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Sonoran Energy Project (02-AFC-01C)

Additional submitted attachment is included below.

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February 29, 2016

Via Electronic Filing

California Energy Commission
1516 Ninth Street
Sacramento, California 95814
Attention: Mary Dyas, Project Manager

Re: Sonoran Energy Project (02-AFC-01C)
Comments on Preliminary Staff Assessment for Petition to Amend

Dear Ms. Dyas:

This letter provides the California Energy Commission (CEC) with the Riverside County Airport Land Use Commission's (ALUC) comments on the *Preliminary Staff Assessment for the Petition to Amend the Sonoran Energy Project (Formerly Blythe Energy Project Phase II (Blythe II)) Decision* (PSA) docketed on January 29, 2016. The ALUC has carefully reviewed the PSA and has identified a number of significant concerns regarding the compatibility of the proposed amendment to the Sonoran Energy Project (Project) with aeronautical operations at Blythe Airport, which are addressed in detail below.

I. Riverside County Airport Land Use Commission

As a preliminary matter, the ALUC was established in accordance with the California State Aeronautics Act (Pub. Util. Code, §21670 et seq.) for the purpose of promoting land use compatibility around airports. More specifically, Public Utilities Code section 21670(b) states the purpose as follows:

> "to protect public health, safety, and welfare by ensuring the orderly expansion of airports and the adoption of land use measures that minimize the public's exposure to excessive noise and safety hazards within areas around public airports to the extent that these areas are not already devoted to incompatible uses."

To achieve this purpose, the State Aeronautics Act mandates that each ALUC formulate and adopt an airport land use compatibility plan that provides for the orderly growth of each public airport and the area around the airport within the ALUC's jurisdiction.

Here, the ALUC adopted the *Riverside County Airport Land Use Compatibility Plan* (ALUCP) on October 14, 2004. For purposes of protecting against the development of future land use incompatibilities, the ALUCP identifies Compatibility Zones A through E, each of which represents a distinct area around an airport subject to different land use compatibility criteria. (ALUCP, Table 2A.) The ALUCP also contains a Compatibility Map depicting each of the Compatibility Zones for Blythe Airport. (ALUCP, Map BL-1.)

Based on ALUCP Map BL-1 and according to the PSA, the Project is located partially within Zone C and partially within Zone D. (PSA, p. 4.5-8.) The ALUCP defines Zone C as the "Extended Approach/Departure Zone" and Zone D as the "Primary Traffic Patterns and Runway Buffer Area." (ALUCP, Table 2A.) The ALUCP identifies any use resulting in "hazards to flight" as a prohibited use in both Zone C and Zone D.

Although the ALUC has not been asked to conduct a formal consistency review of the proposed amendment to the Project at this time, the PSA, in the context of its discussion of laws, ordinances, regulations and standards (LORS) compliance, concludes the proposed amendment to the Project is potentially inconsistent with the ALUCP in a number of respects as addressed below. As background, in a letter dated July 18, 2002, the ALUC notified the CEC of its determination that the Project is inconsistent with the ALUCP for Blythe Airport. Based on ALUC staff's review of the PSA, the proposed amendment to the Project, as currently defined in the PSA, would appear to remain inconsistent with the ALUCP.

II. The Proposed Project Amendment Creates Numerous Adverse Aviation Safety Impacts That Are Incompatible With Aeronautical Activity At Blythe Airport

The PSA concludes the proposed amendment to the Project could potentially result in more severe land use impacts, new land use impacts and cumulative land use impacts, all of which could make the proposed amendment incompatible with aeronautical activity at Blythe Airport, per the standards set forth in the Riverside County ALUCP. (PSA, p. 2-8; pp. 4.5-1 to -2.) Specifically, the PSA provides that the proposed amendment could result in: (i) more severe land use impacts from thermal plumes; (ii) new land use impacts from evaporation ponds attracting birds to the site; and (iii) significant cumulative impacts to aviation safety when viewed in conjunction with other projects in the area of Blythe Airport. (PSA, p. 2-8.) In addition to the land use compatibility concerns recognized by the PSA, the ALUC also is concerned about potential aviation safety impacts associated with the Project's transmission lines. Our comments as to each of these four issues are provided below.

A. Thermal Plumes

The PSA concludes that the proposed amendments to the Project could potentially result in more severe land use impacts from thermal plumes, which would affect aircraft safety and make the Project incompatible with aeronautical operations at Blythe Airport and inconsistent with the ALUCP. (PSA, p. 4.5-13.) For context, the Project site is located less than one mile from the eastern end of Runway 8-26 at the Blythe Airport. (PSA, p. 4.10-6.) Arrival and departure traffic using Runway 8-26 could fly over the Project site given the traffic pattern altitude of 800 feet above ground level (AGL) for the downwind leg and 300 feet AGL for the final approach. (PSA, p. 4.10-6.) Further, the Project's gas turbine and cooling tower would emit thermal plumes that could result in turbulence with the potential to affect aircraft maneuverability above the Project site. (PSA, p. 4.10-6.)

The PSA makes clear the proposed amendment to the Project is expected to result in even more significant aviation safety impacts resulting from thermal plumes than its predecessor (i.e., the BEP II project). Specifically, the Project owner's thermal plume modeling, which is based upon its proposed use of a wet cooling tower, results in *higher velocity plumes* than the BEP II project.

(PSA, p. 4.10-1) Even worse, based upon CEC staff's proposed use of a dry cooling tower, which would emit invisible thermal plumes rather than visible water vapor, CEC staff's preliminary analysis shows a significant increase in thermal plume velocity when compared to a wet cooling tower. (PSA, p. 4.10-1). In light of the PSA's conclusion that the proposed amendment to the Project will result in more severe safety impacts than the BEP II project, the ALUC requests that Project-related mitigation be at least as stringent, if not more stringent, than the mitigation for the BEP II project.

As background, for the BEP II project, the CEC found that aircraft encountering the Project's thermal plumes could be adversely affected, noting in particular that the BEP II's thermal plumes could *significantly upset* flight in the left-hand pattern of Runway 26. (PSA, p. 4.10-7.) Due to the risks to aircraft safety from thermal plumes, the CEC's 2005 decision relating to the BEP II project included condition of certification TRANS-9, which required the following to be completed before beginning project construction: (i) adding a remark to the Automated Surface Observation System advising pilots to avoid low-altitude direct overflight of the BEP II; (ii) changing the Visual Flight Rule traffic pattern for Runway 26 from left-hand turns to right-hand turns; and (iii) designating a runway other than Runway 26 as the calm wind runway. (PSA, p. 4.10-7.)

Critically, the proposed amendment to the Project seeks to modify TRANS-9, such that the Project owner will have satisfied the condition by merely *requesting* that the above-referenced measures be implemented by the Federal Aviation Administration (FAA) without regard to whether the measures are actually approved and implemented by the FAA. (PSA, p. 4.10-7.) This proposed change to TRANS-9 is highly problematic since available information suggests the FAA would *oppose* implementation of the second and third conditions referenced in TRANS-9. (PSA, p. 4.10-7.) In summary, the proposed change to TRANS-9, if approved, would almost certainly result in no actual mitigation measures being implemented to address the thermal plumes, thus ensuring the Project will present significant risks to aircraft safety in a manner clearly incompatible with aeronautical operations at Blythe Airport. The PSA itself concludes, "if TRANS-9 is infeasible, and no alternative measures are identified, thermal plumes could cause unmitigable hazards to aircraft." (PSA, p. 4.10-3.) In the ALUC's view, the FAA's likely refusal to implement TRANS-9, coupled with the Project owner's demonstrated failure to identify or propose any alternative mitigation measures relating to thermal plumes, makes it likely the thermal plumes should ultimately be characterized as an unmitigable hazard to aircraft.

The ALUC also notes the PSA does not reference or discuss available FAA guidance regarding the evaluation of thermal plumes on airport operations and safety. Specifically, on September 24, 2015, the FAA issued a memorandum providing guidance on the appropriate separation distance between power plants and airports where exhaust plumes from power plant smoke stacks and cooling towers may cause disruption to aircraft.[1] As provided in that memorandum, the FAA:

> "has determined that thermal exhaust plumes in the vicinity of airports may pose a unique hazard to aircraft in critical phases of flight (particularly takeoff, landing and within the pattern) and therefore are incompatible with airport operations."

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[1] A copy of the memorandum is available at: https://www.faa.gov/airports/environmental/land_use/media/Technical-Guidance-Assessment-Tool-Thermal-Exhaust-Plume-Impact.pdf.

The FAA further states:

> "[a]irport sponsors and land use planning and permitting agencies around airports are encouraged to evaluate and take into account potential flight impacts from existing and planned development that produces plumes[] (such as power plants or other land uses that employ smoke stacks, cooling towers or facilities that create thermal exhaust plumes)."

To aid in such reviews, the FAA has made available the "Exhaust-Plume Analyzer" at no cost.[2] Additionally, the FAA presently updating Advisory Circular (AC) 5190-4, *A Model Zoning Ordinance to Limit the Height of Objects Around Airports (Airport Compatible Land Use Planning)*, in order to provide comprehensive guidance to airport sponsors and local community planners on land use compatibility issues, including the evaluation of thermal exhaust plumes; the FAA expects to issue the updated AC in 2016. The ALUC respectfully requests that CEC staff consider the available FAA technical guidance, the FAA provided Exhaust-Plume Analyzer and any future guidance issued by FAA in its evaluation of the proposed amendment to the Project.

We are also aware of the CEC's 2008 decision involving the Eastshore Energy Center (EEC) in the City of Hayward, which involved similar facts relating to aircraft hazards resulting from thermal plumes, and which ultimately resulted in a denial of certification. Specifically, the CEC denied certification of the EEC based, in part, on the following findings: (i) the thermal plumes from the facility would present a significant public safety risk to low flying aircraft during landing and takeoff maneuvers due to the close proximity of the Hayward Executive Airport; (ii) the facility would be inconsistent with the Alameda County Airport Land Use Policy Plan; and (iii) the applicant failed to provide feasible mitigation that would either eliminate thermal plumes or prevent constriction of navigable airspace that would impair the utility of the airport. (CEC Decision, pp. 339 to 340.) The ALUC believes the potentially more severe impacts resulting from thermal plumes in relation to Blythe Airport support the same outcome, particularly in light of the apparent lack of feasible mitigation measures.

B. Evaporation Ponds

We agree with the PSA's conclusions that the Project's proposed use of evaporation ponds would result in a new significant impact insofar as it would increase the threat of bird strikes for aircraft operating at and in the vicinity of Blythe Airport. The PSA acknowledges that evaporation ponds are known to attract birds and that "birds can be sucked into aircraft engines or air intakes of small aircraft and can cause engine malfunction or failure resulting in loss of power and control of the aircraft." (PSA, p. 4.10-6.) While the BEP II project contemplated the use of a zero liquid discharge (ZLD) wastewater disposal system with limited use of evaporation ponds, the Project owner now proposes a change to the use of evaporation ponds as a primary wastewater disposal system to save costs, without proposing any mitigation measures to avoid wildlife attractant impacts. (PSA, p. 4.10-6.)

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[2] The model can be downloaded at: http://www.mitre.org/research/technology-transfer/technology-licensing/exhaust-plume-analyzer.

The use of evaporation ponds for wastewater discharge is not only a significant new impact due to the safety hazards presented to aircraft, it is also inconsistent with the ALUCP, as well as guidance from the FAA and California Department of Transportation, Division of Aeronautics (Caltrans) regarding bird attractants near airports. Specifically, the ALUCP expressly provides the ALUC with review authority for "[p]rojects having the potential to cause attraction of birds or other wildlife that can be hazardous to aircraft operations to be increased within the vicinity of the airport." (ALUCP, pp. 2-6 to -7.) The ALUCP also provides that "[l]and use development that may cause the attraction of birds to increase is also prohibited" in both Compatibility Zones C and D, in which the Project site is located. (PSA, pp. 2-14 to -15.) The ALUCP's prohibition of land use development that may attract birds or wildlife is supported by Caltrans' *California Airport Planning Land Use Handbook* (Handbook (2011), pp. 4-35 to -39), and FAA Advisory Circular 150/5200-33B, *Wildlife Hazard Attractants on or near Airports*.

C. Transmission Lines

The proposed amendment to the Project, as outlined in the PSA, would realign a transmission line. This realignment may result in a significant impact to aircraft safety, may be inconsistent with the ALUCP, and may constitute a hazardous obstruction to the aeronautical surfaces at Blythe Airport pursuant to Part 77 of the Federal Aviation Regulations. More specifically, the PSA notes that the proposed amendment to the Project would re-align a 161-kV gen-tie line. While the previously approved route was entirely on the BEP and BEP II site, the newly proposed route shows a portion of the gen-tie line off site, on the north side of W. Chanslor Way, and extending east parallel to W. Chanslor Way for approximately 900 feet before entering the Buck substation. (PSA, pp. 4.2-6 to -7.) The PSA concludes that the transmission line infrastructure associated with the 161-kV gen-tie line is located in Compatibility Zone C and would exceed 70 feet in height, thus qualifying as a "Major Land Use Action" triggering ALUC review. (PSA, p. 4.5-8.)

It is noted that the ALUC, in its review of solar energy projects in the vicinity of Blythe Airport, previously has required transmission lines proposed for location in Zone C either to be placed underground or relocated in order to avoid the creation of hazardous airspace conditions. In addition, the new transmission line configuration triggers a notification requirement to the FAA for a Part 77 determination, given that the new transmission line configuration may exceed a Part 77 surface.

D. Cumulative Impacts Regarding Aviation Safety

The ALUC has serious concerns regarding the potential for cumulative significant impacts to aviation safety resulting from the combination of the Project impacts with the already existing BEP and other nearby energy projects. The PSA states that a "possible cumulative impact resulting from the SEP would be to land use compatibility." (PSA, p. 4.5-12.) The PSA further states that "[t]he project could combine with the nearby BEP to cause significant cumulative impacts to aviation safety, and as a result, make the project incompatible with the Blythe Airport and the Riverside County ALUCP." (PSA, p. 4.5-12.) The PSA then concludes that staff is awaiting additional data in order to analyze cumulative impacts to land use compatibility. (PSA, p. 4.5-12.)

The ALUC requests that, when evaluating cumulative impacts, CEC staff consider aviation safety

impacts from existing, proposed and reasonably foreseeable projects, which would necessarily include those identified in the PSA at Attachment A Table 1 to the Executive Summary and Cumulative Impacts – Figure 1. The types of cumulative aviation safety impacts should encompass those associated with thermal plumes, wildlife attractants and transmission lines, as well as any other type of aeronautical hazard (e.g., glare for solar fields). Collectively, these types of development activities – if not carefully planned – can significantly compromise airspace in the vicinity of and aeronautical operating conditions at Blythe Airport.

By way of a specific example of the potentially hazardous cumulative conditions, please note that three existing and proposed power plants are located perpendicular to the extended runway center line for the left-hand traffic pattern for Runway 26 at Blythe Airport: Irish Energy Project (contemplated), Blythe I Power Plant (existing), and Sonoran Energy Project (proposed). All three facilities currently include or envision the use of thermal plumes, thereby creating the potential for a "wall" of thermal plumes in close proximity to the Airport.

III. Conclusion

In closing, the ALUC appreciates this opportunity to review and provide input on the analysis provided in the CEC's PSA. As demonstrated above, in many instances, the ALUC concurs with the findings of the PSA, which identifies a number of adverse aviation safety impacts to Blythe Airport. As a result, the ALUC hopes to collaborate with CEC staff in the evaluation and processing of the proposed amendment to the Project, so as to ensure that airport-related land use compatibility planning objectives are achieved before any decision to approve the amendment. Please contact John Guerin, ALUC staff, at jguerin@rctlma.org or (951) 955-0982 with any questions regarding the comments presented here, and please ensure that the Riverside County ALUC receives all future notices regarding the processing of this Project. Thank you again for this opportunity.

Sincerely,
RIVERSIDE COUNTY AIRPORT LAND USE COMMISSION

Edward C. Cooper, ALUC Director

cc: Hon. Janea A Scott, CEC Commissioner, Presiding Member
Hon. Karen Douglas, CEC Commissioner, Associate Member
Raoul Renaud, CEC Hearing Officer
Simon Housman, Riverside County ALUC Chairman
Ron Bolyard, California Department of Transportation, Division of Aeronautics
Daryl Shippy, Riverside County Economic Development Agency