DOCKETED

Docket Number:	15-AFC-01
Project Title:	Puente Power Project
TN #:	215583
Document Title:	Department of the Navy, Naval Base Ventura County, Comments on 15-AFC-01 Puente Power Plant Final Staff Assessment
Description:	Naval Base Ventura County comments on Traffic and Transportation section of Puente Power Project AFC
Filer:	Jonathan Fong
Organization:	Department of the Navy
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DEPARTMENT OF THE NAVY
NAVAL BASE VENTURA COUNTY
311 MAIN ROAD SUITE 1
POINT MUGU, CA 93042-5033

IN REPLY REFER TO:
11011
Ser N00000CV/082
January 25, 2017

Mr. Shawn Pittard
Project Manager
Siting, Transmission and Environmental Protection (STEP) Division
California Energy Commission
1516 Ninth Street, MS-15
Sacramento, CA 95814

Dear Mr. Pittard:

SUBJECT: DOCKET NO. 15-AFC-01 PUENTE POWER PLANT FINAL STAFF ASSESSMENT

Thank you for the opportunity to review and comment on the proposed Puente Power Plant (P3) Final Staff Assessment (FSA) and Application for Certification (AFC).

In response to comments regarding the Preliminary Staff Assessment for the P3 AFC submitted by Ms. Amanda Fagan, Community Planning Liaison Officer for Naval Base Ventura County (NBVC), on September 14, 2016, the December 2016 FSA evaluated the potential impacts to NBVC Point Mugu airfield operations of a power plant similar to the proposed P3 project at a 14.5 acre site known as the Ormond Beach Off-Site Alternative Site. California Energy Commission (CEC) staff consulted the NBVC Air Installations Compatible Use Zones (AICUZ) Study, Ventura County Airport Comprehensive Land Use Plan, and NBVC Joint Land Use Study. While NBVC appreciates efforts by CEC staff to consult relevant reference documents, including the AICUZ and JLUS, the FSA incorrectly concludes that aircraft operating at the Point Mugu airfield do not transit over the Ormond Beach Off-Site Alternative Site.

On Page 4.2-110, the FSA states that it "is unlikely that military aircraft would fly directly over" the Ormond Beach Off-Site Alternative Site, and on Page 4.2-154, the FSA again states that "the military aircraft training route and flight tracks at NBVC Point Mugu do not pass over the Ormond Beach Area Off-Site Alternative Site." It is correct that the published Military Training Route IR-200 does not cross the alternative site. However, military aircraft do operate over and in close proximity to the alternative site, as explained below.

In accordance with NBVC Instruction 3710.1G (Air Operations Manual), aircraft conduct Field Carrier Landing Practice (FCLP) at Point Mugu from Runway 27 at 600 feet Above Ground Level (AGL). Training requirements for FCLPs require pilots to maintain 600 feet AGL while flying in FCLP pattern to simulate the pattern flown during real-life shipboard aircraft carrier operations. While the standard FCLP traffic pattern does not result in aircraft over the Ormond Beach Off-Site Alternative Site, Air Traffic Control (ATC) regularly extends the downwind leg of the pattern to accommodate air traffic on Runway 03/21, a critical safety requirement in order to sequence aircraft operating to intersecting runways. NBVC Point Mugu is the primary site for FCLPs for the Navy's West Coast E-2 squadrons and a critical piece for fleet operational training and readiness.

Additionally, as shown in the attached ATC radar screen captures, medium-sized passenger aircraft depart Runway 27 and regularly fly a path over or very near the Ormond Beach Off-Site Alternative Site while climbing between 1,000 and 3,000 feet AGL. These flights are capable of carrying 30 passengers,

occur 3-4 times each weekday, and serve as a critical linkage to military operations at NBVC San Nicolas Island and Naval Air Weapons Station China Lake.

Our analysis indicates that the proposed project stack height of 188 feet would likely be determined by the FAA to not pose an obstruction hazard to Point Mugu operations at the Ormond Beach Off-Site Alternative Site. However, our analysis of departure tracks indicate that the resulting thermal plume could pose a significant hazard to small and medium sized aircraft on departure from Runways 27 and 21 as they make departure turns very near or over the Alternative site while climbing between 1,000 and 3,000 feet. Per FAA Memorandum on Technical Guidance and Assessment Tool for Evaluation of Thermal Exhaust Plume Impact on Airport Operations dated September 24, 2015, the FAA has also determined that thermal exhaust plumes are incompatible with airport operations in the vicinity of airports and may pose unique hazards to aircraft in critical phases of flight, particularly during takeoff, landing and within the pattern, which are the operations NBVC is concerned about.

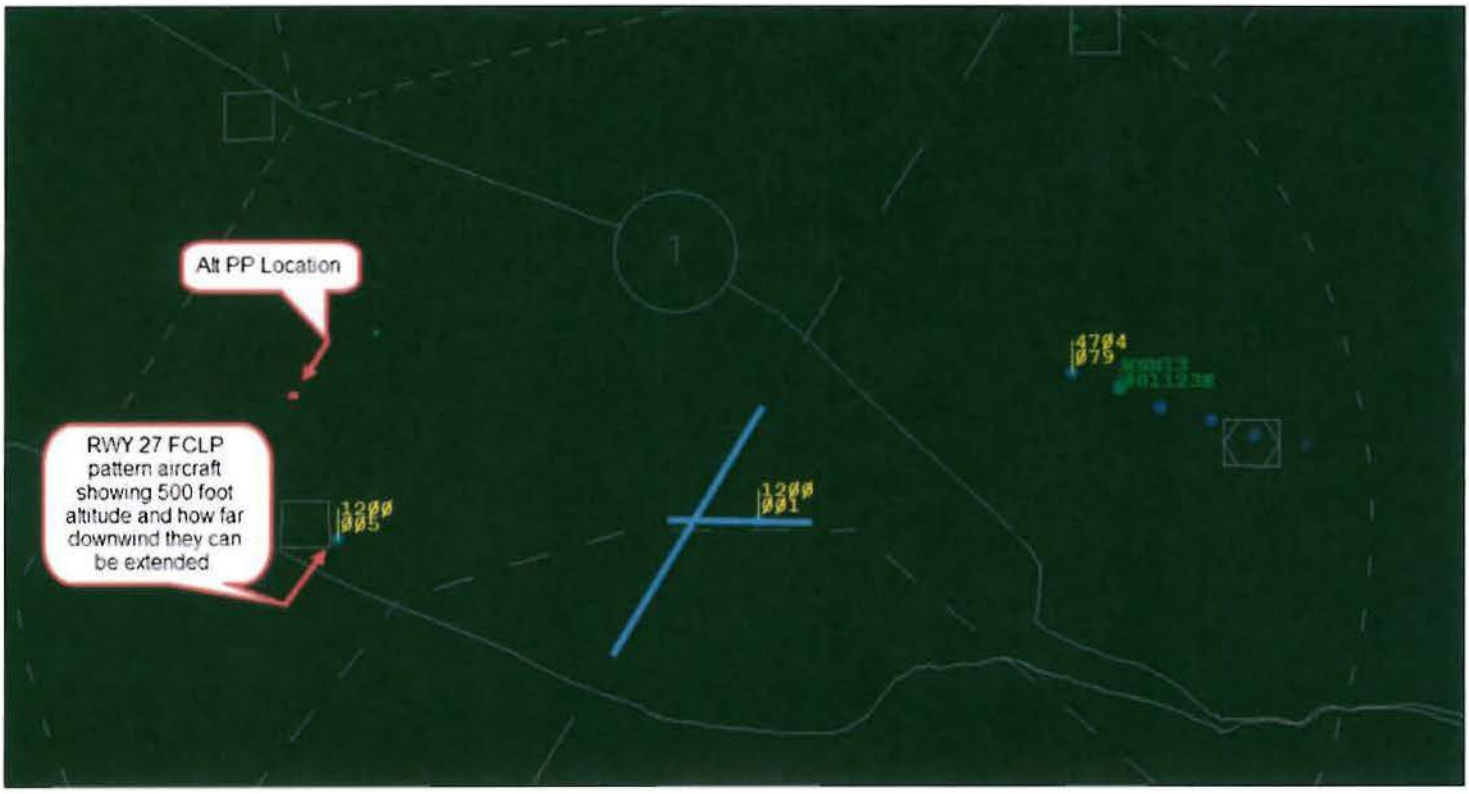
In addition to manned aircraft, NBVC airfield procedures identify several loiter boxes for Unmanned Aerial Systems (UAS) within close proximity to the Ormond Beach Off-Site Alternative Site. The standard unmanned aircraft operating altitude in these loiter boxes is 500 to 1,000 feet AGL, and some small UAS operations may occur below 400 feet AGL. All UAS operations may be affected by the thermal plume described in the FSA due to the significant loss of airspace to loiter in this area while manned aircraft conduct operations at the airfield. Additionally, UAS programs will be required to reassess flight routes departing the Point Mugu surface area airspace, costing time and resources to reprogram UAS flight routes. Point Mugu is only one of several military airfields in the United States where manned and unmanned aircraft are approved by the FAA to operate in Class D airspace, providing a unique and critical operational capability.

Thank you for your consideration of the potential impacts of a power plant sited at the Ormond Beach Off-Site Alternative site to NBVC operations. For additional information, please contact Ms. Amanda Fagan, Community Planning Liaison Officer, at COMM: (805) 989-9752 or by e-mail: amanda.fagan@navy.mil.

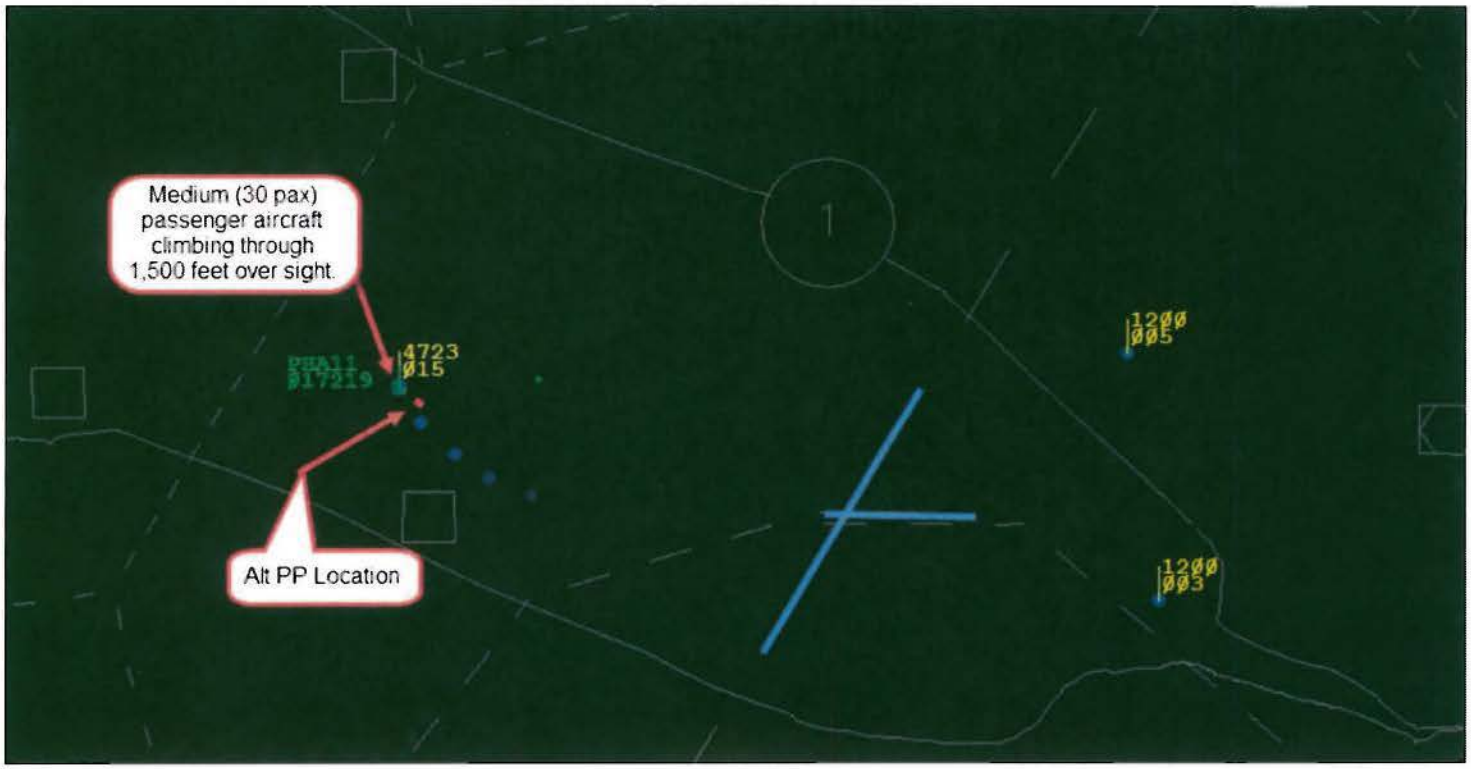
Sincerely,

C. D. JANKE
Captain, U.S. Navy
Commanding Officer

Enclosures: 1. Naval Base Ventura County Point Mugu Air Traffic Control Radar Screen Capture
2. FAA Memorandum on Technical Guidance and Assessment Tool for Evaluation of Thermal Exhaust Plume Impact on Airport Operations (24 Sept 2015)


Alt PP Location
RWY 27 FCLP pattern aircraft showing 500 foot altitude and how far downwind they can be extended
1200
005
1200
001
4704
075

Enclosure (1)


Medium (30 pax) passenger aircraft climbing through 1,500 feet over sight.
4723
Ø15
1200
ØØ5
1200
ØØ3
Alt PP Location

Federal Aviation Administration

Memorandum

Date: SEP 24 2015

To: Regional Division Managers
610 Branch Managers
620 Branch Managers
Airports District Office Managers

From: Director, Office of Airport Planning and Programming, (APP-1)

Director, Office of Airport Safety and Standards (AAS-1)

Subject: Technical Guidance and Assessment Tool for Evaluation of Thermal Exhaust Plume Impact on Airport Operations

The Federal Aviation Administration (FAA) has received several inquiries and requests from state and local government and airport operators for 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 near Federally-obligated airports. The only related FAA regulations address the physical restrictions of the exhaust stack height. There are no FAA regulations protecting for plumes and other emissions from exhaust stacks.

In response, the FAA's Airport Obstruction Standards Committee (AOSC) was tasked to study the impact exhaust plumes may have on flight safety. The AOSC study evaluated the following:

1. How much turbulence is created by the exhaust plumes?
2. Is this turbulence great enough to cause loss of pilot control?
   If so, what size aircraft are impacted?
3. Is there a lack of oxygen (within a plume) causing loss of engine or danger to pilot/passengers?
4. Are there harmful health effects to the pilot or passengers from flying through the plume?

Enclosure (2)

After thorough analysis, the FAA has determined the overall risk associated with thermal exhaust plumes in causing a disruption of flight is low. However, 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.

Flight within the airport traffic pattern, approach and departure corridors, and existing or planned flight procedures may be adversely affected by thermal exhaust plumes[1]. The FAA-sponsored research indicates that the plume size and severity of impact on flight can vary greatly depending on several factors at a site such as:

- Stack size, number, and height; type of exhaust or effluent (e.g., coolant tower cloud, power plant smoke, etc.);
- Proximity of stacks to the airport flight paths;
- Temperature and vertical speed of the effluent;
- Size and speed of aircraft encountering exhaust plumes; and
- Local winds, ambient temperatures, stratification of the atmosphere at the plume site.

Airport 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 produce plumes, (such as power plants or other land uses that employ smoke stacks, cooling towers or facilities that create thermal exhaust plumes).

To aid these reviews the FAA contracted MITRE Corporation to develop a model to predict plume size and severity of flight impact from a site of thermal exhaust plume(s). MITRE developed the "Exhaust-Plume-Analyzer" and it is available for no cost. Access can be found for licensing and downloading from MITRE at: http://www.mitre.org/research/technology-transfer/technology-licensing/exhaust-plume-analyzer.

The MITRE Exhaust-Plume-Analyzer can be an effective tool to assess the impact exhaust plumes may impose on flight operations at an existing or proposed site in the vicinity of an airport.

The FAA Advisory Circular (AC) 5190-4, A Model Zoning Ordinance to Limit the Height of Objects Around Airports (Airport Compatible Land Use Planning), is currently being updated to include comprehensive guidance to airport sponsors and local community planners on airport compatible land use issues, including evaluation of thermal exhaust plumes. The updated AC is expected to be issued in FY 2016.

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[1] On July 24, 2014, the FAA issued a change to the Aeronautical Information Manual (AIM) to update terminology and provide more detail regarding the associated hazards of exhaust plumes. See the updated AIM flight instruction to pilots at Section 7-5-15, Avoid Flight in the Vicinity of Exhaust Plumes (Smoke Stacks, Cooling Towers) at http://www.faa.gov/air_traffic/publications/media/aim_chg1.pdf).

In the interim, please provide this technical memorandum to airport sponsors to advise them of the availability of the Exhaust-Plume-Analyzer. Sponsors, state and local planning organizations, and permitting jurisdictions now have the opportunity to ensure that their planning and land use development decisions adequately evaluate the potential effects of thermal exhaust plumes on airport operations.

Should you have any questions concerning this memorandum please contact Rick Etter, Airport Planning and Environmental, (APP-400) at 202-267-8773 or by email at rick.etter@faa.gov.