice 96-71, "Licensee Response to Indications of Tampering, Vandalism or Malicious Mischief". Requires notification of Security of suspected tampering, sabotage, or malicious mischief. (ACA-825)
- 2.2.10 NRC RIS 2005-28, Scope of For-Cause Fitness-for-Duty Testing Required by 10 CFR 26.24(a)(3) (ACC-194)

3.0 PREREQUISITE

- 3.1 **VERIFY** this document is current by using one of the methods described in SO123-XV-HU-3.

4.0 PRECAUTIONS

- 4.1 None.

5.0 CHECKLIST(S)

- 5.1 None.

NOT CURRENT REVISION

6.0 **PROCEDURE**

GUIDELINE

The capitalized words or phrases in the steps of this procedure are defined in Attachment 9.

6.1 **Shift Manager Responsibilities**

GUIDELINE

Since more than one reportability requirement may exist under which a notification/report must be made, Attachment 1 may be used to assist in identifying specific attachment(s) and step(s).

- 6.1.1 Identify event listed in Attachments 2 through 8.
- 6.1.2 The SM is responsible for making all NRC Operations Center Notifications.
- 6.1.3 After identification of an event listed in Attachments 2 through 8, then follow Sections 6.2 and 6.3 to make the notification.
- 6.1.4 It is the responsibility of the SM to ensure that the NRC Operations Center is notified via the red phone (ENS), if operative, and that the notification is documented. Regulatory Affairs is available on 24 hour call for advice, and may make the notification over the ENS for the SM if both agree to such action.
 - .1 The SM should notify the SONGS NRC Region IV Contacts per Section 6.3.4 of all Red Phone notifications to the NRC Operations Center.
 - .2 The SM should ensure that a log entry is made for all telephone NOTIFICATIONS.
 - .3 If the NRC raises a major concern, then the Shift Manager should send out an email to notify Site Leadership of the concern to assist in the timely resolution.
 - .4 Within the time available, during normal working hours, the SM should confer with Station Management; however, Station Management concurrence is not required prior to NRC notification.
- 6.1.5 For non-NRC reportable occurrences which could trigger media or public concern, it is the SM responsibility to ensure that the Operations Manager or designee, is promptly informed. This ensures a decision can be made as to whether a follow-up briefing of senior management is required.

6.0 PROCEDURE (Continued)

6.2 **Notification Guidelines**

- 6.2.1 SO123-VIII-ERO-2, Shift Manager/Emergency Director Checklist, provides detailed checklists of reporting requirements, and therefore is the controlling document during a Declared Emergency.
- 6.2.2 Notify the NRC Operations Center per Section 6.3.
- 6.2.3 Notify the SONGS NRC Region IV Contacts per Section 6.3.4 or 6.3.4.4 as directed by Attachment 2, and for all events listed in Attachments 3 through 8.
- .1 Notify the Operations Manager, and Regulatory Affairs Manager.
- 6.2.4 Notifications to the GOC or GCC should be made without intentional delay.
- 6.2.5 When making event related notifications to Operations Management and/or Site Leadership by email, then ensure the notification contains all pertinent information (e.g., summary of event, regulatory notifications, injuries, equipment damage, AOI(s) implemented and EALs evaluated and/or entered).
- .1 Complete form "Shift Manager Incident Notification to Management" located on the Portal under Org Units>Nuclear.
- .2 Send the "Shift Manager Incident Notification to Management" form to the applicable personnel, designated at the bottom of the form, by email.

END OF SECTION 6.2

6.0 PROCEDURE (Continued)

6.3 **NRC Telephone Notification Guidelines**

- 6.3.1 Notify NRC Operations Center as soon as possible, of the occurrence of an event as directed by Attachment 2, and for all events listed in Attachments 3 through 8, using the "Red Phone" (ENS), and in all cases within the required criteria of one, four, eight, or twenty four hours. (10 CFR 26.719, 10 CFR 50.72, 10 CFR 72.74, 10 CFR 72.75, and 10 CFR 73.77)

NOTE

Safeguards Information should not be conveyed on an unsecured / commercial phone line.

- .1 If the Red Phone is inoperative, then the licensee shall make the required notifications via commercial telephone service, other dedicated telephone system, or any other method which will ensure that a report is made as soon as practical to the NRC Operations Center. (10 CFR 50.72)
- .2 Review Attachment 5, Step 1.2 for ENS Inoperability Reporting Requirements.
- .3 The SM should notify the SONGS NRC Region IV Contacts per Section 6.3.4 of all Red Phone notifications to the NRC Operations Center.
- 6.3.2 If the "Red Phone" call is being made to report the initial declaration of an Emergency Class, then prior to initiating the call, attempt to determine Emergency Class termination criteria (through discussion with the Emergency Director), and communicate this information over the "Red Phone", if asked.
- .1 Completing as much of NRC Form 361 (OPS Web Page> On Shift Operations> NRC FORM 361-Event Notification Checklist) as possible will make reporting to the NRC easier since the duty officers manning the NRC Operations Center use this form.

CONTINUED ON NEXT PAGE

6.0 PROCEDURE (Continued)

6.3.3 Telephone notification to the NRC Operations Center:

GUIDELINES

1. When using the Red phone, it is not necessary to dial a 9 for an outside line.
2. "Red Phone" (ENS) and backup system (PAX) Inoperability is reportable as a MAJOR LOSS OF COMMUNICATIONS CAPABILITY per Attachment 5, Step 1.2.
3. On-Shift Operations personnel are responsible for making notifications via the Red Phone (ENS). Regulatory Affairs can assist with report if available.
4. When initiating notification to the NRC of a security threat, then the authentication code should be provided. (NRC Security Advisory SA-07-01)
5. Safeguards Information should not be conveyed on an unsecured / commercial phone line.

- .1 To use the Red Phone (ENS), lift the receiver from cradle and dial one of the numbers listed on the phone. (The first number listed is the primary number, the remaining numbers are alternates.)
- .2 If the Red Phone is inoperative, then contact the NRC Operations Center using the Commercial Telephone System:
(References 2.2.2 and 2.2.3)
 - (301) 816-5100 (primary)
 - (301) 951-0550 (backup)
 - (301) 816-5151 (FAX)
- .3 If the NRC Operations Center notifies SONGS that the Red Phone (ENS) is inoperable, then there is no need for a subsequent notification.
(Reference 2.1.12, NN 200162194)
- .4 When initial notification Red Phone reports are made, then notify the SONGS NRC Region IV Contacts per Section 6.3.4.
- .5 Write the daily NRC Authentication Code on the Control Room Red Phone door placard. This Code is given by the NRC during the daily plant status communications check and will be verified during communications with the NRC. Between the hours of 0100 to 0500 (Pacific Time), the previous day's code is in effect. (AR 070100491)
- .6 Ensure an AR is initiated to document the initial NRC notification Red Phone report.
 - Attach the completed NRC Form 361 to the AR.
 - Create an assignment to have a reportability assessment completed by Regulatory Affairs on the AR.

6.0 PROCEDURE (Continued)

6.3.4 Telephone notification to the SONGS NRC Region IV Contacts:

NOTE

1. Notification of the SONGS NRC Region IV Contacts should be made between the hours of 0700 and 2100 (CST) on normal work days (Monday through Friday). If notification is required outside of the normal work days and hours, then email notification is performed in lieu of telephone call per Step 6.3.4.4.
2. Safeguards Information should not be conveyed on an unsecured / commercial phone line.

- .1 Call the first SONGS NRC Region IV Contact below.
If no answer then leave a message, and call the next SONGS NRC Region IV Contact.
 - Ray Kellar (817) 200-1191
 - Rachel Browder (817) 200-1452
 - Lee Brookhart (817) 200-1549
 - Robert Evans (817) 200-1234
 - .2 Document date and time call(s) were made and whether call was answered or message left in the Log.
 - .3 If verbal contact was not made with either SONGS NRC Region IV Contact, then in the Control Room Log, document date and time calls were made, and that messages were left.
 - .4 If notification is to be made outside of the normal work days and times, then email notification should be made by sending a group email to the following SONGS NRC Region IV Contacts: (email notification is also used for off-hours reports)
 - Ray Kellar Ray.Kellar@nrc.gov
 - Rachel Browder Rachel.Browder@nrc.gov
 - Linda Howell Linda.Howell@nrc.gov
 - Mark Shaffer Mark.Shaffer@nrc.gov
- .1 Include the Shift Manager telephone number as a call-back number.
 - .2 Document date and time email(s) were sent in the Control Room Log.

END OF SECTION

6.0 PROCEDURE (Continued)

6.4 **Conditions Requiring Immediate Follow-up Telephone Notification**

- 6.4.1 With respect to the telephone NOTIFICATIONS made in Attachments 3 through 8, immediately report the following conditions during the course of the event: [10 CFR 50.72(c)]

GUIDELINE

On-Shift Operations personnel is responsible for making follow up notifications via the Red Phone. Support may be obtained from Regulatory Affairs and other responsible departments.

- Any further degradation in the level of safety of the plant, or other worsening plant conditions (including those that require the declaration of any of the Emergency Classes, if such a declaration has not been previously made)
- Any change from one Emergency Class to another
- A termination of the Emergency Class
- The results of ensuing evaluations or assessments of plant conditions
- The effectiveness of response or protective measures taken
- Information related to plant behavior that is not understood

- 6.4.2 When requested by the NRC, then maintain an open, continuous communication channel with the NRC Operations Center via the Red Phone.

END OF SECTION

6.0 PROCEDURE (Continued)

6.5 **Operations Interdepartmental Notification Guidelines**

- 6.5.1 Use Attachment 2 as a reference for Operations notification requirements to Station Management and other organizations.

6.6 **Written Reports**

- 6.6.1 Regulatory Affairs is responsible for all written reports required for operating events.

GUIDELINE

The SM has no responsibility to make written reports.

- 6.6.2 When the SM is made aware of a situation which requires a report to the NRC, then he/she should ensure an Action Request is initiated with an assignment to have a reportability assessment completed by Regulatory Affairs. The Action Request may be the same AR written to document the reported problem and should include as much relevant information as is available.

7.0 **RECORDS**

- 7.1 Notification to the NRC shall be documented in the Unit/Station Log.
- 7.1.1 The SM is responsible for ensuring all notifications are logged.
- 7.2 Scan completed logs into eDMRM in accordance with RPA 99-0068E.

EVENT INDEX

EVENT	ATT/STEP(S)/ DOCUMENT	TIME
ONE HOUR REPORTS		
Tech. Spec Deviation per 10 CFR 50.54	Att 3, Step 1.1	1 HR
Temporary Suspension of Security Measures in accordance with 10 CFR 50.54(x) and (y) or 10 CFR 72.32(d), or during severe weather or other hazardous conditions	Att 3, Step 1.3 Att 2, Step 2.1.5 Att 2, Step 2.1.6	1 HR N/A N/A
Any Event Requiring Immediate One-Hour Telephone Notification to the NRC per 10 CFR 20 or 10 CFR 50. (AR 080300666)	Att 2, Step 2.1.3 Att 7, Step 1.1	1 HR 1 HR
Emergency Plan Entry	Att 3, Step 1.4 Att 2, Step 1.1	1 HR N/A
Events Involving Special Nuclear Material including ISFSI related material	Att 6, Step 2.1	1 HR
Overexposure of an Individual	Att 6, Step 2.2 Att 6, Step 5.1	1 HR 24 HR
Unplanned release of fission products	Att 6, Step 2.3 Att 3, Step 2.1.2	1 HR 4 HR
ISFSI: Accidental Criticality or Loss of ISFSI related Special Nuclear Material	Att 6, Step 2.1	1 HR
Emergency Plan Entry	Att 3, Step 1.4.3	1 HR
License deviation per 10 CFR 72.32(d)	Att 3, Step 2.1.1	4 HR
Non-Emergency Notifications	Att 3, Step 2.1 Att 3, Step 3.1 Att 3, Step 4.2	4 HR 8 HR 24 HR
Security Events or Equipment Issues per SO123-IV-11.2 (AR 080300666, CA 203187718-0012) or other Security Related Notifications	Att 3, Step 1.2 Att 2, Step 2.1.2 Att 2, Step 2.1.3 Att 2, Step 2.1.5 Att 2, Step 2.1.6 Att 2, Step 2.1.7 Att 2, Step 4.0 Att 7, Step 1.2	1 HR N/A N/A N/A N/A N/A N/A N/A
Cyber Security Event per 10 CFR 73.77	Att 8, Step 1.1 Att 8, Step 2.1 Att 8, Step 2.2 Att 8, Step 2.3 Att 8, Step 3.1 Att 2, Step 11.0	1 HR 4 HR 4 HR 4 HR 8 HR N/A

EVENT	ATT/STEP(S)/ DOCUMENT	TIME
FOUR HOUR REPORTS		
News Release or Government Agency Notification Required (AR 08030066)	Att 3, Step 2.1.2 Att 7, Step 1.1 Att 7, Step 2.1	4 HR N/A 4 HR
Loss, Theft, or Missing Licensed Material		
a. Quantities greater than or equal to 1000 times the quantity specified in 10 CFR 20 Appendix C <i>where exposure could result.</i>	Att 6, Step 3.1	4 HR
b. After 30 days that Licensed Material in quantities greater than 10 times the quantity specified in 10 CFR 20 Appendix C is still missing.	Att 6, Step 3.2	4 HR
Subsequent recovery of previously reported Lost, Stolen, or Missing Licensed Material	Att 6, Step 3.3	4 HR
Threatened or Endangered Species found dead or requiring human assistance to leave the Plant side OCA, Parking Lot 2, and/or Parking Lot 3	Att 7, Step 2.1	4 HR
Personnel Injury (AR 080300666)	Att 2, Step 1.1.8 Att 2, Step 1.3 Att 2, Step 3.1.2 Att 3, Step 2.1.2 Att 3, Step 3.1.3 Att 6, Step 4.1 Att 7, Step 1.4	N/A N/A N/A 4 HR 8 HR 8 HR N/A

END OF 4 HOUR REPORTS

EVENT	ATT/STEP(S)/ DOCUMENT	TIME
EIGHT HOUR REPORTS		
Unanalyzed Condition	Att 4, Step 1.1	8 HR
Major Loss of Emergency Assessment Capability	Att 5, Step 1.1.1	8 HR
Unavailability of Command Center and designated Backup Command Center	Att 5, Step 1.1.2 Att 2, Step 1.3.6	8 HR N/A
Transportation of Contaminated Personnel	Att 3, Step 3.1.3 Att 6, Step 4.1	8 HR 8 HR
Major Loss of Communication Capability	Att 5, Section 1.2 Att 10, ALL	8 HR 8 HR
TWENTY-FOUR HOUR REPORTS		
Violation of Dry Cask Storage System Technical Specification 2.1	Att 2, Step 1.1 Att 3, Step 4.1	N/A 24 HR
Violation of UMAX Appendix B, Section 2.1, Fuel Specifications and Loading conditions.	Att 2, Step 1.1 Att 3, Step 4.3	N/A 24 HR
Use of any Abnormal Operating Instruction	Att 2, Step 2.1.1	24 HR
Environmental Impact	Att 7, Step 3.1	24 HR
Fitness for Duty Failure	Att 2, Section 8.0	24 HR

EVENT	ATT/STEP(S)/ DOCUMENT	TIME
OTHER REPORTS		
Red Phone Reports or Non-Compliance Which Will Likely Result in NRC Enforcement Action	Att 2, Step 1.1 Att 2, Step 1.2 Att 2, Step 2.1.3	N/A N/A N/A N/A
Airborne Release	Att 2, Step 7.1.2 Att 6, Step 1.0	N/A N/A
Liquid Release	Att 2, Step 7.1.2 Att 6, Step 1.0	N/A N/A
Equipment Problems (AR 080300666)	Att 2, Step 1.3 Att 2, Step 3.1 Att 7, Step 1.4	N/A N/A N/A N/A N/A N/A
Communication with GOC and/or GCC (AR 080300666)	Att 2, Section 9.0 Att 7, Section 1.0	N/A N/A
Performance Error Resulting in Equipment Damage, Personnel Injury, or Violation of the APM (AR 080300666)	Att 7, Step 1.4	N/A
Fire, Explosion, Bomb Threat, or Natural Disaster (AR 080300666)	Att 2, Step 4.1.2 Att 2, Step 6.1 Att 7, Step 1.2 Att 7, Step 1.3 Att 7, Step 1.5 Att 7, Step 1.7	N/A N/A N/A N/A N/A N/A
Hazard to Any Line, Equipment, or Installation (AR 080300666)	Att 2, Step 6.1 Att 7, Step 1.6	N/A N/A
Both Aircraft Lights Out (Unit 2/3)	Att 2, Step 5.1	N/A
Hazardous Waste	SO23-4-6	N/A
Plant Status Control Error or Human Performance Error (AR 080300666)	Att 2, Step 1.1 Att 2, Step 1.2	N/A N/A
Spill Contingency Plan	Att 7, Step 1.5 SO123-XV-17.3 and/or SDS-EV1-PLN-0004	N/A
Beach Walkway Closure	Att 2, Section 10.0	N/A

OPERATIONS REPORTING REQUIREMENTS

GUIDELINES

Depending on the severity of the event, NRC Telephone Notifications, Section 6.3 (main body) may be required per Attachments 3 through 8.

1.0 NOTIFICATION OF PLANT MANAGEMENT

- 1.1 The Shift Manager as soon as practical, shall notify the Operations Manager, or designee, of the following conditions:
- The SM should also ensure additional notifications are made.
 - The Operations Manager will notify appropriate Station Management.
- 1.1.1 Any event listed in Attachments 3 through 8.
- 1.1.2 A Technical Specification, Licensee Controlled Specification (LCS), Dry Cask Storage System Tech. Spec., or HI-STORM System Tech. Spec. is exceeded. (Ref. 2.1.16, 2.1.18)
- 1.1.3 Loss of Off-Site Power (for evaluation of voluntary NRC Notification)
- 1.1.4 Non-spurious events requiring Red Phone reports.
- 1.1.5 Serious noncompliance which will likely result in NRC enforcement action.
- 1.1.6 Any Tech. Spec. or LCS Action requiring an Engineering Evaluation.
- 1.1.7 Items of potential extensive media interest. [Courtesy call to the SONGS NRC Region IV Contacts per Section 6.3.4 (main body).]
- 1.1.8 Injuries and human performance. These items may also require notification to Site Safety or FFD as soon as possible per D-006, Fitness for Duty and Behavioral Observation Program policy. A for-cause test may be warranted by Site Safety or FFD. (AR 051200119)
- .1 Plant Status Control Error.
- .2 Significant Human Performance Error. [Notification call to the SONGS NRC Region IV Contacts per Section 6.3.4 (main body).]
- .3 Significant personal injury (any injury involving medical treatment beyond first aid; typically classified as OSHA recordable).

|

1.0 NOTIFICATION OF PLANT MANAGEMENT (Continued)

- 1.2 Report the following promptly, but do not call between 2200 and 0500:
 - 1.2.1 Spurious events requiring Red Phone reports.
 - 1.2.2 Responses to inquiries from higher management or regulatory bodies.
 - 1.2.3 Human Performance Errors not meeting the criteria of Section 1.1.8.
- 1.3 Report the following by 0600 next day:
 - 1.3.1 Items "held" between 2200 and 0500.
 - 1.3.2 "Near miss" circumstances of interest.
 - 1.3.3 Non-lost time accident.
 - 1.3.4 Major equipment problems.
 - 1.3.5 Initiation of divisional investigations.
 - 1.3.6 Unavailability of either the primary and designated backup Command Center (ERF).

GUIDELINES

- 1. When possible, Duplicate courtesy notifications of the Operations Manager should be made.
- 2. Direct contact of higher management should only be initiated by Operations Manager.
- 3. Managers will respond fully to any inquiries from higher management or regulatory bodies.

END OF SECTION 1.0

2.0 NOTIFICATION OF SONGS NRC REGION IV CONTACTS

- 2.1 Notify the SONGS NRC Region IV Contacts per Section 6.3.4 (main body), or Section 6.3.4.4 (main body), if directed, and make a log entry under the following conditions: (NN 20083110)
 - 2.1.1 Use of any AOI [24 hour NRC e-mail notification per Section 6.3.4.4 (main body)] (NN 203318188)
 - 2.1.2 Logging of **SECURITY EVENTS. A Security Event is defined in the Safeguards Contingency Plan.**
 - 2.1.3 All Red Phone reports to NRC Operations Center (excluding follow-up reports).
 - 2.1.4 Notification for One-hour Safeguards Event Reports as covered in SO123-IV-11.2.
 - 2.1.5 Temporary suspension of Safeguards measures
 - 2.1.6 After Security measures are restored from Temporary Suspension of Safeguards
 - 2.1.7 Suspicious activities
 - 2.1.8 Potential Tampering/Vandalism Events (Report promptly, but do not call between 2200 and 0500.)
 - 2.1.9 Items of potential extensive media interest. [Courtesy call to the SONGS NRC Region IV Contacts per Section 6.3.4 (main body).]

3.0 NOTIFICATION OF ENGINEERING

- 3.1 The Shift Manager shall ensure Engineering Manager is notified for the following conditions: (Reference 2.2.6)
 - 3.1.1 Any unexpected hydraulic transients having the potential to cause damage to equipment and/or associated supports/snubbers. (Reference 2.2.7)
 - 3.1.2 Immediately notify the Edison International Corporate Risk Management Division of the following incidents involving SCE personnel or property, and refer to SO123-CI-1, Claims and Insurance Reporting Requirements for Property Damage.
 - .1 Damage to property or loss by fire.
 - .2 Any threat of serious or substantial damage to SCE or Non-SCE property involving SCE personnel or property.

4.0 NOTIFICATION OF SECURITY

- 4.1 The following events shall be immediately reported to the appropriate security personnel:
- 4.1.1 Any breach of the Security Safeguards Contingency Plan reported to Operations.
 - 4.1.2 Any bomb threat received by Operations.
 - 4.1.3 The loss of any security-related keys.
 - 4.1.4 Any loss of security-related equipment.
 - 4.1.5 If a hostage is taken inside or outside the Station.
 - 4.1.6 Any suspected tampering, sabotage or malicious mischief. (Ref. 2.2.9)
 - 4.1.7 Any suspicious activity (including aircraft). (NRC IA-06-05)

5.0 NOTIFICATION OF THE FEDERAL AVIATION ADMINISTRATION

- 5.1 If both Aircraft Obstruction Warning Light Systems fail (dome lights out), then request the Lockheed-Martin Flight Services at (877) 487-6867, that a Notice to Airmen (NOTAM) be issued.
- 5.1.1 After NOTAM has been requested, then notify the following Camp Pendleton personnel of the NOTAM is recommended:
- Long Rifle Division at (760) 725-3974
 - Range Control Officer at (760) 725-6355

6.0 NOTIFICATION TO CAMP PENDLETON FIRE DEPARTMENT (OSM-911)

- 6.1 Any reports of fire, releases of toxic gasses, or hazardous materials.

7.0 REPORTS TO REGULATORY AFFAIRS

- 7.1 In addition to previously noted NRC notifications, report to Regulatory Affairs:
- 7.1.1 Any event having a significant implication for public health and safety, or common defense and security.
 - 7.1.2 Any unplanned or uncontrolled release of radioactive material (e.g., gas or liquid) to the environs that either
 - Violates the ODCM, Tech. Spec., or LCS requirements, or
 - Occurs through a non-credited pathway (e.g., not monitored by radiation monitor or grab sample)

8.0 NOTIFICATION FOR A REPORT OF A FITNESS FOR DUTY FAILURE (10 CFR 26.719)

- 8.1 The following significant FFD policy violations and programmatic failures must be reported to the NRC Operations Center by telephone within 24 hours after the licensee or other entity discovers the violation:
- 8.1.1 The use, sale, distribution possession, or presence of illegal drugs, or the consumption or presence of alcohol within the Protected Area.
- 8.1.2 Any acts by FFPD program personnel, or any supervisory personnel subject to the FFD program, if such acts:
- Involve the use, sale, or possession of controlled substance
 - Result in a determination that the individual has violated the licensee's or other entity's FFD policy
- 8.2 Fitness for Duty normally notifies Access Authorization, who notifies Regulatory Affairs. Regulatory Affairs will notify the NRC Operations Center via the Red Phone. (24 hour report)

9.0 REPORTS TO THE GENERATION OPERATION CENTER (GOC) (SOB-85)

- 9.1 Required notifications to the GOC or GCC are done per Attachment 7, Section 1.0.

10.0 NOTIFICATION TO THE STATE PARKS

NOTE

Notification of the State Parks of Beach Walkway closure does not require NRC Notification since it has little significance to radiological health and safety or protection of the environment. (NN 203231525)

- 10.1 If closure of the Beach Walkway is required, then notify the State Parks of the closure and reason for the closure.

11.0 NOTIFICATION OF CYBER SECURITY INCIDENT RESPONSE TEAM (CSIRT)

- 11.1 When notified of any **potential** Cyber Security Event, then immediately notify CSIRT per SO123-XV-104, Cyber Security Event Notifications.
- 11.2 When notified by CSIRT of an **actual** Cyber Security Event, then notify the NRC Operations Center per Attachment 8.

END OF ATTACHMENT

TECHNICAL SPECIFICATION INITIATED AND EPIP NOTIFICATIONS

1.0 ONE HOUR NOTIFICATIONS TO NRC OPERATIONS CENTER

GUIDELINE

The Emergency Plan should be reviewed for possible Emergency Event classification for bracketed [] steps.

- 1.1 Any deviation from the Technical Specifications authorized by 10 CFR 50.54(x):
[10 CFR 50.72(b)(1)]
 - 1.1.1 A licensee may take reasonable action that departs from a license condition or a Technical Specification (contained in a license issued under this part) in an emergency when:
 - .1 The action is immediately needed to protect the public health and safety.
 - .2 No action consistent with license conditions and technical specifications that can provide adequate or equivalent protection is immediately apparent.
 - 1.1.2 Implementation of SO23-13-2, Operation from the Alternate Command Center.

CONTINUED ON NEXT PAGE

1.0 ONE HOUR NOTIFICATIONS TO NRC OPERATIONS CENTER (Continued)

NOTE

As soon as a he/she is made aware of a potential Security Event or equipment issue, the SM should review SO123-IV-11.2 for reportability. Review should be concurrent with Security review.

- [1.2] Notification for One-hour Safeguards Event Reports per SO123-IV-11.2 (10 CFR 73, Appendix G, as modified by NRC Generic Letter 91-03, Regulatory Guide 5.62, NUREG-1304, and Draft Regulatory Guide DG-5008)

- [1.3] Temporary Suspension of Safeguards Measures

NOTE

For Units 2/3 - 10 CFR 73.55(a) states that suspending safeguards measures of 10 CFR 73.71 in accordance with 10 CFR 50.54(x) and 10 CFR 50.54(y) is allowed and reportable.

- 1.3.1 **Units 2 and 3 -** Temporary Suspension of Security Measures in accordance with 10 CFR 50.54(x) and 10 CFR 50.54(y). (AR 040601881)
- .1 As a minimum, this suspension must be approved by the Shift Manager prior to taking the action.
 - .2 The action is immediately needed to protect the public health and safety.
 - .3 No action consistent with license conditions and technical specifications that can provide adequate or equivalent protection is immediately apparent.
 - .4 Temporary suspension of safeguards measures made under 10 CFR 50.54(x) are reportable under 10 CFR 50.72(b)(1) and need not be duplicated under 10 CFR 73.71.
 - .5 In addition to notifications required per Attachment 2, Temporary Suspension of Safeguards Measures requires notification of the NRC Region IV Office as soon as practical. (PSP 19.3)
 - .6 As soon as practical after Security Measures are restored notify the NRC Region IV Office and the NRC Operations Center. (PSP 19.3)

CONTINUED ON NEXT PAGE

1.0 ONE HOUR NOTIFICATIONS TO NRC OPERATIONS CENTER (Continued)

- 1.3.2 **Units 2 and 3 - Temporary Suspension of Security Measures during circumstances such as imminent, severe, or hazardous weather conditions. [(Physical Security Plan) 19.2]**
- .1 The action is immediately needed to protect the personal health and safety of the SONGS Security Force personnel.
 - .2 No action consistent with license conditions and technical specifications that can provide adequate or equivalent protection is immediately apparent.
 - .3 The authority to approve temporary suspension of affected security measures is given to the Shift Manager with input from the Security Shift Supervisor or Security Manager.
 - .4 In addition to notifications required per Attachment 2, Temporary Suspension of Safeguards Measures requires notification of the NRC Region IV Office as soon as practical. (PSP 19.3)
 - .5 As soon as practical after Security Measures are restored notify the NRC Region IV Office and the NRC Operations Center. (PSP 19.3)

NOTE

For ISFSI - 10 CFR 72.32(d) states that a licensee may take reasonable action that departs from a license condition or a technical specification and such action is reportable.

- 1.3.3 **ISFSI - Suspension of Security Measures in accordance with 10 CFR 72.32(d) at the Independent Spent Fuel Storage Installation (ISFSI). (AR 040601881, AR 050500642)**
- .1 As a minimum, this suspension must be approved by the Shift Manager prior to taking the action. (AR 050500642-2)
 - .2 The action is immediately needed to protect the public health and safety.
 - .3 No action consistent with license or certificate of compliance conditions or technical specifications that can provide adequate or equivalent protection is immediately apparent.
 - .4 Suspension of security measures under 10 CFR 72.32(d) are reportable under 10 CFR 72.75(b)(1).
 - .5 In addition to notifications required per Attachment 2, Temporary Suspension of Safeguards Measures, requires notification of the NRC Region IV Office as soon as practical. (PSP 19.3)
 - .6 As soon as practical after Security Measures are restored notify the NRC Region IV Office and the NRC Operations Center. (PSP 19.3)

1.0 ONE HOUR NOTIFICATIONS TO NRC OPERATIONS CENTER (Continued)

- 1.4 The declaration of any of the emergency classes specified in PDEP-2, SONGS Permanently Defueled Emergency Plan Emergency Action Level Technical Bases Manual. [10 CFR 50.72(a)(1)(i)]
- 1.4.1 Make the appropriate supervisory notifications per Attachment 2, terminate the use of this procedure and proceed with the EIPs.
- 1.4.2 If an emergency class is entered and exited prior to recognition, then the Red Phone notification shall report the fact that an emergency class had existed. It is not necessary to declare the emergency class. (Ref. 2.1.12)

NOTE

The Emergency Plan referenced in 10 CFR 72 is satisfied by Site EIPs.

- 1.4.3 Declaration of an emergency related to the ISFSI is also reportable per 10 CFR 72.75(a).

2.0 FOUR HOUR NOTIFICATIONS TO NRC OPERATIONS CENTER

GUIDELINE

10 CFR 72 applies to Spent Fuel when the fuel is placed in the Dry Shielded Canister (DSC).

- 2.1 Non-emergency notifications involving any of the following events or conditions involving Spent Fuel, High Level Waste (HLW), or Reactor-Related Greater than Class C (GTCC) Waste: [10 CFR 72.75(b)]
 - 2.1.1 An action taken in an emergency that departs from a condition or a technical specification contained in a license or certificate of compliance issued under this part when the action is immediately needed to protect the public health and safety and no action consistent with license or certificate of compliance conditions or technical specifications that can provide adequate or equivalent protection is immediately apparent. [10 CFR 72.32(d)]
 - 2.1.2 Any event or situation related to the health and safety of the public or onsite personnel, or protection of the environment, for which a news release is planned or notification to other Government agencies has been or will be made. Such an event may include an onsite fatality or inadvertent release of radioactively contaminated materials.

3.0 EIGHT HOUR NOTIFICATIONS TO NRC OPERATIONS CENTER

GUIDELINE

10 CFR 72 applies to Spent Fuel when the fuel is placed in the Dry Shielded Canister (DSC).

- 3.1 Non-emergency notifications involving any of the following events or conditions involving Spent Fuel, High Level Waste (HLW), or Reactor-Related Greater than Class C (GTCC) Waste: [10 CFR 72.75(c)]
- 3.1.1 A defect in any spent fuel, HLW, or reactor-related GTCC waste storage structure, system, or component that is important to safety.
- 3.1.2 A significant reduction in the effectiveness of any spent fuel, HLW, or reactor-related GTCC waste storage confinement system during use.
- 3.1.3 Any event requiring the transport of a radioactively contaminated person to an offsite medical facility for treatment.

4.0 TWENTY-FOUR HOUR NOTIFICATIONS TO NRC OPERATIONS CENTER

- 4.1 Violation of any Dry Cask Storage System Tech. Spec. 2.1 requirements. (Dry Cask Storage System Tech. Spec. 2.3.b) (Ref. 2.1.16)

GUIDELINE

10 CFR 72 applies to Spent Fuel when the fuel is placed in the Dry Shielded Canister (DSC).

- 4.2 Non-emergency notifications involving any of the following events involving Spent Fuel in the DSC, High Level Waste (HLW), or Reactor-Related Greater than Class C (GTCC) Waste: [10 CFR 72.75(d)]
- 4.2.1 An event in which important to safety equipment is disabled or fails to function as designed when:
- The equipment is required by regulation, license condition, or certificate of compliance to be available and operable to prevent releases that could exceed regulatory limits, to prevent exposures to radiation or radioactive materials that could exceed regulatory limits, or to mitigate the consequences of an accident
- AND**
- No redundant equipment was available and OPERABLE to perform the required safety function
- 4.3 Violation of Appendix B, Section 2.1, Fuel Specification and Loading Condition of Certificate of Compliance No. 72-1040 Amendment No. 2 and Technical Specifications for HI-STORM UMAX Canister Storage System. (Ref. 2.1.18)

LOSS OF SAFETY FUNCTION NOTIFICATIONS

1.0 EIGHT HOUR NOTIFICATIONS TO NRC OPERATIONS CENTER

- 1.1 Any event or condition that results in:
- 1.1.1 The condition of the NUCLEAR POWER PLANT, including its PRINCIPAL SAFETY BARRIERS, being seriously degraded. [10 CFR 50.72(b)(3)(ii)(A)]
 - 1.1.2 The NUCLEAR POWER PLANT being in an UNANALYZED CONDITION that significantly compromises plant safety. [10 CFR 50.72(b)(3)(ii)(B)]
- 1.2 Any event or condition that at the time of discovery could have prevented the fulfillment of the safety function of structures or systems that are needed to:

GUIDELINES

1. The only remaining Safety Function is Spent Fuel Pool Level.
2. Reportability of the loss of any of the safety functions listed in Steps 1.2.1 and 1.2.2 is independent of power or plant mode. It is also independent of whether: (Ref. 2.1.12)
 - the system or structure was demanded at the time of discovery
 - the cause of a potential failure of the system was corrected before an actual demand for the safety function could occur
 - other systems or structures were available that could have or did perform the safety function
 - the entire system or structure is specified as ESF or safety related
 - the problem occurs in a non-safety portion of a system
3. Events covered in Section 1.0 may include one or more procedural errors, equipment failures, and/or discovery of design, analysis, fabrication, construction, and/or procedural inadequacies.

- 1.2.1 Control the release of radioactive material. [10 CFR 50.72(b)(3)(v)(c)]
- 1.2.2 Mitigate the consequences of an accident. [10 CFR 50.72(b)(3)(v)(D)]

END OF ATTACHMENT

EMERGENCY RESPONSE AND ASSESSMENT NOTIFICATIONS

1.0 EIGHT HOUR NOTIFICATIONS TO NRC OPERATIONS CENTER

GUIDELINE

1. The Emergency Plan should be reviewed for possible Emergency Event classification for bracketed [] steps.
2. Further guidance on a major loss of Emergency Assessment capability and unavailability of the Command Center can be found in NEI 13-01.

1.1 Any event that results in a MAJOR LOSS OF: [10 CFR 50.72(b)(3)(xiii)]

[1.1.1] Emergency assessment capability (e.g., Significant portion of Control Room indication). (In this case, a judgment will be necessary and management input should be obtained prior to making the NOTIFICATION, time permitting.)

1.1.2 Unavailability of the Command Center and designated Backup Command Center.

GUIDELINES

1. Guidelines for Communications Systems Reporting Requirements are provided in Attachment 10.
2. Communication loss may be discovered during communication checks per SO123-VIII-ADMIN-1.

1.2 Any event that results in a MAJOR LOSS OF OFFSITE COMMUNICATIONS CAPABILITY [e.g., Emergency Notification System (ENS)]. Assess impact on all Units. [10 CFR 50.72(b)(3)(xiii)]

END OF ATTACHMENT

RADIOACTIVE MATERIAL AND EXPOSURE NOTIFICATIONS

1.0 EFFLUENT GUIDELINES FOR 10 CFR 50.72 NRC REPORTABILITY TO NRC OPERATIONS CENTER

- 1.1 Review PDEP-2, SONGS Permanently Defueled Emergency Plan Emergency Action Level Technical Bases Manual, for Emergency Event Declaration, due to high radiation.
- 1.2 If effluent release to the unrestricted area outside the Exclusion Area Boundary, then evaluate reportability:

PLANNED RELEASE?	MONITORED RELEASE?	REPORTABILITY EVALUATION
Y	Y	Covered under the ODCM and is not 10 CFR 50.72(b)(2)(iv)(A) reportable
Y	N	Covered under the ODCM and effluent monitoring procedures and is not 10 CFR 50.72(b)(2)(iv)(A) reportable
N	Y	Must be evaluated for reportability
N	N	May require Event Classification per the EIPs and is reportable as an LER, or may require a report to be generated per the Decommissioning Quality Assurance Program (DQAP).

CONTINUED ON NEXT PAGE

2.0 ONE HOUR NOTIFICATIONS TO NRC OPERATIONS CENTER

- 2.1 Any of the following 10 CFR 70.52, 10 CFR 74.11, or 10 CFR 72.74 events involving special nuclear material:
 - 2.1.1 Accidental criticality involving special nuclear material.
 - 2.1.2 Discovery of any loss, theft, or unlawful diversion incident involving special nuclear material.
 - 2.1.3 Any attempted theft, or unlawful diversion incident has been made or is believed to have been made involving special nuclear material.
- 2.2 Any of the following 10 CFR 20.2202(a) events where any incident involving by-products, source, or special nuclear material may have caused or threatens to cause:
 - 2.2.1 A total effective dose equivalent (TEDE) of 25 REM or more of radiation, or an eye dose equivalent of 75 REM or more, or a shallow-dose equivalent to the skin or extremities of 250 RADs or more of radiation to an individual.
 - 2.2.2 The release of radioactive material inside or outside of a restricted area, such that had an individual been present for 24 hours, the individual could have received an intake of five times the occupational annual limit on intake (ALI) for such materials in 10 CFR 20, Appendix B to Paragraphs 20.1001-2401.
- 2.3 Any accident which could result in the unplanned release of fission products in excess of allowable limits established by the NRC. (Ref. Facility Operating License Section 2.H)

3.0 FOUR HOUR NOTIFICATIONS TO NRC OPERATIONS CENTER

- 3.1 A loss of, theft of, or missing LICENSED MATERIAL, has occurred in such quantities **equal to or greater than** 1000 times the quantity specified in 10 CFR 20 Appendix C to Paragraphs 20.1001-2401 that it appears to the licensee that an *exposure could result* to persons in unrestricted areas. [10 CFR 20.2201(a)(1)(i)]
- 3.2 Within 30 days after the occurrence of any lost, stolen, or missing LICENSED MATERIAL becomes known, all licensed material in a quantity greater than 10 times the quantity specified in 10 CFR 20 Appendix C, that is still missing at this time. [10 CFR 20.2201(a)(1)(ii), NRC RIS 2005-21]
- 3.3 Upon subsequent recovery of LICENSED MATERIAL, initiate an AR to Licensing to generate a written report per 10 CFR 20.2201 within 30 days.

4.0 EIGHT HOUR NOTIFICATIONS TO NRC OPERATIONS CENTER

GUIDELINE

Review Emergency Plan for possible Emergency Event classification for bracketed [] steps.

- 4.1 Any event requiring the transport of a RADIOACTIVELY CONTAMINATED person to an offsite medical facility for treatment. [10 CFR 50.72(b)(3)(xii)]

5.0 TWENTY FOUR HOUR NOTIFICATIONS TO NRC OPERATIONS CENTER

- [5.1] Any 10 CFR 20.2202(b) event involving licensed material that could have caused, or threaten to cause:
- 5.1.1 A total effective dose equivalent (TEDE) of 5 REM or more of radiation; or an eye dose equivalent of 15 REM or more or a shallow-dose equivalent to the skin or extremities of 50 REM or more of radiation to an individual.
- 5.1.2 The release of radioactive material inside or outside of a restricted area, such that had an individual been present for 24 hours, the individual could have received an intake in excess of one occupational annual limit on intake (ALI) for such materials in 10 CFR 20, Appendix B to Paragraphs 20.1001-2401.

END OF ATTACHMENT

OUTSIDE AGENCY NOTIFICATIONS

GUIDELINE

Unless otherwise indicated, braced { } items indicate that the Grid Control Center (GCC) should be contacted in addition to the GOC.

1.0 WITHOUT INTENTIONAL DELAY (Reporting to the GOC or GCC) (AR 080300666)

- 1.1 Any telephone reports made to the NRC as a result of the one-hour reporting requirements listed in 10 CFR 20 or 10 CFR 50. (Ref. SOB-085)
- {1.2 } Acts of sabotage, terrorism, cyber attacks, vandalism (not including acts of burglary), or bomb threats. (Ref. SOB-012 and SOB-085)
- {1.3 } Fires affecting or threatening the station facilities. (Ref. SOB-012 and SOB-085)
- {1.4 } Accidents that result in injury or hospitalization. (Ref. SOB-012)
- {1.5 } All information involving such items as fires, explosions, accidents of any nature, property damage, Tsunami waves, floods, oil line or gas line ruptures, oil spills involving SCE facilities, or any case that is likely to cause public comment. (Ref. SOB-012, SOB-085, and/or SOB-800, SO123-XV-17.3 and/or SDS-EV1-PLN-0004)
- {1.6 } All available facts regarding a known or expected equipment hazard or if information regarding such a hazard is received from an outside source. (Ref. SOB-012 and SOB-085)
- {1.7 } Information regarding earthquakes or tremors. (Ref. SOB-012 and SOB-085)

END OF SECTION 1.0

2.0 FOUR HOUR NOTIFICATIONS TO NRC OPERATIONS CENTER

- 2.1 Any event or situation, related to the health and safety of the public or onsite personnel, or protection of the environment, for which a news release is planned or NOTIFICATION to other government agencies has been or will be made. [10 CFR 50.72(b)(2)(xi)]

2.1.1 Examples of reportable events include: (Ref. 2.1.12 and Ref. 2.1.17)

NOTES

1. "Taking", as used in this procedure, is defined as either finding a threatened or endangered species that is dead or needs human assistance to leave the OCA (Plant side), Parking Lot 2, and/or Parking Lot 3. (AR 030901543)
2. Seals and Sea Lions are not threatened or endangered species.
 - "taking" of a threatened or endangered species (See Tech. Spec. Appendix B, "Environmental Protection Plan," Section 4.1)
 - release of radioactivity contaminated tools or equipment to public areas
 - unusual or abnormal releases of radioactive effluents
 - onsite fatality
 - Shipments rejected by a recycling vendor, identified as originating at SONGS, and returned to SCE under a DOT-SP permit as a result of a radiation monitor alarm. (Request for permit is considered NOTIFICATION to other government agency) [NN 200933851]

GUIDELINE

Events that NEED NOT BE REPORTED include Notifications to other government agencies of events considered routine and having little significance relative to radiological health and safety or protection of the environment.

2.1.2 Examples of events that **NEED NOT BE REPORTED** include: (Ref. 2.1.12)

- minor deviations from sewage or chlorine effluent limits
- minor non-radioactive, onsite chemical spills
- problems with aviation warning lights
- peaceful demonstrations
- reports of exceeding limits on circulation water return temperature or differential temperature
- routine reports of effluent releases
- radiation monitoring alarms transmitted to the state (however, radioactive releases must be reported in accordance with Att. 6).

3.0 TWENTY FOUR HOUR NOTIFICATIONS TO NRC OPERATIONS CENTER

- 3.1 Any occurrence of an unusual or important event that results, or could result, in significant environmental impact (Unit 1 PDTs Section 6.15.2.b; Units 2 and 3, Appendix B, Environmental Protection Plan, Section 4.1).

CYBER SECURITY NOTIFICATIONS

1.0 ONE HOUR NOTIFICATIONS TO NRC OPERATIONS CENTER

- 1.1 Discovery of a cyber attack that adversely impacted a Critical Digital Asset (CDA).

2.0 FOUR HOUR NOTIFICATIONS TO NRC OPERATIONS CENTER

- 2.1 Discovery of a cyber attack that could have adversely impacted a CDA; or that could have compromised support systems and equipment, which if compromised, could have adversely impacted Safety, Important to Safety, Security, Emergency Preparedness (SSEP) functions.
- 2.2 Discovery of a suspected or actual cyber attack initiated by personnel with physical or electronic access to CDAs.
- 2.3 Notification of a local, State, or other Federal agency, e.g., law enforcement, FBI, etc., of an event related to SONGS cyber security program.

3.0 EIGHT HOUR NOTIFICATIONS TO NRC OPERATIONS CENTER

- 3.1 Receipt or collection of information regarding observed behavior, activities, or statements that may indicate intelligence gathering or pre-operational planning related to a cyber attack of CDAs.

END OF ATTACHMENT

DEFINITIONS

GUIDELINE

These definitions are intended for guidance only and must be applied with "good engineering judgment".

1. AHSM - Advanced Horizontal Storage Module
2. CRITICAL DIGITAL ASSET (CDA) - A digital computer, communication system, or network that is:
 - A component of a critical system (this includes assets that perform Safety, Important to Safety, Security, Emergency Preparedness (SSEP) functions; provide support to, protect, or provide a pathway to Critical Systems)

OR

 - A support system asset whose failure or compromise as the result of a cyber attack would result in an adverse impact to a SSEP Function
3. EMERGENCY NOTIFICATION SYSTEM - The Red Phone or Commercial Telephone System to NRC Operations Center.
4. ISFSI - Independent Spent Fuel Storage Installation.
5. LICENSED MATERIAL - Source material, special nuclear material, or by-product material received, possessed, used, transferred or disposed of under a general or specific license issued by the NRC. [Source: 10 CFR 20.1003]
6. MAJOR LOSS OF EMERGENCY ASSESSMENT CAPABILITY, OFFSITE RESPONSE CAPABILITY OR COMMUNICATIONS CAPABILITY - Examples of events that this criterion is intended to cover are those in which any of the following are not available:
 - a. Emergency Response Facilities (ERFs).
 - b. Emergency communications facilities and equipment including the Emergency Notification System (ENS).
 - c. Commercial telephone lines.
 - d. Plant monitors necessary for accident assessment.

[Source: Federal Register pg. 39043, Vol 48, No. 168, August 29, 1983]
7. MULTI-PURPOSE CANISTER (MPC) – MPCs are sealed spent nuclear fuel canisters which consist of a honeycombed fuel basket contained in a cylindrical canister shell which is welded to a baseplate, lid with welded port corner plates, and closure ring. The MPC provides the confinement boundary for the contained radioactive materials.
8. NATURAL PHENOMENON OR OTHER EXTERNAL CONDITION - Acts of nature (e.g., tornadoes, earthquakes, floods, etc.) and external hazards (e.g., railroad tank car explosion) where the threat or damage challenges the ability of the plant to continue to operate in a safe manner (including the orderly shutdown and maintenance of shutdown conditions). [Source: Federal Register, pg. 39041, Vol. 48, No. 168, Monday, August 29, 1983]

9. NOTIFICATION - Legally required transmission within specified time limits of event-related information to offsite agencies, such as the NRC, Corporate Headquarters, State or Local government. [Source: Regulatory Affairs]
10. NUCLEAR POWER PLANT - Nuclear Steam Supply System (NSSS), including the Reactor Coolant System and all of those systems or components necessary for transfer of heat from the Reactor Core to the ultimate heat sink. [Source: Regulatory Affairs]
11. PREPLANNED SEQUENCE - Those operations of the NSSS and its auxiliaries that are performed in accordance with a written and properly approved procedure. [Source: Regulatory Affairs]
12. PRINCIPAL SAFETY BARRIERS -
 - a. Fuel Cladding
 - b. Reactor Coolant System Pressure Boundary
 - c. Containment[Source: Regulatory Affairs]
13. RADIOACTIVELY CONTAMINATED - Radioactively contaminated clothing and/or person. If there is a potential for contamination, e.g., an initial onsite survey for radioactive contamination is required but has not been completed before transport of the person offsite for medical treatment, then NOTIFICATION is required. (Ref. 2.1.12)
[Source: Regulatory Affairs]
14. SERIOUSLY DEGRADED -
 - a. Fuel cladding failures in the Reactor or in the storage pool, that exceed expected values, or that are unique or widespread, or caused by unexpected factors, and would involve a release of significant quantities of fission products.
15. SIGNIFICANTLY HAMPERS SITE PERSONNEL IN THE PERFORMANCE OF DUTIES NECESSARY FOR THE SAFE OPERATION OF THE PLANT - Prevents or inhibits Operators, or other responsible personnel, from taking the action necessary to prevent or mitigate the consequences of any abnormal occurrence, or from performing a Tech. Spec. required activity. One way to evaluate this is to ask if one could seal the room in question (or disable the function in question) for a substantial period of time and still operate the plant safely. [Source: Regulatory Affairs]

16. UNANALYZED CONDITION - Any event or condition not within the design or licensing basis as currently docketed and approved by the NRC. [Source: Ref. 2.1.12]

GUIDELINE

Engineering judgment and experience may be used to determine whether an unanalyzed condition existed. It is not intended that this apply to minor variations in individual parameters, or to problems concerning single pieces of equipment. For example, at any time, one or more safety-related components may be out of service due to testing, maintenance or a fault that has not yet been repaired. Any trivial single failure or minor error in performing surveillance tests could produce a situation in which two or more often unrelated, safety-grade components are out-of-service. Technically, this is an unanalyzed condition. However, these events should be reported only if they involve functionally-related components or if they significantly compromise plant safety. When applying engineering judgment, and there is a doubt regarding whether to report or not, then the NRC policy is that we should make the report. [Source: Federal Register pg. 39042, Vol. 48, No. 168, Monday, August 29, 1983]

17. VERTICAL VENTILATED MODULE (VVM) – The VVM is subterranean type overpack which receives and contains the sealed MPC for interim storage at the ISFSI. The VVM supports the MPC in a vertical orientation and provide gamma and neutron shielding and also provides air flow through cooling passages to promote heat transfer from the MPC to the environs.

COMMUNICATIONS SYSTEMS REPORTABILITY WORKSHEET

1.0 Communications Failure

NOTE

Since the communications systems in this Attachment may be Critical Digital Assets, communication system failures should be evaluated per Attachment 2, Section for Notification of Cyber Security Incident Response Team (CSIRT) in addition to this Attachment.

- 1.1 If any of the following communication systems (table Section 1.4) fail, then ensure that at least one of the indicated backup systems is Operable.
 - 1.1.1 If none of the indicated backup systems are Operable, then the failure is reportable as a 8-hour notification pursuant to 10 CFR 50.72(b)(3)(xiii).
 - 1.1.2 If the Red Phone (ENS) is Inoperable, and the backup system is inoperable, then the failure is reportable as a 8-hour notification pursuant to 10 CFR 50.72(b)(3)(xiii). However, if the NRC Operations Center notifies SONGS that the Red Phone (ENS) is inoperable, then there is no need for a subsequent notification.
(Reference 2.1.12, NN 200162194)
- 1.2 For backup notifications, the Generation Operations Center (GOC) and/or Grid Control Center (GCC) can contact all offsite jurisdictions.
- 1.3 Any failure should be assessed for impact on all Units.

CONTINUED ON NEXT PAGE

1.0 **Communication Failures** (Continued)

1.4 Indicate system status in the table below:

<u>NOTES</u>	
1.	The GOC can be contacted either by PAX or the VHF/UHF Radio.
2.	Either dial out from SCE PAX telephones or direct dial from lines located in the Command Center.
3.	If the NRC Operations Center notifies the licensee that an ENS line is Inoperable, then there is no need for a subsequent licensee notification.

SYSTEM	SYSTEM OPERABILITY		BACKUP SYSTEM	BACKUP OPERABILITY	
	OPERABLE	FAILED		OPERABLE	FAILED
Emergency Notification System (ENS or RED) Phone			PAX/Direct Dial, cell phones, Satellite phones (NOTES 2 and 3)		
CR (Control Room) Satellite Telephone			PAX/Direct Dial, cell phones, Satellite phones (NOTE 2)		
Satellite Telephones			PAX/Direct Dial, cell phones, Satellite phones (NOTE 2)		

END OF SECTION

NOTIFICATION AND REPORTING OF SIGNIFICANT EVENTS DEVELOPMENTAL RESOURCES

1.0 NRC

- 1.1 IA-06-05, Subject: Updated Suspicious Flight Activity Reporting Procedures Dated December 8, 2006

2.0 Procedures

- 2.1 SO123-CI-1, Claims and Insurance Reporting Requirements for Property Damage
- 2.2 SO123-XV-HU-3, Human Performance Program
- 2.3 SO123-VIII-ADMIN-1, Emergency Preparedness Program Maintenance
- 2.4 SO123-VIII-ERO-2, Shift Manager/Emergency Director Checklist
- 2.5 SO123-IV-11.2, Reporting Safeguards Events
- 2.6 SO123-XV-17.3, Spill Contingency Plan
- 2.7 SO123-XV-104, Cyber Security Event Notifications
- 2.8 SDS-EV1-PLN-0004, Spill Contingency Plan

3.0 Operating Instructions

- 3.1 SO23-4-6, Containment of Oil and Hazardous Material Spills
- 3.2 SO23-13-2, Operation from the Alternate Command Center

4.0 Manuals

- 4.1 PDEP-2, SONGS Permanently Defueled Emergency Plan Emergency Action Level Technical Bases Manual

SUMMARY OF CHANGES
SO123-0-A7 REVISION 46

Author: Nick Blake PAX: 89408 Location: D4D

AR	Description of Change	Reviewer(s)	50.59	Page(s)
AR 0718-21791	Attachment 1 – Fixed typo. 24 hour report for UMAX violation changed to Att.3 Step 4.3.	See below	DNA	14
AR 0317-43330	Added RPA 99-0068E requirements for log entries.			11
ADMIN	Attachment 2 – removed 'END OF SECTION' at bottom of page. Incorrectly placed here.			16

Document Reviewers:	Name:
Operations	(b)(7)(C)
Cyber Security	
Approvers:	
CFDM or Designee Final Approval:	(b)(7)(C)



NRC REPORTING REQUIREMENTS AND ASSESSMENTS

Procedure Usage Requirements		Sections
Information Use	<ul style="list-style-type: none"> The performer reviews the procedure before using it to perform the task. The user may complete the task from memory. However, the user is responsible for performing the activity according to the procedure. Information use documents that contain a specific process order are performed in the given order unless otherwise specified within the document. 	ALL

Color Usage	Location
This Document Does NOT Contain Relevant Color	N/A

Level 1 – QA Program Affecting

50.59 DNA / 72.48 DNA / RX DNA

Procedure Owner

(b)(7)(C)

NRC REPORTING REQUIREMENTS AND ASSESSMENTS

TABLE OF CONTENTS

<u>Section</u>		<u>Page</u>
1.0	PURPOSE.....	3
2.0	SCOPE.....	3
3.0	RESPONSIBILITIES.....	4
4.0	PRECAUTIONS / LIMITATIONS	5
5.0	PREREQUISITES	5
6.0	PROCEDURE	6
6.1	Generating a Reportability Assessment	6
6.2	Immediate Reportability	7
6.3	SCE NRA Review of Action Requests for Reportability Issues	7
6.4	Initial Reportability Assessment	8
6.5	Technical Assessment	9
6.6	SCE NRA Review	10
6.7	SCE NRA Peer Review AND Reportability Determination	11
7.0	RETENTION / RECORDS	11
8.0	DEFINITIONS	12
9.0	REFERENCES / COMMITMENTS	13
 ATTACHMENT		
1	Reportability Assessment Screening Criteria	15
2	Reportability Assessment Template.....	17
3	Summary of Changes	19

NRC REPORTING REQUIREMENTS AND ASSESSMENTS

1.0 PURPOSE

- 1.1 To identify and assess events or conditions that may require a report to the Nuclear Regulatory Commission (NRC).
- 1.2 To provide NRC reporting requirements applicable to San Onofre Nuclear Generating Station (SONGS).
- 1.3 To provide instructions to SONGS/SONGS Decommissioning Solutions (SDS) workers relative to handling of events or conditions that are potentially REPORTABLE to the NRC.
- 1.4 To provide direction for the preparation and documentation of REPORTABILITY Assessments.

2.0 SCOPE

- 2.1 This procedure provides the process for identifying and assessing events or conditions that may be required to be reported, either by phone or written report, to the NRC with the exception of the following:
 - 2.1.1 Classifications of Emergency Events are addressed in SONGS PDEP EAL Technical Basis Manual and SO123-VIII-ERO-2. IMMEDIATE NOTIFICATION to the NRC of classified Emergency Events is performed in accordance with SO123-0-A7.
 - 2.1.2 Security and Safeguards Events should be assigned an SEL and referred to the Manager, Security. (References 10 CFR 73 and SO123-IV-11.2).
 - 2.1.3 Fitness for Duty (FFD) Events should be assigned an RPT and referred to the Manager, Security. (References 10 CFR 26 and SO123-XXIII-7.2).
 - 2.1.4 Potential deliberate violations of Site or NRC requirements should be assigned an Assignment and evaluated in accordance with SO123-XXX-3.8.
- 2.2 The SYSTEMS, STRUCTURES OR COMPONENTS (SSCs) for this procedure are those SSCs that are covered within the scope of SSCs for FUNCTIONALITY Assessments as defined in SO123-XV-52.

INFORMATION USE

3.0 **RESPONSIBILITIES**

NOTE

Following implementation of the SONGS Decommissioning Solutions (SDS) Nuclear Regulatory Affairs (NRA) program, SCE will retain responsibility for reporting requirements and assessments. References to NRA within procedure, unless specifically stated otherwise, refers to SCE NRA.

- 3.1 ALL SONGS/SDS WORKERS are responsible for immediately notifying the Shift Manager (SM) (or designee) of problems that have the potential to affect the ability of a STRUCTURE, SYSTEM OR COMPONENT (SSC) to perform its SPECIFIED SAFETY FUNCTION, or if they have reason to believe the event or condition requires reporting to the NRC.
- 3.2 The SM is responsible for identifying and making IMMEDIATE NOTIFICATIONS to the NRC in accordance with SO123-0-A7.
- 3.3 The SCE Nuclear Regulatory Affairs (NRA) Manager (or designee) is responsible for:
 - 3.3.1 Providing expert guidance and support in determining if events or conditions require reporting to the NRC.
 - 3.3.2 Ensuring reports are made to the NRC in accordance with NRC requirements.
 - 3.3.3 Establishing the process and procedural controls necessary to provide required reports to the NRC in a timely, accurate, and complete manner in accordance with NRC requirements.
- 3.4 SCE NRA Engineer/Specialist is responsible for:
 - 3.4.1 Reviewing Action Request(s) to evaluate and identify when there is potential basis for reporting to the NRC.
 - 3.4.2 Determining if events or conditions requiring IMMEDIATE NOTIFICATION to the NRC have been properly made.
 - 3.4.3 Creating a REPORTABILITY Assignment (RPT) for documenting REPORTABILITY assessments.
 - 3.4.4 Completing the initial REPORTABILITY Assessment.
 - 3.4.5 Obtaining additional supporting information from other Station Work Groups to properly assess REPORTABILITY.
 - 3.4.6 Determining REPORTABILITY.
- 3.5 SCE NRA may attend Management Review Committee (MRC) meetings to provide guidance regarding REPORTABILITY issues and assessments.
- 3.6 The MRC may initiate a REPORTABILITY Assignment in accordance with this procedure.

INFORMATION USE

- 3.7 Individuals assigned to provide additional information to SCE NRA are responsible for providing requested information in an accurate, complete, and timely manner.

4.0 **PRECAUTIONS / LIMITATIONS**

- 4.1 Some Non-Emergency IMMEDIATE NOTIFICATIONS are required to be communicated to the NRC Operations Center in as little as four hours. Therefore, IMMEDIATE NOTIFICATIONS to the NRC should **NOT** be delayed to obtain clarification of facts already known or additional analysis.
- 4.2 Communication of events or conditions that may require an IMMEDIATE NOTIFICATION to the NRC should be promptly assessed against the requirements given in SO123-0-A7, 10CFR73.77, or 10 CFR 50.72 **AND** be based on information that is readily available to Operations personnel.
- 4.3 In most cases, evaluation of potential defects and appropriate reporting of defects under 10 CFR 50.72, 10CFR50.73, or 10 CFR 73.71 satisfies SCE's obligation for evaluation, notification, and reporting under 10 CFR 21. However, IF SCE dedicated a component, THEN potential defects NOT requiring an LER may still require additional evaluation and reporting under 10 CFR 21. Notification to the vendor of the potential defect may be necessary. (Reference SO123-XXX-3.5)

5.0 **PREREQUISITES**

- 5.1 **VERIFY** this document is current by using one of the methods described in SO123-XV-HU-3.
- 5.2 **VERIFY** Level of Use requirements on the first page of this procedure.

NOTES

1. An event or condition may have more than one NRC notification or reporting requirement. When making a report to the NRC, ALL applicable Reporting Regulations should be cited.
2. Failure to properly OR completely report in and of itself may constitute a violation of NRC regulations.
3. NRC NUREG 1022 Revision 3, Event Reporting Guidelines may be referred to in order to evaluate whether an event or condition requires an IMMEDIATE NOTIFICATION or written report to the NRC.
4. Attachment 1 or NUREG-1022 may be used for the purpose of initiating a REPORTABILITY (RPT) Assignment.

6.0 PROCEDURE

6.1 Generating a Reportability Assessment

- 6.1.1 Upon becoming aware of an event or condition that may require a report to the NRC, the SONGS/SDS worker should:
 - 6.1.1.1 **PROMPTLY REPORT** the nature of the problem to the SM or the SCE NRA Manager AND PROVIDE them with as much information as is readily available about the event or condition.
 - 6.1.1.2 **WRITE** an Action Request IF one does NOT exist.
 - 6.1.1.2.1 IF any SONGS/SDS worker believes that an event or condition may be REPORTABLE to the NRC, THEN they should request SCE NRA to perform a REPORTABILITY Assessment.
- 6.1.2 Any SONGS/SDS worker, including the MRC, may initiate an RPT, however, the criteria in step 6.4.2 and Attachment 1 should be used to determine if an RPT is warranted.

INFORMATION USE

6.2 Immediate Reportability

Upon becoming aware of an event or condition that may require an IMMEDIATE NOTIFICATION to the NRC, the SM, or the SCE NRA Manager shall **EVALUATE** the event or condition, without delay and within a time period that is commensurate with the safety significance and complexity of the event or condition, to determine if an IMMEDIATE NOTIFICATION to the NRC is required in accordance with SO123-0-A7.

- 6.2.1 **IF** an IMMEDIATE NOTIFICATION is made to the NRC, **THEN CREATE** an Action Request **AND** an RPT.
- 6.2.2 The individual making the phone notification to the NRC Operations Center SHALL **FOLLOW** the guidance in SO123-0-A7, and SHALL **DOCUMENT** the reason for the IMMEDIATE NOTIFICATION, the date and the time the phone notification was made. The NRC Form 361 used to make the notification to the NRC SHALL be attached to the Action Request.

6.3 SCE NRA Review of Action Requests for Reportability Issues

SCE NRA should review Action Requests to determine when a potential REPORTABILITY issue exists.

- 6.3.1 **IF** an event or condition exists that requires an IMMEDIATE NOTIFICATION **AND** an IMMEDIATE NOTIFICATION has **NOT** been made (as documented in an RPT of the Action Request), **THEN IMMEDIATELY NOTIFY** the SM or the SCE NRA Manager **AND ASSIGN** an RPT.
- 6.3.2 **IF** a condition exists or may have existed in the past three years that either requires a written report to the NRC **OR** needs further assessment to determine whether it is REPORTABLE to the NRC, **THEN ASSIGN** an RPT.
 - 6.3.2.1 Attachment 1 should be used to screen existing or potential events or conditions that may require a report to the NRC.
 - 6.3.2.1.1 **IF ANY** of the questions in Section 1.0 of Attachment 1 are answered YES, **THEN** an RPT should be created.
- 6.3.3 **IF** any of the criteria in Section 2.0 of Attachment 1 are met, **THEN** an RPT does **NOT** need to be created.

NOTES

Only SCE NRA SHALL extend the due date, complete the final question of the RPT and close the RPT, or cancel an RPT.

CAUTION

Sections 6.4, 6.5, 6.6, and 6.7 should be completed in a timeframe that would allow an LER to be submitted within 60-days of discovery should the condition or event be determined to be REPORTABLE.

6.4 Initial Reportability Assessment

- 6.4.1 IF an event or condition exists that requires an IMMEDIATE NOTIFICATION AND an IMMEDIATE NOTIFICATION has NOT been made, THEN ENSURE an IMMEDIATE NOTIFICATION is made in accordance with SO123-0-A7 AND NOTIFY the SCE NRA Manager.
- 6.4.2 IF an RPT has been created that does NOT require an IMMEDIATE NOTIFICATION OR a written report to the NRC as determined using the criteria of Attachment 1, Section 2.0, THEN the RPT may be canceled.
 - 6.4.2.1 IF the RPT is to be canceled, THEN SCE NRA should document in the RPT the basis for canceling, AND sign and date the RPT, AND reassign it to the SCE NRA Manager or SCE Peer Reviewer.
 - 6.4.2.1.1 The SCE NRA Manager or SCE Peer Reviewer shall review AND cancel the RPT.
- 6.4.3 IF additional information is needed to determine REPORTABILITY, THEN PROCEED to Section 6.5.
- 6.4.4 IF sufficient information exists to determine that the event or condition either requires or does not require a report to the NRC, THEN PROCEED to Section 6.6.

NOTES

1. The Technical Assessment should include a level of detail commensurate with the complexity and safety significance of the reported event or condition such that a technically competent individual, who is not familiar with the event or condition, would be able to understand the basis for the responses to the questions.
2. RIS 2005-20 provides a discussion of Manual Actions that can be credited for FUNCTIONALITY.

6.5 Technical Assessment

- 6.5.1 IF SCE NRA determines sufficient documentation is available in the Action Request text, or other completed assignments, THEN the need for additional Technical Assessment may be waived by SCE NRA, as indicated in either Section 1 or Section 3 of Attachment 2.
- 6.5.1.1 Administrative issues, such as a missed surveillance or failure to comply with the conditions of an LCO, do NOT require a Technical Assessment.
- 6.5.2 IF additional information is needed to assess REPORTABILITY, THEN SCE NRA determines the type and level of detail of the additional information AND assigns the RPT for Technical Assessment to the appropriate Station Work Group or individual.
- 6.5.2.1 IF the degraded condition adversely impacts the FUNCTIONALITY of an SSC; THEN the applicable questions in Attachment 2 should be answered as directed by SCE NRA.
- 6.5.2.2 OTHERWISE, SCE NRA is to provide direction as to the type and level of detail of information that is needed to complete the Technical Assessment.
- 6.5.2.3 The Technical Assessment shall include an evaluation for 10 CFR 21 generic issues. For potential defects, **CREATE** a separate Assignment for Part 21 assessment.
- 6.5.2.4 The individual assigned the Technical Assessment should document the requested information on the RPT.
- 6.5.2.5 The individual completing the Technical Assessment should document their name and date, THEN have the information SCE Peer reviewed.
- 6.5.2.6 The SCE Peer reviewer should document their comments, if any, and their name and date on the RPT, and reassign the task to SCE NRA.

NOTES

1. NUREG-1022 contains Licensee Event Report (LER) content requirements and preparation guidance for completion of Form 366, which is the template for preparing Licensee Event Reports. LERs are prepared in accordance with SO123-XXX-6.1.
2. SO123-XXX-3.5 contains the requirements for investigating and preparing reports in accordance with 10 CFR 21.

6.6 SCE NRA Review

- 6.6.1 IF a Technical Assessment has been completed, THEN SCE NRA should review the responses to ensure the requested information has been adequately addressed.
- 6.6.1.1 IF the information provided is not sufficient to determine REPORTABILITY, THEN SCE NRA should:
- 6.6.1.1.1 **CONTACT** the individual who provided the information to discuss the information needed, AND
- 6.6.1.1.2 **REASSIGN** the RPT to the individual who provided the Technical Assignment.
- 6.6.2 SCE NRA should determine IF the event or condition IS or IS NOT REPORTABLE;
- 6.6.2.1 **DOCUMENT** the basis for reporting or not reporting the event or condition on the RPT,
- 6.6.2.1.1 **SPECIFY** applicable regulations that were reviewed,
- 6.6.2.1.2 IF the degraded condition has potential generic implications pursuant to 10 CFR 21, THEN CREATE an Assignment for a Part 21 assessment. (Reference SO123-XXX-3.5).
- 6.6.2.1.3 IF additional documentation is required to complete the SCE NRA Review, THEN the due date of the RPT may be extended while the additional documentation is being obtained.
- 6.6.2.2 IF the event or condition is determined to be REPORTABLE, THEN ENSURE the appropriate level of cause evaluation is initiated. (Reference SO123-XV-50)
- 6.6.2.3 IF the event or condition requires a written report to the NRC, THEN ASSIGN an Assignment to track submittal of the written report to the NRC specifying a submittal due date of 60 days from the DISCOVERY DATE.
- 6.6.2.4 **SIGN** and **DATE** the RPT.

INFORMATION USE

6.7 SCE NRA Peer Review AND Reportability Determination

6.7.1 SCE NRA shall review the completed Review.

6.7.1.1 IF in agreement with the conclusion, THEN:

6.7.1.1.1 Sign and date the RPT, AND

6.7.1.1.2 **ENSURE** all applicable assignments (e.g., RCE/ACE/DCE, or NCR) are reviewed, AND

6.7.1.1.3 **CLOSE** the RPT.

6.7.1.2 IF NOT in agreement with the conclusion, THEN NOTIFY person preparing conclusion.

7.0 RETENTION / RECORDS

7.1 Transmit records in accordance with SO123-XXX-6.1.

8.0 DEFINITIONS

<u>COMMITMENT:</u>	Refer to SO123-XV-39, Definitions.
<u>CRITICAL DIGITAL ASSET (CDA)</u>	<p>A digital computer, communication system, or network that is:</p> <ul style="list-style-type: none">• a component of a critical system [this includes assets that perform Safety, Important to Safety, Security, Emergency Preparedness (SSEP) functions; provide support, protect, or provide a pathway to Critical Systems];OR• a support system asset whose failure or compromise as the result of a cyberattack would result in an adverse impact to an SSEP function.
<u>DISCOVERY DATE:</u>	Generally the date when the event was discovered rather than the date when an evaluation of the event is completed. Refer to SO123-XV-52.
<u>ENGINEERING JUDGMENT:</u>	Refer to SO123-XV-52, Definitions.
<u>ENS:</u>	Emergency Notification System (aka "Red Phone")
<u>FUNCTIONAL / FUNCTIONALITY:</u>	Refer to SO123-XV-52, Definitions.
<u>IMMEDIATE NOTIFICATION:</u>	Verbal reports that are required to be made to the NRC Operations Center within 24 hours or less in accordance with the Code of Federal Regulations.
<u>NRC:</u>	Nuclear Regulatory Commission
<u>REASONABLE EXPECTATION:</u>	Refer to SO123-XV-52, Definitions.
<u>REPORTABILITY / REPORTABLE:</u>	Conditions or events that require a phone or written report to the NRC.
<u>SPECIFIED FUNCTION:</u>	Refer to SO123-XV-52, Definitions
<u>SPECIFIED SAFETY FUNCTION:</u>	Refer to SO123-XV-52, Definitions
<u>STRUCTURE, SYSTEM OR COMPONENT (SSC):</u>	Refer to SO123-XV-52, Definitions
<u>UNANALYZED CONDITION:</u>	Refer to SO123-XV-52, Definitions
<u>UFSAR:</u>	Updated Final Safety Analysis Report.

INFORMATION USE

9.0 **REFERENCES / COMMITMENTS**

9.1 **Implementing Reference**

9.1.1 Procedures

- 9.1.1.1 SO123-0-A7, Notification and Reporting of Significant Events
- 9.1.1.2 SO123-XV-50, Corrective Action Program
- 9.1.1.3 SO123-XV-52, Operability Determinations and Functionality Assessments
- 9.1.1.4 SO123-XXX-3.5, Evaluation and Reporting of Problems to the NRC Pursuant to 10CFR21
- 9.1.1.5 SO123-XXX-6.1, Control of NRC Correspondence
- 9.1.1.6 SO123-XV-39, Regulatory Commitment Tracking (RCT) Program

9.1.2 Obligations

- 9.1.2.1 SONGS Units 2 & 3, Operating Licenses
 - 9.1.2.2 Technical Specifications for the Independent Spent Fuel Storage Installation (ISFSI)
- #### 9.1.3 NRC Guidance/Form
- 9.1.3.1 NUREG-1022, Event Reporting Guidelines
 - 9.1.3.2 Form 361, Event Notification Worksheet
 - 9.1.3.3 Form 366, Licensee Event Report (LER) Worksheet

9.2 **Developmental References**

9.2.1 Commitments

- 9.2.1.1 SONGS Permanently Defueled Emergency Plan, Volume 2, *EAL Technical Basis Manual*

9.2.2 Corrective Actions to Prevent Recurrence

- 9.2.2.1 None

9.2.3 Procedures

- 9.2.3.1 SO123-IV-11.2, Reporting Safeguards Events
- 9.2.3.2 SO123-VIII-ERO-2, Shift Manager / Emergency Director Checklist
- 9.2.3.3 SO123-XXIII-7.2, Fitness For Duty Program Requirements for NRC Reporting, Inspections and Audits and Records Retention

INFORMATION USE

- 9.2.3.4 SO123-XXX-3.8, Potential Deliberate Noncompliance Evaluation
- 9.2.3.5 SO123-XV-104, Cyber Security Event Notification
- 9.2.4 Federal Regulations
 - 9.2.4.1 10 CFR 26, Fitness for Duty Programs
 - 9.2.4.2 10 CFR 21, Reporting of Defects and Noncompliance
 - 9.2.4.3 10 CFR 73, Physical Protection of Plants and Materials
 - 9.2.4.4 10 CFR 73.77, Cyber Security Event Notification
- 9.2.5 NRC Guidance
 - 9.2.5.1 RIS 2005-20: Revision to Guidance Formerly Contained in NRC Generic Letter 91-18, "Information to Licensees Regarding Two NRC Inspection manual Sections on Resolution of Degraded and Nonconforming Conditions and on Operability," dated September 26, 2005
 - 9.2.5.2 NUREG -1460, Guide to NRC Reporting and Recordkeeping Requirements

REPORTABILITY ASSESSMENT SCREENING CRITERIA

SECTION 1.0

IF ANY of the questions below is answered YES, THEN an RPT Assignment should be initiated.

EP Questions

- Is an emergency classification required?
- Is ENS non-FUNCTIONAL?
- Is an ERF non-FUNCTIONAL?

Radiation-Related Questions

- Has an unmonitored or unplanned release of radioactivity occurred?
- Has a radioactive source been lost or damaged?
- Has a transportation accident occurred that involves radioactive material?
- Is a contaminated injured person going to be transported offsite?
- Has an individual received a dose in excess of regulatory limits?

External Condition Questions

- Is a press release about the condition or event planned?
- Has a government agency been informed about the condition?
- Has a protected species been injured or killed?
- Has there been an external event that posed an actual threat to the plant or significantly hampered personnel in the performance of duties necessary for safe operation of the plant?

Technical Specification Questions

- Has a Technical Specification Allowed Outage Time been exceeded?
- Has a required surveillance been missed or performed late?
- Has a deviation from Technical Specification occurred?

Safety Function or UNANALYZED CONDITION Questions

- Has equipment become unknowingly non-FUNCTIONAL?
- Has equipment non-FUNCTIONALITY resulted in a loss of safety function?
- Has a deficiency been identified in one SSC that could similarly impact other SSCs?
- Has a calculational error been identified that could impact FUNCTIONALITY, or the ability of equipment to perform its safety function?

Equipment Actuation Questions

- Has a valid unplanned actuation of any of the following systems occurred?
 - Emergency Diesel Generators

Potential Cyber Attack Questions

- Has a cyberattack affected a CRITICAL DIGITAL ASSET?
- Has a cyberattack been determined to be of malicious intent?

REPORTABILITY ASSESSMENT SCREENING CRITERIA

SECTION 2.0

IF any of the questions below are answered YES, THEN an RPT Assignment does NOT need to be created.

1.0 For equipment related events or conditions, an RPT task may be canceled IF ANY of the following apply:

- 1.1. It is NOT an equipment deficiency;
- 1.2. It is NOT an SSC;
- 1.3. The equipment deficiency does NOT affect the safety function of the SSC, AND SCE NRA determines the apparent Degraded/Non-Conforming condition is NOT REPORTABLE.

2.0 For non-equipment related events or conditions, an RPT may be canceled IF ALL of the following apply:

- 2.1. It does NOT represent a significant degradation in the Emergency Plan OR an Emergency Response Facility,
- 2.2. It is NOT an unmonitored radioactive release,
- 2.3. It is NOT a radioactive release above regulatory limits,
- 2.4. It does NOT involve a threatened, endangered, or protected species, AND
- 2.5. It does NOT involve a special reporting requirement given in the Operating Licenses OR the Technical Specifications for the ISFSI.

3.0 IF an RPT is covered under another Action Request, THEN it may be cancelled.

REPORTABILITY ASSESSMENT TEMPLATE (typical)

NOTE

1. ENGINEERING JUDGMENT may be used to answer questions. However, the basis for the judgment needs to be documented to validate the judgment.
2. For the purposes of determining REPORTABILITY, it is only necessary for the individual responding to these questions to identify a single occurrence within the previous three years where the SPECIFIED (SAFETY) FUNCTION was incapable of being fulfilled (i.e., both trains of redundant systems were NON-FUNCTIONAL).

SECTION 1 - Description of Condition

[Provide a description of the condition or event that is being evaluated for REPORTABILITY.]

SECTION 2 - Technical Assessment

1. Describe the condition being evaluated for REPORTABILITY:
2. Would the SSC have been able to fulfill all its intended safety function(s) as defined in the UFSAR (reference specific sections) since the failure (FUNCTIONAL)? Consider mission time, and the status of other equipment. IF yes, why?
3. IF the conclusion of step 2 is Yes, THEN mark steps 4, 5, and 6 as "Not Applicable." Document task performance/peer check, and assign to SCE NRA for completion of SECTION 3. IF the conclusion of step 2 is No, THEN COMPLETE steps 4, 5, and 6.
4. When did the SSC fail or first become degraded (break, code not met, out of SR range, etc.)? IF the specific time of failure is not known, THEN is there any compelling evidence of prior failure?
5. What was the apparent cause of the failure or degraded condition (use ENGINEERING JUDGMENT to determine, but also describe the basis for your judgment)?
6. Did the failure or failure mode affect or potentially affect another SSC or the other unit?
7. [Additional Questions as indicated by SCE NRA.]

PREPARED BY: _____ Date _____

SCE Peer Reviewer Comments: _____

SCE Peer Reviewer: _____ Date _____

REPORTABILITY ASSESSMENT TEMPLATE (typical)

AFTER the SCE peer review is complete **THEN** assign to SCE NRA for completion of SECTION 3. |

SECTION 3 - SCE NRA Peer Review |

Provide a declaration of whether the condition is REPORTABLE or Not REPORTABLE and provide a basis for the conclusion.

PREPARED BY: _____ **Date** _____

SCE Peer Reviewer Comments: |

SCE Peer Reviewer: _____ **Date** _____ |

SUMMARY OF CHANGES

Author: M Morgan

AR, Order, or Other Action	Description of Change	Reviewer	Step, Section, Attachment or Page
0617-98393	Update to support SDS Transition: provide a distinction of SCE NRA and other.	Owner Requestor	Throughout

Reviewer Title	Reviewer Name:
Owner/Change Requestor	See CFDM designee (below)
NRA	(b)(7)(C)
Approvers:	
CFDM / Designee Final Approval:	(b)(7)(C)



SCE/NRC Teleconference
October 9, 2018 1100-1200
626-543-6758 Conference ID (b)(6)

SAN ONOFRE NUCLEAR GENERATING STATION

Purpose of Meeting & Expected Outcome(s):

- **Keep Ongoing Communications with NRC Current**

AGENDA

Time	Topic	Who	Method	Expected Outcome
1000-1005	Purpose of the call	(b)(7)(C)	N/A	✓ Ensure alignment
1005-1015	Outstanding Items <ul style="list-style-type: none"> Open issues from inspection Open issues from initial document request 		Review List	✓ Confirm expected actions by SCE
1015-1025	Provide Status <ul style="list-style-type: none"> Cause Evaluations Procedure Re-writes Training and Qualification status Performance Runs 		Discuss	✓ Ensure common understanding ✓ Allow NRC to plan necessary activities
1025-1050	Spotlight issues <ul style="list-style-type: none"> Calculation of MPC drop Canister/VVM condition Analysis/Inspection of affected canister Equipment changes for load monitoring Analysis of Fuel Damage Holtec accident analysis updates 		Discuss	✓ Provide updates on progress
1050-1055	Re-start plan <ul style="list-style-type: none"> Cause Evaluations/CAPRs Performance Runs Next NRC site visit NRC Public meeting 		Discuss	✓ Ensure common understanding ✓ Allow NRC to plan necessary activities
1050-1055	Closing Remarks	All	-	✓ Identify Action Items

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



SCE/NRC Teleconference
October 15, 2018 1000-1100
626-543-6758 Conference ID (b)(6)

SAN ONOFRE NUCLEAR GENERATING STATION

Purpose of Meeting & Expected Outcome(s):

- **Keep Ongoing Communications with NRC Current**

AGENDA

Time	Topic	Who	Method	Expected Outcome
1000-1005	Purpose of the call	(b)(7)(C)	N/A	✓ Ensure alignment
1005-1015	Outstanding Items <ul style="list-style-type: none"> • Open issues from inspection • Open issues from initial document request 		Review List	✓ Confirm expected actions by SCE
1015-1025	Provide Status <ul style="list-style-type: none"> • Cause Evaluations • Procedure Re-writes • Training and Qualification status • Performance Runs 		Discuss	<ul style="list-style-type: none"> ✓ Ensure common understanding ✓ Allow NRC to plan necessary activities
1025-1050	Spotlight issues <ul style="list-style-type: none"> • Calculation of MPC drop • Canister/VVM condition • Analysis/Inspection of affected canister • Equipment changes for load monitoring • Analysis of Fuel Damage • Holtec accident analysis updates 		Discuss	✓ Provide updates on progress
1050-1055	Re-start plan <ul style="list-style-type: none"> • Cause Evaluations/CAPRs • Performance Runs • Next NRC site visit • NRC Public meeting 		Discuss	<ul style="list-style-type: none"> ✓ Ensure common understanding ✓ Allow NRC to plan necessary activities
1050-1055	Closing Remarks	All	-	✓ Identify Action Items

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



SCE/NRC Teleconference
October 22, 2018 1000-1100
626-543-6758 Conference ID (b)(6)

SAN ONOFRE NUCLEAR GENERATING STATION

Purpose of Meeting & Expected Outcome(s):

- **Keep Ongoing Communications with NRC Current**

AGENDA

Time	Topic	Who	Method	Expected Outcome
1000-1005	Purpose of the call	(b)(7)(C)	N/A	✓ Ensure alignment
1005-1015	Outstanding Items <ul style="list-style-type: none"> • Open issues from inspection • Open issues from initial document request 		Review List	✓ Confirm expected actions by SCE
1015-1025	Provide Status <ul style="list-style-type: none"> • Procedure Re-writes • Training and Qualification status • Performance Runs 		Discuss	<ul style="list-style-type: none"> ✓ Ensure common understanding ✓ Allow NRC to plan necessary activities
1025-1050	Spotlight issues <ul style="list-style-type: none"> • Canister/VVM condition • Analysis/Inspection of affected canister • Equipment changes for load monitoring • Analysis of Fuel Damage • Holtec accident analysis updates 		Discuss	✓ Provide updates on progress
1050-1055	Re-start plan <ul style="list-style-type: none"> • Re-start criteria • Performance Runs • Next NRC site visit • NRC Public meeting 		Discuss	<ul style="list-style-type: none"> ✓ Ensure common understanding ✓ Allow NRC to plan necessary activities
1050-1055	Closing Remarks	All	-	✓ Identify Action Items

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



SCE/NRC Teleconference
September 24, 2018 1000-1100
626-543-6758 Conference ID (b)(6)

SAN ONOFRE NUCLEAR GENERATING STATION

Purpose of Meeting & Expected Outcome(s):

- Keep Ongoing Communications with NRC Current
- Status of Regulatory Submittals Under Review or Soon to be Submitted
- Issue Identification (Generally to be Addressed in Separate Discussions)
- Meeting Coordination

AGENDA

Time	Topic	Who	Method	Expected Outcome
1000-1005	Purpose of the call	(b)(7)(C)	N/A	✓ Ensure alignment
1005-1015	Outstanding Items <ul style="list-style-type: none"> • Open issues from inspection • Open issues from initial document request 		Review List	✓ Confirm expected actions by SCE
1015-1025	Provide Status <ul style="list-style-type: none"> • Cause Evaluations • Procedure Re-writes • Training and Qualification status • Performance Runs 		Discuss	<ul style="list-style-type: none"> ✓ Ensure common understanding ✓ Allow NRC to plan necessary activities
1025-1050	Spotlight issues <ul style="list-style-type: none"> • Calculation of MPC drop • Canister/VVM condition • Analysis/Inspection of affected canister • Equipment changes for load monitoring • Analysis of Fuel Damage • Holtec accident analysis updates 		Discuss	✓ Provide updates on progress
1050-1055	Re-start plan <ul style="list-style-type: none"> • Cause Evaluations/CAPRs • Performance Runs • Next NRC site visit • NRC Public meeting 		Discuss	<ul style="list-style-type: none"> ✓ Ensure common understanding ✓ Allow NRC to plan necessary activities
1050-1055	Closing Remarks	All	-	✓ Identify Action Items

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



SCE/NRC Teleconference
October 1, 2018 1000-1100
626-543-6758 Conference ID (b)(6)

SAN ONOFRE NUCLEAR GENERATING STATION

Purpose of Meeting & Expected Outcome(s):

- **Keep Ongoing Communications with NRC Current**

AGENDA

Time	Topic	Who	Method	Expected Outcome
1000-1005	Purpose of the call	(b)(7)(C)	N/A	✓ Ensure alignment
1005-1015	Outstanding Items <ul style="list-style-type: none"> • Open issues from inspection • Open issues from initial document request 		Review List	✓ Confirm expected actions by SCE
1015-1025	Provide Status <ul style="list-style-type: none"> • Cause Evaluations • Procedure Re-writes • Training and Qualification status • Performance Runs 		Discuss	<ul style="list-style-type: none"> ✓ Ensure common understanding ✓ Allow NRC to plan necessary activities
1025-1050	Spotlight issues <ul style="list-style-type: none"> • Calculation of MPC drop • Canister/VVM condition • Analysis/Inspection of affected canister • Equipment changes for load monitoring • Analysis of Fuel Damage • Holtec accident analysis updates 		Discuss	✓ Provide updates on progress
1050-1055	Re-start plan <ul style="list-style-type: none"> • Cause Evaluations/CAPRs • Performance Runs • Next NRC site visit • NRC Public meeting 		Discuss	<ul style="list-style-type: none"> ✓ Ensure common understanding ✓ Allow NRC to plan necessary activities
1050-1055	Closing Remarks	All	-	✓ Identify Action Items

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

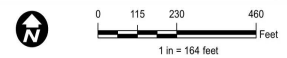


SONGS

2015 Aerial Flight

 SONGS Plant Area Easement

SAN ONOFRE
NUCLEAR GENERATING STATION
Units 2 & 3
SONGS EASEMENT BOUNDARY
Figure 1.2-1



Date: 6/8/2016
File Name: Flight20151201_24x36.mxd
Version #: 02

Features depicted herein are planning level accuracy, and intended for informational purposes only. Distances and locations may be distorted at this scale. Always consult with the proper legal documents or agencies regarding such features. Real Properties Department.

Thomas Bros. Maps is a registered trademark of Rand McNally & Company. Reproduced with permission granted by Rand McNally & Company. © Rand McNally & Company. All rights reserved.

Service Layer Credits: © 2016 Microsoft Corporation
Content may not reflect National Geographic's current map policy. Sources: National Geographic, Esri, DeLorme, HERE, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, increment P Corp.

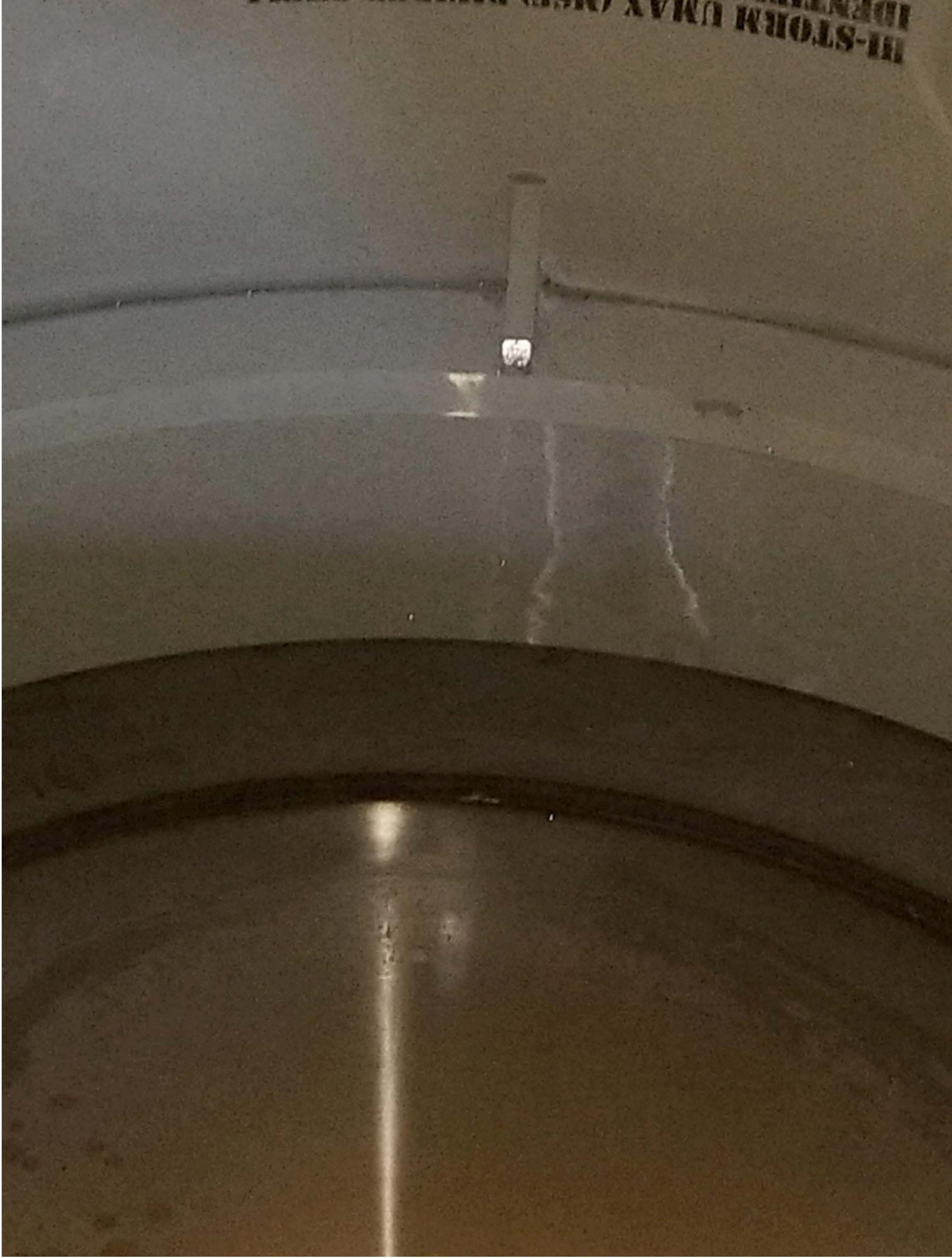


M-STORM UMAX (MSE) DIVIDER SHEET
IDENTIFICATION NO. 0100
WEIGHT: 15,550 LBS.

REPT. NO. 11-25-11-241
SPN. ON MDS
11-25-11-241

HI-STORM (MAX USE) DIVIDER SHEET.
IDENTIFICATION NO. 0100
WEIGHT: 15.550 LBS.



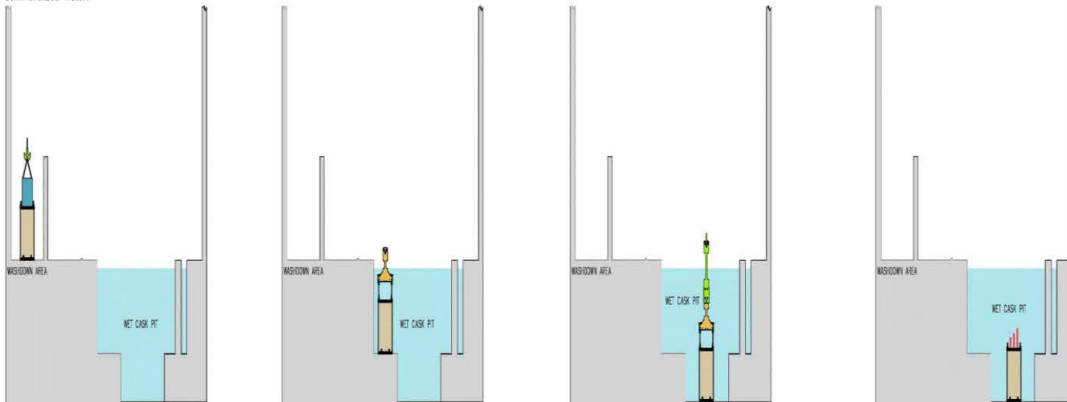


III-STORM UMAX (MAY 1970) K10LS-III

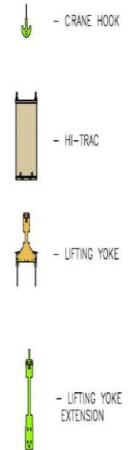
SONGS DRY CASK STORAGE GENERAL SEQUENCE OF OPERATIONS: Defuel a Spent Fuel Pool Using the HI-STORM UMAX System

Loading HI-TRAC into Spent Fuel Pool Sequence

1. HI-TRAC is set by lift yoke in designated area for inspection.
2. MPC is inserted into HI-TRAC by overhead crane.
3. MPC is filled with borated water and annulus is then filled with demineralized water.
4. MPC and HI-TRAC are lowered onto upper shelf in Spent Fuel Pool by lift yoke
5. Lift Yoke Extension is attached.
6. MPC and HI-TRAC are lowered onto lower shelf in Spent Fuel Pool using Lift Yoke and Lift Yoke Extension.
7. Fuel Assemblies are loaded from Spent Fuel Pools into MPC.
8. Visual verification of assembly identification is performed.

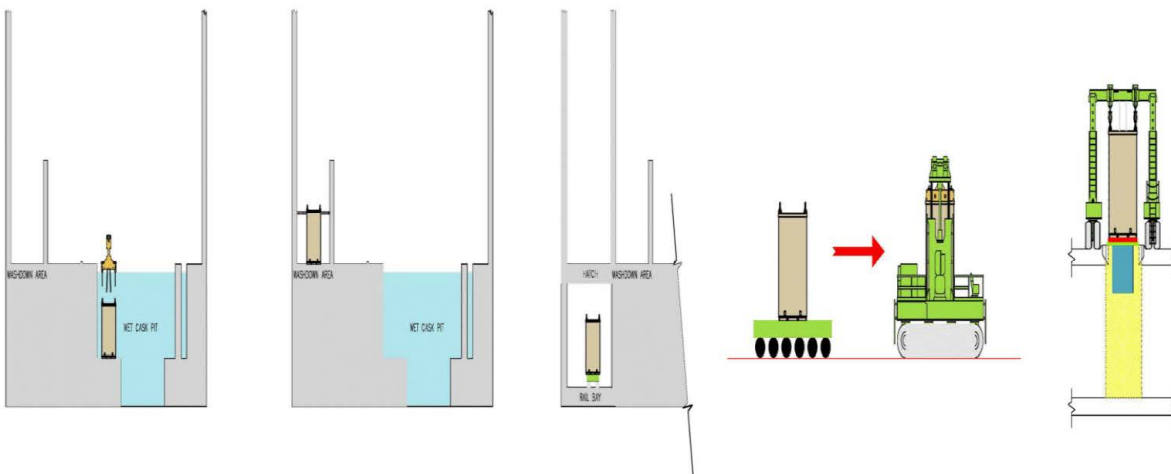


LEGEND



Unloading HI-TRAC from Spent Fuel Pool & Transfer to ISFSI Pad Sequence

9. MPC and HI-TRAC are raised to upper shelf of Spent Fuel Pool using Lift Yoke & Lift Yoke Extension
10. Drain line is installed into MPC lid.
11. MPC lid and drain line are installed into MPC.
12. HI-TRAC raised to the cask washdown area using Lift Yoke.
13. HI-TRAC is decontaminated with demineralized water.
14. MPC lid is seal welded to shell, and MPC hydro and leak test is performed.
15. Water in MPC is displaced and dried with Forced Helium Dehydrator (FHD).
16. MPC is backfilled with Helium.
17. MPC vent and drain port cover platens and closure ring are welded.
18. MPC Lift Cleats are installed on MPC lid.
19. HI-TRAC is lowered through the Hatch onto Transporter with lift yoke.
20. HI-TRAC is bolted down to Transporter.
21. HI-TRAC is taken to the transfer pad via Transporter.
22. HI-TRAC is removed from the Transporter via VCT and carried to ISFSI pad.
23. Mating device and adaptor are bolted to the CEC flange.
24. HI-TRAC is removed from Transporter with VCT and carried to ISFSI pad.
25. HI-TRAC bolted to the Mating Device.
26. HI-TRAC Pool lid is removed and MPC lowered into CEC.
27. HI-TRAC and Mating Device and adaptor removed. (HI-TRAC back to the transporter, mating device and adaptor to the next CEC location).
28. RTD's are installed.



FTO RESTART CHECKLIST

Item #	Activity	Owner	Verified by	Ind Verified By
HOLTEC ACTIVITIES				
	RCE approved by MRC			
	Holtec Procedure revisions issued <ul style="list-style-type: none"> • HSP-34, Training of Subcontracted Field Service Personnel (CA-5) • HPP-2464-100, MPC Pre-Operation Inspection (CA-10) • HPP-2464-200, MPC Loading (CA-10) • HPP-2464-300, MPC Sealing (CA-10) • HPP-2464-400, MPC Transfer at SONGS (CA-9, CA-10) • HPP-2464-500, MPC Unloading (CA-10) • HPP-2464-600, Responding to Abnormal Conditions (CA-10) • HPP-2464-008, Rigging Manual (CA-11) 			
	Corrective Actions from RCE <ul style="list-style-type: none"> • Lessons Learned review (CA-4) • Training on updated procedures (CA-6) • Classroom training for CLS, Riggers, VCT operator (CA-7) • Incorporate engineering features (CA-12) • Scripted Pre-briefs (CA-13) • JHA revisions (CA-14) • Communications Protocols (CA-15) • OE Incorporation process (CA-17) • SCWE Training (CA-21) 			
	Holtec ALARA Plan revision approved <ul style="list-style-type: none"> • Revise RP ALARA Work Plans (CA-18) • RWP updated • ALARA committee approval 			
	Holtec training <ul style="list-style-type: none"> • Qualification Matrix • Training materials developed • Training delivered • Safety gap training • SCWE training • Field practice • Evaluations 			
	Engineering Controls (CA-12) <ul style="list-style-type: none"> • Complimentary load monitoring • Cameras 			

	<ul style="list-style-type: none"> • Tell Tale • 			
	Equipment inspections up to date <ul style="list-style-type: none"> • Cask Crane • VCT • HIPOPT • JLGs • Rigging Devices 			
	Full staffing in place for Holtec <ul style="list-style-type: none"> • Trained and qualified personnel • PA Access Badging • Shift Schedules 			

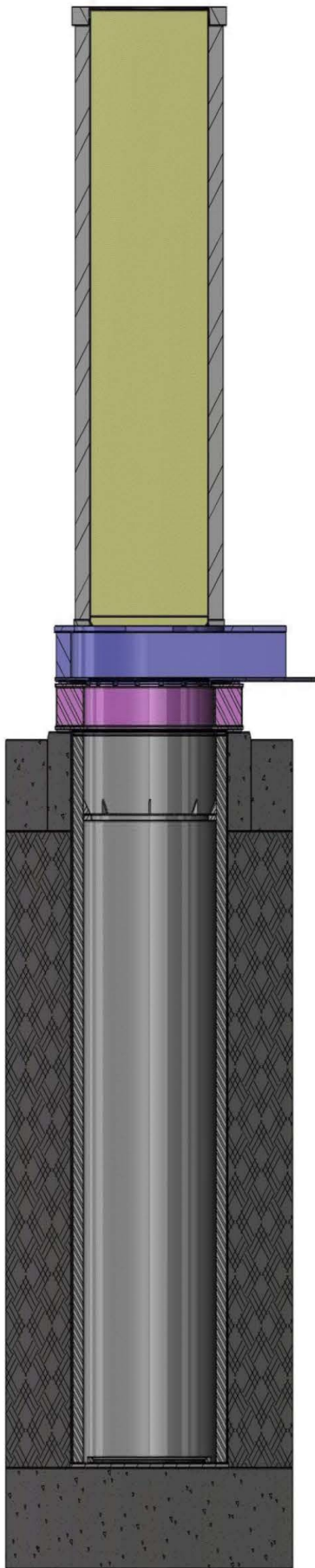
DA OVERSIGHT ACTIVITIES				
	ACE approved by MRC			
	Corrective Actions from ACE to demonstrate Oversight capabilities <ul style="list-style-type: none"> • Perform final practice run (INA-10) • Monitor use of Load Cell (INA-14) • Review Holtec Procedures 100 through 600 (INA-01) • Establish periodic oversight peer observations (INA-05) • Develop task specific oversight guides (INA-02) • Review Life Cycle Matrix (INA-03) • Develop Risk Matrix (INA-07) • Holtec implements first practice run (INA-09) • Develop and Train Oversight on performance expectations from Holtec (INA-17) • Training on Oversight Process and Fundamentals (INA-25) 			
	DA Procedures/Guidelines/Policy revisions issued <ul style="list-style-type: none"> • Develop ISFSI Oversight PTP Training Matrix • Develop Oversight Experience Matrix • Develop headset policy • Develop DA Observation Program for ISFSI Managers 			
	DA Oversight training <ul style="list-style-type: none"> • Training materials developed • Training delivered • Field practice 			
	Full staffing in place for DA <ul style="list-style-type: none"> • Trained and qualified personnel • Experience levels established • Shift Schedules set 			

DA ENGINEERING ACTIVITIES				
	DA Technical reviews <ul style="list-style-type: none"> • MPC Drop analysis • Sling Impact Loading analysis • Point Loading of Divider Shell analysis • MPC/CEC Potential damage analysis 			

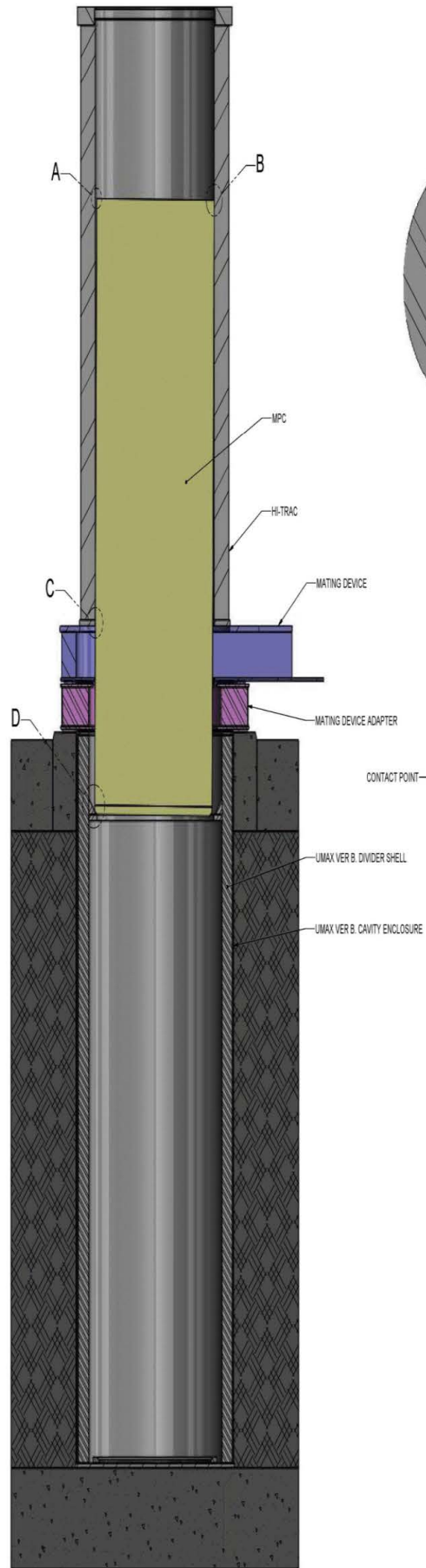
DA CAP ACTIVITIES				
	CAP closure reviews (FTO restraint items) <ul style="list-style-type: none"> • FCRs / QIs • ARs 			

SENIOR MANAGEMENT ACTIVITIES				
	CEP briefing/meeting			
	Readiness Review meeting with no restraints			
	NRC Dry Run activities			
	NRC briefing prior to restart FTO			
	EOB meeting and approval to restart FTO			
	INMG meeting and approval to restart FTO			
	Site CNO/VP approval to restart FTO			

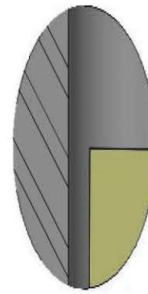




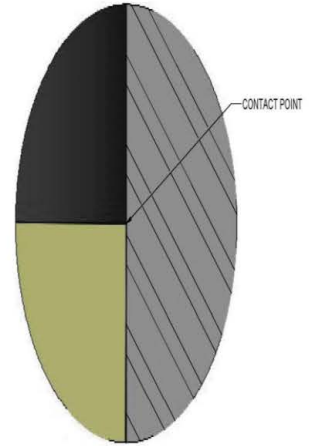
ELEVATION SECTION VIEW
MPC IN VERTICAL POSITION



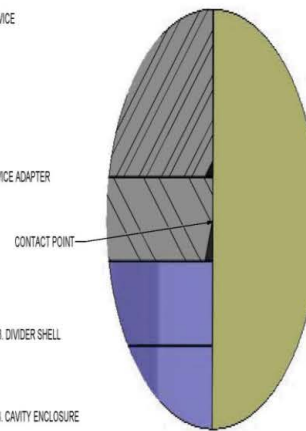
ELEVATION SECTION VIEW
MPC IN TILTED SCENARIO



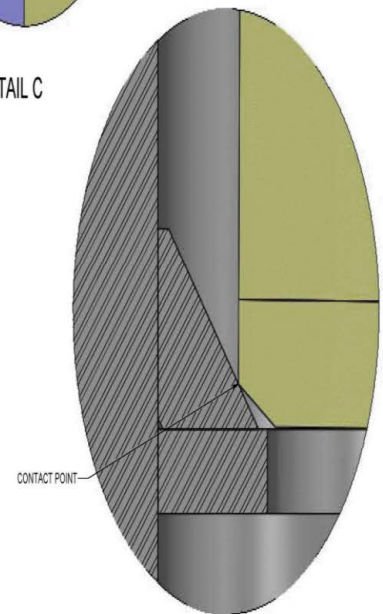
DETAIL A



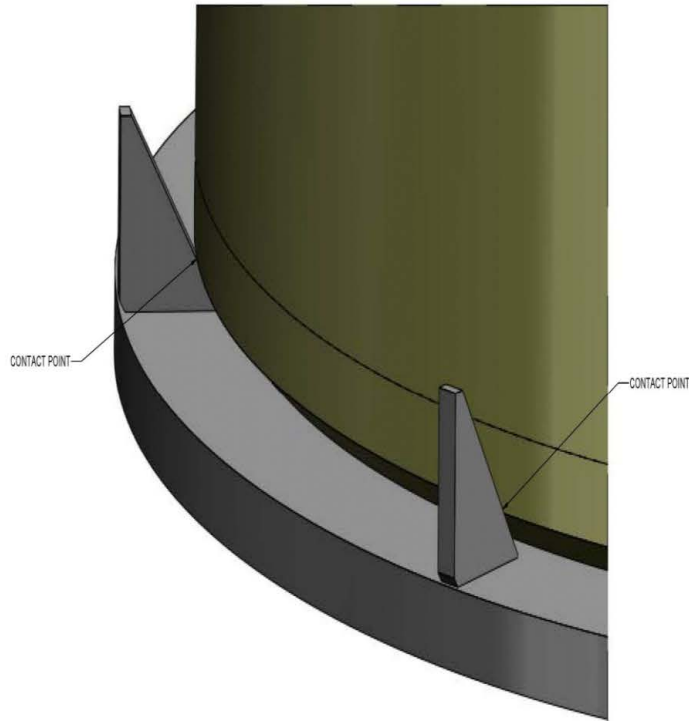
DETAIL B



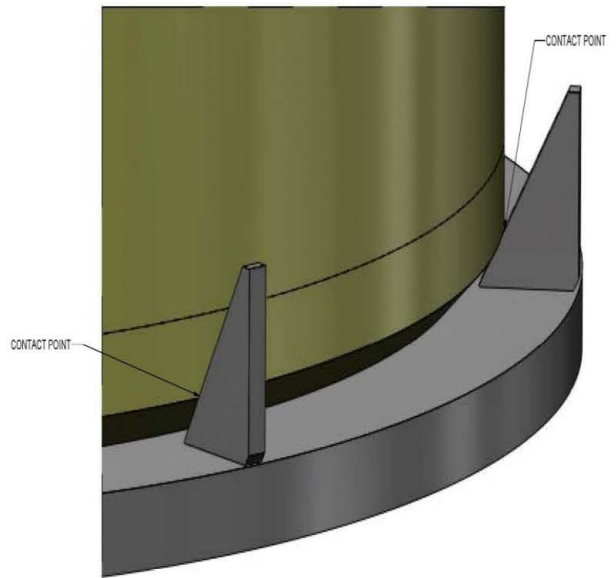
DETAIL C



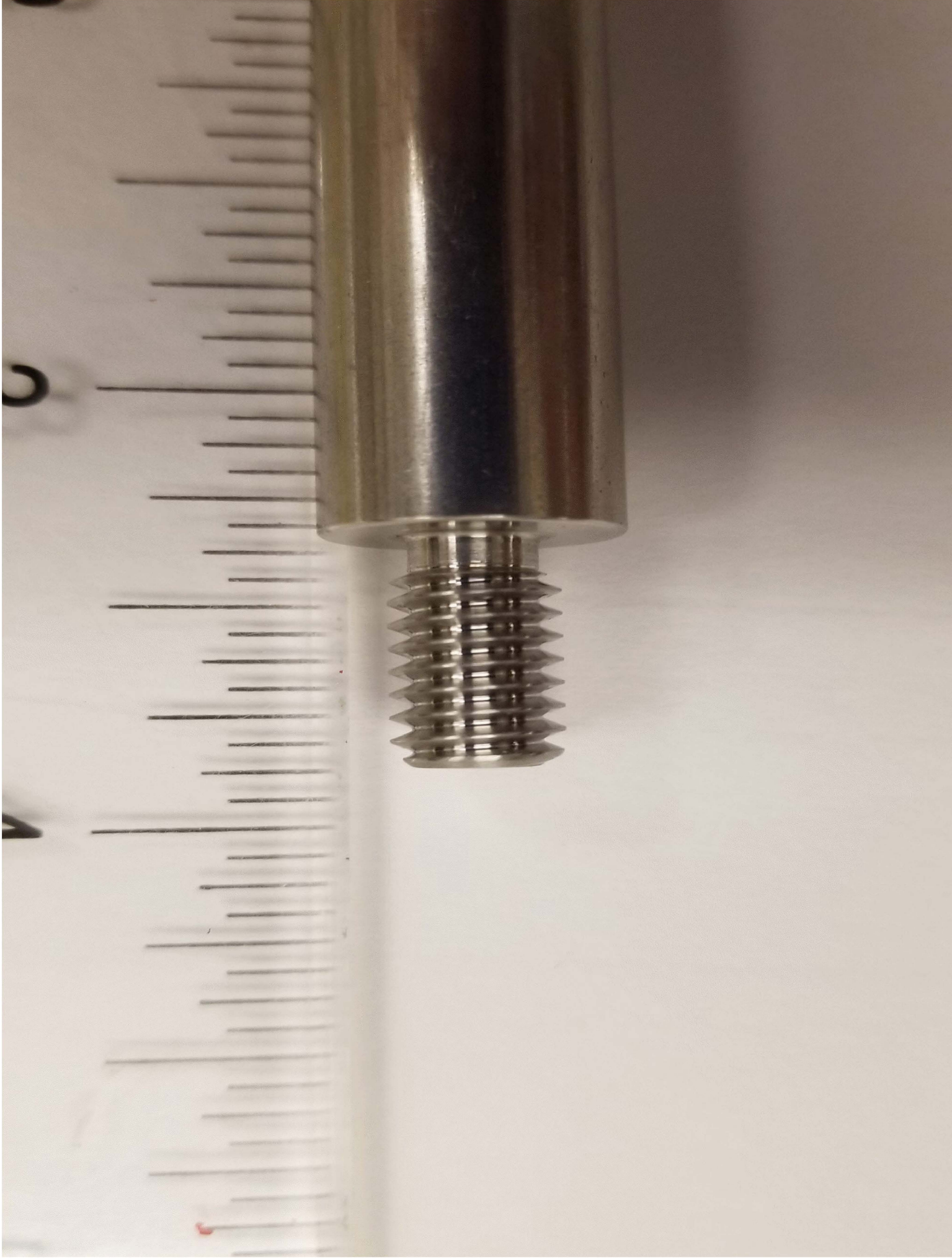
DETAIL D

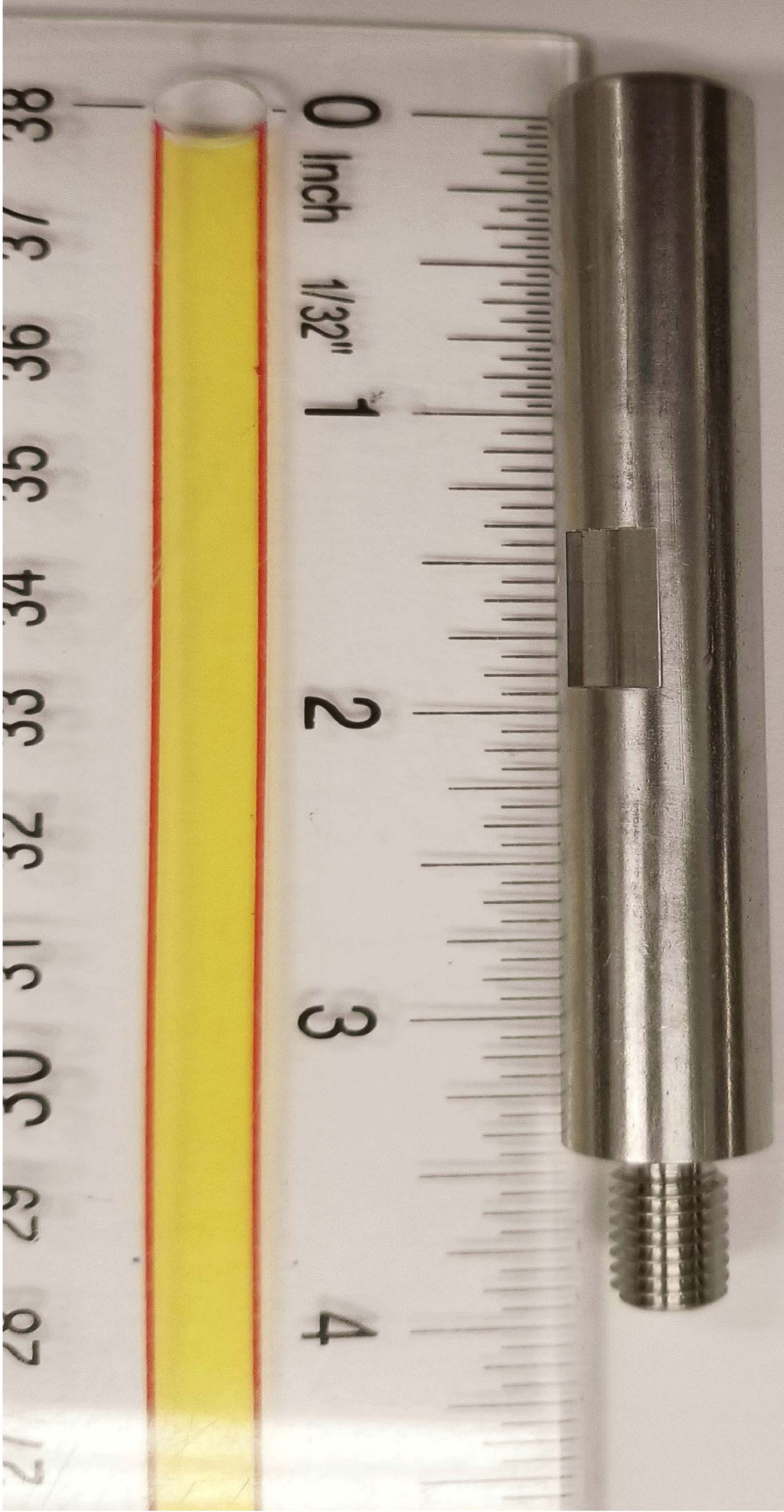


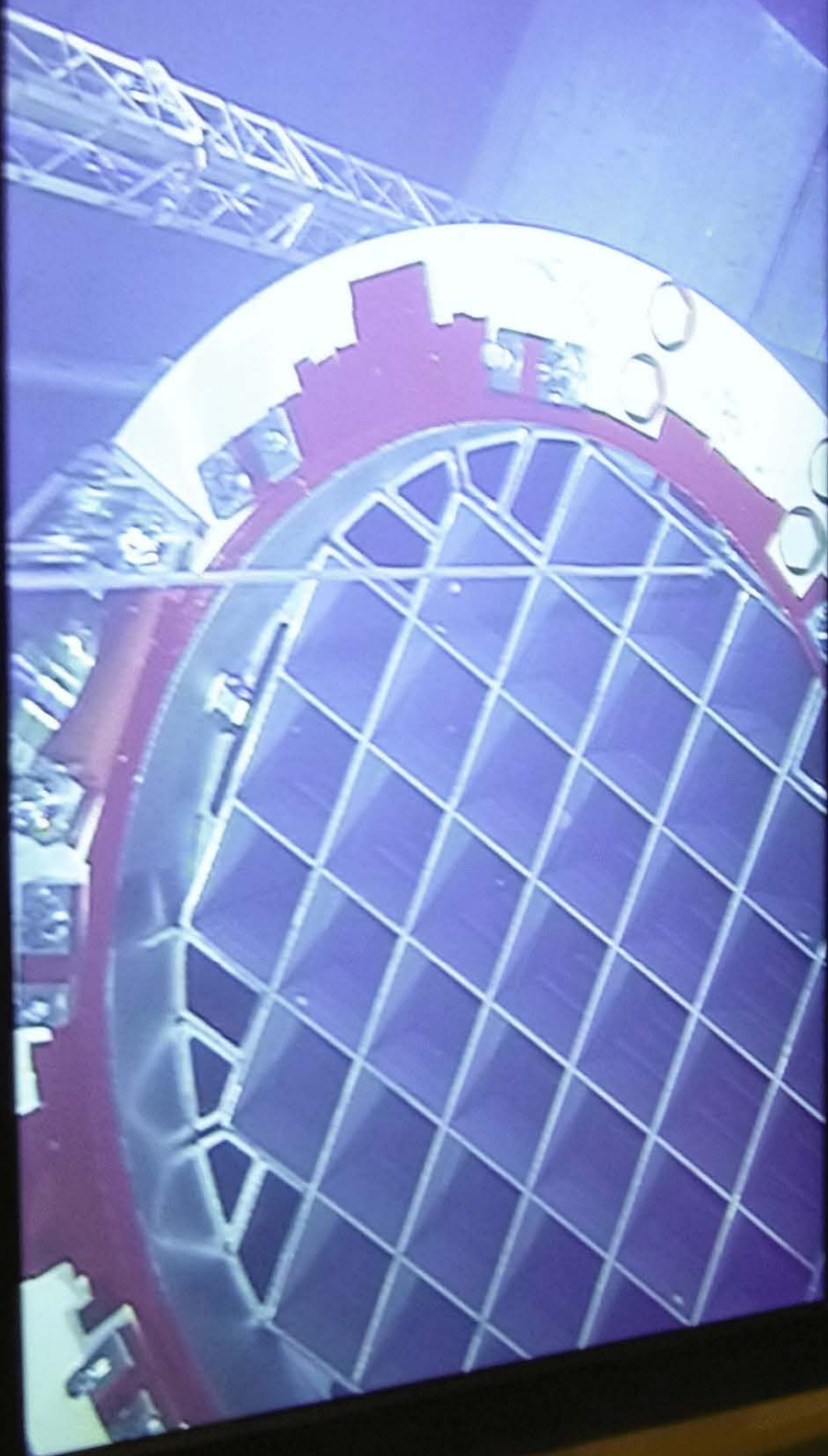
ISOMETRIC VIEW OF CONTACT POINTS



ISOMETRIC VIEW OF CONTACT POINTS









HI-STORM UMAX (MSE) DIVIDER SHELL
IDENTIFICATION NO. 0100
WEIGHT: 15,550 LBS.

EMPTY WEIGHT: 15,550 LBS.
MFC-97 (5/0) THE SHELL
SERIAL NO. 0100

HI-STORM UMAX (MSE) DIVIDER SHELL
IDENTIFICATION NO. 0100
WEIGHT: 15,550 LBS.

1593-99669-24
MPC-37 (5/8" THK CHILL)
SERIAL NO. 067
EMPTY WEIGHT-39260LBS



HI-STOR
IDENTIF
WEIGHT



HI-STORM UMAX (MSE) DIVID
IDENTIFICATION NO. 0100
WEIGHT: 15,550 LBS.

3ET092166-140EN ALIN
120 ON T-95
SEP 27 1981
ITEMS 41 2/2 16-041
77-889688-235





22



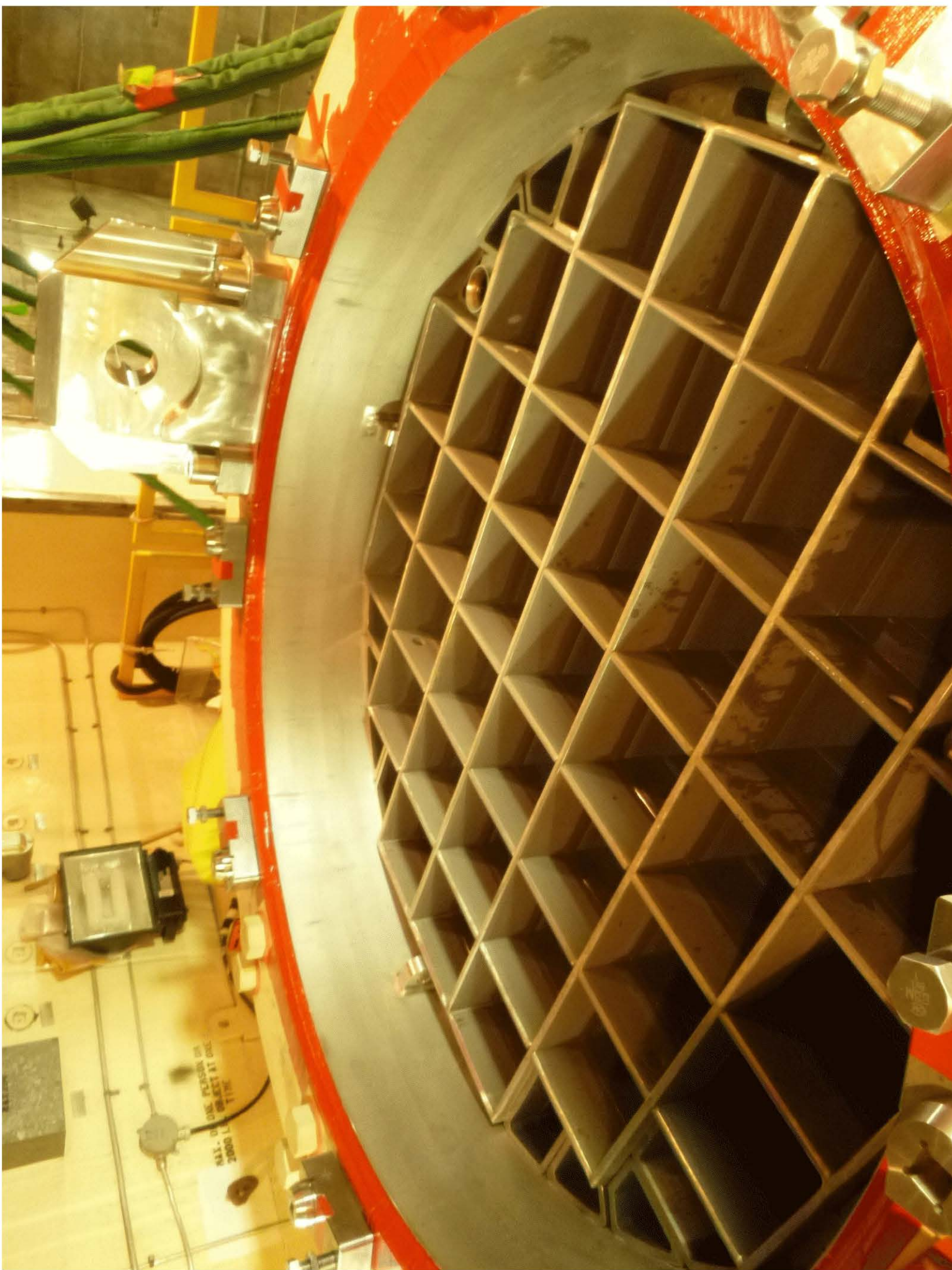








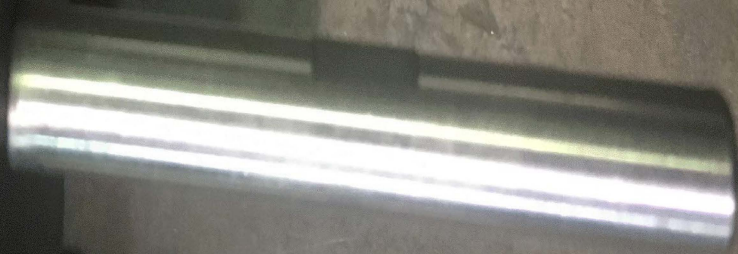
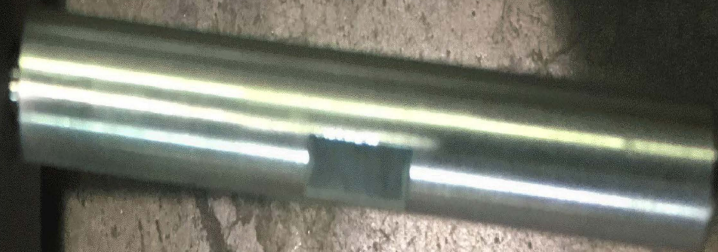




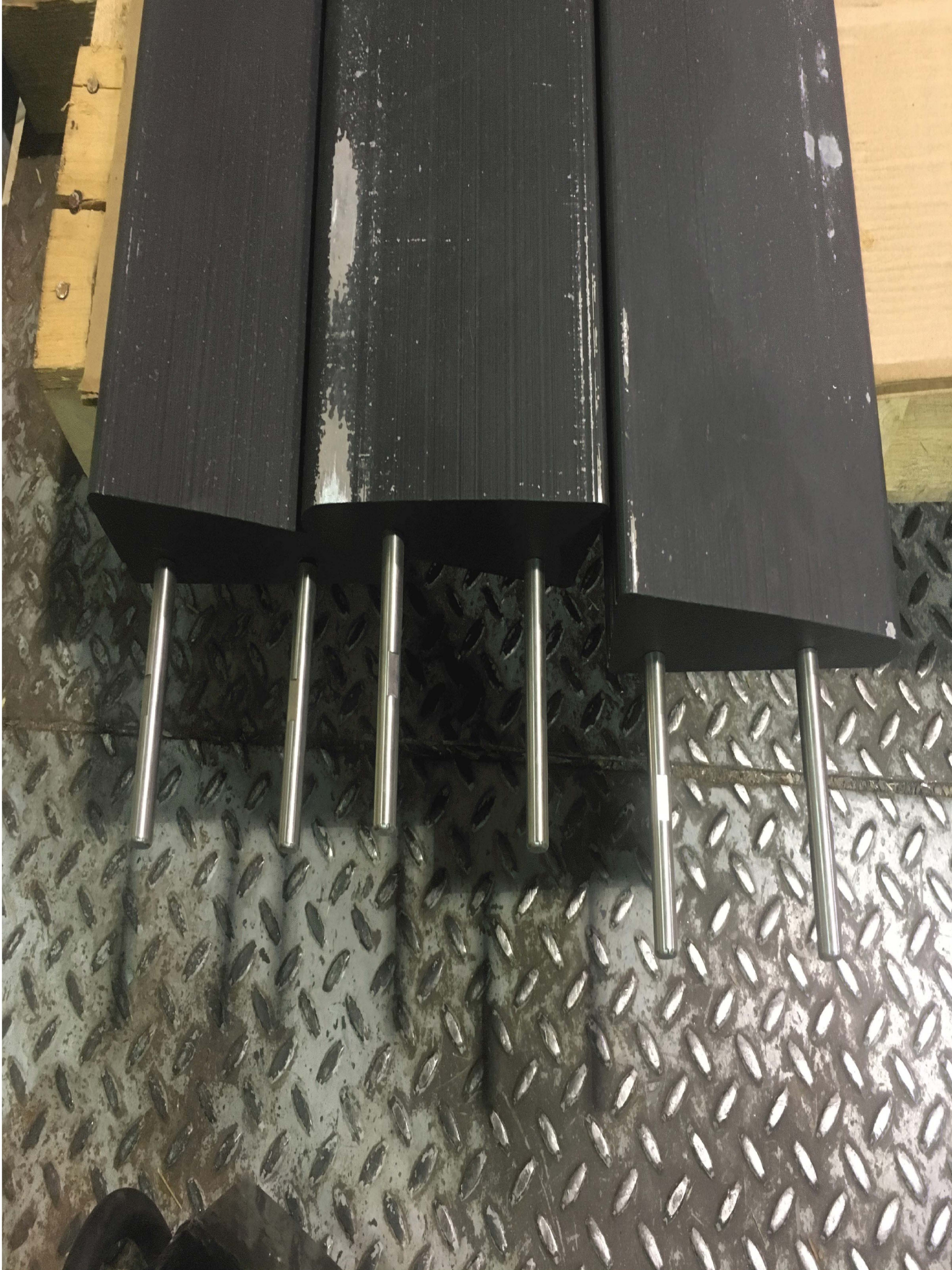




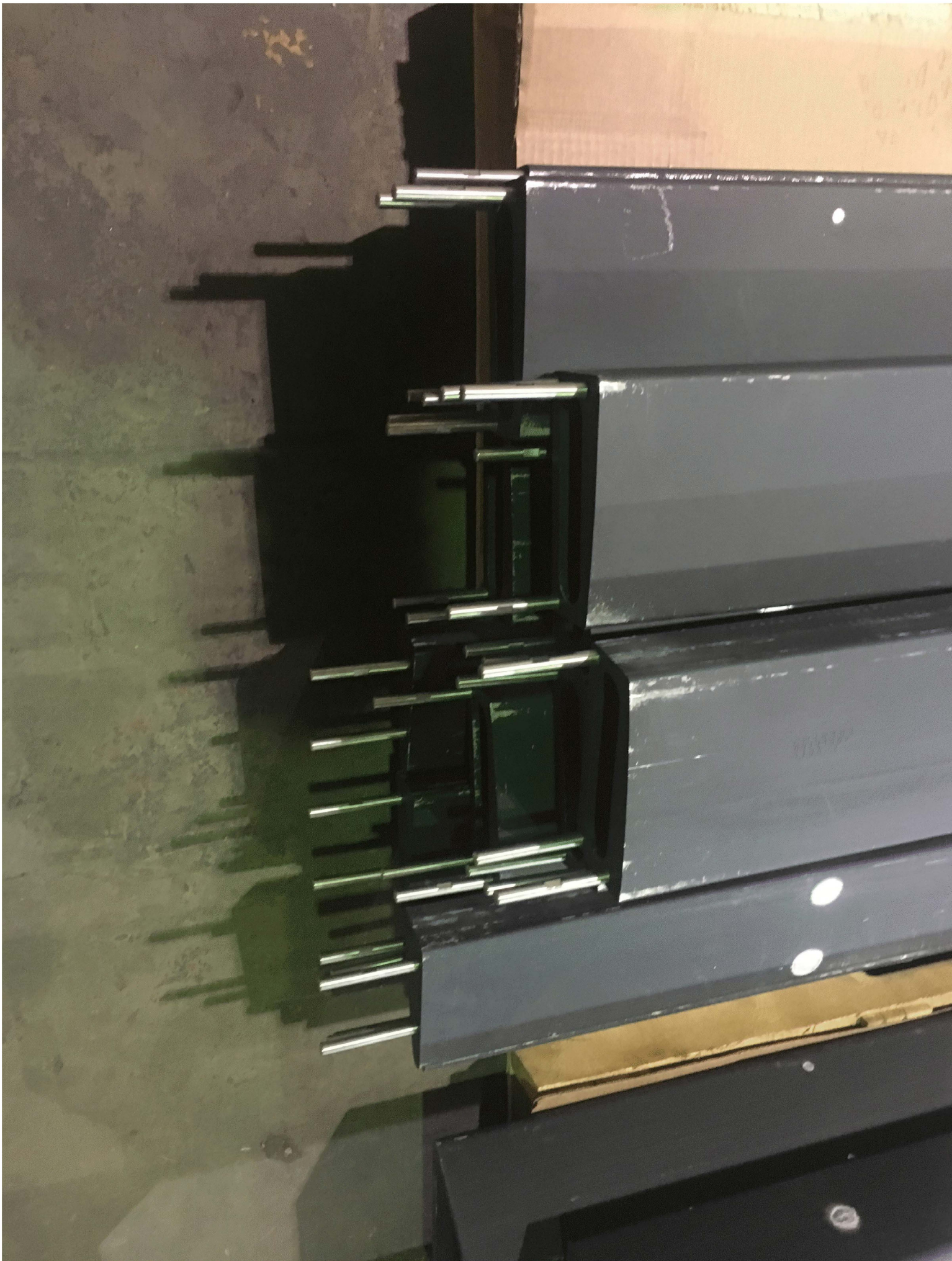












HI-STORM UMAX (MSE) DIVIDER SHEET
IDENTIFICATION NO. 0100
WEIGHT: 15,350 LBS.

