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STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:

Petition For Amendment for the
**PALEN SOLAR ELECTRIC
GENERATING SYSTEM**

DOCKET NO. 09-AFC-7C

**PALEN SOLAR HOLDINGS, LLC'S
OPENING BRIEF**

In accordance with the Committee Revised Scheduling Order dated June 2, 2014 , and the Committee Memorandum dated August 1, 2014, Palen Solar Holdings, LLC (PSH) files this Opening Brief to address disputed topics and the questions posed by the Committee in its Order to Reopen the Evidentiary Record dated May 21, 2014 (Hearing Order).

EXECUTIVE SUMMARY

PSH thanks the Committee for productive questioning at the evidentiary hearings on July 29, and 30, 2014. PSH believes it has provided overwhelming evidence that, where possible, all impacts are reduced to less than significant levels. This Executive Summary provides the Committee with the conclusions for each topic area covered in the evidentiary hearings, with support provided in later sections of this brief.

PROJECT DESCRIPTION

The Center For Biological Diversity (CBD) and the Colorado River Indian Tribes (CRIT) have either directly or implicitly contended that PSH's Revised Phasing Plan renders the Project Description incomplete, allegedly violating the California Environmental Quality Act (CEQA). There is neither legal nor factual support for this contention. The Revised Phasing Plan¹ is clear that the project will be constructed in two phases. The first phase will include the westernmost unit and the common and linear facilities. Phase II will consist of the easternmost unit. There is nothing confusing about this plan. It is clear and well defined. PSH's commitment as memorialized in its Proposed Condition of Certification **PD-1** does not in any way modify the Project Description. CBD and CRIT confuse the concepts of

¹ Exhibit 1167.

what the Final Decision addresses with some notion of “approval” or “authority to construct.” The Commission does not grant an “approval” or “authority to construct” when it writes a Final Decision. Rather, the findings and conditions of certification of that Final Decision dictate what can be constructed and when. In this case, if the Final Decision includes Proposed Condition of Certification **PD-1**, then that condition simply would specify under what conditions Phase II can be constructed. Without Condition of Certification **PD-1**, the Petitioner’s commitment to file an amendment to incorporate thermal energy storage (TES) into Phase II would be unenforceable by the Commission. On the one hand, CBD and CRIT have said the commitment to incorporate TES is hollow. They then oppose the very condition that ensures such a commitment is real and enforceable. Whether the Petitioner will be able to actually construct Phase II is no more certain than other projects approved by this Commission without applicable power sale contracts in place.² The Committee should acknowledge Staff’s substantial work by including Staff’s evaluation of the potential impacts associated with the entire project in its Final Decision, but should note that it is only fully authorizing the construction of the westernmost unit pursuant to the Revised Phasing Plan and by incorporating Condition of Certification **PD-1**.

The Committee should also note that there is no evidence in the record contradicting the Petitioner’s estimated amount of natural gas necessary for the PSEGS. The conditions limit the amount of natural gas to the amount estimated and if additional natural gas were to be needed in the future, the Petitioner would be required to file an amendment of its Final Determination of Compliance (FDOC)³ with the South Coast Air Quality Management District (SCAQMD) and then file an amendment with the Commission. At that time, the Petitioner will bear the burden of proof of showing any changed circumstances warranting additional natural gas that were not known at the time of these evidentiary hearings.

Lastly, CBD has criticized PSH for providing a description of how TES could be incorporated into the existing design of Phase I and future Phase II. PSH has been clear that it is not requesting TES for either phase at this time, but has provided an indicative schematic and layout drawing showing how TES could be accommodated. No party has presented any evidence to the contrary.

AVIAN IMPACTS AND MITIGATION

PSH is the only party that has provided a reasonable, science-based, “frame-of-reference” quantification of the potential impacts from solar flux. This included a risk assessment based on site-specific data and utilizing clear underlying assumptions. The un rebutted evidence also includes placing the estimated avian impacts from solar flux into the context of other sources of avian mortality including an equivalent wind energy project and a

² See for example, Blythe II Combined Cycle - Blythe Energy, LLC (02-AFC-1)

³ Exhibit 2016.

comparison between reported data from three different solar technologies. The best available data and the most accurate applied science indicates that the impacts from solar flux are manageable and may be fully mitigated with judicious application of the funds provided by Condition of Certification **BIO-16a**.

Further, PSH has provided unrebutted evidence that any form of curtailment, which Staff is notably not recommending⁴, is infeasible and will not materially and assuredly reduce avian impacts.

Additionally, PSH is the only party that provided examples of existing deterrent technologies and an example of an emerging technology that could be used to reduce avian mortality at the PSEGS. PSH has committed to test and implement deterrent technologies. Furthermore, PSH's avian mortality estimates **do not include** any reductions due to the deployment of deterrent methods. Therefore, PSH's estimates are conservative.

The Committee provided good direction at the evidentiary hearing regarding "outcome-based performance standards." PSH supports such an approach and offers modifications to Condition of Certification **BIO-16b** that will ensure that the Technical Advisory Committee (TAC), with input from outside experts, if necessary, will direct the mitigation funds towards specific conservation efforts with overarching goals to achieve a one-to-one offset ratio for State and Federal listed species taken by the project and a ratio to be determined by the TAC to avoid population level impacts to other special-status species.

CULTURAL RESOURCES

For Cultural Resources, PSH has attempted to frame Condition of Certification **CUL-1** to respond to the many objections of tribal representatives, including the most important aspect of putting the tribes in the "driver seat" with respect to all studies associated with the inseparable nature of the land and their cultural and spiritual values. Staff believes that CEQA provides some sort of floor for funding of its studies. There is no such mandate and Staff has provided no real justification for its funding level. While it has said it "costed out" the studies, no such backup was ever provided. PSH, on the other hand, has proposed a reasonable amount for a monetary cap, taking into account that the project can only bear so much mitigation. According to the findings of the PMPD (with which PSH disagrees), the mitigation funding will not reduce the impacts to less than significant levels. Further, there have been no substantive comments or credible evidence submitted by CRIT or any other tribal representative proposing anything but elimination of the funding altogether. Thus, the Committee should view PSH's proposal as an accommodation to provide funding for tribal activities and Staff studies that the tribes specifically request.

⁴ Exhibit 2018, page 11 ("staff remains uncertain if curtailment would be feasible and will not be recommending revisions to Condition of Certification **BIO-16** to include a curtailment plan").

TRAFFIC AND TRANSPORTATION - GLARE

PSH and Staff believe that the issues raised concerning pilot complaints are now resolved. The evidence in the record confirms that with the incorporation of Revised Condition of Certification **TRANS-7**, the potential glare impacts that may occur to pilots will be reduced to less than significant levels.

INFEASIBILITY OF ALTERNATIVES

PSH has also provided the only evidence that the alternatives are infeasible as they cannot meet the basic project objectives and the underlying objectives of the State of California to take quick action on climate change.

OVERRIDING CONSIDERATIONS

Lastly, PSH has provided significant reasons why the PSEGS's benefits outweigh its environmental impacts. The proposed project has the ability to interconnect with the recently upgraded transmission system, and the use of PSEGS technology would provide system benefits to the transmission system. As described in detail, the future of solar thermal with TES lies with power tower technology. The PSEGS will provide a significant number of highly skilled jobs, superior in many ways to the jobs associated with other solar technologies, at a time when the region's construction industry is still recovering from the recent economic downturn.⁵ The PSEGS will provide significant positive economic impacts to eastern Riverside County.

With the incorporation of the new Revised Phasing Plan⁶ and Proposed Condition of Certification **PD-1**, the Commission can be assured that the second unit will not be constructed until the Commission has approved an incorporation of TES into the design. The practical combined effect of the Revised Phasing Plan and Condition of Certification **PD-1** is that the potential impacts for most impact areas is roughly reduced by one half⁷ at this time, and the Commission can consider the effects of the second phase at the time such an amendment is filed.

The remainder of this Opening Brief provides a more detailed description of the evidence in the record, the legal standard for analyzing that evidence, and the conclusions the evidence and law support for each topic area identified in the Hearing Order.

⁵ Exhibit 6000, pages 3-4.

⁶ Exhibit 1167.

⁷ Exhibit 1206 ("Construction of only Unit 1 at this time would reduce the impacts to Biological Resources by roughly one-half").

PROJECT DESCRIPTION

I. Revised Phasing Plan

Although we have not yet received the Opening Briefs of CBD or CRIT, comments at the Pre-Hearing Conference and during the evidentiary hearings suggest that these Interveners contend the Project Description violates CEQA. These comments suggest the basis for their contention is related to the Revised Phasing Plan, the description of the potential for incorporation of future TES after Phase I is constructed, and the commitment of Condition of Certification **PD-1** to incorporate TES into Phase II through the amendment process. As explained below, there is no legal support for any of these contentions and the PSEGS is sufficiently described to enable the Commission to prepare its Revised Presiding Member's Proposed Decision (PMPD) and ultimately issue a Final Decision.

A. *Evidence*

The following describes the evidence in the record describing the PSEGS. PSH has not made any changes to the PSEGS as described in its Petition For Amendment⁸ since the rerouting of its natural gas pipeline⁹, filed on March 15, 2013, other than the Revised Phasing Plan identified in Exhibit 1167 and described in Exhibit 1166. The original Petition For Amendment always included a phasing plan.¹⁰ The original phasing plan identified areas within the power blocks of both units, the common area, and the linear facilities to be constructed as Phase I. The remainder of the PSEGS facilities was identified as Phase II. PSH's Revised Phasing Plan includes all of Unit 1 (the westernmost solar field and power block), the common area and construction laydown area, the project switchyard, the access road, the natural gas pipeline, and the generation tie-line as Phase I. Phase II is now identified as the easternmost solar field and power block and addition of the second evaporation pond within the common area.¹¹

As described in Exhibit 1166, the reason the phasing plan was modified was that due to the permitting delays, it has become improbable that both units can be constructed in time to meet the commercial operation date milestones for both of the existing PPAs. Therefore, although PSH desires to construct both phases of its phasing plan, PSH was obligated to disclose to the Commission that the PSEGS must be constructed under the Revised Phasing Plan.

⁸ Exhibit 1003.

⁹ Exhibit 1008.

¹⁰ Exhibit 1003, pages 2 through 4.

¹¹ Exhibit 1166.

B. Legal Standards

CEQA requires that an agency ensure that any project be appropriately described. Only four elements are mandatory for an adequate project description under CEQA: (1) a detailed map with the precise location and boundaries of the proposed project; (2) a statement of project objectives; (3) a general description of the project's technical, economic and environmental characteristics; and (4) a statement briefly describing the intended use of the environmental document.¹² The focus for determining the adequacy of a project description is whether the decision makers have sufficient information to analyze the environmental impacts given the nature of the project.¹³

As discussed below, the Revised Phasing Plan and the commitment to add TES in the future, subject to an approved amendment, does not render the Project Description non-compliant with CEQA.

C. Application of Legal Standards and Conclusions

The PSEGS project description contains all four of the necessary elements and, therefore, it complies with CEQA.¹⁴ Exhibit 1125 includes a basic description of TES to demonstrate that **TES could be added in the future** and therefore is not a modification to the Project Description. As described in Exhibits 1125, 1129 and 1145, while the current configuration of the power block can accommodate TES, PSH is not proposing it now. As discussed in more detail in the section of this Opening Brief entitled Overriding Considerations, the purpose for describing TES is to identify that the PSEGS, compared to the alternatives and other renewable technologies, is supremely suited to incorporate storage in the future as California's need for grid flexibility evolves.

As described above, the PSEGS project description has remained constant throughout the amendment process. However, while the phasing of project construction has been revised, all relevant aspects of the project (e.g., project boundaries, statement of project objectives, technical and environmental characteristics, etc.) have remain unchanged since PSH filed its relocation of the natural gas pipeline on March 15, 2013.¹⁵ Because the PSEGS project description is compliant with CEQA, and because it has remained accurate and consistent

¹² 14 CCR 15124. See also *County of Inyo v. City of Los Angeles*, 71 Cal.App.3d 185 (1977); *California Oak Foundation v. Regents of University of California*, 188 Cal.App.4th 227 (2010).

¹³ *Citizens for a Sustainable Treasure Island v. City and County of San Francisco*, Cal.App. LEXIS 595 (2014).

¹⁴ See Exhibit 1003, PSH's Petition for Amendment, Project Description Section, as modified by the relocated gas pipeline drawing, Exhibit 1008.

¹⁵ Exhibit 1008.

throughout the licensing process, the project description contains enough detail to permit reasonable and meaningful review of the project.

During evidentiary hearings, CEC Staff acknowledged the Revised Phasing Plan and expressed no concerns about it. Indeed, other than noting that minor changes needed to be made to Conditions of Certification **BIO-29** and **SOIL&WATER-3**, CEC Staff stated as follows:

Other technical areas from the impacts associated with the phasing plan **would either be beneficial or have no impact with the construction of one tower**. No other changes to conditions of certification would be needed for this revised phase-in plan.¹⁶
(emphasis added)

Also, CEQA requires the project owner to fully describe the entire project being proposed, and the project description must not be minimized to avoid a full discussion of potential project impacts.¹⁷ Further, a project description must include all relevant aspects of a project, including reasonably foreseeable future activities that are part of the project, such as the Revised Phasing Plan and the commitment to incorporate TES into Phase II.¹⁸

Hence, neither the Revised Phasing Plan nor the description of incorporation of TES in the future renders the Project Description incomplete or inaccurate. It is undisputed that with respect to implementation of Phase II of the phasing plan, or incorporating TES into Phase I, both actions would require PSH to file an amendment with the Commission pursuant to the Commission's regulations.¹⁹ This amendment would require the Commission to conduct an environmental review pursuant to its Certified Regulatory Program at the time of the amendment, which would satisfy its obligations under CEQA. It is only at that time that the description of the project, **as amended**, would be required to describe the TES system and any other associated modifications.

II. Natural Gas Consumption

The Hearing Order requested the parties address natural gas consumption estimates for the PSEGS in light of ISEGS' proposed increased natural gas use.

¹⁶ 7/30/14 RT page 34, Testimony of Christine Stora.

¹⁷ *City of Santee v. County of San Diego*, 214 CA3d 1438, 1450 (1989).

¹⁸ *Laurel Heights Improvement Assn. v. Regents of the University of California (Laurel Heights I)*, 47 Cal.3d 376 (1988).

¹⁹ 20 C.C.R. § 1769.

Natural Gas Consumption. BRW, CBD, and CRIT cite ISEGS' recent request to amend its permit to allow larger quantities of natural gas to be used to start the steam cycle in the morning and compensate for periodic reductions in solar energy throughout the day. We wonder if a similar request will be necessary for PSEGS and, if so, prefer to address it now rather than in a subsequent amendment process.²⁰

A. Evidence

As Exhibits 1152 and 1166 show, the preliminary design of the PSEGS and its associated boilers would not require additional natural gas consumption. There is no contrary evidence in the record and thus the Commission has nothing to decide.

III. Future Thermal Energy Storage

As described above, any future incorporation of TES into either Phase I or Phase II would first require an amendment to be filed, at which time the TES component and any other changes would need to be adequately described. The role of TES in California and why the PSEGS is the best alternative to realize TES goals is described in the section of this Opening Brief entitled Overriding Considerations.

BIOLOGICAL RESOURCES

AVIAN IMPACTS AND MITIGATION

AVIAN IMPACTS

The Hearing Order provided the following guidance regarding avian impacts.

Avian Impacts. The PMPD identified insufficiencies in the data regarding the impacts to avian species. Petitioner's proposed data would add to the information available to us. Several parties argue that more time is necessary to gather sufficient data and question various aspects of Petitioner's offerings. Those questions are best resolved through the hearing process, not by ruling on arguments contained in pleadings.²¹

Further, the Committee provided the following guidance at the PMPD Conference regarding the type of avian data it thought would be helpful in reconsidering the potential impacts of the PSEGS.

²⁰ Hearing Order, page 4.

²¹ Hearing Order, Page 3.

We do acknowledge significant uncertainty around this issue and in the PMPD we granted Petitioner leave to supplement the record with additional information not only about the impacts of solar flux on Avian species, but about how that impact compares to other technologies.²²

My interest is in having at a minimum a frame of reference that will help orient me in terms of this technology, this location, and how it compares to other technologies in other locations. I'm not looking for the final perfect analysis, I'm not looking for the elimination of uncertainty, but I'm looking for some orientation as to the issues that we currently do not have in our record.²³

The following describes the evidence in the record, the law and standards that are applicable for evaluating the potential avian impacts, and the conclusions that the Committee should reach.

A. ***Evidence***

PSH has worked diligently to provide the Committee with the “frame of reference” it has requested, and PSH is the only party to provide a specific methodology and actual estimated numbers and types of birds that may be impacted by solar flux. The following is a listing of all of the evidence that PSH has provided.

PSH compiled the best available data on avian mortality collected at existing solar projects, which was presented in Exhibit 1133 (Avian Mortality Comparison Table). Staff and the Interveners have stated that the summary of the avian mortality data provided in Exhibit 1133 is insufficient to draw any conclusions, yet they routinely use that same data to support their various positions when convenient.

PSH provided Exhibit 1138 which supports the premise that in the absence of systematic surveys, incidental avian mortality reports at the Genesis Solar Energy Project (GSEP) are related to the number of workers on site at any time. Therefore, it is likely that the avian mortality reported for GSEP is underestimated. Relevant to the comparison of potential avian impacts between the PSEGS and the No Project Alternative²⁴, PSH provided Exhibit 1155 which shows that GSEP is roughly half of the size of the No Project Alternative. Therefore, to compare expected avian mortality at the PSEGS site between the No Project Alternative and PSEGS, one

²² Transcript of the PMPD Conference held on January 7, 2014, page 21.

²³ Ibid., pages 21-22.

²⁴ The No Project Alternative is the same of as the Approved Project which was solar trough technology encompassing roughly 4,366 acres.

would first need to significantly scale up the avian mortality related to GSEP (since GSEP has reported only incidental fatality data and GSEP is half the size of the No Project Alternative) to arrive at an estimate of avian mortality for the No Project Alternative at the PSEGS site. No party has offered any evidence to the contrary.

Exhibits 1156, 1157 and 1159 provide a frame of reference for the Committee by presenting other sources of anthropogenic sources of bird mortality, estimates for an equivalent 500 MW wind energy project, and a comparison of the expected raptor mortality of the PSEGS in comparison to other energy facilities. No party has offered any evidence to the contrary.

PSH has also provided Exhibits 1160, 1161 and 1162 which utilize the solar flux projections at PSEGS and using the data collected through systematic monitoring, has further refined a potential “flux danger zone.” Rather than define the zone as a minimum level of flux, the danger zone has been derived from the spatial relationship of the avian mortality distribution at ISEGS. Avian fatalities from solar flux are virtually non-existent outside the near tower area. This is confirmed by other biologists who are working to understand avian mortality issues at ISEGS.²⁵ PSH experts then provided a very conservative estimate of numbers and types of birds that would be subjected to risk at PSEGS, using the actual survey data collected at the PSEGS site.²⁶

PSH is the only party to have performed a risk assessment to estimate the numbers and types of species that would be impacted by solar flux.²⁷ PSH even used Staff’s flawed dose-response theory to estimate the numbers of solar flux avian impacts in Exhibit 1205.

PSH also provided Exhibits 1201 and 1202 and explained at the evidentiary hearing the difference between the flux generated by light (solar flux) and flux generated by heat (thermal flux).²⁸ Mr. Binyamin Koretz explained that flux generated by heat and solar flux have been conflated.²⁹ Specifically, Staff has said in its rebuttal, “thresholds for solar flux exposure have been established for humans, range from 1.42 kW/m² (24 CFR, Section 51.204 Appendix II) to 5 kW/m² (49 CFR Part

²⁵ Exhibit 1174, Ivanpah Avian and Bat Monitoring 2013-2014 Winter Report, prepared by HT Harvey and Associates, page ii (“The monitoring information indicates flux-related effects occur overwhelmingly in the immediate vicinity of the towers.”)

²⁶ Exhibit 1131. See also Exhibit 1158 which provides a description of all of the substantial amount of avian survey data collected at the PSEGS site.

²⁷ Exhibit 1139, methodology described in Exhibit 1134.

²⁸ 7/30/14 RT pages 244 through 250, Testimony of Binyamin Koretz.

²⁹ 7/30/14 RT pages 249, Testimony of Binyamin Koretz.

193).”³⁰ However, Staff’s citations are from fire science reports that address thermal flux, not solar flux.

The first reference, 24 CFR, Section 51.204 Appendix II (A Housing and Urban Development Manual of Standards for housing siting) states, “People in outdoor areas exposed to a **thermal radiation flux** level of approximately 1,500 BTU/ft² will suffer intolerable pain after 15 seconds (approximately 4.7 kW/m²).” (emphasis added) The second source, 49 CFR 193 – relates to the safety of storing liquefied natural gas; the Jagger O’Sullivan 2004 citation is a report which examines the consequences of exposure of offshore workers to differing levels of **thermal radiation** associated with hydrocarbon fires. When Staff or USFWS use thermal flux and solar flux interchangeably, they are making a fundamental error.³¹ Staff’s use of thermal flux graphs and studies to support its dose-response relationship for solar flux is inappropriate.

No other party has provided anything but criticism of PSH’s attempts to provide the Committee with the frame of reference requested. Staff acknowledged that it has never provided any specific, non-relative quantification of avian impacts at PSEGS from solar flux in this proceeding.³²

The only competing estimates were those provided by Dr. K. Shawn Smallwood, which were based only on two months of reported data from ISEGS and used a flawed scale-up approach. That is, Dr. Smallwood took reported ISEGS data from April and May 2014, which is the spring migration period and therefore likely a higher risk period, and expanded that data for the whole year.³³ He also references non-applicable [persistency and] searcher efficiency rates. Such an approach will greatly over-estimate mortality. Indeed, if Dr. Smallwood’s approach and estimates were accurate, then the avian mortality reported at ISEGS under its agency approved survey protocols would be much higher than the totals reported in 2014.³⁴ See also Exhibit 1205 for an analysis of Dr. Smallwood’s estimates.

As described by Mr. Wally Erickson, Exhibit 1139 provides the best estimates of avian impacts. Even our most conservative estimates do not predict anything close to the scale of species population-level impacts. Additionally, the ISEGS data confirms that birds are not being vaporized³⁵, as was theorized by some parties and commenters to this proceeding.

³⁰ Exhibit 2000, page 4.2-154 and referred to again in Exhibit 2018, page 15.

³¹ Ibid.; See also 7/30/14 RT, page 249, Testimony of Binyamin Koretz.

³² 7/30/14 RT page 393 through 394 Testimony of Chris Huntley.

³³ 7/30/14 RT pages 259 through 261, Testimony of Wally Erickson.

³⁴ See Exhibit 1203.

³⁵ Exhibit 1134, pages 8 and 9.

B. Legal Standards

The portions of the CEQA Guidelines that are relevant for assessing potential avian impacts include an analysis of whether a project will (1) “have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service;” or (2) “[i]nterfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.”³⁶

Under these Guidelines, a CEQA lead agency must evaluate whether a potential impact to any candidate, sensitive or special status bird, or any native resident or migratory bird, from any project-related cause, would result in a “significant adverse effect.” The CEQA Guidelines define a “significant adverse effect” as “a substantial, or potentially substantial, adverse change” to avian species.³⁷ This determination must be based on substantial evidence, which includes “facts, reasonable assumptions predicated upon facts, and expert opinion supported by facts.” The CEQA Guidelines state that a significance finding cannot be supported by “[a]rgument, speculation, unsubstantiated opinion or narrative [or] evidence which is clearly erroneous or inaccurate....”³⁸ The purpose of the analysis is to “provide public agencies and the public in general with detailed information about the effect which a proposed project *is likely* to have on the environment” (emphasis added).³⁹

To assess the impact of a proposed project on the environment, a CEQA lead agency must examine the changes to existing environmental conditions that would occur in an affected area if a proposed project was implemented.⁴⁰ When no accepted methodology exists to assess an environmental impact, the lead agency should conclude that the impact is too speculative to reliably evaluate and is therefore unknown. Analytical uncertainty does not mean and cannot support a finding that an impact is significant.⁴¹ When the assessment of a project's effects would be speculative and require an analysis of hypothetical conditions, the effect need not and should not be evaluated.⁴² CEQA does not authorize lead agencies to impose a “precautionary principle” against an applicant, whereby the agency

³⁶ 14 Cal. Code Regs. § 15000 *et seq.*, Appendix G, IV (a) and (c) (2010).

³⁷ 14 Cal. Code Regs. § 15382.

³⁸ 14 Cal. Code Regs. § 15384.

³⁹ .” Pub. Res. Code § 21061.

⁴⁰ 14 Cal. Code Regs. § 15126.2(a); *San Joaquin Raptor Rescue Ctr. v. County of Merced* (2007) 149 Cal.App.4th 645, 676.

⁴¹ *See, e.g., Laurel Heights Improvement Ass'n v. Regents of Univ. of Cal.* (1993) 6 Cal.4th 1112, 1137.

⁴² *Anderson First Coalition v. City of Anderson* (2005) 130 Cal.App.4th 1173, 1182; *Marin Mun. Water Dist. v. KG Land Cal. Corp.* (1991) 235 Cal.App.3d 1652, 1662.

assumes a potential impact is significant or an event is occurring unless the applicant proves it is not.

C. Application of Legal Standards and Conclusions

PSH believes the “precautionary principle” should not be applied to the evaluation of the PSEGS. Staff has essentially assumed that solar flux is injuring birds at ISEGS in ways not corroborated by any of the evidence in the record. Staff’s assumption then requires PSH to disprove this unsupported theory. Requiring PSH to “prove the negative” violates CEQA. However, in order to be cooperative with the Committee’s request, PSH has provided estimated numbers of avian mortality that could potentially occur due to solar flux, using a conservative concentrated solar flux danger zone. PSH employed methodology similar to that recommended and used by USFWS for predicting eagle mortality at wind projects. Staff provided no such estimate, yet criticized the size of the danger zone employed by PSH.

Staff’s criticism is misguided and, as explained by Mr. Koretz, conflates thermal flux from heat with solar flux from light.⁴³ Staff’s methodology is based on the assumption that there is a dose-response relationship that makes all levels of solar flux hazardous.⁴⁴ Staff supports this entire theory by inappropriately relying on literature developed for human exposure to thermal flux (not solar flux) from fires.⁴⁵ Most importantly, Staff has developed this competing theory without sufficiently explaining the details in a manner that would allow its thinking to be followed, the methodology to be verified, or the calculations to be repeated. Further, PSH has provided Exhibit 1204, which is a map of bird’s nests at ISEGS, showing that small birds are nesting and reproducing in the solar field, negating Staff’s theory.⁴⁶ In short, Staff simply ignored all data that conflicted with its dose-response theory.

Staff’s “danger zone” is overestimated as it relies on two inaccurate assumptions. The first is Staff’s simplistic solar flux modeling. The appropriate distribution of expected solar flux from PSEGS is shown on Exhibit 1160. In addition, Staff assumed that all avian mortality reported at ISEGS as “unknowns” are related to solar flux because they found that the amount of “unknowns” was more concentrated near the tower. Staff ignored all other more plausible reasons that the number of “unknowns” were greater near the tower, such as increased collisions due to increased heliostat density nearer the tower;⁴⁷ or the fact that 100% of the area near the tower is graded, cleared and biologically surveyed thus increasing the

⁴³ 7/30/14 RT 244 through 250, Testimony of Binyamin Koretz.

⁴⁴ 7/30/14 RT page 362 through 366, Testimony of Geoff Lesh.

⁴⁵ Exhibit 2018, page 39

⁴⁶ Exhibit 1204.

⁴⁷ Staff assumed that heliostat density was uniform throughout the field, Exhibit 2018, page 38.

likelihood of finds.⁴⁸ Staff's dataset also includes data from a period of time when the heliostat field was not being systematically surveyed, which should contribute to the lack of finds of unknowns in the solar field, thereby skewing the data to represent more finds of unknowns proportionally in the near-tower surveyed area.⁴⁹

Using a dose-response relationship, Staff then theorizes that there is solar flux damage to birds without any evidence of singeing of feathers even though none of the necropsies performed by the National Fish and Wildlife Forensics Laboratory provided any such evidence.⁵⁰ Even when Staff sought support from USFWS for this contention, USFWS stated in Exhibit 3151:

All of the Ivanpah birds that died from solar flux exposure showed visible evidence of feather burning. Studies of thermal effects in tissue culture indicate that brief exposure to elevated temperatures below the level sufficient for feather singeing can cause cell death. **However, we have yet to find evidence of such effects in birds exposed to solar flux.** (Emphasis added)⁵¹

Bird carcasses from Ivanpah with feather singeing often (but not always) also had extensive skin charring and other tissue damage. **However, we found no evidence of thermal injury to skin or other organs in birds lacking feather singeing.** No tissue damage was detected on the four singed birds that were recovered alive at Ivanpah and subsequently died at rehabilitation facilities. Surface burns, such as skin burns, should be detectable during post-mortem examination (visible grossly and/or microscopically) within minutes to a few hours after exposure.

The results of our preliminary study demonstrate that significant avian mortality is **caused by the intense solar flux that produces feather singeing. No evidence was found for avian mortality caused by lower levels of solar flux exposure.** (Emphasis added.)⁵²

Staff has adopted a theory that levels of solar flux **below** those that can cause any singeing of feathers are injuring birds at ISEGS even though there is **no evidence** in the record to support such a theory. Staff then applies this theory to PSEGS in its

⁴⁸ 7/30/14 RT page 255, Testimony of Wally Erickson.

⁴⁹ 7/30/14 RT pages 373 through 374, Testimony Exchange between Matt Stucky, Wally Erickson and Geoff Lesh.

⁵⁰ Exhibit 3107, pages 15, 18 and 19.

⁵¹ Exhibit 3151, page 1

⁵² Ibid, page 2.

criticism of the risk assessment included in Exhibit 1139. Staff is requiring PSH to prove such a theory is not possible. Such speculation and application of the precautionary principle is contrary to CEQA and the Committee should not require PSH to “prove the negative.” The evidence does not justify Staff’s speculation.

The Committee should find that PSH’s estimates or potential avian impacts from solar flux are scientifically based, appropriately incorporate trends observed at ISEGS, and are conservative.

AVIAN MITIGATION

Curtailement

The Hearing Order provided the following guidance relating to whether or not curtailement should be considered.

Curtailement Provision. The Committee desires testimony and comment regarding whether it is feasible or appropriate to add a condition requiring temporary or seasonal cessation of project operations in the event that the adaptive management program provided for in Condition **BIO-16** proves insufficient to mitigate impacts from solar flux below biologically significant levels. We invite the parties to identify what level of mortality would be biologically significant and how such a level should be determined.⁵³

A. *Evidence*

PSH has provided Exhibits 1136, 1137, and 1178 to support its contention that curtailement is not a feasible or effective means of mitigation for potential avian impacts from solar flux. Exhibit 1137 describes the time limitations of placing the heliostats into a position that would eliminate solar flux. Exhibit 1137 demonstrates that it would take up to 30 minutes to eliminate the solar flux from an area around the tower. Such reaction time is not sufficient to respond to an incoming bird or flock of birds. As described in Exhibit 1173, bird flight patterns are erratic and cannot be predicted. Staff and PSH biologists agree that curtailement would not be able to respond quickly enough for any short-term curtailement to be effective.⁵⁴

As described in Exhibit 1136 and 1178 and at the evidentiary hearing, any long-term curtailement would render the PSEGS unfinanceable. As explained by Mr. Christopher Morris and Mr. Matt Stucky, since the risk cannot be predicted, any

⁵³ Hearing Order, page 3.

⁵⁴ Exhibit 1173 and Exhibit 2018.

investor would view such a risk of curtailment unpredictable and therefore would not be willing to finance.⁵⁵

In addition, it is important to note that the ISEGS TAC included the following statement in its meeting minutes when considering potential recommendations;

3. Suspend power tower operation during peak migration times
– TAC agreed that the current data does not support implementing this measure at this time.⁵⁶

No other party presented any contrary evidence contending a curtailment provision would be effective at reducing avian impacts or would not render the PSEGS unfinanceable. Even Dr. Smallwood testified:

The net fatality reduction from a 10% curtailment would be 3%, which would probably go undetected in a test for a statistically significant difference.⁵⁷

And with respect to the Altamont Pass curtailment effort, Dr. Smallwood testified that there was no “confirmation that the curtailment strategy worked”.⁵⁸

B. **Legal Standards**

CEQA provides guidance on what mitigation measures may be imposed by an agency. A lead agency has authority to require feasible mitigation in order to substantially lessen or avoid significant effects on the environment, consistent with applicable constitutional requirements such as the “nexus” and “rough proportionality” standards established by case law. That is, (1) there must be an essential nexus (i.e., connection) between the mitigation measure and a legitimate governmental interest⁵⁹; and (2) the mitigation measure must be “roughly proportional” to the impacts of the project.⁶⁰ Where the mitigation measure is an *ad hoc* exaction, it must be “roughly proportional” to the impacts of the project.⁶¹

C. **Application of the Legal Standards and Conclusions**

⁵⁵ 7/30/14 RT page 429, Testimony of Christopher Morris.

⁵⁶ Exhibit 1175, page 2.

⁵⁷ Exhibit 3140, page 15.

⁵⁸ Exhibit 3140, page

⁵⁹ *Nollan v. California Coastal Commission*, 483 U.S. 825 (1987).

⁶⁰ *Dolan v. City of Tigard*, 512 U.S. 374 (1994).

⁶¹ *Ehrlich v. City of Culver City*, 12 Cal.4th 854 (1996).

The only evidence in the record is that imposition of curtailment as a mitigation measure would not be effective and therefore bears no nexus to the solar flux avian impact. Also, imposition of a mitigation measure that would render the project unfinanceable would not be “roughly proportional” to the impacts of the project but rather would be greatly disproportional, as well as infeasible. Thus, the Committee should not include curtailment as mitigation in any of the conditions of certification.

Avian Deterrent Strategies

The Hearing Order provided the following guidance regarding avian deterrent strategies that might be employed at the PSEGS.

Avian Deterrent Strategies. Petitioner offers a list of potential measures to discourage avian species from entering the flux field. Petitioner must identify any of these measures it proposes to incorporate in the project. Parties may address whether inclusion of these deterrent strategies requires further analysis. We desire testimony to assist us in determining whether such measures are feasible and what, if any, environmental impacts they might cause if they were implemented.⁶²

A. Evidence

PSH provided Exhibit 1130 as a general description of the types of deterrent methods that exist or are currently being developed. Exhibit 1130 demonstrates that many bird deterrent technologies have not yet been applied at solar facilities. That is one of the reasons why PSH has not specified which deterrent methods it would employ. Another reason is that deterrent methods may need to be tailored to the species being impacted and therefore the specific method should be determined after monitoring and at the direction of the TAC. However, PSH has committed to test at least two different deterrent methods at the PSEGS and to implement deterrent methods in accordance with a Bird and Bat Conservation Strategy (BBCS) and at the direction of the TAC.

PSH also provided Exhibits 1140, 1141 and 1186 along with live testimony from Dr. Karen Voltura of DeTect and Mr. Elwood Norris of Turtle Beach. As explained by Mr. Stucky, the purpose of this testimony was to provide information to the Committee about one proven technology that has been employed on a large scale with great success and to describe an emerging technology.⁶³

⁶² Hearing Order, page 3.

⁶³ 7/30/14 RT pages 232 through 233, Testimony of Matt Stucky.

No other party provided any other evidence describing the feasibility or infeasibility of deterrent methods. Staff did provide an analysis of the potential impacts that could result from potential deterrent methods at the PSEGS site, which qualitatively demonstrates that any impacts from the use of deterrent methods will be far less than those already predicted from overall development of the PSEGS.⁶⁴

B. Legal Standards

As discussed above, any mitigation measure imposed pursuant to CEQA must bear a nexus to the impact and be feasible.

C. Application of Legal Standards and Conclusion

The Committee should be aware that deterrent methods are likely to reduce avian impacts from solar flux, but quantification of the reduction is not possible at this time. Because effectiveness of any particular deterrent technology cannot be accurately estimated at this time, PSH's estimates of potential avian impacts from solar flux do not assign any amount of reduction due to deterrence. However, based on the testimony of Dr. Voltura, it is likely that birds can be detected and deterred from the area where solar flux is concentrated to levels that can cause avian impacts.⁶⁵ Dr. Voltura testified that the DeTect System is modular and can be expanded and is currently effectively being employed at a site to deter birds from landing on ponds that are in excess of 10 by 5 kilometers.⁶⁶ The testimony of Mr. Norris demonstrates that there are ways to project sound in a highly directional fashion, which may have specific applicability for bird deterrence.

Ultimately, the Commission need not decide what deterrent method should be implemented at PSEGS. Deterrent methods should be specified in the BBCS after more study and should be implemented at the TAC's direction. Condition of Certification **BIO-16b**, which PSH supports, currently assures that deterrent methods will be tested at PSEGS and implemented to reduce solar flux impacts.

Mitigation Funding of Condition of Certification BIO-16a

The Committee did not request additional information regarding mitigation funding. However, in order to provide the Committee with the frame of reference it requested, PSH provided Table 3 on page 18 of Exhibit 1173 to demonstrate that wise and targeted application of the funds provided by Condition of Certification **BIO-16a** could achieve

⁶⁴ Exhibit 2018, pages 6 through 9, explained at 7/30/14 RT pages 413 through 414.

⁶⁵ Exhibit 1040.

⁶⁶ 7/30/14 RT page 402.

quantified and tangible mitigation outcomes. No party has provided any evidence that the mitigation funding cannot fully mitigate solar flux impacts.

Performance Standards

At the January 7, 2014 PMPD Conference, the Committee directed the parties to consider use of performance standards to address potential uncertainties of solar flux avian impacts. Staff included mortality thresholds in Exhibit 2109, provided clarification in Exhibit 2017, and ultimately agreed with PSH that setting of mortality thresholds at this time is difficult and potentially arbitrary.⁶⁷ PSH agreed.⁶⁸

PSH opposes Staff's specific mortality thresholds.⁶⁹ In response to the direction provided by the Committee at the PMPD Conference, PSH proposed modifications to Condition of Certification **BIO-16b** to ensure that the BCS and the TAC considers performance standards.⁷⁰ Staff agreed with these proposed modifications.⁷¹

At the evidentiary hearing, Commissioner Douglas requested additional consideration be given to the use of performance standards. Specifically, Commissioner Douglas stated:

In terms of performance standards, Mr. Galati, you had mentioned the petitioner's interest in focusing performance standards on the mitigation. I think that if you think about how to make that outcome based as well as -- if you think about how to make that outcome based, it would -- you, the petitioner, you, all the parties, think that would be helpful to the committee.⁷²

Additionally, Commissioner Douglas provided the following guidance.

I think that's a fair point, Mr. Galati. I also think that when I looked at the chart that applicant put forward with a list of different things that can be done to reduce avian mortality from domestic cats and electrocution and many other things, it occurred to me, and I think a number of parties raised this issue, that it might not be the best use of the scarce mitigation funding to attempt to improve the situation of birds in a scattershot way as opposed to really hone in on what the specific impacts of the project might be and mitigate those specific impacts.

⁶⁷ Exhibit 2018, page 17.

⁶⁸ Exhibit 1134, page 11.

⁶⁹ Exhibit 1173, page 19.

⁷⁰ Exhibit 1128.

⁷¹ 7/30/14 RT pages 423 through 424, Testimony of Chris Huntley.

⁷² 7/30/14 RT page 438.

PSH reminds the Commission that performance standards are typically used to ensure that mitigation is successful in reducing impacts to below a level of significance.⁷³ However, when an agency acknowledges the impact is significant and cannot be mitigated to less than significance levels, the use of performance standards is helpful but not necessary, since the agency is not relying on the performance standard to determine the impact will be fully mitigated. In this case, as described below under “Overriding Considerations”, PSH is requesting the Committee to make a finding of override acknowledging the uncertainty involved in the estimation of impacts, the effectiveness of deterrent methods, and the ultimate application of the mitigation funds. PSH has utilized the best available tools to resolve the uncertainty but believes, out of an abundance of caution, the Committee should not find that all avian impacts are reduced to less than significant levels. Since the would not be relying on the performance standards Committee to conclude that the avian impacts are mitigated to less than significant levels, the Committee should review the performance standards PSH proposes as supplemental and not intended to ensure full mitigation.

To ensure the mitigation funding of Condition of Certification **BIO-16b** is used wisely by the TAC, PSH has provided further modifications to address the two main points raised by Commissioner Douglas: include outcome-based performance standards and direct the mitigation funding to targeted species that are impacted by the PSEGS to avoid a “scattershot approach” to mitigation. These modifications to Condition of Certification **BIO-16b**, which have been docketed under separate cover⁷⁴, provide that the mitigation funding be directed towards specific conservation efforts with overarching goals to achieve a one-to-one offset ratio for State and Federal listed species taken by the project and a ratio to be determined by the TAC to avoid population level impacts to other special-status species. The modifications also require the TAC to meet and determine how to direct the mitigation funding three years after commercial operation. After the data showing which species and quantities are impacted has been collected, the TAC will work with the project owner and other technical experts to determine facility mortality estimates for state and federal listed species and for those species that may be experiencing population level impacts. Then the TAC will solicit proposals from private and/or non-profit parties such as mitigation banks, bird conservancies, or other agency programs to compete for the mitigation funds with specific measures that demonstrate they can use the funds to achieve a one-to-one offset for State and Federally listed species and reduce impacts to species potentially experiencing population level mortalities at the PSEGS. An introduction of this market-based approach should maximize the value of the Project mitigation funds

⁷³*San Diego Citizenry Group v. San Diego* 219 Cal App 4th 1, 23, the court stated, “However, CEQA does not mandate that every environmental impact be mitigated. Rather, “so long as it has made an informed decision in adopting a statement of overriding considerations, an agency need not require mitigation.” (*Concerned Citizens of South Central L.A. v. Los Angeles Unified School Dist.*, *supra*, 24 Cal.App.4th at p. 846.)”

⁷⁴ Docketed on August 15, 2014, TN 202929.

and expand the use of Conservation Business Plans, which link financial investment with conservation outcomes. The National Fish and Wildlife Foundation is a champion of Conservation Business Plans, which require specific goals and objectives for spending conservation funds and, through the use of performance metrics, ensure accountability. The TAC can bring in technical experts within each of their agencies to evaluate such proposals and Conservation Business Plans to ensure that the mitigation funding is directed to those proposals that can achieve the outcomes set forth in the condition.

PSH requests the Committee include the revisions to Condition of Certification **BIO-16b**⁷⁵ in the PMPD.

INSECTS

The Hearing Order provided the following guidance regarding Insects.

Flying Invertebrate Species (Insects). Information from the Ivanpah Solar Electric Generating System (ISEGS) project experience leads staff to believe that insects are adversely affected by the solar flux to degrees not previously recognized and that the conditions should be modified to address those impacts. It is appropriate to receive evidence on those questions.⁷⁶

Staff and PSH agree that although there will be insect mortality, there is no evidence to support that such impacts will be significant.⁷⁷ While Dr. Gordon Pratt believes insects are important, he did not opine that the impacts would be significant under CEQA. Dr. Richard Kaae and Dr. Pratt disagree on whether or not insects could be attracted to the tower during the day, but it is important that neither could be sure such attraction would occur.⁷⁸

PSH objected to the inclusion of requirements for insect monitoring without any finding of significance under CEQA.⁷⁹ However, at the evidentiary hearing Staff agreed to revise the monitoring requirements which may be acceptable to PSH.⁸⁰ PSH has not yet received any proposed modifications to the insect monitoring requirements set forth in Staff's current version of Condition of Certification **BIO-16b**. PSH anticipates Staff will include such modifications in its Opening Brief and therefore PSH will respond in its Reply Brief.

⁷⁵ Ibid.

⁷⁶ Hearing Order, page 3.

⁷⁷ Exhibit 2018, page 29 ("Staff believes that the potential impact to insects is too speculative to find that the impacts will be significant"), and 7/30/14 RT page 425, Testimony of Chris Huntley ("we concluded the impacts to insects were going to be less than significant based on the uncertainty").

⁷⁸ 7/30/14 RT page 289, Testimony of Chris Huntley, Gordon Pratt and Richard Kaae.

⁷⁹ 7/30/14 RT pages 234 and 235, Testimony of Matt Stucky.

⁸⁰ 7/30/14 RT pages 424 and 425, Testimony of Chris Huntley.

TRAFFIC AND TRANSPORTATION

The Hearing Order provided the following guidance concerning complaints made by pilots concerning glare from ISEGS.

Visual Resources (glint and glare). BRW and CRIT cite pilot complaints relating to glare from ISEGS. While the possibility of glint and glare issues is addressed in the PMPD, it is appropriate to consider whether this new information calls into question any of the discussion or the efficacy of the mitigation measures in the PMPD.⁸¹

The Committee subsequently agreed to hear the matter concerning pilot complaints of glare under the Traffic and Transportation topic.

Exhibits 1180 and 1187 set forth PSH's opinion that the existing Condition of Certification **TRANS-7** is effective without modification to ensure that legitimate complaints from pilots due to glare from the heliostats are appropriately investigated and resolved. However, in the spirit of cooperation, at the Staff Workshop (granted by the Committee during the evidentiary hearing) PSH proposed revisions to Staff's modifications to Condition of Certification **TRANS-7**. These modifications were accepted by Staff and read into the record.⁸² Staff agreed that with these modifications, the PSEGS will not result in significant impacts to pilots.⁸³ PSH agrees. Staff subsequently docketed an accurate version of the revisions on August 4, 2014⁸⁴. PSH agrees that this version captures most of the correct language discussed at the evidentiary hearing and has filed minor ministerial revisions under separate cover that should therefore be incorporated into the PMPD.⁸⁵

CULTURAL RESOURCES

Condition of Certification CUL-1

The Hearing Order also requested the following be addressed regarding Proposed Condition of Certification **CUL-1**.

⁸¹ Hearing Order, page 4.

⁸² 7/29/14 RT pages 115 and 116, Testimony of Jim Adams.

⁸³ 7/29/14 RT pages 112 through 116, Testimony of Jim Adams ("I think with the Condition, in the way that it's written now, that it will provide for meaningful resolution of complaints about glare and mitigation measures will be taken and it is likely that the glare would be reduced to less than significant levels").

⁸⁴ TN 202877.

⁸⁵ Where the term DSRH event is used, "event" should be capitalized ("Event") to be consistent with the definition contained in the Condition. PSH docketed these minor changes to **TRANS-7** on August 15, 2014, TN 202928.

Cultural Resources Mitigation. Petitioner offers a modification to Condition of Certification **CUL-1** that it believes more appropriately directs mitigation toward tribal spiritual and cultural interests, while also providing mitigation for the State's interest in recording important historical sites. Staff offered a similar modified version of the condition, but doubled the total funding amount from \$2,473,590 to \$5,068,873 without justification for the increase. CRIT affirms its position that the cultural impacts would not be mitigated by CUL-1

At this time, it appears that there is no consensus among the affected parties. Staff should offer evidence to explain the funding increase it recommends. Staff and Petitioner are invited to address CRIT's objections and explain the nexus between the impacts to the Pacific to Rio Grande Trails Landscape and the mitigation contained in Condition of Certification CUL-1.⁸⁶

A. **Evidence**

PSH provided Exhibit 1171 and 1172 to assist the Committee in deliberating over the best way to structure Condition of Certification **CUL-1**. As described by Ms. Mary Barger at the evidentiary hearing, Staff's proposed version of Condition of Certification **CUL-1** was unresponsive to the Committee's request to justify the increase in funding and, more importantly, was not responsive to the comments of tribal representatives throughout the proceedings.⁸⁷ Ms. Barger explained that in order to be most responsive to the Committee direction **and** the comments received at the Staff Workshop conducted April 8, 2014, the Condition should be structured to provide a stronger tribal voice in what activities should be performed.⁸⁸ The tribes should direct the studies that Staff stated were to be performed for the State's interest. As explained by Mr. David Harper and several commenters, the tribal interests cannot be separated into those that involve "People" and those that involve "Places" as proposed by Staff.⁸⁹

With respect to the scope of the field studies proposed by Staff, Staff provided no justification for determining the scope other than a vague reference to a "CEQA obligation."⁹⁰ No party other than PSH and Staff provided any evidence of how Condition of Certification **CUL-1** should be modified.

⁸⁶ Hearing Order, pages 4 and 5.

⁸⁷ 7/29/14 RT pages 127 through 130, Testimony of Mary Barger.

⁸⁸ 7/29/14 RT pages 127 through 136, Testimony of Mary Barger.

⁸⁹ 7/29/14 RT pages 201 through 204, Testimony of David Harper. See also 7/29/14 RT page 273, Comment from Joe Ontiveros.

⁹⁰ 7/29/14 RT pages 244 through 247, Testimony of Michael McGuirt.

B. **Legal Standards**

As described above in the discussion of the Legal Standard for Biological Resources, any mitigation measure should bear a nexus to the impact. Staff bears the burden of demonstrating such nexus. There is no provision of CEQA or case law⁹¹ that supports Staff's statement that when an impact is determined to be significant and unmitigatable, there is some level of funding that must be imposed to "pass the red face test."⁹²

C. **Application of Legal Standards and Conclusion**

PSH contends that Staff has failed to meet its burden establishing a nexus between the amount of funding it proposes under its version of Condition of Certification **CUL-1** and the impact. PSH also believes that the Staff failed to incorporate the tribal voice in the activities it wishes to conduct. PSH strongly contends that the tribes should direct activities that Staff wishes to conduct as ultimately the alleged visual impact is, in our opinion, wholly associated with the Native American values ascribed to the landscape. We urge the Committee to reject Staff's notion that there should be some minimum level of funding for an impact that has been determined to be significant and unmitigatable. Such a finding would be arbitrary and capricious as it is not supported by any CEQA provision or case law and certainly bears no nexus to the alleged impact. The Committee should accept the mitigation amount and version of Condition of Certification **CUL-1** proposed by PSH in Exhibit 1172 because it is the most responsive to the Committee direction and the comments made by the tribal representatives throughout these proceedings.

INFEASIBILITY OF ALTERNATIVES

The Hearing Order requested the following be addressed regarding the infeasibility of Alternatives.

Alternatives. Petitioner asserts that the no-project (approved solar trough) and PV alternatives are infeasible in part because they would not satisfy the requirements of its power purchase agreement (PPA). If Petitioner is in danger of losing its PPA by failing to meet construction or other milestones, then we invite Petitioner to submit documents supporting that

⁹¹*San Diego Citizenry Group v. San Diego* 219 Cal App 4th 1, 23, the court stated, "However, CEQA does not mandate that every environmental impact be mitigated. Rather, "so long as it has made an informed decision in adopting a statement of overriding considerations, an agency need not require mitigation." (*Concerned Citizens of South Central L.A. v. Los Angeles Unified School Dist.*, *supra*, 24 Cal.App.4th at p. 846.)".

⁹² 7/29/14 RT page 246, Testimony of Michael McGuirt.

assertion. Any party seeking a modification of the PMPD's conclusion on economic infeasibility should submit evidence sufficient to support such a modification. All parties may submit evidence on this issue.⁹³

A. **Evidence**

PSH provided Exhibits 1124 and 1150 describing why the No Project Alternative (solar trough – Approved Project) and the PV Alternative are infeasible. Exhibit 1151 was provided as proof of the CODs for the PPAs. Exhibit 1179 was provided specifically to rebut the contentions of Mr. Bill Powers that distributed PV on rooftops is a feasible alternative.

Simply put, PSH experts testified that neither the No Project nor the PV Alternative could meet the project objectives. Staff summarized the project objectives in its Alternative section of the FSA⁹⁴ but notably left out some of the most important objectives specific to the Petitioner including those relevant to the use of the tower technology and to utilize existing PPAs. As described in Exhibit 1124 and summarized in Exhibit 1150, the No Project Alternative and the PV Alternatives do not satisfy the PPA provisions specifying the electricity generating technology.

The primary reasons the No Project Alternative and the PV Alternative do not meet the project objectives is that they cannot be completed by this applicant or any other applicant without significant delays to effectively start over with the permitting process, the transmission interconnection process, and the acquisition and negotiation of new commercial agreements. Such delays would greatly affect the timeframe in which a utility-scale solar project could be operating and eliminating greenhouse gas emissions.⁹⁵ PSH's Project Objectives are tied to delivery of clean renewable energy to the grid as soon as is feasible and to further its long-term objectives of development and subsequent improvement of tower technology.⁹⁶

With respect to distributed energy, Mr. Arne Olsen testified that any such project is speculative and therefore should not be considered a real alternative to the PSEGS.⁹⁷ Mr. Olsen properly characterized Mr. Powers' testimony as misplaced in

⁹³ Hearing Order, page 4.

⁹⁴ Exhibit 2000, pages 6.1-5.

⁹⁵ See Exhibits 1124 and 1150. See also 7/30/14 RT pages 82 and 83, Testimony of Charles Turlinski ("If solar trough or PV were feasible, they would be at least five, six, seven, eight years out because we are essentially starting over") and RT 7/30/14, page 123, Testimony of Matt Stucky.

⁹⁶ See Exhibit 2000, pages 6.1-5. See also 7/30/14 RT pages 172 through 174, Testimony of Matt Stucky ("as projects such as Palen are constructed and operated, they'll continue to prove that tower technology can operate reliably and efficiently at large scale").

⁹⁷ Exhibit 1179, page 3 and 7/30/14 RT pages 86 through 94, Testimony of Arne Olson.

this forum. Such policy-level discussion⁹⁸ should take place at the California Public Utilities Commission during the long term procurement proceedings.

B. *Legal Standards*

CEQA mandates that an EIR include a “statement of the objectives *sought by the proposed project*”, and to analyze a “reasonable range” of project alternatives that will “feasibly attain” most of those project objectives.⁹⁹ Per the CEQA Guidelines, the statement of objectives sought by the project “should include the *underlying purpose of the project*.”¹⁰⁰

The California Supreme Court has left no doubt that the business purposes of the project proponent are an appropriate project objective: Although a lead agency may not give a project’s purpose an *artificially* narrow definition, a lead agency may structure its EIR alternatives analysis around a reasonable definition of underlying purpose and thus need not study alternatives that cannot achieve that basic goal. Hence, if the purpose of the project is to build an oceanfront hotel or waterfront aquarium, a lead agency need not consider inland locations.¹⁰¹ Further, feasibility must be viewed in context of what can be done by the *specific Applicant*.¹⁰²

In addition, the courts have held that when it comes to determining whether a project alternative is feasible, agencies should employ a two-step process. The first is to include in the analysis a discussion of alternatives that are “potentially feasible.” The second step for the agency is to determine whether the alternatives are “actually feasible”.¹⁰³

The purpose of the CEQA alternatives analysis is to identify ways in which the objectives sought by the proposed project might be achieved while also avoiding or substantially lessening any of the significant effects of a project.¹⁰⁴ The Court in *Sierra Club v. County of Napa* (2004) 121 Cal. App. 4th 1490 upheld using the

⁹⁸ 7/30/14 RT page 87, Testimony of Arne Olson (noting that Mr. Powers was “making a State policy argument in a project siting case”).

⁹⁹ 14 C.C.R. § 15124(b), 15126.6(a) (emphasis added).

¹⁰⁰ 14 C.C.R. § 15124(b) (emphasis added).

¹⁰¹ *In re Bay Delta Programmatic Evt'l Impact Report Coordinated Proceedings*, 43 Cal.4th 1143, 1166 (2008) (emphasis added).

¹⁰² Addressing “feasibility” in *Citizens of Goleta Valley v. Board of Supervisors*, 52 Cal.3d 553 (1990), the Supreme Court limited the scope of the project EIR to what can be done by the individual developer, not what is best for the region.

¹⁰³ *San Diego Citizenry Group v. San Diego* 219 Cal App 4th 1, 18, the court held “CEQA provides two “junctures” for findings regarding the feasibility of project alternatives. First, alternatives are determined to be potentially feasible in the EIR. (*California Native Plant, supra*, 177 Cal.App.4th at p. 981.) Second, in deciding whether to approve the project, the decision maker determines whether an alternative is actually feasible. (*Id.* at p. 981.) “At that juncture, the decision makers may reject as infeasible alternatives that were identified in the EIR as potentially feasible.” (*Ibid.*)”

¹⁰⁴ 14 C.C.R. § 15126.6(a).

applicant's business purpose and project objectives for a finding of infeasibility. In that case, the applicant sought to consolidate winery operations into one location and the court held that it would frustrate the objectives of the applicant if a reduced project was determined to be feasible, when it would not have allowed all the consolidation of activities sought by the applicant.

CBD previously cited *Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal.App.3d 692, 736-37 for the proposition that prior commitments (in that case, an agreement between the utility and the project owner) could not foreclose analysis of alternatives. However, the court also noted that the existing contract between the utility and the project owner "is not irrelevant. It must be considered in the review process." Additionally, the facts in *Kings County* are very different from the facts here. The EIR in *Kings County* **failed to even analyze a different technology alternative** (in that case, a natural gas plant alternative versus the planned coal facility) to satisfy the first step in its CEQA analysis; to evaluate "potentially feasible" alternatives. Further, in *Kings County*, the Court acknowledged that; "Renegotiation of the contract may have been possible; if not, the EIR must indicate the reasons for that conclusion."

C. ***Application of Legal Standards and Conclusion***

It is undisputed that PSH would not pursue constructing the PV Alternative or the No Project Alternative because a major objective of the project is to further the development of tower technology.¹⁰⁵ No party has provided any evidence to the contrary. Staff's alternatives analysis was conducted according to the requirements set forth in CEQA, which included an evaluation of alternatives that Staff believed to be "potentially feasible." While we disagree with the omission of important parts of the project objectives pertaining to the business objectives of PSH, the analysis is more than sufficient under the law for the first step of the Commission's analysis. It is thorough and certainly meets the goal of CEQA to foster meaningful public participation and informed decision-making. Staff's alternatives analysis informs the Commission on whether there are "potentially feasible" alternatives to the project that will avoid or reduce significant inmitigable environmental impacts. However, the very important next step in the Commission process is actual deliberation by the Commission and the ultimate determination of whether the alternatives can meet the project objectives and are "actually feasible."

For the reasons discussed above and in Exhibits 1124, the Commission can and should properly find that the alternatives are infeasible and do not meet the project objectives. Further the Commission should find that the distributed rooftop PV

¹⁰⁵ Exhibit 1003.

alternative proposed by Mr. Powers should be rejected as speculative and infeasible, warranting no further analysis.

OVERRIDING CONSIDERATIONS

With respect to considerations supporting the findings of override, the Hearing Order provided the following guidance.

Overriding Considerations. We invite the parties to provide additional evidence about the project's benefits, including the potential to add thermal energy storage or other transmission or system benefits that may be offered to support overriding any unmitigated significant environmental impacts or conflicts with LORS.¹⁰⁶

A. Evidence

As described in Exhibits 1124, 1125, and 1143 through 1146, the PSEGS solar thermal technology provides many benefits to the transmission system that cannot be provided by the PV Alternative. In addition, the PSEGS represents a significant investment that, if approved, can deliver clean renewable energy. In addition, as shown on Exhibit 1145, the PSEGS helps achieve the State's goals as outlined in the IEPR. Exhibit 1146 demonstrates that the PSEGS solar tower technology provides the most promising future to realize TES and cost reductions. Exhibits 1148 and 1149 demonstrate the commercial value of TES will likely increase in California, by providing essential and valuable grid integration and reliability services in a future of high renewable energy penetrations. No other solar thermal projects are in the licensing phase at the Energy Commission or have a license that will be executed upon in the near future.¹⁰⁷

No party has provided any contrary evidence. The only competing evidence was offered by Mr. Powers inaccurately contending that the PSEGS cannot incorporate meaningful TES in the future.¹⁰⁸ But as explained by Mr. Bruce Kelly, who has actually designed and worked at a facility with TES, the most likely need for TES in the future is for "load shifting" consistent with the need shown on Exhibit 1149 and not for increasing the total capacity of the facility.¹⁰⁹ By Mr. Powers own definition, the batteries he proposed in conjunction with PV technology would provide no storage since no incremental energy generation is enabled in such instance.

¹⁰⁶ Hearing Order, page 4.

¹⁰⁷ 7/30/14 RT page 130, Testimony of Charles Turlinski.

¹⁰⁸ 7/30/14 RT page 37, Testimony of Bill Powers.

¹⁰⁹ 7/30/14 RT, pages 63 and 64; pages 67 through 70; pages 72 and 73, Testimony of Bruce Kelly.

As described in Exhibit 1003 and Exhibit 2003, the PSEGS will provide many economic impacts to the region including a large number of highly skilled and well paid construction jobs. Table 6.2-1 of the Exhibit 1003 documents these benefits for completion of both phases. Additionally, Exhibit 6000, Testimony of Mr. William J. Perez, the PSEGS solar tower technology provides more economic benefits to the local workforce because it provides the most construction hours, the broadest range of skilled workers, and the most opportunity for apprenticeship training than either of the No Project (solar trough) or PV Alternatives.¹¹⁰

PSH has also provided Exhibits 1183, 1184, 1185, 1189, 1190, 1192 and 1193 which all show that it is imperative to combat climate change now. Authorizing construction of the PSEGS provides that primary benefit. Moreover, since the filing of the Revised Phasing Plan, Staff has removed its objection to the Commission making the necessary override findings.¹¹¹

In addition, it is important for the Committee to note, as shown in the PMPD prior analysis for many environmental areas, the potential impacts are reduced over the previously approved project.

B. *Legal Standards*

The applicable CEQA requirement for a finding of override is contained in Public Resources Code Section 21081 (b):

(b) With respect to significant effects which were subject to a finding under paragraph (3) of subdivision (a), the public agency finds that specific overriding economic, legal, social, technological, or other benefits of the project outweigh the significant effects on the environment.

C. *Application of Legal Standards and Conclusion*

PSH requests Findings of Override in the area of Cultural Resources, Visual Resources, and Biological Resources. For Biological Resources, the request is based solely on the potential that avian impacts may not be mitigated to levels of less than significance, considering the uncertainty surrounding the estimation of impacts, the effectiveness of deterrent methods, and the effectiveness of mitigation efforts. PSH believes that with incorporation of the outcome-based performance

¹¹⁰ Exhibit 6000, pages 3 through 4, Testimony of William J. Perez.

¹¹¹ Exhibit 1206 and 7/30/14 RT pages 195 through 197, Testimony of Roger Johnson.

standard language set forth in the proposed modifications to Condition of Certification **BIO-16b** (filed under separate cover), uncertainty is reduced to the maximum extent feasible.

The uncontradicted evidence in the record shows that the PSEGS will provide significant economic benefits to the local community and region, will provide jobs when they are sorely needed, will assist the State in achieving its Renewable Portfolio Standard and climate change goals, and will allow the further development of technology that has the greatest chance of incorporating TES, which can provide essential and valuable grid integration and reliability services in a global future of high renewable energy penetrations.

For these reasons, there is substantial evidence to enable the Committee to make the findings of override required by Public Resources Code § 21081.¹¹²

CONCLUSION

PSH believes that it has augmented the record with substantially more information than was available to the Committee after the first round of evidentiary hearings. The information is the best available and indicates that the potential avian impacts from solar flux are not the catastrophic population level impacts feared by some parties to this proceeding. These impacts are further reduced by the Revised Phasing Plan which would result in construction of the westernmost unit now and delay construction of the second unit until the Commission approves an amendment incorporating TES into Phase II. At that time, the Commission can properly consider the specifics surrounding TES and can update any impact analysis relevant to solar flux, as more information would be available from ISEGS and potentially from PSEGS. There is also substantial evidence in the record to support the Committee finding that the benefits of the PSEGS far outweigh its potential impacts. PSH respectfully requests the Committee revise the PMPD accordingly to allow the Commission to consider a Final Decision approving the PSEGS in October 2014.

Dated: August 15, 2014



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¹¹² *San Diego Citizenry Group v. San Diego* 219 Cal App 4th 1, 13, the court held “The County's decision to approve the Project despite its significant environmental impacts is a discretionary policy decision, entrusted to it by CEQA, which will be upheld as long as it is based on findings of overriding considerations that are supported by substantial evidence. (*Cherry Valley Pass Acres & Neighbors v. City of Beaumont* (2010) 190 Cal.App.4th 316, 357 [118 Cal.Rptr.3d 182]; see *City of Long Beach v. Los Angeles Unified School Dist.* (2009) 176 Cal.App.4th 889, 897 [98 Cal.Rptr.3d 137] (*City of Long Beach*); §§ 21002, 21083.)”