

San Onofre Decommissioning Community Engagement Panel

WORKSHOP

Thursday, July 17, 2014, from 6:00-8:30 p.m. PDT in Oceanside, California

Notes and Action Items

I) Community Engagement Panel Member Attendance

- a) Present: Dr. David Victor (CEP Chairman), Mayor Tim Brown (CEP Vice Chairman), Dan Stetson (CEP Secretary), Ted Quinn (American Nuclear Society), Rich Haydon (California State Parks), President John Alpay (Capistrano Unified School District Board of Trustees), Larry Rannals (Camp Pendleton), Valentine "Val" Macedo (Laborers' International Union of North America Local 89), City Council Member Jerome M. "Jerry" Kern (Oceanside), Gene Stone (Residents Organized for a Safe Environment), Supervisor Bill Horn (San Diego County), Jim Leach (South Orange County Economic Coalition), Dr. William Parker (University of California, Irvine), Mayor Pro Tem Larry Kramer (San Juan Capistrano), Supervisor Pat Bates (Orange County)
- b) Absent: Donna Boston (Orange County Sheriff's Department), Mayor Lisa Bartlett (Dana Point), Garry Brown (Orange County Coastkeeper)
- c) Southern California Edison Representatives: Tom Palmisano (VP and Chief Nuclear Officer), Chris Thompson (VP Decommissioning)
- d) Guest Speakers: Barry Simms (EnergySolutions), Angela Leiba (URS), Bruce Watson (Nuclear Regulatory Commission), Michael Dusaniwskyj (Nuclear Regulatory Commission)

II) Convened by Dr. David Victor, CEP Chairman, at 6:05 p.m.

- a) The SONGScommunity.com website is very active. It contains all materials posted that have been circulated amongst the panel. Tonight's documents will be posted immediately, and documents for the next meeting will be posted two weeks prior to the meeting to allow sufficient time for review of these very large documents. The website includes functions that enable the public to send messages to the CEP, request SCE speakers for community events, review archived meeting information and videos, etc.
- b) The first six months of operations the panel has focused on spent fuel. The next two meetings the panel will focus on reviewing the documents for the Environmental Impact Evaluation, the Post Shutdown Decommissioning Activities Report, and the Decommissioning Cost Estimate
- c) Mayor Pro Tem Larry Kramer has replaced Sam Allevato (Mayor, San Juan Capistrano) on the panel
- d) Tonight's meeting is a workshop, therefore there will be no public comments due to a limited amount of time
- e) Chairman Victor and Vice Chairman Brown will be conducting interviews of all CEP members to obtain feedback on how the panel is functioning, what is working or not, and how the panel can solicit more public comments prior to the meetings. A report and recommendations on how to improve operations will be provided at the next meeting
- f) Chairman Victor met with the NRC in Washington, DC, and discussed the work the panel was doing; his report and testimony will be posted on SONGScommunity.com
- g) Gene Stone will meet with Mr. Ken Alex in the California Governor's Office on August 12th to discuss decommissioning and welcomes other panel members to join him

III) Tom Palmisano (VP and CNO of San Onofre) – ISFSI Location and Technology Option Update

- a) Brief update on where we are in the process of selecting a cask vendor, options for ISFSI location, technologies evaluated, and a comparison of technologies. A decision has not been made on the cask vendor and the bid evaluation is still in progress
- b) Independent Spent Fuel Storage Installation location evaluation

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- i) Twelve locations have been evaluated
 - Three categories of Locations:
 - (a) Within licensed site at San Onofre – Varying requirements for site investigation and most have substantial civil preparation (5 options)
 - (b) Surrounding area of Camp Pendleton – Require a new “lease,” siting, civil preparations, relief to transport spent fuel on roads, and security system (2 options)
 - (c) Offsite Areas – Not currently licensed, or approved, for spent fuel shipments or additional spent fuel shipments (5 options)
 - Criteria used in the evaluation include:
 - (a) Siting requirements
 - (b) State permit, geological analysis
 - (c) Ability to transport spent fuel to these locations
 - (d) NRC regulatory license requirements
 - (e) Length of time the spent fuel would be in wet storage before it could be transferred to dry storage at the ISFSI pad
 - Five options being considered within the San Onofre location:
 - (a) Enlarge the existing site (5-6 years)
 - (b) Makeup Demineralizer (MUD) Area on the south bluff (5-12 years)
 - (c) Reservoir parking area (10-12 years)
 - (d) K-building areas just south of Unit 3 (10-12 years)
 - (e) South yard (12-15 years)
- ii) Dr. Parker asked why there are such differences in years required for options within the same area
 - Tom Palmisano responded that some of these options require significant construction projects (e.g., stabilizing the reservoir). These timeframes include construction, fabrication, offload of fuel, etc.; these are conservative estimates of time
- iii) Ted Quinn commented that the cost differences among these options must be significant
 - Tom Palmisano explained that at this time they are just looking for options and are not looking at the costs at this point in time; that will come at a later stage
- iv) Camp Pendleton options (numbers 6 and 7) would take too long and the time to offload is decades
- v) Options 8 thru 12 are offsite facilities which include significant challenges and exceed a 40-year timeline
- vi) Honing in on the options for which Part 50 license actions would be minimal
 - Site 1 is the existing ISFSI and requires no license action
 - Site 3 is the reservoir on top of the bluff
 - Site 2 is the MUD on top of the south bluff
 - Site 5 at the south yard facility
 - Site 4 on the south side of the facility adjacent to Unit 3
- vii) Site 1 options include expanding the existing ISFSI structure to accommodate new storage modules: AREVA NUHOMS (above ground) or HOLTEC HI-STORM UMAX (underground)
- viii) Chairman Victor asked if the tsunami risks were comparable between these two options
 - Tom Palmisano explained that analyses had been performed on the existing system and that he would post the white paper on the SONGScommunity website; additional information can be added when technology selection is finalized

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- c) Technologies Evaluated
- i) Evaluation has been performed and focus is on the following two technologies
 - AREVA NUHOMS – horizontal, steel-reinforced, concrete, above ground structure (used at SONGS)
 - HOLTEC HI-STORM UMAX – Vertical, ventilated, underground on-site storage (used at Humboldt Bay Power Plant) – low profile
 - ii) Proposed Options:
 - AREVA NUHOMS consists of these major components:
 - (a) Dry Shielded Canister (DSC) – the primary criticality control and storage container for the used fuel assemblies
 - (b) Horizontal Storage Module (HSM) – provide the structural support, heat removal, shielding and environmental protection to the DSC
 - (c) Transfer Cask (TC) – assures safe loading and transfer of the DSC from the Spent Fuel Pool to the HSM (used on site)
 - (d) Transport Cask MP197HB – Licensed for high burnup fuel, the Transport Cask consists of a containment boundary, structural shell, gamma shielding material, and solid neutron shield (used for offsite transportation)
 - HOLTEC HI-STORM UMAX consists of these major components:
 - (a) Multi-Purpose Canister (MPC-37) – the primary criticality control and storage container for used fuel assemblies; licensed to store 37 used Pressurized Water Reactor fuel assemblies
 - (b) HI-STORM UMAX – underground storage module provides structural, thermal, shielding and environmental protection to the MPC
 - (c) HI-TRAC VW On-Site Transfer Cask – assures safe movement of the MPC during on-site loading and transfer operations from the Spent Fuel Pool to the HI-STORM UMAX vault
 - (d) HI-STAR 190 Off-Site Transportation Cask – undergoing licensing to transport the MPC off-site
 - iii) Gene Stone asked if the pressure inside the HOLTEC canister can be monitored
 - Tom Palmisano stated HOLTEC canisters are pressurized and checked before they are welded shut; regarding in-service monitoring Tom Palmisano offered to investigate and advise
- d) Technology Comparison
- i) The criteria used for technology comparison included:
 - Licensing for storage and transport
 - Transfer of existing fuel in ISFSI
 - Permitting issues
 - Performance in seismic conditions
 - Performance in tsunami or flooding conditions (coupled with location)
 - Tornado or external hazard event (not very applicable in SoCal)
 - Radiation shielding performance
 - Fuel cooling times
 - Visual impact (above ground versus below)
 - ii) Dan Stetson asked if both systems provided venting

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- Tom Palmisano responded that both systems are ventilated
- iii) Chairman Victor asked about the regulatory process for the AREVA system and whether not having received full approval will have an impact
 - Tom Palmisano explained that the NRC action is a procedural process for the NRC, not a technical issue
- iv) Chairman Victor mentioned other designs not yet approved in the US and that he would do a review for the panel
- v) Pat Bates asked question about AREVA's licensing issues and how it could not be known if the HOLTEC design could transport the AREVA design
 - Tom Palmisano responded that this is a matter that the vendor would have to agree to and seek license amendment
- vi) Gene Stone mentioned that Castor Company in Germany is working on a cask that has a pressure monitor and would it be possible to hold off for three months; a US company is considering building this design
 - Chairman Victor said he would put together one comprehensive email for the panel that captures all of these issues

IV) Bruce Watson (NRC) – The NRC Reactor Decommissioning Process – Post Shutdown Decommissioning Activities Report (PSDAR) and License Termination Plan (LTP)

- a) NRC Decommissioning Experience
 - i) The current regulations have been in place since 1997
- b) The Reactor Decommissioning Program includes
 - i) 17 power reactors in active decommissioning
 - ii) 8 research reactors in active decommissioning
- c) Power Reactor Decommissioning Regulations – Atomic Energy Act of 1954, as amended
- d) Reactor Decommissioning – performance based risk-informed regulations
 - i) Must complete decommissioning within 60 years
 - ii) Potentially that is 50 years of SAFSTOR and 10 years of D&D
 - iii) Extended period of SAFSTOR significantly reduces radiation levels to 1-2%
- e) Decommissioning (10 CFR 50.2)
 - i) NRC addresses only the radiological aspect of decommissioning
 - ii) So far, all properties have been released for unrestricted use
- f) Chairman Victor commented that the SONGS plan is to decommission the plant which means higher dose rates; other regulatory agencies to consider
- g) Reactor Decommissioning Decision-Making Factors; a two-year wait is to allow sufficient time to include all of the following factors:
 - i) Multi-unit site safety
 - ii) Financial – decommissioning funds availability
 - iii) Access to radioactive waste disposal capacity
 - iv) Future use of the site
 - v) Stakeholders (e.g., state public utility commissions, local communities, members of the public, etc.)
 - vi) New business model; for example, Zion transferred its license to a decommissioning company
 - vii) Special circumstances; for example, SONGS is on US Navy easement

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- h) PSDAR content includes
 - i) A description and schedule for the planned decommissioning activities
 - ii) An estimate of the expected decommissioning costs
 - iii) A discussion that provides the means for concluding that the existing environmental impacts associated with the decommissioning activities be bounded by issued environmental impact statements
- i) NRC actions will include:
 - i) Notice of receipt of the PSDAR in the Federal Register
 - ii) Make the PSDAR publicly available on the NRC website (<http://www.nrc.gov>)
 - iii) Hold a public meeting in the vicinity of SONGS
 - Typically 30 to 60 days after receipt of the PSDAR during the 90-day comment period
 - Publish meeting notice in the Federal Register & local media
 - Invite licensee, state and local officials, and general public to comment on the PSDAR
 - Make a written transcript of the meeting publicly available
- j) Ted Quinn asked Tom Palmisano when the SONGS documents would be filed
- k) SONGS plans to submit PSDAR in September 2014
- l) NRC's PSDAR Review Process
 - i) NRC staff uses Regulatory Guide 1.185 to ensure the document meets requirements
 - ii) Content requirements are in 10 CFR 50.82(a)(4)(i)
 - iii) Requests for additional information may be developed
- m) NRC's DCE Review Process
 - i) Ensure reasonable funds are available for radiological clean up only
 - ii) Annual update required
- n) NRC's PSDAR Review Process
 - i) The NRC does not approve the PSDAR
 - ii) Licensee may begin decommissioning 90 days after NRC receives the PSDAR
- o) Tim Brown asked what happens if the submittal is untimely, or rejected
 - i) Bruce Watson explained that an enforcement process would be followed
- p) Chairman Victor asked what major issues the NRC has encountered and what should the panel focus on
 - i) Bruce Watson has found that scheduling and local community environmental issues are often encountered
- q) License Termination Plan
 - i) Licensee must submit two years prior to license termination
 - ii) Key contents include site characterization information, identification of remaining dismantling activities and plans for remediation, updated site-specific cost estimate, etc.
- r) NRC Regulatory Oversight
 - i) All documents related to the decommissioning inspection program are on the NRC website
- s) Chairman Victor commented that the NRC has a very robust process in place; please advise if there's anything the CEP can do to assist
- t) Ted Quinn asked if Region IV does the inspections
 - i) Bruce Watson explained he has a staff of 8 that do the licensing safety reviews and are supplemented by additional experts as needed; Inspections are performed by Region IV
- u) Tim Brown asked if the following inspection procedures resulted in routine or non-routine inspections

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- i) Bruce Watson explained that there are not a fixed number of inspections; they are ongoing and number increases with the level of decommissioning activities and include fire protection, security, etc.
- v) Larry Kramer asked if the basis for 60 years was acceptable
 - i) Bruce Watson stated the licensee decides the timetable
- w) Jerry Kern asked if SCE requests inspections
 - i) Bruce Watson responded that most inspections are based on communications with Licensee
- x) Gene Stone asked when NRC starts inspecting the dry casks
 - i) Bruce Watson wasn't sure of the frequency, but they inspect the loading process, the quality assurance documents associated with the casks, and the ISFSI is inspected bi-annually or annually
- y) Chairman Victor mentioned that in early 2015 the NRC will speak at a CEP meeting and will discuss inspections
- z) Gene Stone asked how long inspections continued
 - i) Bruce Watson stated that as long as there is a NRC license, inspections will continue
- aa) Chairman Victor stated that based on his meeting with the NRC, he observed that Licensees are feeling their way through this process. The NRC has integrated rulemaking in the past, but no longer. The panel needs to determine what they want to know and get the information flowing
 - i) Bruce Watson hopes the NRC's process for transitioning from operations to decommissioning will improve as there are about 100 plants to go
- bb) Gene Stone believes the process issue is a big concern and perhaps the panel should write a letter
- cc) Hon Pat Bates asked if public comments will be accepted on the EIE
 - i) Bruce Watson responded yes

V) Panel Discussion

- a) Tom Palmisano (VP/CNO, SCE) – Introduction
 - i) SCE plans to submit the PSDAR in September 2014
- b) Angela Leiba (Vice President, URS) – Environmental Impact Evaluation (EIE)
 - i) The EIE is a supplement to the PSDAR and its purpose is to:
 - Evaluate environmental impacts of decommissioning SONGS 2&3
 - Determine if anticipated impacts are bounded by existing environmental impact statements (GEIS)
 - ii) Assumption is that operational mitigation measures would be continued and did not rely on implementation of new mitigation measure unless specified
 - iii) Structure of the EIE and resource impact areas assessed:
 - Onsite / offsite land use – use of lands
 - Water use / quality – use of surface or ground water
 - Air quality – emissions and dust
 - Aquatic / terrestrial ecology – impact to existing ecologies
 - Threatened & endangered species – impact due to noise, dust, etc.
 - Radiological / Rad accidents – occupational and public dose
 - Occupational impact – safety and injuries
 - Socioeconomics – staffing and tax impacts
 - Environmental justice – impact to minority or low income consumers

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- Cultural, historical, archeological resources – impact to archeological sites
 - Aesthetics impacts – final site configuration
 - Noise – noise above existing trains, I-5, ocean waves, etc.
 - Transportation – shipments from and to the site
 - Irreversible and irretrievable commitment of resources – consuming materials (gases, fuel, solvents, etc.)
- iv) Methodology is as follows:
- Gather data, such as environmental releases, waste volumes, environmental interfaces
 - Assess for environmental impacts
 - (a) Baseline is plant in shutdown mode
 - Determine significance level
 - (a) NRC terminology is used:
 - (i) Small (minor)
 - (ii) Moderate (sufficient to notice but can be potentially mitigated)
 - (iii) Large (clearly noticeable and sufficient to destabilize)
- v) Chairman Victor asked if these terms are used by other agencies
- Angela Leiba responded that these same categories are used (sometimes different terminology)
- vi) Chairman Victor asked how it is possible to do this amount of work with a staff of eight
- Bruce Watson explained that there are 8 staff in safety licensing but another 15 or so in other groups that also work on environmental reviews
- vii) Gene Stone believes that the terms small, moderate, and large are not well defined
- Angela Leiba stated that these terms are used by the NRC, and they correspond to the categories that are regularly used by other state and federal agencies
 - Chairman Victor added that was an important point to flag
- viii) Ted Quinn asked if sequencing of activities was important
- Angela Leiba responded all activities, regardless of sequence, are assessed
- ix) The description of the methodology continued by Angela Leiba
- Determine if covered by Generic Environmental Impact Statement (GEIS)
- x) Tim Brown asked for clarification regarding the term “bounding”
- Angela Leiba explained that this is a NRC term used to determine if it was already looked at or covered by prior environmental analyses
- xi) Chairman Victor asked in regards to SONGS, what non-GEIS have been identified
- Angela Leiba responded that two of the specific issues they looked at in the EIE were the threatened/endangered species and environmental justice, both of which are site specific
- xii) Chairman Victor asked about mitigation measures...
- Angela Leiba responded that additional resource areas will be looked at
- xiii) Ted Quinn asked if there were any differences because the site is owned by the US Navy
- Larry Rannals (Camp Pendleton) responded that they must follow Federal requirements, including NEPA
- xiv) Conclusion provided by Angela Leiba
- The EIE serves as required supporting documentation for the PSDAR

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- It presents SCE's review of environmental impacts of decommissioning SONGS 2&3 and determines if impacts are bounded by existing environmental reports
- The NRC may request additional information during its review process
- xv) Jim Leach asked what kind of visibility does the public have
 - Angela Leiba states the PSDAR becomes public and the EIE is attached to it
 - Tom Palmisano added that all documents will be posted on the SONGScommunity website and that the CEQA process will follow
- xvi) Chairman Victor asked if the EIE has been peer reviewed and if so, can the panel see the reviews
 - Tom Palmisano took an action to determine if the reviews can be shared with the panel
- xvii) Jerry Kern asked why the EIE and CEQA were not performed in parallel and what the budget was for the EIE
 - Tom Palmisano stated the EIE was performed first because it must be submitted with PSDAR so we got that one completed and then proceed with the CEQA. Tom Palmisano does not recall the budget for the EIE
- xviii) Tim Brown discussed that in regards to noise and dust, restoring to nature is different and less impactful than construction; that taking something off of a developed piece of land typically has a smaller impact
- xix) Gene Stone asked if a seismic analysis was included and if accident impacts on humans were included in the assessment
 - Angela Leiba stated that accidental releases are included
- xx) Dan Stetson asked if the conduits are included in the EIE
 - Angela Leiba confirmed that they are
- xxi) Chairman Victor takes issue with comparing decommissioning activity noises with ocean waves
 - Angela Leiba explained that the ocean measures 70 decibels and that deconstruction activities measure 65-85 decibels so she was just trying to provide a relatable comparison
- c) Barry Simms (*EnergySolutions*) – Decommissioning Cost Estimate (DCE) Process
 - i) The basis used for preparing the DCE is
 - 10 CFR50.75(c), 10CFR72.30, 10CFR50.54(bb)
 - *EnergySolutions* estimating model and data
 - SONGS specific material inventory data
 - DCE is based on selected decommissioning approach and reports costs by regulatory requirements for
 - (a) License termination
 - (b) Spent fuel management
 - (c) Site restoration
 - Period specific costs are organized by distributed and undistributed:
 - (a) Distributed are scheduled activities
 - (b) Undistributed are time- and period-dependent costs
 - The DCE demonstrates adequacy of available funding
 - Site specific input includes walk downs, material inventory, state and local requirements, and assumptions

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- ii) *EnergySolutions* maintains proprietary models for about thirty reactors
- iii) Chairman Victor asked how a peer review is performed if its proprietary
 - Barry Simms stated that some of the calculations and input could be shared, but not the model. The peer review focuses on elements of cost that are reviewable
- iv) Tim Brown asked if *EnergySolutions* estimates have proven reliable
 - Barry Simms stated that yes, they have proven to be reliable
 - Mike Dusaniwskyj (NRC) interjected that the total cost is not proprietary, but the burial costs are proprietary, and asked about the contingency factor used
 - Barry Simms stated that there is a 23% weighted average in contingency
 - Mike Dusaniwskyj stated that the NRC accepts what DCE assumptions are used as each plan is unique and has different economic conditions
- v) Tim Brown asked if when you establish costs, do you look at how much money is available and does it have an effect on how the costs are developed?
 - Tom Palmisano stated that SCE doesn't do that. This effort is done rigorously and both internal and peer reviews are performed prior to submitting to both the CPUC and the NRC
- vi) Dr. Parker asked if value engineering was performed
 - Barry Simms stated that they looked at other estimates during the process but that optimization or value engineering was not performed
 - Tom Palmisano stated that value engineering will come when vendor estimates are prepared for the actual cost of the work
- vii) Chairman Victor asked if there is enough in the trust fund
 - Tom Palmisano confirmed that there is sufficient funding
- viii) Barry Simms continued by discussing the *EnergySolutions* Methodology:
 - Proprietary decommissioning cost model used successfully since 1985
 - Well defined site-specific engineering analysis
 - Applies both detailed engineering calculations for activity costs and Unit Cost Factors (UCFs)
 - Costs calculated as either Distributed or Undistributed
 - WBS organized to report cost by regulatory requirement:
 - (a) License Termination
 - (b) Spent Fuel Management
 - (c) Site Restoration
 - Site specific inventory data
 - (a) Existing inventory data from prior estimates
 - (b) Compilation of plant system data from SONGS data base to validate and supplement prior inventory
 - (c) Material quantity inventory from license documents, structural drawings, major component and piping drawings, radiological records
 - Site Specific Undistributed Period Costs – financial parameters were provided by SCE, such as:
 - (a) Utility staff costs
 - (b) Emergency preparedness and FEMA fees
 - (c) Regulatory fees

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- (d) Property taxes
- (e) Insurance
- Spent Fuel Management Cost and Schedule Development
 - (a) Reflects the current strategy and approach provided by SCE
 - (b) Decommissioning schedule constrained by transfer of spent fuel to the ISFSI
 - (c) SCE furnished the milestone dates for commencement and completion of the spent fuel transfer
 - (d) SCE also furnished the associated costs for spent fuel transfer
- Decommissioning and site restoration cost and schedule development
 - (a) Majority of activities based on plant structure and inventory data by Unit Cost Factor
 - (b) Individual engineering calculations for more complex cost elements – e.g., reactor pressure vessel segmentation & packaging
- ix) Chairman Victor asked what are the biggest uncertainties
 - Barry Simms stated that the spent fuel storage is the biggest uncertainty
 - Chairman Victor then asked what the contingency is used for
 - Barry Simms stated that contingency is not intended to address uncertainties, but used for “known unknowns”
- x) Gene Stone asked about DOE timing uncertainties
 - Tom Palmisano stated that SCE provided the assumptions and he will get to that shortly
- xi) Ted Quinn asked if a risk analysis had been performed
 - Tom Palmisano stated that SCE will perform the risk analysis as part of the next phase of the plan
- d) Tom Palmisano (VP/CNO, SCE) – Overview of SCE’s Draft EIE and DCE
 - i) Environmental Impact Evaluation – complete detailed documents will be provided on the website
 - NRC requirement, not CEQA requirements which will be addressed in a later phase
 - The basis are environmental assessments done as part of the original construction as well as the NRC’s Generic EIS (or GEIS)
 - (a) Done at a level of detail well beyond that required for inclusion in PSDAR
 - (b) All key impacts assessed found to be not detectable, or so minor that they will neither destabilize nor noticeably alter any important attribute
 - (c) Confirms differences are bounded by the Generic or Existing EIS
 - Key EIE assumptions related to keeping impact “small”:
 - (a) Assume that ocean conduits will not be removed (this is consistent with Unit 1)
 - (b) Ensure no blasting will be used in decommissioning
 - (c) Maintain existing land use designations
 - (d) Comply with existing permits, obtain other permits where required
 - (e) Limit excavations to area previously excavated during original construction
 - (f) Ensure air quality impacts are minimized (diesel engines)
 - Chairman Victor mentioned that conduits are better left in place, but perhaps CEP should spend some time discussing
 - (a) Tom Palmisano stated that during the pre-job brief he flagged some of these assumptions for discussion

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- (b) Chairman Victor asked that Tom identify the most critical things that should be discussed, such as the conduits
- (c) Dan Stetson asked if California State Lands was the regulatory agency
- (d) Tom Palmisano confirmed that it's State Lands, not the California Coastal Commission
- Tom Palmisano discussed key impacts assessed:
 - (a) Air quality, such as emissions and dust
 - (b) Threatened and endangered species, which are site specific
 - (c) Occupational impact
 - (d) Socioeconomics
 - (e) Environmental justice
 - (f) Aesthetics impacts
 - (g) Noise, which we talked about, such as the decibel level of the ocean, I-5, etc.
- Chairman Victor commented that Angela had said environmental justice and endangered species were the largest impact, however, they are still considered small
 - (a) Tom Palmisano explained that we could not use the GEIS for these two issues as they required a site specific analysis
 - (b) Chairman Victor commented that the panel should look at these two items carefully
- Tim Brown asked about dose rates and if different classes of waste have bigger impact on employees
 - (a) Tom Palmisano stated that the radiological aspect is not different than already analyzed. As technology gets better the dose level improves; activities can be performed remotely, thus protecting employees
- Bill Parker asked if level of risk is after all mitigation is taken into account
 - (a) Tom Palmisano confirmed that mitigation is assumed and added that he is looking forward to the panels comments and questions
- ii) Decommissioning Cost Estimate
 - Tom Palmisano stated the DCE is neither a construction nor a deconstruction cost estimate that will be done in the future. This is an estimate to identify the decommissioning plan, which is early decontamination and dismantlement, over a 20+ year period and identifies the spent fuel storage costs, and then tabulate that systematically with good benchmarking data such as unit rates and develop a cost estimate to compare it with available funding to ensure we have adequate funds. The basis is
 - (a) 10 CFR 50.75(c), 10 CFR 72.30, 10 CFR 50.54(bb)
 - (b) EnergySolutions estimating model and data
 - (c) SONGS-specific walk down validation of quantities
 - Structure of the DCE includes
 - (a) A discussion of the decommissioning plan
 - (b) Assurance of the adequacy of funding
 - (c) Provides total cost by period broken into major components
 - (d) Summary of the cost of services
 - (e) Summary of undistributed costs
 - (f) Outlines costs for spent fuel management, license termination, and site restoration
 - Key assumptions used:

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- (a) Fuel is out of spent fuel pool – 2019
- (b) DOE performance start – 2024
- (c) Pool islanding – 2015
- (d) Substructure excavation – all substructures removed
- (e) Duration of D&D – estimated at 10 years
- (f) Contingency – 23%
- (g) Ocean conduits – assume removal
- (h) Treatment of class A waste – no class A waste exempt
- (i) Start of D&D – January 2016
- (j) Low level waste burial cost escalation – D&D is CPI, Post-D&D 7.33%
- David Victor asked Michael Dusaniwskyj (NRC) if the DOE forecast of 2024 is a fantasy
 - (a) Michael responded that the DCE follows the requirements
 - (b) The NRC is not required to analyze how long the funds will last post 2024, but they do the analysis out of curiosity
 - (c) The NRC performs an annual review of the DCE
- Tom Palmisano added that the assumption is that fuel will be moved in 2049 and the ISFI will be deconstructed by 2052
- Total cost of decommissioning is \$4.411 billion in 2014 dollars
 - (a) License termination of \$2.112 billion – decommissioning planning through reactor and other plant system dismantlement and decontamination
 - (b) Spent fuel management of \$1.276 billion – transfer of spent fuel into and management of dry cask storage, and ultimate demolition of the ISFSI
 - (c) Site restoration of \$1.023 billion – clean building demolition and site grading
- Switchyard remains as it is the SCE/SDG&E interconnection
 - (a) Chairman Victor asked about moving it to eliminate the transmission lines over the freeway
 - (i) Tom Palmisano stated that relocation would be way down the line
- Chris Thompson stated that \$3.9 billion is the collective fund total (100% share including co-owners). The rate of appreciation of the assets in the trust funds exceeds the rate of escalation. We are not spending \$4.4 billion on day one; therefore, the funds that are there are going to appreciate further and faster than the rate of escalation of the costs.
- Larry Rannals asked if the DCE has more detail
 - (a) Tom Palmisano confirmed that it does
 - (b) Larry Rannals also asked if the reactor pressure vessels can be moved
 - (i) Tom Palmisano stated that he is highly confident all three (one from each of the three units) will be moved
- Tom Palmisano continued with discussion of underground restoration
 - (a) Site restoration is estimated at \$1 billion (less than the CPUC study)
 - (b) Fuel is assumed to be gone from the site by 2049
 - (c) ISFSI is assumed to be gone by 2052
- Next regularly scheduled CEP meeting is August 14, from 6:00-9:00 p.m.
 - (a) Review of draft DCE and EIE covered tonight
 - (b) Focus on SCE's draft PSDAR
- Gene Stone asked if the cost of the dry cask storage is included in the DCE
 - (a) Tom Palmisano confirmed it is and that details can be found in the report

**San Onofre Decommissioning Community Engagement Panel
WORKSHOP**

Thursday, July 17, 2014, from 6:00-8:30 p.m. PDT in Oceanside, California
Notes and Action Items

- Hon Pat Bates asked to see the cash flow
 - (a) Tom Palmisano confirmed it would be included at the next meeting
- Val Macedo asked what Tom Palmisano's take was on the underground dry cask storage technology
 - (a) Tom Palmisano responded that both systems are viable, safe, and can be monitored

VI) Closing (Chairman Victor)

- a) Chairman Victor thanked the panel and the guest speakers for a very informative meeting
- b) Reminded the panel to focus on what information the community would like to know
- c) Next regularly schedule CEP meeting is August 14, 6:00-9:00 p.m.

VII) Meeting adjourned at 8:32 p.m.

VIII) Action Items: see next page

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ACTION ITEMS AND PLANNED RESPONSE

	Action Item Description	Comments	Approach
1.	David Victor: Identify issues the CEP wants to know about on an ongoing basis	CEP Officers to identify future meeting topics based on input by CEP members	Future CEP meetings to reflect this input
2.	Gene Stone: On Dry Cask Canister Design, there are other dry storage systems not used in the U.S. Some designs monitor pressure inside the canister while it is in service.	David Victor, working with Gene Stone, would do a review for the panel	Verbal report out to CEP by David Victor after the review is complete
3.	David Victor: There is a need for an Integrated Rule Making process. Currently a lack of process during the transition period of when a plant moves from operating to decommissioning.	Based on discussions, the NRC is aware of this.	David will follow up with Chairman Macfarlane
4.	David Victor: Could SCE flag the critical issues and conclusions in the EIE for the CEP? What are the issues that the CEP should focus on? For example, the discussion on ocean conduits.	SCE to provide a response	Email response when available
5.	David Victor: Can the CEP see the peer review and comments made during the review process of the EIE? For David, the peer review is a way to measure the robustness (quality) of the document.	SCE to provide a response	Email response when available
6.	Pat Bates: Regarding DCE there is a concern of the cost. Can SCE provide where the costs of \$3.9 and \$4.1 billion will intersect? Pat asked this to be presented at the next CEP meeting.	SCE to provide a response	Verbal report out to CEP at 8/28 Regular Meeting