

**JVR Energy Park**  
**Project Description and ALUC Analysis**

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**JVR Energy Park  
ALUC Project Description**

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# **JVR Energy Park ALUC Project Description**

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# **JVR Energy Park ALUC Project Description**

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## **1 INTRODUCTION**

San Diego County's General Plan is a complex, highly integrated document that serves as the blueprint for growth and development in the unincorporated County. It is based on a set of guiding principles and consists of the following elements: Land Use, Mobility, Conservation & Open Space, Housing, Safety and Noise. Each of these elements contains a set of goals and policies that must be adhered to by all discretionary development projects. In addition to the policy document, the County's General Plan also consists of a Land Use Distribution Map and Mobility Element Network Map. The land use map identifies the type and intensity of future uses on parcels of land throughout the County, whereas the mobility network delineates the road network that is required to accommodate these proposed uses. Finally, the County's General Plan also consists of several Community or Subregional Plans that are intended to provide more precise guidance regarding the character, land uses, and densities within each community planning area. All of these components make up the County's General Plan.

### **1.1 Project Description**

The Project is a Major Use Permit for the development of a solar energy project with a rated capacity of up to 90 megawatts (MWac) and a 10 megawatt energy storage facility. The project site is located within the Mountain Empire Subregional Plan area within unincorporated San Diego County, south of Interstate 8 (I-8) and adjacent to the U.S.-Mexico border.

Also included as part of the project would be a 1,000- to 1,500-volt DC underground collection system, a 34.5-kilovolt (kV) overhead and underground AC collection system linking the inverters to the on-site substation, a 138 kV overhead and underground transmission line (gen-tie) that would connect on site and a San Diego Gas & Electric (SDG&E) 138 kV switchyard adjacent to the on-site collector substation that will be utilized to transfer power from the on-site collector substation to the SDG&E 138 KV transmission line that traverses the proposed project. The 138 kV switchyard will be designed, constructed and operated by SDG&E. The approximately 20 MW battery energy storage system would be located throughout the project site in 26 self-contained 6,800-square foot containers housing lithium-ion batteries.

Primary access to the Proposed Project would be provided via an improved access road from Old Highway 80. Additional access points would be provided off of Carrizo Gorge Road. Interior site roads would be constructed as suitable for fire access roads.

## **JVR Energy Park ALUC Project Description**

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# APPENDIX A

## *Jacumba Airport Land Use Compatibility Analysis*





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## **INTRODUCTION**

The Jacumba Airport Land Use Compatibility Plan (ALUCP) is the fundamental tool used by the San Diego County Regional Airport Authority (SDCRAA), acting in its capacity as the San Diego County Airport Land Use Commission (ALUC), in fulfilling its purpose of promoting airport land use compatibility. The two primary goals of the Compatibility Plan are to provide for the orderly growth of the Jacumba Airport and the area surrounding the airport; and to safeguard the general welfare of the inhabitants within the vicinity of the airport and the public in general. The Compatibility Plan serves as a tool for use by the ALUC in fulfilling its duty to review airport and adjacent land use development proposals. The project has been analyzed for consistency with the Jacumba ALUCP as described below.

## **CONSISTENCY WITH THE JACUMBA AIRPORT LAND USE COMPATIBILITY PLAN**

This section identifies several Jacumba ALUCP policies that are applicable to the proposed development project and explains the preliminary findings for reaching a conclusion of compliance.

**Policy JAC 1.1 Evaluating Acceptable Noise Levels for New Development:** The noise compatibility of proposed land uses within the influence area of Jacumba Airport shall be evaluated in accordance with the policies set forth in this section, including the criteria listed in Table JAC-1 and the noise contours depicted on Map JAC-1.

**The project would be consistent with this policy.** The project is an unmanned facility. Therefore, it will not exceed the maximum nonresidential intensity (people/acre) shown in Table JAC-1. The southern portion of the project site will be located within the 50-55 decibel (dB) noise contour as shown on Map JAC-1. The project use will be consistent with the criteria listed in Table JAC-1 and the noise contours depicted on Map JAC-1.

**Policy JAC 1.3 Acceptable Noise Levels for Specific Types of Land Use Development:**

- (c) The compatibility of new nonresidential development with noise levels generated by the airport is indicated in Table JAC-1.
  - 1. Buildings associated with land uses listed as “conditional” must have added sound attenuation as necessary to meet the interior noise levels standards indicated in the table and in Policy JAC.1.5.
  - 2. Land uses not specifically listed shall be evaluated using the criteria for similar listed uses.
- (d) Dedication of an aviation easement in accordance with Policy 3.1.5 of Chapter 2 is a requirement for acceptability of any type of development within the 55 dB Community Noise Equivalent Level (CNEL) contour.

**The project would be consistent with this policy.** The project is not associated with a “conditional” land use and therefore will not require added sound attenuation as necessary to meet the interior noise levels standards. Prior to development, the project will obtain an aviation easement in accordance with Policy 3.1.5 of Chapter 2.

**Policy JAC 1.4 Application of Noise Contours to Individual Project Sites:** Projected noise contours are inherently imprecise because, especially at general aviation airports, flight paths and other factors that influence noise emissions are variable and activity projections are always uncertain. Given this imprecision, noise contours shall be utilized as follows in assessing the proposed use of a specific development site.

- (a) In general, the highest CNEL to which a project site is projected to be exposed shall be used in evaluating the compatibility of development over the entire site and determining sound attenuation requirements, if any.
- (b) Exceptions to this policy are as follows:

1. On project sites large enough to have a CNEL variation of 3 dB or more, compatibility criteria applicable within each 5 dB range (55 to 60, 60 to 65, etc.) shall be applied to each portion of the site exposed to that range of noise.
2. Where no part of the buildings proposed on the site fall within the higher CNEL range, the criteria for the CNEL range where the buildings are located shall apply.

**The project would be consistent with this policy.** The project site is large enough to have a CNEL variation of more than 3 dB. The southern portion of the site would be within the 50 to 55 dB noise contour, while the rest of the site will be lower. The substation proposed on site will be located outside of the airport noise contours.

**Policy JAC 2.2 Measures of Safety Compatibility:** To minimize risks to people and property on the ground and to people on board aircraft, the safety compatibility criteria set limits on:

- (b) The intensity of nonresidential development measured in terms of the number of people concentrated in areas most susceptible to aircraft accidents.
- (c) Development or expansion of certain uses that represent special safety concerns regardless of the number of people present.
- (d) The extent to which development covers the ground and thus limits the options of where an aircraft in distress can attempt an emergency landing.

**The project would be consistent with this policy.** The project will be unmanned, and therefore will not increase the number of people concentrated in areas susceptible to aircraft accidents. The project will not result in special safety concerns, as it will be designed in accordance with the Jacumba ALUCP Safety Compatibility Policies. While Table JAC-2 does not specifically identify solar development as a land use category, it does identify industrial outdoor storage as conditional in Zone 1 and compatible in Zones 2, 3, 4, 5 and 6. Additionally, electrical substations are identified as compatible in zones 3, 4 and 6. The project substation will be located partially within Runway Safety Zone 6 and entirely within the FAA Part 77 5000' Radius around Runway Horizontal Surface at 150' above runway elevations. The JVR Energy Park is expected to be found compatible, however, if any significant impacts are identified for the project, the JVR Energy Park EIR will discuss and require implementation of relevant and appropriate mitigation by the project to minimize the identified impact to the extent feasible.

**Policy JAC 2.5: Nonresidential Development Criteria:** The following criteria apply to most proposed nonresidential development. Additional or different criteria for uses of special concern are described in Policy JAC 2.6.

- (a) For the purposes of this Compatibility Plan, the fundamental measure of risk exposure for people on the ground in the event of an aircraft accident is the number of people concentrate in areas most susceptible to aircraft accidents. This measure is the chief determinant of whether particular types of nonresidential development are designated as incompatible, conditional, or compatible in Table JAC-2.
  1. The maximum acceptable intensity of proposed development within the environs of Jacumba Airport is:
    - Within Safety Zone 1: 10 people per acre.
    - Within Safety Zone 2: 60 people per acre.
    - Within Safety Zone 3: 120 people per acre.

- Within Safety Zone 4: 150 people per acre.
  - Within Safety Zone 5: 150 people per acre.
  - Within Safety Zone 6: no limit.
2. Usage intensity calculations shall include all people (e.g., employees, customers/visitors) who may be on the property at any single point in time, whether indoors or outdoors.
  3. Local jurisdictions may make exceptions for rare special events (e.g., as an air show at an airport) for which a facility is not designed and normally not used and for which extra safety precautions can be taken as appropriate.
- (b) Evaluation of the compatibility of a proposed nonresidential land use development shall be made using the land use types listed in Table JAC-2.
1. The nonresidential uses are categorized primarily with respect to the typical occupancy load factor of the use measured in terms of square footage per occupant. Occupancy load factor takes into account all occupants of the facility including employees, customers, and others. Also indicated in the table is the California Building Code (CBC) classification under which each facility is presumed to be constructed.
  2. Proposed development for which no land use type is listed in Table JAC-2 shall be evaluated with respect to a similar use included on the list. The occupancy load factor of the unlisted use and that of the similar listed use shall be the primary basis for comparison except where the unlisted use is most similar to a land use of special concern. Unlisted uses also may be compared to listed uses having the same construction type as noted in the CBC column in the table.

**The project would be consistent with this policy.** The project is an unmanned facility and will have a very low measure of risk exposure for people on the ground. Following construction, the site will be monitored and operated off site through a supervisory control and data acquisition (SCADA) system. Additionally, only the Southern portion of the project site is located within an Airport Safety Zone. The maximum acceptable intensity will not be exceeded during construction nor operation. As described under Policy JAC 2.2, Table JAC-2 does not specifically identify solar development as a land use category, however it does identify industrial outdoor storage which will have a similar occupancy level to the project. Industrial outdoor storage is identified as conditional in Zone 1 and compatible in Zones 2, 3, 4, 5 and 6, therefore, it is expected that the project will also be a compatible land use.

**Policy JAC 2.6 Land Uses of Special Concern:** Certain types of land uses represent special safety concerns irrespective of the number of people associated with those uses. Land uses of particular concern, the nature of the concern, and the conditions which the development must meet to be acceptable within a particular safety zone are as listed below.

- (c) Critical Community Infrastructure: This category pertains to facilities the damage or destruction of which would cause significant adverse effects to public health and welfare well beyond the immediate vicinity of the facility.
2. Emergency Communications Facilities; Power Plants, and Other Utilities: Facilities such as these are conditionally compatible in the zones indicated for that

use in Table JAC-2 only if the local jurisdiction documents that an alternative site outside these zones would not adequately meet the needs the facility is intended to serve and that this consideration outweighs the airport-related safety concerns associated with a site in the impacted area. Susceptibility of the facility to damage by an aircraft accident, the availability of redundant or replacement facilities, the rapidity with which the facility could be repaired, and other such factors should all be considered in the determination of whether a facility of this type should be placed in a risky location.

**The project would be consistent with this policy.** Though the project will be associated with a utility and will produce renewable energy, the destruction of the facility will not cause significant adverse effects to public health or welfare beyond the immediate vicinity of the facility. The battery energy storage system (BESS) containers will each include an air conditioning unit for cooling purposes and a self-extinguishing fire system. Loss of the energy production provided by the project will not significantly impact SDG&E's ability to provide power to the region. Additionally, given the rural nature of the surrounding area, risk will not be expected to extend beyond the project site.

**Policy JAC 2.8 Maximum Lot Coverage:** All proposed development in Safety Zones 2, 3, 4, and 5 regardless of whether the land use is listed as "compatible" or "conditional" shall adhere to the maximum lot coverage limitations indicated in Table JAC-2. No structures are permitted in Safety Zone 1 and no limits on lot coverage are set in Safety Zone 6. All structures, including parking structures and support buildings, shall be counted when determining maximum lot coverage.

- (a) On project sites of 10.0 acres or more, structures and other large objects shall be arranged so as to meet the open land criterion in Policy JAC 2.9 below at the rate of one open land area per each 10 acres of the site.

**The project would be consistent with this policy.** The project will adhere to the maximum lot coverage limitations indicated in Table JAC-2. The Project is located in Safety Zone 2, which allows a maximum lot coverage of 50%, Safety Zone 4, which allows a maximum lot coverage of 70%, and Safety Zone 6, which allows a maximum lot coverage of 100%. The project will not place any structures within Safety Zone 1, and will maintain a lot coverage ratio of approximately 28% within the fence line. Additionally, the project will obtain FAA form 7460 – Aeronautical Study Determination of No Hazard prior to development.

**Policy JAC 2.9 Open Land:** In the event that a light aircraft is forced to land away from an airport, the risks to the people on board can best be minimized by providing as much open land area as possible within the airport vicinity. This concept is based on the fact that the majority of light aircraft accidents and incidents occurring away from an airport runway are controlled emergency landings in which the pilot has reasonable opportunity to select the landing site. For business jets and other large or fast aircraft, including most military aircraft, provision of open land for emergency landing purposed has minimal benefit unless the areas are very large and flat.

- (a) Open land criteria are applicable to all general aviation airport runways in that even the runways frequently used by business jets are mostly used by light aircraft.
- (b) To qualify as open land, an area should:

- a. Be free of most structures and other major obstacles such as walls, large trees or poles (greater than 4 inches in diameter, measured 4 feet above the ground), and overhead wires.
- b. Have minimum dimensions of approximately 75 feet by 300 feet (0.5 acres).
- (c) Open land should be oriented with the typical direction of aircraft flight over the location involved.

**The project would be consistent with this policy.** The project site includes open space approximately 1,200 feet north of the Jacumba airport runway. This area will not be developed with the project and will remain as open, undeveloped land which will provide substantial area for emergency landings.

**Policy JAC 2.11 Parcels Lying within Two or More Safety Zones:** For the purposes of evaluating consistency with the compatibility criteria set forth in Table JAC-2, any parcel that is split by compatibility zone boundaries shall be considered as if it were multiple parcels divided at the compatibility zone boundary line. However, the density or intensity of development allowed within the more restricted portion of the parcel can (and is encouraged to) be reallocated to the less restricted portion. This reallocation of density or intensity is permitted even if the resulting density or intensity in the less restricted area would then exceed the limits which would otherwise apply within that safety zone.

**The project would be consistent with this policy.** The project is located within Zone 1 – Zone 6 of the Jacumba ALUCP. A small portion of the site will be located in Zone 1, however no structures will be placed within Zone 1. Larger areas of development will be located within Zones 2 through 6. Development intensity will be consistent across the various safety zones, with an approximate maximum lot coverage of 28%. The project will not exceed the maximum lot coverage ratio of any safety zone.

**Policy JAC 2.12 Special Provisions for Safety Zone 1:** In accordance with the Federal Aviation Administration (FAA) guidance, the basic compatibility criteria for Safety Zone 1 (the runway protection zones and within the runway primary surface), as listed in Table JAC-2, preclude most uses, including any new structures and uses having an assemblage of people.

- (a) The presumption is that the airport owner owns or intends to acquire property interests – fee title or easements – sufficient to effect this policy. The ALUC policy is to encourage airport owner acquisition of these property interests in all of Safety Zone 1 with funding assistance from the FAA.
- (b) In instances where the affected property is privately owned and the airport owner does not intend to acquire property interests, the following uses shall be considered acceptable:
  - 1. Within the runway object free area (OFA): No uses except FAA-approved uses related to aeronautical functions.
  - 2. Within the extended runway object free area:
    - Roads
    - Farm crops that do not attract wildlife
  - 3. Outside the runway object free area and extended runway object free area.
    - Uses listed in Paragraph (2)
    - Surface automobile parking



- Other uses not in structures and not exceeding a usage intensity of 10 people per any single acre
4. The acceptability of uses not listed shall be consistent with FAA guidance and the ALUC determination shall be made in consultation with the FAA and the airport owner.

**The project would be consistent with this policy.** The project will not place any objects within Safety Zone 1 nor within the OFA. Development outside of the OFA will not exceed a usage intensity of 10 people per any single area. Prior to development, this project will be reviewed by the SDCRAA, and FAA Form 7460- Aeronautical Study Determination of No Hazard will be obtained.

**Policy JAC 3.4 ALUC Airspace Obstruction Criteria:** The ALUC criteria for determining the acceptability of a project with respect to height shall be based upon: the standards set forth in FAR Part 77, Subpart C; the United States Standard for Terminal Instrument Procedures (TERPS); and applicable airport design standards published by the FAA. Additionally, the ALUC shall, where an FAA aeronautical study of a proposed object has been required, take into account the results of that study.

- (a) Except as provided in Paragraphs (b) and (c) of this policy, no object, including mobile object such as a vehicle or temporary object such as construction crane, shall have a height that would result in penetration of the airspace protection surface depicted for Jacumba Airport in Map JAC-3, Compatibility Policy Map: Airspace Protection. Any object that penetrates one of these surfaces is, by FAA definition, deemed an *obstruction*.
- (b) Other than within the Primary Surface and beneath the Approach or Transitional Surface, no object shall be limited to a height of less than 35 feet above the ground even if the object would constitute an obstruction.
- (c) A proposed object having a height that exceeds the airport's airspace protection surface shall be allowed only if *all* of the following apply:
  - (1) As the result of an aeronautical study, the FAA determines that the object would not be a *hazard* to air navigation.
  - (2) FAA or other expert analysis conducted under the auspices of the ALUC or the airport operator concludes that, despite being an airspace *obstruction* (not necessarily a *hazard*), the object that would not cause any of the following:
    - An increase in the ceiling or visibility minimums of the airport for an existing or planned instrument procedure (a planned procedure is one that is formally on file with the FAA or that is consistent with the FAA-approved airport layout plan);
    - A diminution of the established operational efficiency and capacity of the airport, such as by causing the usable length of the runway to be reduced; or
    - Conflict with the visual flight rules (VFR) airspace used for the airport traffic pattern or en route navigation to and from the airport.
  - (3) Marking and lighting of the object will be installed as directed by the FAA aeronautical study of the California Division of Aeronautics and in a manner consistent with FAA standards in effect at the time the construction is proposed (Advisory Circular 70/7460-1J, Obstruction Marking and Lighting, or any later guidance ).

- (4) An aviation easement as described in Policy 3.1.5 of Chapter 2 is dedicated to the agency owning the airport.
- (5) The use complies with all policies of this Compatibility Plan related to noise and safety compatibility.

**The project would be consistent with this policy.** The project has been designed in accordance with FAR Part 77, Subpart C. The project switchyard would be the tallest project component at approximately 60 feet. The switchyard is located partially within Safety Zone 6 and entirely within Part 77 horizontal surface. The switchyard would be located immediately adjacent to existing transmission lines which are approximately 150 feet high, so no project component would exceed the height of existing infrastructure adjacent to Safety Zone 6. In accordance with paragraph (c), above, the following would apply: based on the aeronautical study, the FAA determined that the project would not be a *hazard* to air navigation and would not cause an increase in the ceiling or visibility minimums of the airport, a diminution of the established operational efficiency and capacity of the airport, nor conflict with the VFR airspace used for the airport traffic pattern or en route navigation to and from the airport. Marking and lighting of the project will be installed as directed by the FAA aeronautical study of the California Division of Aeronautics and in a manner consistent with FAA standards in effect at the time the construction is proposed. The project will dedicate an aviation easement over the project site. Due to the use of cranes during construction, the project would be required to file a Notice of Proposed Construction or Alteration (Form 7460-1) with the FAA prior to construction. Therefore, the use will comply with all policies of this Compatibility Plan related to noise and safety compatibility.

**ALUC Policy JAC 3.5: *Other Flight Hazards*:** Land uses that may cause visual, electronic, or wildlife hazards, particularly bird strike hazards, to aircraft in flight or taking off or landing at the airport shall be allowed within the airport influence area only if the uses are consistent with FAA rules and regulations.

(a) Specific characteristics to be avoided include:

- (1) Sources of glare (such as from mirrored or other highly reflective buildings or building features) or bright lights (including search lights and laser light displays);
- (2) Distracting lights that could be mistaken for airport lights;
- (3) Sources of dust, steam, or smoke that may impair pilot visibility;
- (4) Sources of electrical interference with aircraft communications or navigation; and
- (5) Any proposed use that creates an increased attraction for wildlife and that is inconsistent with FAA rules and regulations including, but not limited to, FAA Order 5200.5A, Waste Disposal Sites on or Near Airports and Advisory Circular 150/5200-33, Hazardous Wildlife Attractants On or Near Airports. Of particular concern are landfills and certain recreational or agricultural uses that attract large flocks of birds which pose bird strike hazards to aircraft in flight.

(b) To resolve any uncertainties with regard to the significance of the above types of flight hazards, local jurisdictions should consult with FAA officials.

**The project would be consistent with this policy.** A glare study was prepared for this project and found that the proposed project would not impact airport operations at the Jacumba Airport or cause distraction to nearby residences or motorists (POWER Engineers, Inc. [POWER] 2018). The study utilized the Solar Glare Hazard Analysis Tool licensed by Glare Gauge and in

accordance with the FAA requirements for analyzing glare for airport operations. Proposed solar operations were analyzed from pilot, residential, and motorist viewpoints. After review of the analysis, POWER determined potential glare is limited to the Jacumba Airport Runway 7 approach during the afternoon hours of the winter months lasting for less than one hour per day. Potential glare reported has a hazard level of “green” (low potential for temporary after-image) and is acceptable by the FAA. No other occurrences of glare were reported due to the rotational limits and wake/stow procedures of solar operations (POWER 2018).

## REFERENCES

POWER Engineers, Inc. (POWER). 2018. *Jacumba Valley Ranch Solar Project Glare Study*. May 2018.