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Alamitos Energy Center

(13-AFC-01)

Applicant's Rebuttal Testimony

Submitted to

California Energy Commission

Prepared on behalf of

AES Alamitos Energy, LLC

October 26, 2016

Alternatives

REBUTTAL TESTIMONY OF STEPHEN O' KANE AND JERRY SALAMY

- Q. Please state your name and business affiliation.
- A. My name is Stephen O'Kane, and I am the Vice President of AES Alamos Energy, LLC.
- A. My name is Jerry Salamy and I am the Program Manager with CH2M HILL Engineers, Inc.
- Q. Please describe your professional experience and qualifications in connection to your rebuttal testimony herein.
- A. Our qualifications are set forth in Appendix A to the Applicant's Opening Testimony filed on October 18, 2016.
- Q. What is the purpose of your rebuttal testimony?
- A. The purpose of our testimony is to rebut the testimony of Los Cerritos Wetlands Land Trust ("Trust") witnesses Bill Powers and Joe Geever on the subject area of Alternatives.

I. DEMOLITION (Testimony of Joe Geever)

- Q. Mr. Geever stated that demolition of the Alamos Generating Station ("AGS") is a "project component" of the AEC ("Geever, p. 1"). Is this true?

- A. No. The demolition of the existing AGS is not a component of the AEC.

Mr. Geever may have confused (1) the demolition of the remaining components of former AGS Unit 7 with (2) the possible future demolition of the existing AGS Units 1 through 6. As explained in the Applicant's Opening Testimony, a portion of the Alamos Energy Center ("AEC") will occupy land used for former AGS Unit 7 (a retired turbine peaking unit). The generating components and most of the related facilities for former AGS Unit 7 have already been decommissioned, demolished, salvaged, and removed from the site (referred to as the "former AGS Unit 7's remaining components"). The remaining components of AGS Unit 7 will be demolished as part of the AEC, and the potential impacts of these activities have been thoroughly examined in this proceeding.

- Q. What is your conclusion on the demolition issues raised by Mr. Geever regarding the existing AGS?

- A. We agree with the Committee's recent ruling that confirms the fact that the demolition of the existing AGS is not a reasonably foreseeable consequence of the AEC:

Based upon the foregoing, we confirm the Tentative Ruling and find that the demolition of AGS units 1-6 is not a reasonably foreseeable consequence of the AEC. Therefore, the demolition of AGS units 1-6 is not a part of the whole of the AEC project. However, the demolition of the AGS units is reasonably foreseeable and therefore, must be analyzed as a future project in the cumulative analyses of the Energy Commission's environmental analysis documents. (TN #214007, *Committee Ruling Re: Staff's Motion For Summary Adjudication*, October 14, 2016, hereinafter referred to as the "Committee's Order on Possible Future Demolition.")

- Q. On page 2 of his testimony, Mr. Geever states that the AEC is located on the same site as the AGS. Is this true?
- A. No. The AEC will be located on a distinct, separate 21-acre site within the larger 71-acre AGS parcel. Similarly, the proposed South Bay Repower Project was to be located on a new 33-acre site to the south of the existing South Bay Project. Also, both the South Bay Project and the AGS were constructed and operating before the Commission was created and, thus, are not within the Commission's permit jurisdiction.
- Q. Citing the letter from Arlene Ichien, on page 2 of his testimony Mr. Geever states that the Commission intended to conduct an environmental review of the demolition of the South Bay Project. Are there relevant factual distinctions between the AEC and the South Bay Repower Project?
- A. Yes. The South Bay Repower Project proponent leased the old power plant site from the Port of San Diego. The terms of the lease imposed on the South Bay Project an affirmative legal obligation to demolish the existing facility at the end of the lease. (See, Ex. 1073, *Lease Agreement date as of April 1, 1999 between San Diego Unified Port District, as Lessor, and Duke Energy South Bay, LLC, as Lessee for the South Bay Power Plant*, filed in 06-AFC-3.)
- Q. Does the Trust's Exhibit 12 confirm that the South Bay Repower Project proponent was under a legal obligation to demolish the existing power plant?
- A. Yes. Exhibit 12 states:

Indeed, rather than being essential to the operation of the replacement plant, the existing [South Bay] plant is slated for demolition under agreements between its owner, the Port

Authority, and the applicant seeking an Energy Commission license for the replacement. (Emphasis added.)

Thus, in the case of the South Bay Project, the project proponent was a lessee of the lands with an affirmative legal obligation to demolish the existing power plant at the end of the lease.

- Q. How are these facts different from the AEC project?
- A. The demolition of the existing AGS is not necessary, much less required, for construction of AEC on the new site. AEC has no lease-related obligations to demolish the existing power plant. Moreover, as part of the ongoing phase out of once-through cooling ("OTC") units, the existing AGS cannot be removed from service until the State Water Resources Control Board ("SWRCB"), California Independent System Operator ("CAISO"), and California Public Utilities Commission ("CPUC") confirm that the units are no longer needed.
- Q. What are your overall conclusions on the South Bay Project analogy drawn in Mr. Geever's testimony?
- A. Exhibit 12 supports the conclusions in the Committee's Order on Possible Future Demolition. The possible future demolition of the existing AGS units is not required for AEC to advance and is, therefore, not a reasonably foreseeable consequence of the AEC project. However, because the demolition of the AGS units is reasonably foreseeable at an undetermined future date, it is reasonable to analyze potential cumulative impacts of the AGS demolition, as the Final Staff Assessment ("FSA") and the Applicant's Opening Testimony have done.
- Q. On page 6 of his testimony, Mr. Geever states, "The CPUC approval of a contract for the proposed AES has been wrongly used in this proceeding to dismiss alternatives at the same time that the Staff is ignoring the actual terms of the PUC approval." Do you agree with this statement?
- A. No. As explained in the FSA, "Staff does not consider the terms of power purchase contracts" as part of its analysis and, therefore, could not have used the power purchase agreement as a basis "to dismiss alternatives." (FSA, p. 6-24.)
- Q. On page 1 of his testimony, Mr. Geever states that the "Alamitos Generating Station Battery Energy Storage System ("BESS") Project" is a project component of the AEC. Is this true?

- A. No. The BESS and the AEC are not part of a single California Environmental Quality Act ("CEQA") project. The BESS is located on a different site than the AEC. The AEC will be developed whether or not the BESS project proceeds, as the AEC is under contract to provide a suite of grid reliability services the BESS cannot provide. Similarly, the BESS project will proceed whether the AEC proceeds and will operate pursuant to the terms of a separate contract with Southern California Edison ("SCE"). Neither project is a step that must be taken to achieve the objective of constructing the other project.

The BESS will not be physically or electrically interconnected to either the existing AGS or the proposed AEC. The BESS will be charged at SCE's discretion by system power purchased by SCE. SCE will also decide when to discharge stored energy to meet SCE's system reliability needs. The AEC and BESS projects have different and independent project objectives, independent utility, and will operate (or not) without regards to whether the other is being operated (or not). The BESS does not generate electricity, which is an important distinction. The BESS is not an alternative to the electrical generation capability of the AEC, but a complement that enhances overall grid reliability. The BESS is being developed by a different entity (AES Southland Energy, LLC), not the Applicant. Therefore, the BESS is not a project component of the AEC.

II. BASIC PROJECT OBJECTIVES (Testimony of Bill Powers)

- Q. Do Mr. Power's proposals satisfy the basic project objectives for the AEC set forth in the FSA?

- A. No. Mr. Power's testimony virtually ignores these objectives. The basic project objectives for the AEC include, but are not limited to, the following:

- Develop a project capable of providing energy, generating capacity, and ancillary electrical services (voltage support, spinning reserve, inertia) to satisfy Los Angeles Basin Local Reliability Area requirements and transmission grid support, particularly in the western subarea of the Los Angeles Basin.
- Provide fast starting and stopping, flexible, controllable generation with the ability to ramp up and down through a wide range of electrical output to allow the integration of the renewable energy into the electrical grid in satisfaction of California's Renewable Portfolio Standard, displacing older and less efficient generation.
- Utilize the existing brownfield powerplant site and infrastructure, including the existing AGS switchyard and related facilities, the SCE switchyard and transmission facilities, the Southern California Gas ("SoCalGas") natural gas pipeline system, the Long Beach Water Department water connections, process

water supply lines, existing fire suppression and emergency service facilities, and the administration, maintenance, and certain warehouse buildings.

- Use qualifying technology under the South Coast Air Quality Management District's ("SCAQMD") Rule 1304(a)(2) that allows for the replacement of older, less-efficient electric utility steam boilers with specific new generation technologies on a megawatt to megawatt basis (that is, the replacement megawatts are equal or less than the megawatts from the electric utility steam boilers).

Q. Would the La Paloma Project satisfy any of these basic objectives?

A. No.

Q. As to AEC's first basic project objective, is the La Paloma Project electrically equivalent to the proposed AEC Project?

A. No. AEC will provide energy, generating capacity, and ancillary electrical services (voltage support, spinning reserve, inertia) to satisfy Los Angeles Basin Local Reliability Area requirements and transmission grid support, particularly in the western subarea of the Los Angeles Basin. La Paloma is located in McKittrick, Kern County, California, approximately 40 miles west of Bakersfield, California, in Pacific Gas and Electric's ("PG&E") service territory. La Paloma is electrically unable to satisfy the basic objectives of AEC.

Q. Would La Paloma be able to provide fast starting and stopping, flexible, controllable generation with the ability to ramp up and down through a wide range of electrical output?

A. It is unclear from Mr. Power's testimony whether this older vintage combined-cycle unit can provide these flexible capacity services. The "PMin" operating level is the lowest output for a facility to operate reliably. Operating at a low PMin allows a facility to ramp up to provide grid stability as the output from intermittent resources drops. According to Mr. Power's testimony, La Paloma would have to be modified to reduce its PMin heat rate, but the nature, scope, and costs of these proposed modifications are not explained. (Exhibit 5, p. 3.) In contrast, there is no question that AEC can provide fast starting and stopping, flexible, controllable generation with the ability to ramp up and down through a wide range of electrical output.

Q. Would the La Paloma site satisfy the objective to use the Applicant's existing brownfield power plant site and infrastructure and the administration, maintenance, and certain warehouse buildings?

- A. No. La Paloma is owned by another entity at another site in Kern County.
- Q. Would the La Paloma site meet the basic objectives related to the SCAQMD's Rules?
- A. No. La Paloma, located in PG&E's service territory in Kern County, is outside the boundaries of the SCAQMD.
- Q. Are there other issues that call into question the feasibility of the La Paloma option advocated by Mr. Powers?
- A. Yes. Mr. Power's own exhibits call into question the feasibility of La Paloma. Exhibit 5 is a complaint by La Paloma against the CAISO wherein La Paloma argues it needs \$39 million to cover just five months' worth of losses. On its face, the Exhibit calls into question La Paloma's economic viability and longevity. We also understand that La Paloma is a wet cooled power plant relying on California Aqueduct water as its supply. Mr. Power's testimony does not address the water supply certainty for the facility or the potential costs and time associated with converting the facility to dry cooling, if desired or if directed.
- Q. Would the Demand Response satisfy most of the basic objectives of the AEC?
- A. No. Demand response is a valuable tool, but demand response alone will not provide electric reliability to the western subarea of the Los Angeles Basin; will not provide fast starting and stopping, flexible, controllable generation; will not utilize the existing brownfield power plant site and infrastructure; or will not allow for the replacement of older, less-efficient electric utility steam boilers with specific new generation technologies consistent with the SCAQMD Rules.
- Q. Would the Demand Response plus the Paloma project, as proposed by Mr. Powers, satisfy most of the basic objectives for the AEC?
- A. No. This combination will not provide electric reliability to the western subarea of the Los Angeles Basin, given La Paloma's location in Kern County; will not provide fast starting and stopping, flexible, controllable generation to the western subarea of the Los Angeles Basin; will not utilize the existing brownfield power plant site and infrastructure; and will not allow for the replacement of older, less-efficient electric utility steam boilers with specific new generation technologies consistent with the SCAQMD Rules.
- Q. Mr. Powers recommends that the FSA "be amended to identify battery storage as a viable alternative to combustion turbines at the AEC." (Powers Testimony, p. 5.) Do you agree with this recommendation?

- A. No. First, the FSA thoroughly examined the crucial roles that energy efficiency, demand response, and battery storage each play to support the reliability of the grid, and correctly concluded that, despite the important attributes of preferred resources, natural gas generation such as the AEC still played an important role in ensuring grid reliability. (FSA, pp. 6-12 through 6-14.)

Unlike other energy storage systems (compressed air energy storage, pump hydroelectric, and hydroelectric), the BESS does not generate electricity, which is an important distinction between BESS and combustion turbines. Furthermore, the N-1 or N-2 planning contingency used by the CAISO and SCE requires generating assets to maintain the ability to supply continuous generating capacity beyond eight hours in the event of a loss of a resource (transmission or generation) in the area. The BESS is limited to 4-hour capacity, so it cannot replace local capacity energy requirements needed to serve reliability needs beyond four hours. In short, energy storage projects can help firm intermittent resources but do not produce any energy; therefore, BESS cannot meet all of the needs that gas-fired generation can supply. Therefore, the BESS is not an alternative to the electrical generation capability of the AEC, but is rather a complementary technology that enhances overall grid reliability.