SOUTHERN CALIFORNIA
EDISON
An EDISON INTERNATIONAL* Company

Designated Original

Brian Katz
Vice President

September 1, 2005

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
11555 Rockville Pike
Rockville, Maryland 20852

Subject: **Docket Nos. 50-361 and 50-362**
NRC Generic Letter 2004-02
San Onofre Nuclear Generating Station Units 2 and 3

Reference: NRC Generic Letter 2004-02 issued September 13, 2004; Subject: Potential Impact of Debris Blockage on Emergency Recirculation During Design Basis Accidents at Pressurized-Water Reactors

Dear Sir or Madam:

By the referenced Generic Letter, the NRC requested that Southern California Edison (SCE) perform an evaluation of the Emergency Core Cooling System and Containment Spray System recirculation functions in light of information provided in the letter and, if appropriate, take additional actions to ensure system function. The Generic Letter also requested that SCE provide the information specified in the letter, with the second information submittal to be provided no later than September 1, 2005.

The enclosure provides SCE's second information submittal in response to the Generic Letter.

If you have any questions or require any additional information, please contact Mr. Jack Rainsberry at (949) 368-7420.

Sincerely,

Brian Katz

Enclosure

cc: B. S. Mallett, Regional Administrator, NRC Region IV
J. N. Donohew, NRC Project Manager, San Onofre Units 2 and 3
C. C. Osterholtz, NRC Senior Resident Inspector, San Onofre Units 2 and 3

P.O. Box 128
San Clemente, CA 92674-0128
949-368-9275
Fax 949-368-9881

A116

In accordance with 10 CFR 50.54(f), the following affirmation is provided:

Brian Katz states that he is Vice President of Southern California Edison, is authorized to execute this oath on behalf of Southern California Edison and, to the best of his knowledge and belief, the facts set forth in this letter are true.

Respectfully submitted,

Brian Katz

Brian Katz
Vice President
Southern California Edison

FRANCES M. THURBER
Commission #1565776
Notary Public - California
San Diego County
My Commission Exp. Mar. 31, 2009

State of California
County of San Diego

Subscribed and sworn to (or affirmed) before me on this 1st day of Sept., 2005, by Brian Katz, personally known to me to be the person who appeared before me.

Frances M. Thurber

Notary Public

ENCLOSURE

San Onofre Nuclear Generating Station, Units 2 and 3

September 1, 2005 Response to Generic Letter 2004-02, "Potential Impact of Debris Blockage on Emergency Recirculation During Design Basis Accidents at Pressurized-Water Reactors"

Requested Information:

2(a) Confirmation that the ECCS and CSS recirculation functions under debris loading conditions are or will be in compliance with the regulatory requirements listed in the Applicable Regulatory Requirements section of this generic letter. This submittal should address the configuration of the plant that will exist once all modifications required for regulatory compliance have been made and this licensing basis has been updated to reflect the results of the analysis described above.

Response:

Activities are currently underway to confirm the Emergency Core Cooling System (ECCS) and Containment Spray System (CSS) functions under debris loading conditions for San Onofre Nuclear Generating Station (SONGS), Units 2 and 3 will be in compliance with all applicable regulatory requirements. This compliance will be demonstrated through a combination of analysis, mechanistic evaluations, testing, modifications to replace the sump screens, and other potential modifications for debris loading reduction, sump inventory control, and down stream effects mitigation. Additionally, programmatic and process changes to ensure continued compliance will be made. Details are provided in the Sections of this response that follow.

On a preliminary basis, it has been determined through the above-described analyses that replacement sump screens of approximately 800 ft^2 will be installed in each of the existing containment sump pits. This screen sizing is pending confirmation, as screens are procured and detailed design is performed. Other modifications identified to-date are modification of the bioshield gates to preclude retention of debris and resultant hold-up of recirculating water, and removal of microporous insulation from piping. Details are provided in the sections of this response that follow.

Currently, Southern California Edison (SCE) does not plan to submit License Amendment Requests (LARs) in conjunction with the resolution of Generic Safety Issue (GSI) 191 for SONGS Units 2 and 3.

The schedule for SONGS Units 2 and 3 is to complete design, procurement, fabrication, delivery and installation of replacement sump screens, and other modifications identified to date, in order to meet applicable regulatory requirements for post-accident sump performance by December 31, 2007 for both units. If new information or the resolution of chemical and downstream effects issues affects the ability to complete the work on either unit by December 31, 2007, SCE will notify the NRC.

2(b) A general description of and implementation schedule for all corrective actions, including any plant modifications, that you identified while responding to this generic letter. Efforts to implement the identified actions should be initiated no later than the first refueling outage starting after April 1, 2006. All actions should be completed by December 31, 2007. Provide justification for not implementing the identified actions during the first refueling outage starting after April 1, 2006. If all corrective actions will not be completed by December 31, 2007, describe how the regulatory requirements discussed in the Applicable Regulatory Requirements section will be met until the corrective actions are completed.

Response:

Major activities that have been completed in support of the GSI-191 evaluation of the post-accident operation of the containment sump screens at SONGS Units 2 and 3, are as follows:

- Containment walkdown surveillance of both units was completed; Unit 3 in January 2003, and Unit 2 in February 2004. These walkdowns were performed utilizing the methodology guidelines provided in NEI 02-01, Condition Assessment Guidelines: Debris Sources Inside PWR Containments; Revision 1, September 2002.

- A calculation of minimum containment flood level at containment sump switchover, with conservative estimates of holdup volumes, was performed.

- A calculation of debris generation from postulated high energy line breaks was completed.

- Containment sump screen functional requirements were defined with respect to flow rates and debris apportionment, with consideration given to appropriate single-failure scenarios.

- A calculation of debris transport to the containment sump at SONGS Units 2 and 3 has been completed. The calculation determined the debris transported to the containment sump utilizing Computational Fluid Dynamics (CFD) analysis for each of the break scenarios. The calculation also reviewed locations of potential blockage of recirculating water to the containment sump.

- A calculation of available net positive suction head (NPSH), exclusive of sump strainer head loss, consistent with applicable regulatory guidance, was performed.

- A calculation of head loss due to debris collection and build-up on a sump screen utilizing the NUREG/CR 6224 head loss correlation was completed. This calculation developed the parametric relationship for flat-plate head loss and screen surface area for each of the break scenarios.

- A conceptual design evaluation was performed to determine the approximate maximum screen size capable of being installed in each of the existing containment sump pits. The evaluation considered requirements of Regulatory Guide 1.82, such as submergence and vortex suppression.

- Based on the head loss calculation, a preliminary screen area and corresponding head loss were established. (These preliminary design and performance attributes require validation by the selected screen supplier, as addressed below).

- An evaluation of the downstream effects resulting from the ingestion of debris through the sump screen and into the ECCS and CSS flow paths was completed. The evaluation considered potential blockage and wear of heat exchangers, orifices, spray nozzles, instrumentation tubing, pumps, and valves within the ECCS and CSS flow paths. Additionally, blockage evaluations were performed for the reactor vessel and the fuel. The downstream effects evaluation identified potential wear and blockage susceptibility of two components; see the list of outstanding items later in this Section.

Plant modifications identified to-date through the above-described analyses and evaluations are as follows:

- The tentative schedule for replacing the sump screens is:
  - SONGS Unit 3: Cycle 14 Refueling Outage, beginning Fall 2006
  - SONGS Unit 2: Cycle 15 Refueling Outage, beginning Fall 2007

  (These are the first refueling outages scheduled to begin after April 1, 2006.)

- Experience with microporous insulation indicates that it can result in high screen head losses, when combined with fibrous material and other particulate debris. Microporous insulation on piping will be removed, in order to reduce the debris source term. This work will be scheduled to be performed prior to, or coincident with the replacement of the respective unit's sump screen.

- Modification of the steel gates at the entry to the bioshield to reduce the potential for debris blockage and resultant hold-up of recirculating water. This work is planned to be performed prior to, or coincident with, the replacement of the respective unit's sump screen.

Major engineering and analyses efforts that are outstanding include the following:

- Procurement of the replacement sump screens; confirmation of screen surface area, screen head loss, and corresponding interstitial volume capacity; structural analysis; and performance testing. A contract award is currently scheduled to occur by December 1, 2005.

- The downstream effects evaluation identified potential susceptibility of the following components, due to the debris mix passing through the sump screen:
  - Increased leakage through the backup bushing for the mechanical seals of the ECCS and CS pumps.
  - Blockage of flow through the cyclone separators supplying water to the ECCS and CS pump mechanical seals.

  The review of these components is ongoing. If the final results of the review determine that the impact of ingested debris on these components could result in unacceptable

ECCS or CS pump performance, then the necessary modifications or enhanced evaluations will be performed to ensure the established functions and mission time for the ECCS and CS pumps will be maintained throughout the course of the accident. The evaluation, and identification of any physical modifications is currently anticipated to be completed by December 31, 2005. The intent is to complete all necessary actions by December 31, 2007.

- SCE is participating in a test program designed to better define (i.e., reduce) the Zone of Influence (ZOI) associated with qualified protective coatings used inside containment. The spherical ZOI for coatings utilized in the completed calculations for SONGS is ten (10) times the diameter of a postulated pipe break, as specified in NRC's Safety Evaluation (SE) of NEI 04-07. The objective of the test program is to demonstrate experimentally that the ZOI for qualified coatings is significantly less than ten (10) times the diameter of the postulated pipe break size. SCE's current plan, assuming that the test program successfully demonstrates that the smaller ZOI is validated, is to incorporate the results in the analyses. This may allow SCE to procure screens with a smaller surface area. This test program is currently anticipated to be completed no later than January 31, 2006.

- A chemical effects head loss margin adjustment factor has been added to the calculated screen head loss, to account for the production of post-accident generated chemical products and their effects on head loss. The head loss margin is based on preliminary results from the ongoing Integrated Chemical Effects Test (ICET) program, as documented in NEI's letter to the industry of July 29, 2005, providing guidance in support of this Generic Letter response. SONGS uses Trisodium Phosphate (TSP) as a buffering agent in the post-Loss Of Coolant Accident core cooling. As a result of the debris generation and transport calculations, pertinent SONGS debris loads are primarily fibrous insulation (Mineral Wool). These two primary test parameters (TSP and Fiber) would indicate that ICET Test No. 2 is generally applicable. The guidance referenced above provides a long-term head loss margin adjustment factor of 8%.

  Since ICET Test No. 2 was conducted with fiberglass insulation, SCE will address the impact of Mineral Wool in lieu of fiberglass on the chemical reactions products. SONGS Units 2 and 3 will support sump screen vendor analysis and testing with materials provided from the ICET program, and perform in-house evaluations and walkdowns, as necessary, to validate the applicability of the ICET tests and head loss margin. Validation of the head loss margin adjustment factor is expected to be completed no later than April 1, 2006.

  As outlined in the response to item 2(d)(iii) in this Submittal, based on the anticipated replacement sump screen area and calculated debris head loss, significant margin exists such that the head loss margin adjustment factor can be significantly increased above that currently assumed, and not be considered a risk for completion of scheduled modifications.

- Programmatic changes to enhance containment insulation configuration control to ensure that the amounts and types of insulation remain within acceptable debris loading design margins will be evaluated and any identified changes implemented by December 31,

2007. See the response to item 2(f) in this submittal, for further detail on current programmatic controls.

SCE expects to be in compliance with the requirements of Generic Letter 2004-02 by December 31, 2007.

2(c) A description of the methodology that was used to perform the analysis of the susceptibility of the ECCS and CSS recirculation functions to the adverse effects of post-accident debris blockage and operation with debris-laden fluids. The submittal may reference a guidance document (e.g., Regulatory Guide 1.82, Rev. 3, industry guidance) or other methodology previously submitted to the NRC. (The submittal may also reference the response to Item 1 of the Requested Information described above. The documents to be submitted or referenced should include the results of any supporting containment walkdown surveillance performed to identify potential debris sources and other pertinent containment characteristics.)

Response:

Analyses have been performed to determine the susceptibility of the ECCS and CSS recirculation functions for SONGS Units 2 and 3 to the adverse effects of post-accident debris blockage and operation with debris-laden fluids. These analyses of debris generation, transport and consequential head loss through a debris bed build-up on the sump screen conform to the NEI-04-07 methodology as approved in the NRC SE, except as noted herein. Analyses for downstream effects resulting from debris ingestion into the ECCS and CSS flow path through the sump screen follow the methodology described in WCAP-16406-P. The inclusion of chemistry effects in evaluating head loss follows the approach prescribed in NEI's letter to the industry of July 29, 2005, providing guidance in support of this Generic Letter response.

NRC staff has expressed a desire for the identity of contractors. The primary contractor for these analyses is Westinghouse Electric Company, LLC. Subcontractors supporting Westinghouse are Alion Science and Technology and Enercon Services.

The methodologies applicable to the various aspects of the analyses are:

- As noted previously in this submittal, SCE has performed a walkdown of the SONGS Units 2 and 3 containments using the guidelines of NEI 02-01. Surveys and tabulation of latent debris accumulation within the containment were performed by SCE.

- Pipe break characterization and evaluation of debris generation within the containment have been performed by Alion Science and Technology, using the guidance of NEI 04-07, as supplemented by NRC's SE. The debris generation evaluation utilized a multiple, spherical ZOI approach to determine the extent of the impact on the individual debris constituents.

- The SONGS Mineral Wool insulation within containment is encapsulated within a 24 gauge 304 stainless steel cassette, identical to the cassette encapsulating the reflective metal insulation (RMI). Both the Mineral Wool insulation and RMI were supplied by Transco Products. Mineral Wool is composed of rock, slag, or glass processed from the

molten state into fibrous form, and bonded with an organic or inorganic binder, or both. As such, it is a slightly denser product than today's low-density fiberglass.

Due to the stainless steel cassette, the Mineral Wool insulation system at SONGS is significantly more robust than a typical fiberglass installation, where the fibrous insulation is banded, with or without lagging. The only difference between the Mineral Wool insulation and RMI systems is the filler material contained within the cassette (mineral wool or stainless steel foils). This filler material does not provide any additional structural strength to the cassette. Based on this, the destruction pressure of the Mineral Wool and the RMI cassettes are considered by SCE to be equal. Nevertheless, to be conservative, the ZOI for the Mineral Wool insulation system used in the Debris Generation calculation was increased from the 2 D ZOI used for the RMI system, to 4 D.

- The calculation of transport of debris to the containment sump under recirculation conditions utilized Computational Fluid Dynamics (CFD) methods to perform the flow field calculation and debris transport assessment. Included in this analysis are upstream effects of debris accumulation on both holdup of water flowing to the containment sump, and the reduction of debris transported to the containment sump. The calculation was performed by Alion Science and Technology. The CFD code used was Flow-3D® Version 8.2. Flow-3D® is a commercially available general-purpose computer code for modeling the dynamic behavior of liquids and gasses influenced by a wide variety of physical processes. The program is based on the fundamental laws of mass, momentum, and energy conservation. It has been constructed for the treatment of time-dependent multi-dimensional problems, and is applicable to most flow processes.

  With respect to mineral wool debris erosion, the SE (Appendix III) describes erosion tests that indicated that the erosion rate of fibrous debris could be on the order of 0.3 percent per hour of the current debris load for a pool with a 16 inch depth (which is slightly less than the SONGS pool depth). The SE points out substantial uncertainties associated with the erosion testing, including validity of extrapolation of the data and uncertainty that all of the end-of-test debris accumulation was the result of erosion products; usual variances in test data such as flow and depth control, and debris collection; potential significant differences in flow and turbulence characteristics between the test tank and the volunteer plant sump pool; and differences in geometry and complexity between the test tank and the volunteer plant sump pool. Since the test data showed in general that the erosion consisted primarily of small, loosely attached pieces of fiber breaking off from larger pieces, it is considered reasonable to assume that erosion would taper off after 24 hours. To be conservative, the 24 hour total erosion was rounded from 7% to 10% in the SONGS analysis.

- The calculation of head loss across the sump screen as a result of debris accumulation has been performed consistent with the guidelines of NEI 04-07, as supplemented by the NRC SE. This work has been performed by Alion Science and Technology, utilizing HLOSS code.

- Alion Science and Technology performed hydraulic and material properties testing on a mineral wool sample from another utility's plant, documenting the results in the "Hydraulic Properties of Mineral Wool Insulation Test Report". The mineral wool

supplied to SONGS, according to Transco Products, is identical to that supplied to the plant for which the above-described testing was performed. A mineral wool sample from SONGS has been visually examined by Alion, and appears to be identical to that previously tested. Final confirmation will be achieved through scanning electron microscopy, which will be completed by October 15, 2005. Based on the supplier's statement and visual inspection, the hydraulic and material properties from the above-described report were used in the SONGS debris head loss calculation, in lieu of the properties in the NEI 04-07 methodology as approved in the NRC SE.

- The evaluation of downstream effects associated with debris passing through the containment sump screen was performed by Westinghouse Electric Co., LLC and, as noted earlier, conforms to the methodology described in WCAP-16406-P.

  The Los Alamos Report LA-UR-04-5416, "Screen Penetration Test Report," dated November 2004 was used as the basis for the methodology described in WCAP-16406-P, which states the use of 95% sump screen capture efficiency. However, data in the report can be used to justify other capture efficiencies. The fluid approach velocity in the SONGS replacement sump strainer will be low enough to justify the use of a 97% capture efficiency. Therefore, the SONGS fuel evaluation was performed using a capture efficiency on the sump screen of 97%.

- A structural evaluation of the replacement sump screen will be performed once a design has been selected. SCE expects that the structural evaluation of the replacement sump screen will be provided by the vendor as part of the contract for the replacement sump screen. The structural evaluation will be expected to use input conditions, such as debris loading and flows, specific to SONGS Units 2 and 3.

2(d) The submittal should include, at a minimum, the following information:

(i) The minimum available NPSH margin for the ECCS and CSS pumps with an unblocked sump screen.

Response:

The minimum available NPSH margin ($NPSH_{AVAILABLE}$ minus $NPSH_{REQUIRED}$) for the ECCS and CSS pumps during recirculation, exclusive of the replacement sump screen head loss, has been calculated to be slightly more than 5.0 ft H_2O. The limiting pumps are the High Pressure Safety Injection (HPSI) pumps; the Containment Spray Pumps have considerably higher NPSH margin.

(ii) The submerged area of the sump screen at this time and the percent of submergence of the sump screen (i.e. partial or full) at the time of the switchover to sump recirculation.

Response:

Based on the head loss calculations described previously in this submittal, it is expected that the area of each replacement sump screen will be approximately 800 ft^2. The conceptual design is based on complete submergence of 100% of this screen area at the time of switchover to

recirculation. Screen surface area is subject to verification by the selected vendor during detailed design.

(iii) **The maximum head loss postulated from debris accumulation on the submerged sump screen, and a description of the primary constituents of the debris bed that result in this head loss. In addition to debris generated by jet forces from the pipe rupture, debris created by the resulting containment environment (thermal and chemical) and CSS washdown should be considered in the analyses. Examples of this type of debris are disbonded coatings in the form of chips and particulates and chemical precipitants by chemical reactions in the pool.**

Response:

The calculated head loss across the replacement sump screen for the limiting of the break scenarios at the preliminary approximate size of 800 ft^2 is approximately 3.3 ft H_2O. Adding the chemical effects head loss margin adjustment factor of 8%, as described in Section 2(b) of this submittal, the total expected head loss across the replacement screen is approximately 3.6 ft H_2O. The screen size and resultant debris head loss are dependent upon the replacement sump screen design and geometry – particularly with respect to preclusion of a thin-bed effect - and will be validated by the selected screen vendor during detail design. The chemical effects head loss margin adjustment factor is also subject to validation, as described in Section 2(b) of this submittal.

The primary constituents of the debris bed for the limiting break scenario are reflective metal insulation (RMI) and encapsulated mineral wool insulation; qualified epoxy coatings; unqualified alkyd, enamel, and epoxy coatings; and latent fiber, dust and dirt.

(iv) **The basis for concluding that the water inventory required to ensure adequate ECCS or CSS recirculation would not be held up or diverted by debris blockage at choke-points in containment recirculation sump return flowpaths.**

Response:

The potential for liquid inventory holdup or diversion from the containment recirculation sump was included in the calculation of the minimum containment flood level used in the analysis. This minimum level formed the basis for the calculation of the minimum available NPSH margin for the ECCS and CSS pumps, as described in Section 2(d)(i) above. This minimum level was also used in the debris transport calculation and conceptual design evaluation activities discussed previously in this submittal.

The debris transport calculation included a review of recirculation flow holdup due to debris collection at potential choke-points in the recirculation sump return flow paths within the containments of SONGS Units 2 and 3. As discussed in Section 2(b), the need for modifications to the bioshield gates to preclude potential debris blockage and retention of recirculation flow was identified as a result of this calculation.

(v) **The basis for concluding that inadequate core or containment cooling would not result due to debris blockage at flow restrictions in the ECCS and CSS flowpaths**

downstream of the sump screen, (e.g., a HPSI throttle valve, pump bearings and seals, fuel assembly inlet debris screen, or containment spray nozzles). The discussion should consider the adequacy of the sump screen's mesh spacing and state the basis for concluding that adverse gaps or breaches are not present on the screen surface.

Response:

An evaluation of the potential for blockage due to ingestion of debris through the sump screen and into the ECCS and CSS flow paths has been performed using the methods described in WCAP-16406-P. The components evaluated for potential wear and blockage included heat exchangers, orifices, spray nozzles, instrumentation tubing, pumps, and valves. Additionally, blockage evaluations were performed on the reactor vessel and fuel. Both particulate and fibrous debris were considered in this evaluation.

The downstream effects evaluation identified potential susceptibility of the following components, due to the debris mix passing through the sump screen: 1) Increased leakage through the backup bushing for the mechanical seals of the ECCS and CS pumps; and 2) Blockage of flow through the cyclone separators supplying water to the ECCS and CS pump mechanical seals. SCE's plans for resolution of these items is discussed in Section 2(b) of this submittal.

Notwithstanding the above-described open items, the results of the evaluation have shown that blockage of the smallest flow restriction in the ECCS and CSS flow paths is precluded by procurement of the replacement screens with a hole size of 3/32 inch diameter or less. SCE shall ensure through the replacement screen specification and through inspection of the installed screen, that the vendor supplies a screen surface and joint between the screen and sump walls capable of restricting bypass flow around the screen.

(vi) Verification that close-tolerance subcomponents in pumps, valves and other ECCS and CSS components are not susceptible to plugging or excessive wear due to extended post-accident operation with debris-laden fluids.

Response:

The evaluation described above in Item (v) considered both blockage and wear due to extended post-accident operation with debris laden fluids.

(vii) **Verification that the strength of the trash racks is adequate to protect the debris screens from missiles and other large debris. The submittal should also provide verification that the trash racks and sump screens are capable of withstanding the loads imposed by expanding jets, missiles, the accumulation of debris, and pressure differentials caused by post-LOCA blockage under predicted flow conditions.**

Response:

As noted earlier in this Submittal, the structural evaluation of the replacement sump screen will be performed during detail design of the screens. SCE expects that the structural evaluation of the replacement sump screen, as well as the trash-racks, will be provided by the vendor as part of the contract for the replacement sump screen. The structural evaluation will be expected to use input conditions, such as debris loading and flows, specific to SONGS Units 2 and 3.

(viii) **If an active approach (e.g., backflushing, powered screens) is selected in lieu of or in addition to a passive approach to mitigate the effects of the debris blockage, describe the approach and associated analyses.**

Response:

Currently, SCE is not considering implementing an active approach to mitigate the effects of debris blockage.

2(e) **A general description of and planned schedule for any changes to the plant licensing bases resulting from any analysis or plant modifications made to ensure compliance with the regulatory requirements listed in the Applicable Regulatory Requirements section of this generic letter. Any licensing actions or exemption requests needed to support changes to the plant licensing basis should be included.**

Response:

Currently, SCE does not plan to request any licensing bases changes or exemptions in conjunction with the resolution of GSI-191 for SONGS Units 2 and 3.

2(f) **A description of the existing or planned programmatic controls that will ensure that potential sources of debris introduced into containment (e.g., insulations, signs, coatings, and foreign materials) will be assessed for potential adverse effects on the ECCS and CSS recirculation functions. Addressees may reference their responses to GL 98-04, "Potential for Degradation of the Emergency Core Cooling System and the Containment Spray System after a Loss-of-Coolant Accident Because of Construction and Protective Coating Deficiencies and Foreign Material in Containment," to the extent that their responses address these specific foreign material control issues.**

Response:

As previously described in the SCE response to Generic Letter 98-04, and Bulletin 2003-01 for SONGS 2 and 3, more aggressive programmatic controls have been implemented to ensure that potential debris sources introduced into containment will not contribute to potential adverse effects on the ECCS and CSS recirculation function. These programmatic controls include Containment Cleanliness and Foreign Material Controls such as a Containment Cleanliness programs, Containment Housekeeping requirements and periodic Containment Cleanliness/Loose Debris Inspections to ensure that the accumulation of potential debris sources within containment is in accordance with requirements established by SONGS GSI-191 design analysis.

Furthermore, to ensure that the continued appropriate level of attention is focused on the Service Level I coatings program, SONGS has currently implemented a San Onofre Coatings Inspection Team, a multi-discipline working group established to provide continuous assessment of the SONGS coating programs to ensure continued compliance with regulatory and industry standards.

SCE will evaluate supplementing these programs with a Containment Insulation Configuration Control Program that would be utilized to ensure that future potential sources of insulation debris would be controlled and evaluated with respect to GSI-191 design analyses. The Containment Insulation Configuration Control Program would provide controls to maintain the inventory of insulation inside of containment such that the amount and type remains within the acceptable design margin for debris loading of the containment sump suction strainers following a LOCA.