

DRAFT FINDING OF NO SIGNIFICANT IMPACT (FONSI)
AND
FINDING OF NO PRACTICABLE ALTERNATIVE (FONPA)
DOOLITTLE POWER STATION REPAIR & UPGRADE
BEALE AFB, CA

Project No. 00112

Pursuant to provisions of the National Environmental Policy Act (NEPA), Title 42 United States Code (USC) Sections 4321 to 4347, implemented by Council on Environmental Quality (CEQ) Regulations, Title 40, Code of Federal Regulations (CFR) §§ 1500-1508, and 32 CFR Part 989, Environmental Impact Analysis Process (EIAP), the United States (U.S.) Department of the Air Force (DAF) assessed the potential impacts on the natural and human environment associated with the Doolittle Power Station Repair & Upgrade project, Beale Air Force Base (AFB), California.

Purpose of and Need for Proposed Action

The purpose of the action is 1) to ensure electric power supporting all facilities on the Flightline, the Munition Support Squadron (MUNS), Global Hawk Campus (GHC), and Mission Control Station (MCS) Pad at Beale AFB are maintained; 2) provide 100% electrical energy resiliency for the Global Hawk Mission operating 24/7/365; and 3) to isolate critical facilities at the GHC in the event of an electrical outage.

The action is needed because current base-wide energy usage and dilapidated energy infrastructure at Beale place the Flightline, MUNS, and GHC missions at severe risk of unexpected interruption due to potential weather incidents, wildfires, electrical failures, and/or targeted attacks. Failure to provide resilience to these missions on Beale AFB could result in unquantifiable impact to the Air Force mission. Additionally, backup power for these areas is reliant on fossil fuel generators which adds to the greenhouse gasses Beale exudes.

This action ensures compliance with applicable Unified Facilities Criteria and National Electric Codes. This action also ensures compliance with Department of Defense Instruction 4170.11, *Installation Energy Management*, which notes that “[e]nergy resilience solutions are not limited to traditional standby or emergency generators” and provides further direction that “when selecting distributed and renewable energy systems... for energy resilience, they shall be properly designed to have the ability to prepare for and recover from energy disruptions that impact the mission impact assurance.”

Description of the Proposed Action

The Proposed Action would demolish/replace the existing Doolittle Substation with an upgraded substation/switchyard and would install a new control building, smart microgrid, battery energy storage system (BESS), and a solar/photovoltaic array to provide electrical energy resiliency to critical systems at Beale AFB. Construction would consist of the following:

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- Demolish and replace an existing substation with an upgraded substation/switchyard that's enclosed with a concrete masonry unit perimeter wall (28,739 additional square-feet).
 - Construct new 250-square-foot control building with HVAC, a microgrid, and a battery backup system.
 - A 60' by 12' concrete pad (720 sf) for a 3 MW BESS.
 - Install a new 2-megawatt (MW) photovoltaic (PV) array (284,282 square-feet) on undeveloped land covering approximately 9.5 acres.
 - Install new perimeter fencing, gates, and driveways.
 - Dig an 850-foot trench for solar array conduit.
 - Alter an existing man-made runoff pipe from an adjacent water tower to route runoff from the site.
 - Reroute an existing water main via trench that's 500 feet long, 5 feet deep, and 3 feet wide (7,500 ft³).

Alternatives Eliminated from Further Consideration

This EA has considered all reasonable alternatives per 32 CFR 989.8(a) & (b), which states that that the DAF must analyze reasonable alternatives to the proposed action and the “no action” alternative in all EAs, as fully as the proposed action alternative. In accordance with 32 CFR 989.8(c), selection standards were developed to establish a means for determining the reasonableness of an alternative and whether an alternative should be carried forward for further analysis in the EA. The following selection standards meet the purpose of and need for the Proposed Action and were used to identify reasonable alternatives for analysis in the EA:

- PV array needs to attain a 2 MW energy capacity (*2 MW Capacity*).
- PV array requires level (or close to the) ground with a sloped terrain to allow for natural storm water runoff (*Level*).
- PV array and microgrid need to be close to Flightline to support associated missions (*Flightline Proximity*).
- PV array and microgrid need to be near a substation for connectivity (*Substation Proximity*).
- Relatively close to the 60kV WAPA transmission system on base for interconnection purposes (*WAPA 60kV Proximity*).
- Have less impacts to wetland features when compared to the Proposed Action (i.e., less than 0.031 direct and 0.004 indirect impacts) due to being the most deleterious impact associated with the Proposed Action (*Less Wetland Impacts*).
- Be economically feasible (*Economically Feasible*).

The table below (Table 1) illustrates each alternative and which selection standard(s) it does or doesn't meet.

Table 1: Comparison of Alternatives to the Proposed Action.

Alternative	Selection Standard						
	<i>2 MW Capacity</i>	<i>Level</i>	<i>Flightline Proximity</i>	<i>Substation Proximity</i>	<i>WAPA 60kV Proximity</i>	<i>Less Wetland Impacts</i>	<i>Economically Feasible</i>
<i>Grumm. Ave</i>	✓	✓	✓	✗	✓	✗	✓
<i>Parking Lot</i>	✗	✓	✓	✗	✗	✓	✓
<i>Reconfigure</i>	✗	✓	✓	✓	✓	✓	✓
<i>East Ext.</i>	✓	✓	✓	✓	✓	✗	✓

Alternate Location South of Grumman Ave (*Grumm. Ave*)

This alternative would relocate the proposed PV array to the opposite side (south) of Grumman Ave. This alternative would indirectly impact the same 0.004-acre vernal pool to the north of the existing substation (VP11119) and directly impact the 0.01-acre swale to the east (N-SW4) that the Proposed Action would impact because the new substation/switchyard's design wouldn't change between this alternative and the Proposed Action. This alternative was eliminated due to an additional 0.329 acres of direct impacts and 0.02 acres of indirect impacts to wetland features when compared to the Proposed Action. These features would also likely be considered jurisdictional under the Clean Water Act (CWA) and are suitable habitat for federally listed branchiopods. Moreover, the solar array would need to be connected to the Doolittle Substation which would likely result in additional environmental impacts from trenching.

North Flightline Parking Lot Alt (*Parking Lot*)

This alternative would instead construct the PV array on top of new canopies covering existing parking spaces of the North Flightline Parking Lot which has 5.5 acres of available space. The proposed demo/upgrade of the Doolittle Substation would still be conducted under this alternative. Only 40-50% of the parking areas can be fully utilized for solar carport construction. To meet the 2 MW energy capacity requirement, the parking areas would need to be approximately 7.7 acres in size, which is 2.2 acres more than what the parking lot provides.

Connection between the parking lot solar array and the Doolittle Substation would likely result in additional environmental impacts. This alternative would also indirectly impact the same 0.004-acre vernal pool to the north of the existing substation (VP11119) and directly impact the 0.01-acre swale to the east (N-SW4) that the Proposed Action would impact because the new substation/switchyard's design wouldn't change between this alternative and the Proposed Action. This would equate to 0.021 less direct impacts to wetlands when compared to the Proposed Action. However, this alternative was ultimately eliminated because the allowable space for solar panel placement was insufficient to meet the 2 MW energy capacity requirement, the cost for solar panel placement on top of car canopies (approximately 40% more expensive) wasn't economically feasible, and the location wasn't near an existing substation for seamless connectivity.

Reconfiguration of Solar Panels (*Reconfigure*)

This alternative would reconfigure and relocate solar panels located in wetland features as described in the Proposed Action. This alternative was ultimately eliminated due to the limited allowable area for solar panel placement and the 2 MW energy capacity requirement severely limiting flexibility in how solar panel groups can be oriented. Additionally, moving solar panels outside the project boundary would either intrude on a quantity distance arc to the north, impact

much larger wetland complexes to the east, or would conflict with existing roadways to the south and west.

Solar Array Eastern Extension (*East Ext.*)

This alternative would utilize the 4.7-acre area east of the nearby wetland complex for solar panel placement in lieu of constructing towards the north — combined total of 10.2 acres for solar array construction. An access road and trenching for conduits over the nearby wetland complex would be required to provide connectivity to this eastern area.

This alternative would indirectly impact the same 0.004-acre vernal pool to the north of the existing substation (VP11119) and directly impact the same 0.01-acre swale to the east (N-SW4) that the Proposed Action would impact because the new substation/switchyard's design wouldn't change between this alternative and the Proposed Action. The 0.01-acre vernal pool southeast of the water tower would also be impacted — much like the Proposed Action — because the water tower drainpipe would still need to be rerouted to prevent erosive complications with the new solar array downgradient. In total, this alternative would directly impact 0.918 acres and indirectly impact 0.034 acres of wetlands. This would equate to a 0.887- and 0.03-acre increase in impacts when compared to the Proposed Action for the respective impact type. Moreover, these additional wetland features are considered branchiopod habitat which would translate to impacts to federally listed species, necessitating compensatory mitigation. The wetland features might also be considered jurisdictional under the CWA due to connectiveness with downstream Waters of the U.S. (WOTUS) — a CWA Section 404 permit and mitigation would be required, if so. As such, it was eliminated from further analysis due to these additional impacts.

Description of the No-Action Alternative

DAF regulations (32 CFR § 989.8[d]) require consideration of the No Action Alternative for all Proposed Actions. The No Action Alternative serves as a baseline against which the impacts of the Proposed Action and other potential alternatives can be compared.

Under the No Action Alternative, the Doolittle Power Station and associated structures & equipment would not be constructed. Failure to accomplish this project would not provide greater resiliency to the electrical power distribution system required for supporting the growing missions at Beale AFB and reliance on fossil fuel powered generators would continue.

Summary of Environmental Findings

The DAF has concluded that the Doolittle Power Station Repair & Upgrade Project would not affect the following resources: airspace management and use, coastal zone management, socioeconomics, environmental justice, wildfires, and floodplains.

Environmental analysis focused on the following areas: air quality, land use, soils and geology, water resources, biological resources, hazardous materials and wastes, infrastructure, cultural resources, public health and safety, and noise. None of the annual net change in estimated emissions associated with the Proposed Action are above the general conformity rule threshold values established at 40 CFR § 93.153 (b); therefore, the Proposed Action has a negligible impact on Air Quality and a General Conformity Determination is not applicable. Approximately 3.15 acres would be changed from outleased grazing land to a PV array field, however this would be considered negligible because the grazing program has 12,632 acres of space available for cattle. The proposed project would have no adverse effects related to accelerated erosion

through effective erosion avoidance and minimization measures (AMMs); however, negligible long-term adverse impacts to soils would be anticipated as a result of operations and maintenance. Geology would not be impacted because the Proposed Action is not located within an active seismic region and there are no active mining claims or mining activities allowed on Beale AFB. Even though hazardous wastes may be generated and hazardous materials would be used, impacts would be short-term and negligible due to the implementation of the Beale AFB Hazardous Waste Management Plan and Hazardous Material Management Plan. The Proposed Action would result in long-term and significantly beneficial impacts from the replacement of currently dilapidated electrical systems and associated infrastructure along with the introduction of new a new solar power source to provide energy resiliency to missions on base. A short-term minor adverse impact to transportation in the form of increases traffic wait times is anticipated during the demolition and construction phases of the project. However, there would be no perceptible increase in vehicle traffic associated with the operation and maintenance of the Doolittle Power Station once completed. There are no structures eligible for listing in the National Register of Historic Places, prehistoric sites, or Native American Traditional Cultural Properties located within the Proposed Action's footprint and none outside the footprint would be impacted. Proper execution of safety & occupational health AMMs would result in no adverse impacts to public health & safety during construction if they're effectively carried out. Continued adherence to the existing standard protocols would preclude any additional impacts from operation/maintenance of the new substation. Considering that the noise level at the project site during construction would be reduced below 90 dBA (OSHA threshold) with the use of hearing protectors and the construction phase would be short-term, it is anticipated that noise produced by the Proposed Action during construction would have a negligible impact to construction workers. The Proposed Action would result in short-term, intermittent, minor adverse noise impacts to all other receptors because they would be far enough away and would only be subjected to the construction noise briefly. All other findings are summarized below:

Water Resources: Under the Proposed Action, a 0.01-acre vernal pool, 0.021 acres of swales, and a 0.06-acre ditch would be directly impacted by the construction and placement of the solar array. Additionally, a 0.004-acre vernal pool to the northwest would be indirectly impacted by the construction of the new substation. These features were determined to be non-jurisdictional features under the most recent definition of WOTUS due to a lack of continuous surface connections to WOTUS. A request for an approved jurisdictional determination of these features was submitted to the USACE on 21 Feb 2024 and a response from USACE was received on 9 July 2024 which affirmed that the features were not WOTUS. Impacts to surface water, specifically ephemeral features, would be adverse, moderate, and permanent. Avoidance of these features was impractical due to required grouping of solar panels limiting possible orientations of solar panel groupings and future maintenance of the solar array's potential to indirectly impact the features due to close proximity of each other.

Up to 12.22 acres of the project site would be developed. Development would mainly consist of individual panels mounted on poles, grading, and expansion of the substation's footprint. Thus, with the exception of the new control room and concrete foundations, much of the project site would continue to allow stormwater percolation and the solar array would be designed to maintain the predevelopment hydrology. No adverse effects related to erosion or siltation are expected. No dewatering or other disturbance of groundwater is proposed and therefore would not impact groundwater storage.

Biological Resources: Effective execution of AMMs would regenerate vegetation in disturbed areas with native flora which would result in a more beneficial vegetative landscape than what already exists. However, expansion of the substation outside its current footprint and construction of concrete foundations under the PV array portion would result in a permanent loss of approximately 0.7 acres of grassland.

Installation of the perimeter fence would result in a permanent loss of wildlife habitat which would equate to long-term indirect adverse impacts — however, these impacts are expected to be minor due to the poor quality of the removed habitat and the insignificant size of the lost habitat.

The Proposed Action has limited potential for short-term impacts to nectar sources that could be used by monarch butterflies (candidate species). Any short-term impacts would be offset through restoration of the project area using a seed mix designed for pollinators (AMMs: GM-12 and MB-3).

The Proposed Action would have both direct (0.01 acres) and indirect (0.004 acres) impacts on federally listed vernal pool species habitat. Beale AFB proposes mitigation compensation based on wetland location and impact type. Mitigation for wetland features that provide habitat to vernal pool fairy shrimp and vernal pool tadpole shrimp will be at a ratio of 3:1 for direct impacts and 1:1 for indirect impacts, for a total of 0.034 acres of compensation. Prior to project initiation, mitigation will be compensated using Beale AFB on-site designated preservation acreage.

Mitigations

As the proponent for the Doolittle Power Station Repair & Upgrade Project, the 9th Civil Engineer Squadron will be responsible for ensuring that the mitigations listed above in the environmental findings section and in the EA are in place prior to taking any specific action. 9 CES/CEIE Environmental Element will oversee and verify mitigations are fully funded by the proponent and are in place and being carried out, as identified in this FONSI/FONPA and the AMMs. The AMMs include points of contact for oversight and completion of the mitigation as well as the anticipated timing for mitigation completion. Due to the considerable length of the AMMs, the list is not produced in this FONSI in accordance with 40 CFR 1501.12; however, all the AMMs in Appendix C are legally binding and must be carried out as the proponent implements the project pursuant to 32 CFR 989.22 (b). For this FONSI/FONPA and in compliance with DAF regulation, AMMs will be carried forward and monitored by the 9 CES/CEIE Environmental Element.

Public Review

An Early Public Notice was published in the Appeal-Democrat newspaper on 25 April 2024 announcing commencement of the EA detailing that the action would take place in wetlands and seeking advanced public comment. No comments were received. A public notice was placed in the Appeal-Democrat newspaper on [redacted] announcing the availability of the Draft EA and Draft FONSI/FONPA for public review and comment. The documents were made available for review on the internet at <https://www.beale.af.mil/Community-Notice/> from [public comment period start date] to [public comment period end date].

Tribal consultation letters were mailed to federally recognized tribes on 11 January 2021. All tribes that responded stated there were no known cultural resources on the site and requested that

they be informed if any tribal cultural items or Native American human remains were found during project construction. Additional attempts to contact tribal representatives were made throughout the duration of EA development by 9 CES/CEIEC. Appendix F includes records of all correspondence with the tribes.

Finding of No Significant Impact

Based on my review of the facts and analyses contained in the attached EA, which is hereby incorporated by reference, conducted under the provisions of NEPA, CEQ Regulations, and 32 CFR Part 989, I conclude that the Proposed Action would not have a significant environmental impact, either by itself or cumulatively with other known projects. Accordingly, an Environmental Impact Statement is not required. This analysis fulfills the requirements of NEPA, and the DAF EIAP regulations 32 CFR Part 989. The signing of this Finding of No Significant Impact completes the EIAP.

The AMMs in Appendix C of the EA serves as the Mitigation and Monitoring Plan for the EA and includes points of contact for oversight and completion of the mitigation as well as the anticipated timing for mitigation completion.

Finding of No Practicable Alternative

In accordance with EO 11990, the DAF considered alternatives for the construction of a new PV array away from wetlands. However, due to the necessities to attain a 2 MW energy capacity and be close to the Flightline, a substation, and the 60kV WAPA transmission system on base and the prevalence of wetlands in all plausible locations, construction of this infrastructure away from wetlands was not feasible, and the associated wetland impacts are unavoidable. Pursuant to Executive Order 11990, and considering all supporting information, I find there is no practicable alternative to upgrading the Doolittle Substation and constructing a new 2 MW photovoltaic array, which will impact wetlands, as described in the attached EA. This finding fulfills both the requirements of the referenced Executive Order and the EIAP regulation, 32 CFR 989.14 for a Finding of No Practicable Alternative.

ANDREW E DEROSA, Colonel, USAF
Chief, Civil Engineer Division (HQ ACC/A4C)

DATE
