Appendix B

FAA DNH Forms, DNH Extensions, Associated Correspondence

Letter from Colonel Corey A. Simmons, USAF, Commander

January 11, 2021

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 60TH AIR MOBILITY WING (AMC)

11 January 2021

MEMORANDUM FOR SAF/IEI
AMC/A3A

FROM: 60 AMW/CC
400 Brennan Circle
Travis AFB CA 94535-5000

SUBJECT: 60 AMW Solano 4 Wind Project Operational Risk Assessment

1. We have carefully evaluated Sacramento Municipal Utility District's proposed Solano 4 Wind Project located within the Wind Resource Area located southeast of Travis AFB. My team determined the following during their evaluation of the project:

- Solano 4 does not meet the wind turbine facility requirements outlined in the local Airport Land Use Commission *Travis Air Force Base Land Use Compatibility Plan* adopted in October 2015.

- Air Traffic Control radar interference studies conducted by the Air Force Flight Standards Agency and the North American Aerospace Defense Command indicate the proposed replacement of 82 aging wind turbines with 19 newer turbines will not improve our Digital Airport Surveillance Radar's probability of detection capability within the Wind Resource Area.

- As proposed, Solano 4 Wind Project should have minimal negative impact on Travis AFB operations.

- Any changes to the Solano 4 Wind Project will require a new operational risk analysis.

2. Thank you for your collaboration with Travis AFB on this project. Please contact Mr. Scott McLaughlin, 60th Operations Group, at (707) 424-1067, or by e-mail at scott.mclaughlin.1@us.af.mil, if you have any questions regarding this risk assessment.

COREY A. SIMMONS, Colonel, USAF
Commander

Letter from Steven Sample, Executive Director, Military Aviation and Installation Assurance Siting Clearinghouse, Department of Defense

February 9, 2021

OFFICE OF THE ASSISTANT SECRETARY OF DEFENSE
3500 DEFENSE PENTAGON
WASHINGTON, DC 20301-3500

SUSTAINMENT

February 9, 2021

Ms. Amanda Beck
Solano 4
6201 S St., MS MD-2
Sacramento, CA 95817

Reference: Federal Aviation Administration (FAA) Study Number: 2018-WTW-13388-OE and 18 associated structures

Dear Ms. Beck,

Thank you for your participation in the Mitigation Response Team (MRT) to assess and overcome military impacts from your proposed Solano 4 wind farm project in Rio Vista, California. In a letter dated May 11th, 2020, the Department of Defense (DoD) described the potential impacts to military operations for the project.

As a result of discussions between Sacramento Municipal Utility District and the U.S. Air Force, the construction of the Solano 4 wind project, submitted to the Federal Aviation Administration on 04/17/2020, will not present an adverse impact to military operations.

Our response to the FAA included a notification that further expansion beyond the current project area may present an adverse impact. We encourage you to engage DoD prior to any proposed expansion.

If you have any further concerns, please contact Mr. Michael Lignowski, Military Aviation and Installation Assurance Siting Clearinghouse, at 571-372-6853.

Sincerely,

Steven J. Sample
Executive Director
Military Aviation and Installation
Assurance Siting Clearinghouse

FAA Determinations

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2018-WTW-13388-OE

Issued Date: 12/04/2018

Amanda Beck
Sacramento Municipal Utility District
6201 S St., MS MD-2
Sacramento, CA 95817

**** PUBLIC NOTICE ****

The Federal Aviation Administration is conducting an aeronautical study concerning the following:

Structure:	Wind Turbine P1R1
Location:	Rio Vista, CA
Latitude:	38-07-54.16N NAD 83
Longitude:	121-46-31.47W
Heights:	208 feet site elevation (SE)
	591 feet above ground level (AGL)
	799 feet above mean sea level (AMSL)

The structure above exceeds obstruction standards. To determine its effect upon the safe and efficient use of navigable airspace by aircraft and on the operation of air navigation facilities, the FAA is conducting an aeronautical study under the provisions of 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77.

** SEE REVERSE SIDE FOR ADDITIONAL INFORMATION **

In the study, consideration will be given to all facts relevant to the effect of the structure on existing and planned airspace use, air navigation facilities, airports, aircraft operations, procedures and minimum flight altitudes, and the air traffic control system.

Interested persons are invited to participate in the aeronautical study by submitting comments to the above FAA address or through the electronic notification system. To be eligible for consideration, comments must be relevant to the effect the structure would have on aviation, must provide sufficient detail to permit a clear understanding, must contain the aeronautical study number printed in the upper right hand corner of this notice, and must be received on or before 01/10/2019.

This notice may be reproduced and circulated by any interested person. Airport managers are encouraged to post this notice.

If we can be of further assistance, please contact our office at (816) 329-2523, or steve.phillips@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2018-WTW-13388-OE.

Steve Phillips
Specialist

Attachment(s)
Part 77
Additional Information
Map(s)

Proposal: To construct and/or operate a(n) Wind Turbine to a height of 591 feet above ground level, 799 feet above mean sea level.

Location: The structure will be located * nautical miles * of * Airport reference point.

Part 77 Obstruction Standard(s) Exceeded:

Preliminary FAA study indicates that the above mentioned structure would:
not exceed traffic pattern airspace

Abbreviations:
AGL, Above Ground Level
AMSL, Above Mean Sea Level
ASN, Aeronautical Study Number
CFR, Code of Federal Regulations
NM, Nautical Mile

The proposed structures are part of a proposed wind farm that would be located approximately 5.02 - 9.07 NM southwest of the Airport Reference Point for the Rio Vista Municipal Airport (O88), Rio Vista, CA. In order to facilitate the public comment process, all 19 studies are being circularized under ASN 2018-WTW-13388-OE. All comments received from this circularization will be considered in completing the separate determinations for each study. The ASNs with coordinates, AGL heights, and AMSL heights are as follows:

ASN / Latitude / Longitude / AGL / AMSL

2018-WTW-13388-OE / 38-07-54.16N / 121-46-31.47W / 591 / 799
2018-WTW-13389-OE / 38-07-44.90N / 121-46-20.90W / 591 / 774
2018-WTW-13390-OE / 38-07-35.49N / 121-46-28.29W / 591 / 780
2018-WTW-13391-OE / 38-07-25.84N / 121-46-31.86W / 591 / 778
2018-WTW-13392-OE / 38-07-14.14N / 121-46-28.35W / 591 / 707

2018-WTW-13393-OE / 38-07-18.49N / 121-45-46.46W / 591 / 757
2018-WTW-13394-OE / 38-07-08.51N / 121-45-43.44W / 591 / 748
2018-WTW-13395-OE / 38-06-53.36N / 121-45-15.19W / 591 / 706
2018-WTW-13396-OE / 38-06-43.69N / 121-45-03.40W / 591 / 645
2018-WTW-13397-OE / 38-05-33.53N / 121-49-52.57W / 591 / 833

2018-WTW-13398-OE / 38-05-08.34N / 121-50-03.54W / 591 / 764
2018-WTW-13399-OE / 38-05-24.68N / 121-49-44.45W / 591 / 805
2018-WTW-13400-OE / 38-05-02.29N / 121-49-31.33W / 591 / 799
2018-WTW-13401-OE / 38-04-53.15N / 121-49-40.77W / 591 / 694
2018-WTW-13402-OE / 38-04-43.66N / 121-49-43.80W / 591 / 707

2018-WTW-13403-OE / 38-04-29.29N / 121-49-03.88W / 591 / 771
2018-WTW-13404-OE / 38-04-48.12N / 121-48-51.19W / 591 / 802
2018-WTW-13405-OE / 38-04-38.20N / 121-48-46.20W / 591 / 807
2018-WTW-13406-OE / 38-04-22.44N / 121-48-30.99W / 591 / 739

These would exceed the obstruction standards of 14 CFR Part 77 as follows:

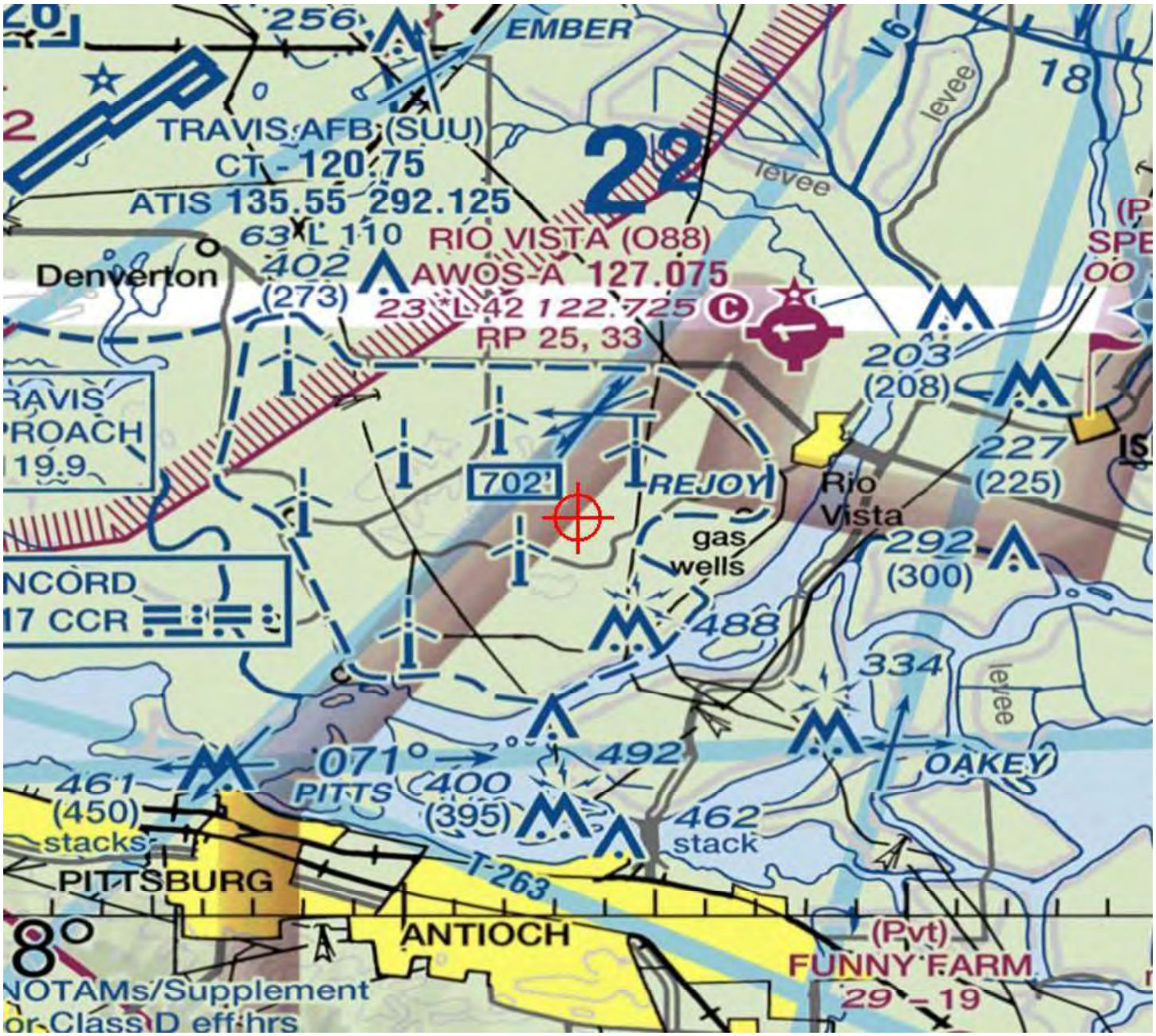
Section 77.17(a)(1): by 92 feet; a height that exceeds 499 feet AGL.

Section 77.17(a)(2): A height that is 200 feet AGL, or above the established airport elevation, whichever is higher, within 3 NM miles of the established reference point of O88 and that height increases in the proportion of 100 feet for each additional NM from the airport up to a maximum of 499 feet. The following would exceed:

2018-WTW-13388-OE by 190 feet
2018-WTW-13389-OE by 187 feet
2018-WTW-13390-OE by 169 feet
2018-WTW-13391-OE by 154 feet
2018-WTW-13392-OE by 141 feet

2018-WTW-13393-OE by 179 feet
2018-WTW-13394-OE by 167 feet
2018-WTW-13395-OE by 163 feet
2018-WTW-13396-OE by 156 feet

Map for ASN 2018-WTW-13388-OE



Federal Aviation Administration

« OE/AAA

Project Submission Success
Project Name: SACRA-000491271-18

Project SACRA-000491271-18 has been submitted successfully to the FAA.

Your filing is assigned Aeronautical Study Number (ASN):

2018-WTW-13388-OE
2018-WTW-13389-OE
2018-WTW-13390-OE
2018-WTW-13391-OE
2018-WTW-13392-OE
2018-WTW-13393-OE
2018-WTW-13394-OE
2018-WTW-13395-OE
2018-WTW-13396-OE
2018-WTW-13397-OE
2018-WTW-13398-OE
2018-WTW-13399-OE
2018-WTW-13400-OE
2018-WTW-13401-OE
2018-WTW-13402-OE
2018-WTW-13403-OE
2018-WTW-13404-OE
2018-WTW-13405-OE
2018-WTW-13406-OE

Please refer to the assigned ASN on all future inquiries regarding this filing.

Please return to the system at a later date for status updates.

It is the responsibility of each e-filer to exercise due diligence to determine if coordination of the proposed construction or alteration is necessary with their state aviation department. Please use the link below to contact your state aviation department to determine their requirements:
State Aviation Contacts

To ensure e-mail notifications are delivered to your inbox please add noreply@faa.gov to your address book. Notifications sent from this address are system generated FAA e-mails and replies to this address will NOT be read or forwarded for review. Each system generated e-mail will contain specific FAA contact information in the text of the message.

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2018-WTW-13388-OE

Issued Date: 02/01/2019

Amanda Beck
Sacramento Municipal Utility District
6201 S St., MS MD-2
Sacramento, CA 95817

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Wind Turbine P1R1
Location:	Rio Vista, CA
Latitude:	38-07-54.16N NAD 83
Longitude:	121-46-31.47W
Heights:	208 feet site elevation (SE)
	591 feet above ground level (AGL)
	799 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure would have no substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on the operation of air navigation facilities. Therefore, pursuant to the authority delegated to me, it is hereby determined that the structure would not be a hazard to air navigation provided the following condition(s) is(are) met:

As a condition to this Determination, the structure is to be marked/lighted in accordance with FAA Advisory circular 70/7460-1 L Change 2, Obstruction Marking and Lighting, white paint/synchronized red lights - Chapters 4,12&13(Turbines).

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

__X__ At least 60 days prior to start of construction (7460-2, Part 1)
__X__ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

See attachment for additional condition(s) or information.

This determination expires on 08/01/2020 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is subject to review if an interested party files a petition that is received by the FAA on or before March 03, 2019. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted to the Manager of the Airspace Policy Group. Petitions can be submitted via mail to Federal Aviation Administration, 800 Independence Ave, SW, Room 423, Washington, DC 20591, via email at OEPetitions@faa.gov, or via facsimile (202) 267-9328.

This determination becomes final on March 13, 2019 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. For any questions regarding your petition, please contact Airspace Policy Group via telephone – 202-267-8783.

This determination is based, in part, on the foregoing description which includes specific coordinates and heights. This determination is valid for coordinates within one (1) second latitude/longitude and up to the approved AMSL height listed above. If a certified 1A or 2C accuracy survey was required to mitigate an adverse effect, any change in coordinates or increase in height will require a new certified accuracy survey and may require a new aeronautical study.

If construction or alteration is dismantled or destroyed, you must submit notice to the FAA within 5 days after the construction or alteration is dismantled or destroyed.

Additional wind turbines or met towers proposed in the future may cause a cumulative effect on the national airspace system. All information from submission of Supplemental Notice (7460-2 Part 2) will be considered the final data (including heights) for this structure. Any future construction or alteration, including but not limited to changes in heights, requires separate notice to the FAA.

Obstruction marking and lighting recommendations for wind turbine farms are based on the scheme for the entire project. ANY change to the height, location or number of turbines within this project will require a reanalysis of the marking and lighting recommendation for the entire project. In particular, the removal of previously planned or built turbines/turbine locations from the project will often result in a change in the marking/lighting recommendation for other turbines within the project. It is the proponent's responsibility to contact the FAA to discuss the process for developing a revised obstruction marking and lighting plan should this occur.

In order to ensure proper conspicuity of turbines at night during construction, all turbines should be lit with temporary lighting once they reach a height of 200 feet or greater until such time the permanent lighting configuration is turned on. As the height of the structure continues to increase, the temporary lighting should be relocated to the uppermost part of the structure. The temporary lighting may be turned off for periods when they would interfere with construction personnel. If practical, permanent obstruction lights should be installed and operated at each level as construction progresses. An FAA Type L-810 steady red light fixture shall be

used to light the structure during the construction phase. If power is not available, turbines shall be lit with self-contained, solar powered LED steady red light fixture that meets the photometric requirements of an FAA Type L-810 lighting system. The lights should be positioned to ensure that a pilot has an unobstructed view of at least one light at each level. The use of a NOTAM (D) to not light turbines within a project until the entire project has been completed is prohibited.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

This aeronautical study considered and analyzed the impact on existing and proposed arrival, departure, and en route procedures for aircraft operating under both visual flight rules and instrument flight rules; the impact on all existing and planned public-use airports, military airports and aeronautical facilities; and the cumulative impact resulting from the studied structure when combined with the impact of other existing or proposed structures. The study disclosed that the described structure would have no substantial adverse effect on air navigation.

An account of the study findings, aeronautical objections received by the FAA during the study (if any), and the basis for the FAA's decision in this matter can be found on the following page(s).

If we can be of further assistance, please contact Steve Phillips, at (816) 329-2523, or steve.phillips@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2018-WTW-13388-OE.

Signature Control No: 387140385-395150226 (DNH -WT)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Map(s)

Abbreviations:
AGL, Above Ground Level
AMSL, Above Mean Sea Level
ARSR, Air Route Surveillance Radar
ASN, Aeronautical Study Number
ASR, Airport Surveillance Radar
ATC, Air Traffic Control
CAT, Category
CFR, Code of Federal Regulations
DASR, Digital Airport Surveillance Radar
IFR, Instrument Flight Rules
MVA, Minimum Vectoring Altitude
NM, Nautical Mile
RWY, Runway
TPA, Traffic Pattern Airspace
TRACON, Terminal Radar Approach Control
VFR, Visual Flight Rules

The proposed structures are part of a proposed wind farm that would be located approximately 5.02 - 9.07 NM southwest of the Airport Reference Point for the Rio Vista Municipal Airport (O88), Rio Vista, CA. The ASNs with coordinates, AGL heights, and AMSL heights are as shown on page one. They would exceed the obstruction standards of 14 CFR Part 77 as follows:

Section 77.17(a)(1): by 92 feet; a height that exceeds 499 feet AGL.

Section 77.17(a)(2): A height that is 200 feet AGL, or above the established airport elevation, whichever is higher, within 3 NM miles of the established reference point of O88 and that height increases in the proportion of 100 feet for each additional NM from the airport up to a maximum of 499 feet. The following would exceed:

2018-WTW-13388-OE by 190 feet
2018-WTW-13389-OE by 187 feet
2018-WTW-13390-OE by 169 feet
2018-WTW-13391-OE by 154 feet
2018-WTW-13392-OE by 141 feet

2018-WTW-13393-OE by 179 feet
2018-WTW-13394-OE by 167 feet
2018-WTW-13395-OE by 163 feet
2018-WTW-13396-OE by 156 feet

Section 77.17(a)(3): A height that increases a minimum instrument flight altitude within a terminal area;

The following would increase the Northern California TRACON (NCT) MVA for NCT_MVA_FUS3_2017 Sector MCC_B from 1,700 feet AMSL to 1,800 feet AMSL.

2018-WTW-13388-OE
2018-WTW-13389-OE
2018-WTW-13390-OE
2018-WTW-13391-OE
2018-WTW-13393-OE

2018-WTW-13397-OE
2018-WTW-13398-OE
2018-WTW-13399-OE
2018-WTW-13400-OE
2018-WTW-13403-OE

2018-WTW-13404-OE
2018-WTW-13405-OE

The turbines would be within the line of sight of the Stockton, CA. (SCK) ASR-11, the Travis (SUU) DASR, the Mill Valley (QMV) ARSR-4, and the McClellan (MCC) ASR-9 facilities. The proposals will affect the quality and/or availability of radar signals. The effects would be unwanted primary returns (clutter) and primary target drops, all in the area of the turbines. Tracked primary targets could diverge from the aircraft path and follow wind turbines, when the aircraft is over or near the turbines.

In order to facilitate the public comment process, the studies were circularized under ASN 2018-WTW-13388-OE on December 04, 2018, to all known aviation interests and to non-aeronautical interests that may be affected by the proposal. One letter of objection was received as a result of the circularization.

The Solano County Airport Land Use Commission (County) submitted comments that may not necessarily be an "objection" but rather statements. Some of their statements are simply repeating applicable law / rule / orders. They stated that these would be the tallest wind turbines in the area and larger than other onshore turbines elsewhere. Also stated was a belief that these have electromagnetic effects on radar. One statement said they "have seen information that conflicts" with the preliminary analysis of not exceeding TPA. Instead of submitting that stated information, a request was made for the FAA to see if any other obstruction standard was exceeded.

We are not sure what to make of the statement about these being the tallest in the area. Simply being taller than other structures has never been, nor will it ever be, the sole indicator of whether the structure would present an unacceptable impact upon the safe and efficient use of the navigable airspace.

The letter left the impression that the County believes exceeding one or more of the obstruction standards of 14 CFR Part 77 is reason enough to determine the proposal to be a hazard. That is not the case. It is the result of the aeronautical study that determines whether the structure would be a hazard or no hazard to air navigation. We will always compare proposed structures against all of the obstruction standards but will not circularize the standards that are not exceeded nor any standards and/or effects that are beyond the scope of the public to provide information about.

Records indicate that O88 has approximately 35,000 operations per year primarily from CAT A and B general aviation aircraft. All except one of the proposed turbines lie beyond the TPA for all RWYs and aircraft categories. That one proposal is on the edge of the RWY 15/33 TPA for CAT D, but at 2,199 feet long, this

RWY is incapable of sustaining CAT D aircraft operations. The size of the TPA is based upon the aircraft that regularly use a particular RWY. The preliminary assessment of not exceeding TPA has been confirmed.

Note: Aircraft categories are based on approach speed, CAT A = less than 91 knots, CAT B = 91- 120 knots, CAT C = 121-140 knots, CAT D = 141-165 knots.

The County submitted a lot about radar effects. Wind turbines rarely, if ever create "electromagnetic" interference. If they are within the line of sight of a radar sensor, they may be detected by that sensor and may therefore be a physical interference. Simply being "seen" by the radar is not the real issue though. How that target (in this case, the wind turbine) is processed and displayed for ATC is the key. The users of the system (ATC) is the sole decider on whether the system is acceptable to be able to perform their duties. Although there may be others entities using these radar systems, the responsibility and authority of the FAA is the safe and efficient use of the navigable airspace, including the impact of the radar effects on air navigation.

The turbines would be within the line of sight of the Stockton, CA. (SCK) ASR-11, the Travis (SUU) DASR, the Mill Valley (QMV) ARSR-4, and the McClellan (MCC) ASR-9 facilities. However, this would not cause an unacceptable adverse impact on ATC operations at this time.

The aeronautical study disclosed that the proposed structures would have the adverse effect as described above on the NCT MVA. MVAs are solely used by ATC and not published for public use and are not circulated for public comment. The study disclosed that increasing the MVA in the area of the turbines would not impact a significant number of operations. The proposed structures would have no other effect on any existing or proposed arrival, departure, or en route IFR operations or procedures.

Study for possible VFR effect disclosed that the proposals would have no effect on existing or proposed VFR arrival or departure operations. As stated above, the proposals are beyond normal traffic pattern airspace. Therefore, the proposal would not have an adverse effect on VFR traffic pattern operations at O88, or any other known public use or military airports. At 591 feet AGL, the structures would extend upwards into altitudes commonly used for en route VFR flight; however, no information was received to indicate they would be located along a regularly used VFR route or that they would pose a problem for pilots operating en route. Therefore, they would not have a substantial adverse effect on en route VFR flight operations.

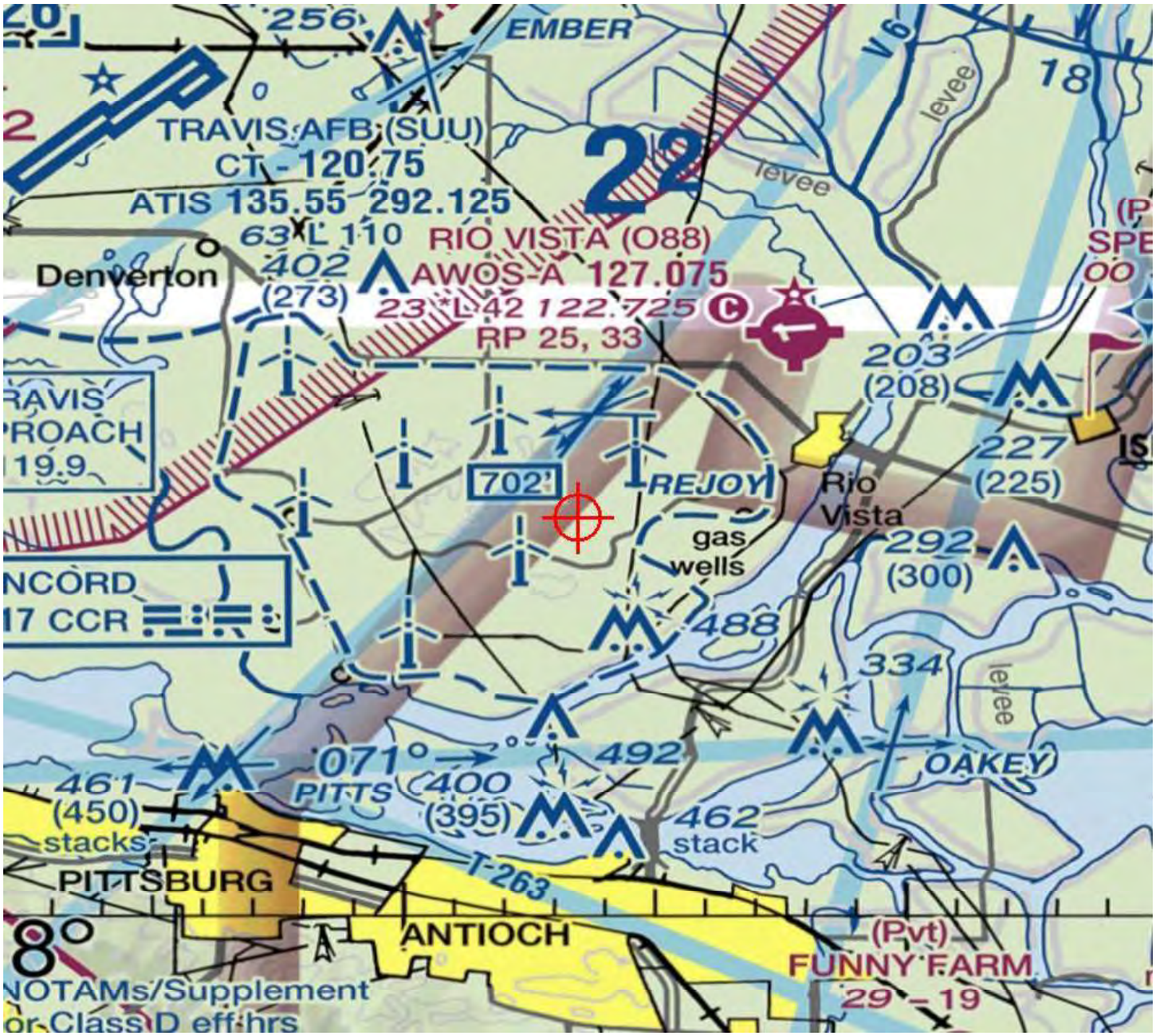
The proposed structures would be appropriately obstruction marked/lighted to make them more conspicuous to airmen should circumnavigation be necessary.

The cumulative impact of the proposed structures, when combined with other proposed and existing structures, is not considered to be significant. Study did not disclose any significant adverse effect on existing or proposed public-use or military airports or navigational facilities, nor would the proposals affect the capacity of any known existing or planned public-use or military airport.

Therefore, it is determined that the proposed construction would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation providing the conditions set forth in this determination are met.

Additional conditions:

As a condition of this determination it is required that Notice of Actual Construction or Alteration (7460-2 Part 1) be E-filed at least 60 full days prior to the start of construction so that appropriate action can be taken to amend the effected procedure(s) and/or altitude(s).


EMBER
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ATIS 135.55 292.125
RIO VISTA (O88)
AWOS-A 127.075
122.725
RP 25, 33
Denverton
levee
702'
REJOY
gas wells
Rio Vista
203
(208)
227
(225)
292
(300)
488
334
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(395)
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(450)
stacks
OAKEY
PITTSBURG
ANTIOCH
I-263
(Pvt)
FUNNY FARM
29 - 19
NOTAMs/Supplement
Class D eff hrs

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2018-WTW-13389-OE

Issued Date: 02/01/2019

Amanda Beck
Sacramento Municipal Utility District
6201 S St., MS MD-2
Sacramento, CA 95817

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Wind Turbine P1R2
Location:	Rio Vista, CA
Latitude:	38-07-44.90N NAD 83
Longitude:	121-46-20.90W
Heights:	183 feet site elevation (SE)
	591 feet above ground level (AGL)
	774 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure would have no substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on the operation of air navigation facilities. Therefore, pursuant to the authority delegated to me, it is hereby determined that the structure would not be a hazard to air navigation provided the following condition(s) is(are) met:

As a condition to this Determination, the structure is to be marked/lighted in accordance with FAA Advisory circular 70/7460-1 L Change 2, Obstruction Marking and Lighting, white paint/synchronized red lights - Chapters 4,12&13(Turbines).

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

__X__ At least 60 days prior to start of construction (7460-2, Part 1)
__X__ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

See attachment for additional condition(s) or information.

This determination expires on 08/01/2020 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is subject to review if an interested party files a petition that is received by the FAA on or before March 03, 2019. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted to the Manager of the Airspace Policy Group. Petitions can be submitted via mail to Federal Aviation Administration, 800 Independence Ave, SW, Room 423, Washington, DC 20591, via email at OEPetitions@faa.gov, or via facsimile (202) 267-9328.

This determination becomes final on March 13, 2019 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. For any questions regarding your petition, please contact Airspace Policy Group via telephone – 202-267-8783.

This determination is based, in part, on the foregoing description which includes specific coordinates and heights. This determination is valid for coordinates within one (1) second latitude/longitude and up to the approved AMSL height listed above. If a certified 1A or 2C accuracy survey was required to mitigate an adverse effect, any change in coordinates or increase in height will require a new certified accuracy survey and may require a new aeronautical study.

If construction or alteration is dismantled or destroyed, you must submit notice to the FAA within 5 days after the construction or alteration is dismantled or destroyed.

Additional wind turbines or met towers proposed in the future may cause a cumulative effect on the national airspace system. All information from submission of Supplemental Notice (7460-2 Part 2) will be considered the final data (including heights) for this structure. Any future construction or alteration, including but not limited to changes in heights, requires separate notice to the FAA.

Obstruction marking and lighting recommendations for wind turbine farms are based on the scheme for the entire project. ANY change to the height, location or number of turbines within this project will require a reanalysis of the marking and lighting recommendation for the entire project. In particular, the removal of previously planned or built turbines/turbine locations from the project will often result in a change in the marking/lighting recommendation for other turbines within the project. It is the proponent's responsibility to contact the FAA to discuss the process for developing a revised obstruction marking and lighting plan should this occur.

In order to ensure proper conspicuity of turbines at night during construction, all turbines should be lit with temporary lighting once they reach a height of 200 feet or greater until such time the permanent lighting configuration is turned on. As the height of the structure continues to increase, the temporary lighting should be relocated to the uppermost part of the structure. The temporary lighting may be turned off for periods when they would interfere with construction personnel. If practical, permanent obstruction lights should be installed and operated at each level as construction progresses. An FAA Type L-810 steady red light fixture shall be

used to light the structure during the construction phase. If power is not available, turbines shall be lit with self-contained, solar powered LED steady red light fixture that meets the photometric requirements of an FAA Type L-810 lighting system. The lights should be positioned to ensure that a pilot has an unobstructed view of at least one light at each level. The use of a NOTAM (D) to not light turbines within a project until the entire project has been completed is prohibited.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

This aeronautical study considered and analyzed the impact on existing and proposed arrival, departure, and en route procedures for aircraft operating under both visual flight rules and instrument flight rules; the impact on all existing and planned public-use airports, military airports and aeronautical facilities; and the cumulative impact resulting from the studied structure when combined with the impact of other existing or proposed structures. The study disclosed that the described structure would have no substantial adverse effect on air navigation.

An account of the study findings, aeronautical objections received by the FAA during the study (if any), and the basis for the FAA's decision in this matter can be found on the following page(s).

If we can be of further assistance, please contact Steve Phillips, at (816) 329-2523, or steve.phillips@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2018-WTW-13389-OE.

Signature Control No: 387140386-395150229 (DNH -WT)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Map(s)

Abbreviations:
AGL, Above Ground Level
AMSL, Above Mean Sea Level
ARSR, Air Route Surveillance Radar
ASN, Aeronautical Study Number
ASR, Airport Surveillance Radar
ATC, Air Traffic Control
CAT, Category
CFR, Code of Federal Regulations
DASR, Digital Airport Surveillance Radar
IFR, Instrument Flight Rules
MVA, Minimum Vectoring Altitude
NM, Nautical Mile
RWY, Runway
TPA, Traffic Pattern Airspace
TRACON, Terminal Radar Approach Control
VFR, Visual Flight Rules

The proposed structures are part of a proposed wind farm that would be located approximately 5.02 - 9.07 NM southwest of the Airport Reference Point for the Rio Vista Municipal Airport (O88), Rio Vista, CA. The ASNs with coordinates, AGL heights, and AMSL heights are as shown on page one. They would exceed the obstruction standards of 14 CFR Part 77 as follows:

Section 77.17(a)(1): by 92 feet; a height that exceeds 499 feet AGL.

Section 77.17(a)(2): A height that is 200 feet AGL, or above the established airport elevation, whichever is higher, within 3 NM miles of the established reference point of O88 and that height increases in the proportion of 100 feet for each additional NM from the airport up to a maximum of 499 feet. The following would exceed:

2018-WTW-13388-OE by 190 feet
2018-WTW-13389-OE by 187 feet
2018-WTW-13390-OE by 169 feet
2018-WTW-13391-OE by 154 feet
2018-WTW-13392-OE by 141 feet

2018-WTW-13393-OE by 179 feet
2018-WTW-13394-OE by 167 feet
2018-WTW-13395-OE by 163 feet
2018-WTW-13396-OE by 156 feet

Section 77.17(a)(3): A height that increases a minimum instrument flight altitude within a terminal area;

The following would increase the Northern California TRACON (NCT) MVA for NCT_MVA_FUS3_2017 Sector MCC_B from 1,700 feet AMSL to 1,800 feet AMSL.

2018-WTW-13388-OE
2018-WTW-13389-OE
2018-WTW-13390-OE
2018-WTW-13391-OE
2018-WTW-13393-OE

2018-WTW-13397-OE
2018-WTW-13398-OE
2018-WTW-13399-OE
2018-WTW-13400-OE
2018-WTW-13403-OE

2018-WTW-13404-OE
2018-WTW-13405-OE

The turbines would be within the line of sight of the Stockton, CA. (SCK) ASR-11, the Travis (SUU) DASR, the Mill Valley (QMV) ARSR-4, and the McClellan (MCC) ASR-9 facilities. The proposals will affect the quality and/or availability of radar signals. The effects would be unwanted primary returns (clutter) and primary target drops, all in the area of the turbines. Tracked primary targets could diverge from the aircraft path and follow wind turbines, when the aircraft is over or near the turbines.

In order to facilitate the public comment process, the studies were circularized under ASN 2018-WTW-13388-OE on December 04, 2018, to all known aviation interests and to non-aeronautical interests that may be affected by the proposal. One letter of objection was received as a result of the circularization.

The Solano County Airport Land Use Commission (County) submitted comments that may not necessarily be an "objection" but rather statements. Some of their statements are simply repeating applicable law / rule / orders. They stated that these would be the tallest wind turbines in the area and larger than other onshore turbines elsewhere. Also stated was a belief that these have electromagnetic effects on radar. One statement said they "have seen information that conflicts" with the preliminary analysis of not exceeding TPA. Instead of submitting that stated information, a request was made for the FAA to see if any other obstruction standard was exceeded.

We are not sure what to make of the statement about these being the tallest in the area. Simply being taller than other structures has never been, nor will it ever be, the sole indicator of whether the structure would present an unacceptable impact upon the safe and efficient use of the navigable airspace.

The letter left the impression that the County believes exceeding one or more of the obstruction standards of 14 CFR Part 77 is reason enough to determine the proposal to be a hazard. That is not the case. It is the result of the aeronautical study that determines whether the structure would be a hazard or no hazard to air navigation. We will always compare proposed structures against all of the obstruction standards but will not circularize the standards that are not exceeded nor any standards and/or effects that are beyond the scope of the public to provide information about.

Records indicate that O88 has approximately 35,000 operations per year primarily from CAT A and B general aviation aircraft. All except one of the proposed turbines lie beyond the TPA for all RWYs and aircraft categories. That one proposal is on the edge of the RWY 15/33 TPA for CAT D, but at 2,199 feet long, this

RWY is incapable of sustaining CAT D aircraft operations. The size of the TPA is based upon the aircraft that regularly use a particular RWY. The preliminary assessment of not exceeding TPA has been confirmed.

Note: Aircraft categories are based on approach speed, CAT A = less than 91 knots, CAT B = 91- 120 knots, CAT C = 121-140 knots, CAT D = 141-165 knots.

The County submitted a lot about radar effects. Wind turbines rarely, if ever create "electromagnetic" interference. If they are within the line of sight of a radar sensor, they may be detected by that sensor and may therefore be a physical interference. Simply being "seen" by the radar is not the real issue though. How that target (in this case, the wind turbine) is processed and displayed for ATC is the key. The users of the system (ATC) is the sole decider on whether the system is acceptable to be able to perform their duties. Although there may be others entities using these radar systems, the responsibility and authority of the FAA is the safe and efficient use of the navigable airspace, including the impact of the radar effects on air navigation.

The turbines would be within the line of sight of the Stockton, CA. (SCK) ASR-11, the Travis (SUU) DASR, the Mill Valley (QMV) ARSR-4, and the McClellan (MCC) ASR-9 facilities. However, this would not cause an unacceptable adverse impact on ATC operations at this time.

The aeronautical study disclosed that the proposed structures would have the adverse effect as described above on the NCT MVA. MVAs are solely used by ATC and not published for public use and are not circulated for public comment. The study disclosed that increasing the MVA in the area of the turbines would not impact a significant number of operations. The proposed structures would have no other effect on any existing or proposed arrival, departure, or en route IFR operations or procedures.

Study for possible VFR effect disclosed that the proposals would have no effect on existing or proposed VFR arrival or departure operations. As stated above, the proposals are beyond normal traffic pattern airspace. Therefore, the proposal would not have an adverse effect on VFR traffic pattern operations at O88, or any other known public use or military airports. At 591 feet AGL, the structures would extend upwards into altitudes commonly used for en route VFR flight; however, no information was received to indicate they would be located along a regularly used VFR route or that they would pose a problem for pilots operating en route. Therefore, they would not have a substantial adverse effect on en route VFR flight operations.

The proposed structures would be appropriately obstruction marked/lighted to make them more conspicuous to airmen should circumnavigation be necessary.

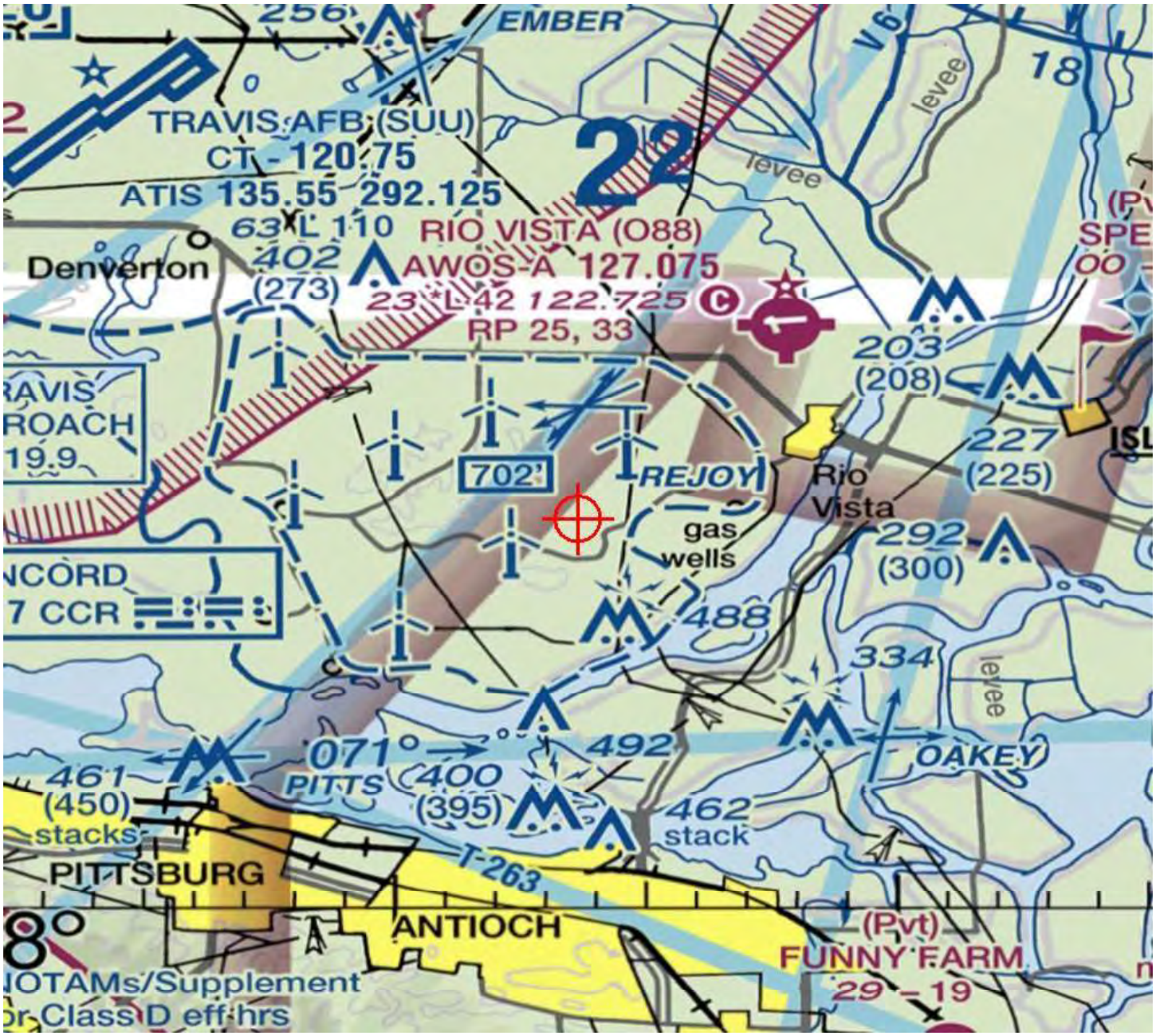
The cumulative impact of the proposed structures, when combined with other proposed and existing structures, is not considered to be significant. Study did not disclose any significant adverse effect on existing or proposed public-use or military airports or navigational facilities, nor would the proposals affect the capacity of any known existing or planned public-use or military airport.

Therefore, it is determined that the proposed construction would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation providing the conditions set forth in this determination are met.

Additional conditions:

As a condition of this determination it is required that Notice of Actual Construction or Alteration (7460-2 Part 1) be E-filed at least 60 full days prior to the start of construction so that appropriate action can be taken to amend the effected procedure(s) and/or altitude(s).

Sectional Map for ASN 2018-WTW-13389-OE



Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2018-WTW-13390-OE

Issued Date: 02/01/2019

Amanda Beck
Sacramento Municipal Utility District
6201 S St., MS MD-2
Sacramento, CA 95817

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Wind Turbine P1R3
Location:	Rio Vista, CA
Latitude:	38-07-35.49N NAD 83
Longitude:	121-46-28.29W
Heights:	189 feet site elevation (SE)
	591 feet above ground level (AGL)
	780 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure would have no substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on the operation of air navigation facilities. Therefore, pursuant to the authority delegated to me, it is hereby determined that the structure would not be a hazard to air navigation provided the following condition(s) is(are) met:

As a condition to this Determination, the structure is to be marked/lighted in accordance with FAA Advisory circular 70/7460-1 L Change 2, Obstruction Marking and Lighting, white paint/synchronized red lights - Chapters 4,12&13(Turbines).

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

__X__ At least 60 days prior to start of construction (7460-2, Part 1)
__X__ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

See attachment for additional condition(s) or information.

This determination expires on 08/01/2020 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is subject to review if an interested party files a petition that is received by the FAA on or before March 03, 2019. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted to the Manager of the Airspace Policy Group. Petitions can be submitted via mail to Federal Aviation Administration, 800 Independence Ave, SW, Room 423, Washington, DC 20591, via email at OEPetitions@faa.gov, or via facsimile (202) 267-9328.

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This aeronautical study considered and analyzed the impact on existing and proposed arrival, departure, and en route procedures for aircraft operating under both visual flight rules and instrument flight rules; the impact on all existing and planned public-use airports, military airports and aeronautical facilities; and the cumulative impact resulting from the studied structure when combined with the impact of other existing or proposed structures. The study disclosed that the described structure would have no substantial adverse effect on air navigation.

An account of the study findings, aeronautical objections received by the FAA during the study (if any), and the basis for the FAA's decision in this matter can be found on the following page(s).

If we can be of further assistance, please contact Steve Phillips, at (816) 329-2523, or steve.phillips@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2018-WTW-13390-OE.

Signature Control No: 387140387-395150225 (DNH -WT)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Map(s)

Abbreviations:
AGL, Above Ground Level
AMSL, Above Mean Sea Level
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ASN, Aeronautical Study Number
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2018-WTW-13393-OE

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2018-WTW-13398-OE
2018-WTW-13399-OE
2018-WTW-13400-OE
2018-WTW-13403-OE

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The letter left the impression that the County believes exceeding one or more of the obstruction standards of 14 CFR Part 77 is reason enough to determine the proposal to be a hazard. That is not the case. It is the result of the aeronautical study that determines whether the structure would be a hazard or no hazard to air navigation. We will always compare proposed structures against all of the obstruction standards but will not circularize the standards that are not exceeded nor any standards and/or effects that are beyond the scope of the public to provide information about.

Records indicate that O88 has approximately 35,000 operations per year primarily from CAT A and B general aviation aircraft. All except one of the proposed turbines lie beyond the TPA for all RWYs and aircraft categories. That one proposal is on the edge of the RWY 15/33 TPA for CAT D, but at 2,199 feet long, this

RWY is incapable of sustaining CAT D aircraft operations. The size of the TPA is based upon the aircraft that regularly use a particular RWY. The preliminary assessment of not exceeding TPA has been confirmed.

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The aeronautical study disclosed that the proposed structures would have the adverse effect as described above on the NCT MVA. MVAs are solely used by ATC and not published for public use and are not circulated for public comment. The study disclosed that increasing the MVA in the area of the turbines would not impact a significant number of operations. The proposed structures would have no other effect on any existing or proposed arrival, departure, or en route IFR operations or procedures.

Study for possible VFR effect disclosed that the proposals would have no effect on existing or proposed VFR arrival or departure operations. As stated above, the proposals are beyond normal traffic pattern airspace. Therefore, the proposal would not have an adverse effect on VFR traffic pattern operations at O88, or any other known public use or military airports. At 591 feet AGL, the structures would extend upwards into altitudes commonly used for en route VFR flight; however, no information was received to indicate they would be located along a regularly used VFR route or that they would pose a problem for pilots operating en route. Therefore, they would not have a substantial adverse effect on en route VFR flight operations.

The proposed structures would be appropriately obstruction marked/lighted to make them more conspicuous to airmen should circumnavigation be necessary.

The cumulative impact of the proposed structures, when combined with other proposed and existing structures, is not considered to be significant. Study did not disclose any significant adverse effect on existing or proposed public-use or military airports or navigational facilities, nor would the proposals affect the capacity of any known existing or planned public-use or military airport.

Therefore, it is determined that the proposed construction would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation providing the conditions set forth in this determination are met.

Additional conditions:

As a condition of this determination it is required that Notice of Actual Construction or Alteration (7460-2 Part 1) be E-filed at least 60 full days prior to the start of construction so that appropriate action can be taken to amend the effected procedure(s) and/or altitude(s).


TRAVIS AFB (SUU)
CT 120.75
ATIS 135.55 292.125
RIO VISTA (O88)
AWOS-A 127.075
122.725
RP 25, 33
Denverton
levee
REJOY
Rio Vista
gas wells
702'
203 (208)
227 (225)
292 (300)
488
334
492
OAKEY
071°
PITTS
400 (395)
462 stack
461 (450) stacks
PITTSBURG
I-263
ANTIOCH
(Pvt) FUNNY FARM
29 – 19
NOTAMs/Supplement
or Class D eff hrs

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2018-WTW-13391-OE

Issued Date: 02/01/2019

Amanda Beck
Sacramento Municipal Utility District
6201 S St., MS MD-2
Sacramento, CA 95817

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Wind Turbine P1R4
Location:	Rio Vista, CA
Latitude:	38-07-25.84N NAD 83
Longitude:	121-46-31.86W
Heights:	187 feet site elevation (SE)
	591 feet above ground level (AGL)
	778 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure would have no substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on the operation of air navigation facilities. Therefore, pursuant to the authority delegated to me, it is hereby determined that the structure would not be a hazard to air navigation provided the following condition(s) is(are) met:

As a condition to this Determination, the structure is to be marked/lighted in accordance with FAA Advisory circular 70/7460-1 L Change 2, Obstruction Marking and Lighting, white paint/synchronized red lights - Chapters 4,12&13(Turbines).

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

__X__ At least 60 days prior to start of construction (7460-2, Part 1)
__X__ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

See attachment for additional condition(s) or information.

This determination expires on 08/01/2020 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is subject to review if an interested party files a petition that is received by the FAA on or before March 03, 2019. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted to the Manager of the Airspace Policy Group. Petitions can be submitted via mail to Federal Aviation Administration, 800 Independence Ave, SW, Room 423, Washington, DC 20591, via email at OEPetitions@faa.gov, or via facsimile (202) 267-9328.

This determination becomes final on March 13, 2019 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. For any questions regarding your petition, please contact Airspace Policy Group via telephone – 202-267-8783.

This determination is based, in part, on the foregoing description which includes specific coordinates and heights. This determination is valid for coordinates within one (1) second latitude/longitude and up to the approved AMSL height listed above. If a certified 1A or 2C accuracy survey was required to mitigate an adverse effect, any change in coordinates or increase in height will require a new certified accuracy survey and may require a new aeronautical study.

If construction or alteration is dismantled or destroyed, you must submit notice to the FAA within 5 days after the construction or alteration is dismantled or destroyed.

Additional wind turbines or met towers proposed in the future may cause a cumulative effect on the national airspace system. All information from submission of Supplemental Notice (7460-2 Part 2) will be considered the final data (including heights) for this structure. Any future construction or alteration, including but not limited to changes in heights, requires separate notice to the FAA.

Obstruction marking and lighting recommendations for wind turbine farms are based on the scheme for the entire project. ANY change to the height, location or number of turbines within this project will require a reanalysis of the marking and lighting recommendation for the entire project. In particular, the removal of previously planned or built turbines/turbine locations from the project will often result in a change in the marking/lighting recommendation for other turbines within the project. It is the proponent's responsibility to contact the FAA to discuss the process for developing a revised obstruction marking and lighting plan should this occur.

In order to ensure proper conspicuity of turbines at night during construction, all turbines should be lit with temporary lighting once they reach a height of 200 feet or greater until such time the permanent lighting configuration is turned on. As the height of the structure continues to increase, the temporary lighting should be relocated to the uppermost part of the structure. The temporary lighting may be turned off for periods when they would interfere with construction personnel. If practical, permanent obstruction lights should be installed and operated at each level as construction progresses. An FAA Type L-810 steady red light fixture shall be

used to light the structure during the construction phase. If power is not available, turbines shall be lit with self-contained, solar powered LED steady red light fixture that meets the photometric requirements of an FAA Type L-810 lighting system. The lights should be positioned to ensure that a pilot has an unobstructed view of at least one light at each level. The use of a NOTAM (D) to not light turbines within a project until the entire project has been completed is prohibited.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

This aeronautical study considered and analyzed the impact on existing and proposed arrival, departure, and en route procedures for aircraft operating under both visual flight rules and instrument flight rules; the impact on all existing and planned public-use airports, military airports and aeronautical facilities; and the cumulative impact resulting from the studied structure when combined with the impact of other existing or proposed structures. The study disclosed that the described structure would have no substantial adverse effect on air navigation.

An account of the study findings, aeronautical objections received by the FAA during the study (if any), and the basis for the FAA's decision in this matter can be found on the following page(s).

If we can be of further assistance, please contact Steve Phillips, at (816) 329-2523, or steve.phillips@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2018-WTW-13391-OE.

Signature Control No: 387140388-395150224 (DNH -WT)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Map(s)

Abbreviations:
AGL, Above Ground Level
AMSL, Above Mean Sea Level
ARSR, Air Route Surveillance Radar
ASN, Aeronautical Study Number
ASR, Airport Surveillance Radar
ATC, Air Traffic Control
CAT, Category
CFR, Code of Federal Regulations
DASR, Digital Airport Surveillance Radar
IFR, Instrument Flight Rules
MVA, Minimum Vectoring Altitude
NM, Nautical Mile
RWY, Runway
TPA, Traffic Pattern Airspace
TRACON, Terminal Radar Approach Control
VFR, Visual Flight Rules

The proposed structures are part of a proposed wind farm that would be located approximately 5.02 - 9.07 NM southwest of the Airport Reference Point for the Rio Vista Municipal Airport (O88), Rio Vista, CA. The ASNs with coordinates, AGL heights, and AMSL heights are as shown on page one. They would exceed the obstruction standards of 14 CFR Part 77 as follows:

Section 77.17(a)(1): by 92 feet; a height that exceeds 499 feet AGL.

Section 77.17(a)(2): A height that is 200 feet AGL, or above the established airport elevation, whichever is higher, within 3 NM miles of the established reference point of O88 and that height increases in the proportion of 100 feet for each additional NM from the airport up to a maximum of 499 feet. The following would exceed:

2018-WTW-13388-OE by 190 feet
2018-WTW-13389-OE by 187 feet
2018-WTW-13390-OE by 169 feet
2018-WTW-13391-OE by 154 feet
2018-WTW-13392-OE by 141 feet

2018-WTW-13393-OE by 179 feet
2018-WTW-13394-OE by 167 feet
2018-WTW-13395-OE by 163 feet
2018-WTW-13396-OE by 156 feet

Section 77.17(a)(3): A height that increases a minimum instrument flight altitude within a terminal area;

The following would increase the Northern California TRACON (NCT) MVA for NCT_MVA_FUS3_2017 Sector MCC_B from 1,700 feet AMSL to 1,800 feet AMSL.

2018-WTW-13388-OE
2018-WTW-13389-OE
2018-WTW-13390-OE
2018-WTW-13391-OE
2018-WTW-13393-OE

2018-WTW-13397-OE
2018-WTW-13398-OE
2018-WTW-13399-OE
2018-WTW-13400-OE
2018-WTW-13403-OE

2018-WTW-13404-OE
2018-WTW-13405-OE

The turbines would be within the line of sight of the Stockton, CA. (SCK) ASR-11, the Travis (SUU) DASR, the Mill Valley (QMV) ARSR-4, and the McClellan (MCC) ASR-9 facilities. The proposals will affect the quality and/or availability of radar signals. The effects would be unwanted primary returns (clutter) and primary target drops, all in the area of the turbines. Tracked primary targets could diverge from the aircraft path and follow wind turbines, when the aircraft is over or near the turbines.

In order to facilitate the public comment process, the studies were circularized under ASN 2018-WTW-13388-OE on December 04, 2018, to all known aviation interests and to non-aeronautical interests that may be affected by the proposal. One letter of objection was received as a result of the circularization.

The Solano County Airport Land Use Commission (County) submitted comments that may not necessarily be an "objection" but rather statements. Some of their statements are simply repeating applicable law / rule / orders. They stated that these would be the tallest wind turbines in the area and larger than other onshore turbines elsewhere. Also stated was a belief that these have electromagnetic effects on radar. One statement said they "have seen information that conflicts" with the preliminary analysis of not exceeding TPA. Instead of submitting that stated information, a request was made for the FAA to see if any other obstruction standard was exceeded.

We are not sure what to make of the statement about these being the tallest in the area. Simply being taller than other structures has never been, nor will it ever be, the sole indicator of whether the structure would present an unacceptable impact upon the safe and efficient use of the navigable airspace.

The letter left the impression that the County believes exceeding one or more of the obstruction standards of 14 CFR Part 77 is reason enough to determine the proposal to be a hazard. That is not the case. It is the result of the aeronautical study that determines whether the structure would be a hazard or no hazard to air navigation. We will always compare proposed structures against all of the obstruction standards but will not circularize the standards that are not exceeded nor any standards and/or effects that are beyond the scope of the public to provide information about.

Records indicate that O88 has approximately 35,000 operations per year primarily from CAT A and B general aviation aircraft. All except one of the proposed turbines lie beyond the TPA for all RWYs and aircraft categories. That one proposal is on the edge of the RWY 15/33 TPA for CAT D, but at 2,199 feet long, this

RWY is incapable of sustaining CAT D aircraft operations. The size of the TPA is based upon the aircraft that regularly use a particular RWY. The preliminary assessment of not exceeding TPA has been confirmed.

Note: Aircraft categories are based on approach speed, CAT A = less than 91 knots, CAT B = 91- 120 knots, CAT C = 121-140 knots, CAT D = 141-165 knots.

The County submitted a lot about radar effects. Wind turbines rarely, if ever create "electromagnetic" interference. If they are within the line of sight of a radar sensor, they may be detected by that sensor and may therefore be a physical interference. Simply being "seen" by the radar is not the real issue though. How that target (in this case, the wind turbine) is processed and displayed for ATC is the key. The users of the system (ATC) is the sole decider on whether the system is acceptable to be able to perform their duties. Although there may be others entities using these radar systems, the responsibility and authority of the FAA is the safe and efficient use of the navigable airspace, including the impact of the radar effects on air navigation.

The turbines would be within the line of sight of the Stockton, CA. (SCK) ASR-11, the Travis (SUU) DASR, the Mill Valley (QMV) ARSR-4, and the McClellan (MCC) ASR-9 facilities. However, this would not cause an unacceptable adverse impact on ATC operations at this time.

The aeronautical study disclosed that the proposed structures would have the adverse effect as described above on the NCT MVA. MVAs are solely used by ATC and not published for public use and are not circulated for public comment. The study disclosed that increasing the MVA in the area of the turbines would not impact a significant number of operations. The proposed structures would have no other effect on any existing or proposed arrival, departure, or en route IFR operations or procedures.

Study for possible VFR effect disclosed that the proposals would have no effect on existing or proposed VFR arrival or departure operations. As stated above, the proposals are beyond normal traffic pattern airspace. Therefore, the proposal would not have an adverse effect on VFR traffic pattern operations at O88, or any other known public use or military airports. At 591 feet AGL, the structures would extend upwards into altitudes commonly used for en route VFR flight; however, no information was received to indicate they would be located along a regularly used VFR route or that they would pose a problem for pilots operating en route. Therefore, they would not have a substantial adverse effect on en route VFR flight operations.

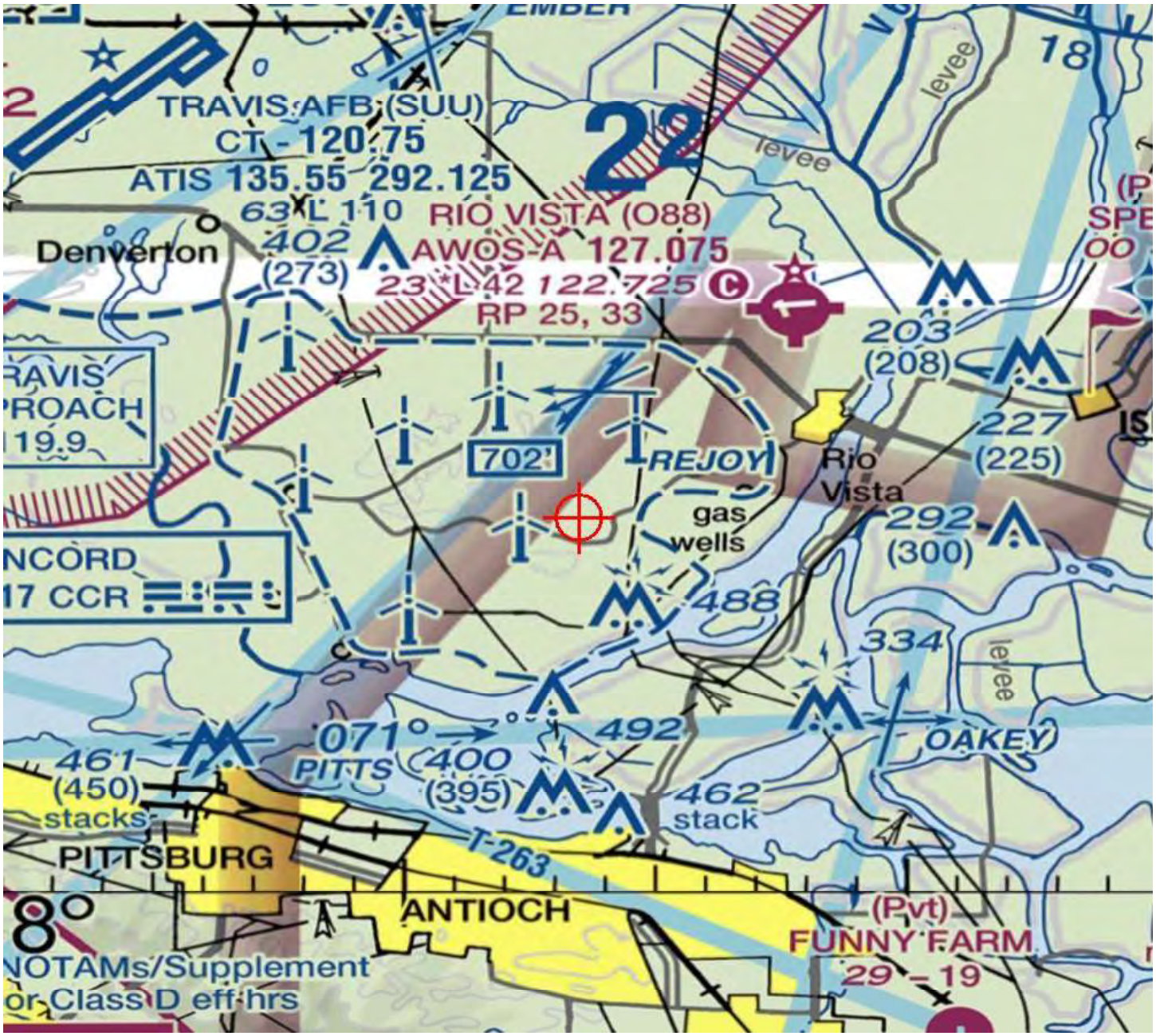
The proposed structures would be appropriately obstruction marked/lighted to make them more conspicuous to airmen should circumnavigation be necessary.

The cumulative impact of the proposed structures, when combined with other proposed and existing structures, is not considered to be significant. Study did not disclose any significant adverse effect on existing or proposed public-use or military airports or navigational facilities, nor would the proposals affect the capacity of any known existing or planned public-use or military airport.

Therefore, it is determined that the proposed construction would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation providing the conditions set forth in this determination are met.

Additional conditions:

As a condition of this determination it is required that Notice of Actual Construction or Alteration (7460-2 Part 1) be E-filed at least 60 full days prior to the start of construction so that appropriate action can be taken to amend the effected procedure(s) and/or altitude(s).


TRAVIS AFB (SUU)
CT 120.75
ATIS 135.55 292.125
63 L 110
RIO VISTA (O88)
AWOS-A 127.075
23 L 42 122.725
RP 25, 33
Denverton
402
(273)
702'
REJOY
gas wells
Rio Vista
203
(208)
227
(225)
292
(300)
488
334
492
071°
400
(395)
PITTS
461
(450)
stacks
462
stack
OAKEY
levee
PITTSBURG
T-263
ANTIOCH
(Pvt)
FUNNY FARM
29 - 19
NOTAMs/Supplement
or Class D eff hrs

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2018-WTW-13392-OE

Issued Date: 02/01/2019

Amanda Beck
Sacramento Municipal Utility District
6201 S St., MS MD-2
Sacramento, CA 95817

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Wind Turbine P1R5
Location:	Rio Vista, CA
Latitude:	38-07-14.14N NAD 83
Longitude:	121-46-28.35W
Heights:	116 feet site elevation (SE)
	591 feet above ground level (AGL)
	707 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure would have no substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on the operation of air navigation facilities. Therefore, pursuant to the authority delegated to me, it is hereby determined that the structure would not be a hazard to air navigation provided the following condition(s) is(are) met:

As a condition to this Determination, the structure is to be marked/lighted in accordance with FAA Advisory circular 70/7460-1 L Change 2, Obstruction Marking and Lighting, white paint/synchronized red lights - Chapters 4,12&13(Turbines).

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

__X__ At least 60 days prior to start of construction (7460-2, Part 1)
__X__ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

See attachment for additional condition(s) or information.

This determination expires on 08/01/2020 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is subject to review if an interested party files a petition that is received by the FAA on or before March 03, 2019. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted to the Manager of the Airspace Policy Group. Petitions can be submitted via mail to Federal Aviation Administration, 800 Independence Ave, SW, Room 423, Washington, DC 20591, via email at OEPetitions@faa.gov, or via facsimile (202) 267-9328.

This determination becomes final on March 13, 2019 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. For any questions regarding your petition, please contact Airspace Policy Group via telephone – 202-267-8783.

This determination is based, in part, on the foregoing description which includes specific coordinates and heights. This determination is valid for coordinates within one (1) second latitude/longitude and up to the approved AMSL height listed above. If a certified 1A or 2C accuracy survey was required to mitigate an adverse effect, any change in coordinates or increase in height will require a new certified accuracy survey and may require a new aeronautical study.

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Additional wind turbines or met towers proposed in the future may cause a cumulative effect on the national airspace system. All information from submission of Supplemental Notice (7460-2 Part 2) will be considered the final data (including heights) for this structure. Any future construction or alteration, including but not limited to changes in heights, requires separate notice to the FAA.

Obstruction marking and lighting recommendations for wind turbine farms are based on the scheme for the entire project. ANY change to the height, location or number of turbines within this project will require a reanalysis of the marking and lighting recommendation for the entire project. In particular, the removal of previously planned or built turbines/turbine locations from the project will often result in a change in the marking/lighting recommendation for other turbines within the project. It is the proponent's responsibility to contact the FAA to discuss the process for developing a revised obstruction marking and lighting plan should this occur.

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This aeronautical study considered and analyzed the impact on existing and proposed arrival, departure, and en route procedures for aircraft operating under both visual flight rules and instrument flight rules; the impact on all existing and planned public-use airports, military airports and aeronautical facilities; and the cumulative impact resulting from the studied structure when combined with the impact of other existing or proposed structures. The study disclosed that the described structure would have no substantial adverse effect on air navigation.

An account of the study findings, aeronautical objections received by the FAA during the study (if any), and the basis for the FAA's decision in this matter can be found on the following page(s).

If we can be of further assistance, please contact Steve Phillips, at (816) 329-2523, or steve.phillips@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2018-WTW-13392-OE.

Signature Control No: 387140389-395150228 (DNH -WT)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Map(s)

Abbreviations:
AGL, Above Ground Level
AMSL, Above Mean Sea Level
ARSR, Air Route Surveillance Radar
ASN, Aeronautical Study Number
ASR, Airport Surveillance Radar
ATC, Air Traffic Control
CAT, Category
CFR, Code of Federal Regulations
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The proposed structures are part of a proposed wind farm that would be located approximately 5.02 - 9.07 NM southwest of the Airport Reference Point for the Rio Vista Municipal Airport (O88), Rio Vista, CA. The ASNs with coordinates, AGL heights, and AMSL heights are as shown on page one. They would exceed the obstruction standards of 14 CFR Part 77 as follows:

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2018-WTW-13399-OE
2018-WTW-13400-OE
2018-WTW-13403-OE

2018-WTW-13404-OE
2018-WTW-13405-OE

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The letter left the impression that the County believes exceeding one or more of the obstruction standards of 14 CFR Part 77 is reason enough to determine the proposal to be a hazard. That is not the case. It is the result of the aeronautical study that determines whether the structure would be a hazard or no hazard to air navigation. We will always compare proposed structures against all of the obstruction standards but will not circularize the standards that are not exceeded nor any standards and/or effects that are beyond the scope of the public to provide information about.

Records indicate that O88 has approximately 35,000 operations per year primarily from CAT A and B general aviation aircraft. All except one of the proposed turbines lie beyond the TPA for all RWYs and aircraft categories. That one proposal is on the edge of the RWY 15/33 TPA for CAT D, but at 2,199 feet long, this

RWY is incapable of sustaining CAT D aircraft operations. The size of the TPA is based upon the aircraft that regularly use a particular RWY. The preliminary assessment of not exceeding TPA has been confirmed.

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The aeronautical study disclosed that the proposed structures would have the adverse effect as described above on the NCT MVA. MVAs are solely used by ATC and not published for public use and are not circulated for public comment. The study disclosed that increasing the MVA in the area of the turbines would not impact a significant number of operations. The proposed structures would have no other effect on any existing or proposed arrival, departure, or en route IFR operations or procedures.

Study for possible VFR effect disclosed that the proposals would have no effect on existing or proposed VFR arrival or departure operations. As stated above, the proposals are beyond normal traffic pattern airspace. Therefore, the proposal would not have an adverse effect on VFR traffic pattern operations at O88, or any other known public use or military airports. At 591 feet AGL, the structures would extend upwards into altitudes commonly used for en route VFR flight; however, no information was received to indicate they would be located along a regularly used VFR route or that they would pose a problem for pilots operating en route. Therefore, they would not have a substantial adverse effect on en route VFR flight operations.

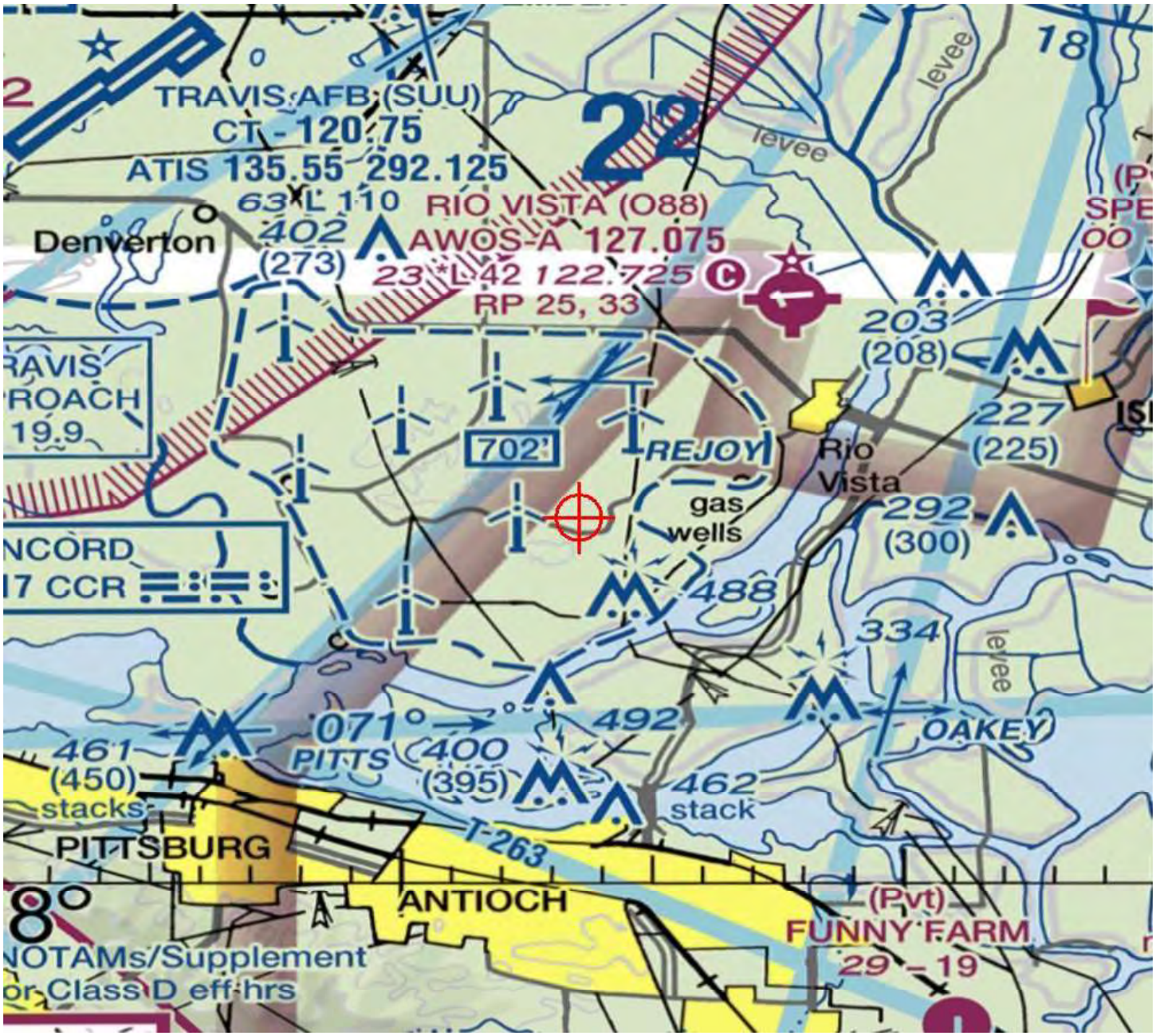
The proposed structures would be appropriately obstruction marked/lighted to make them more conspicuous to airmen should circumnavigation be necessary.

The cumulative impact of the proposed structures, when combined with other proposed and existing structures, is not considered to be significant. Study did not disclose any significant adverse effect on existing or proposed public-use or military airports or navigational facilities, nor would the proposals affect the capacity of any known existing or planned public-use or military airport.

Therefore, it is determined that the proposed construction would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation providing the conditions set forth in this determination are met.

Additional conditions:

As a condition of this determination it is required that Notice of Actual Construction or Alteration (7460-2 Part 1) be E-filed at least 60 full days prior to the start of construction so that appropriate action can be taken to amend the effected procedure(s) and/or altitude(s).


TRAVIS AFB (SUU)
CT 120.75
ATIS 135.55 292.125
RIO VISTA (O88)
AWOS-A 127.075
122.725
RP 25, 33
Denverton
levee
REJOY
Rio Vista
gas wells
OAKEY
PITTSBURG
ANTIOCH
I-263
FUNNY FARM
(Pvt)
stacks
stack
PITTS
NOTAMs/Supplement
or Class D eff hrs

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2018-WTW-13393-OE

Issued Date: 02/01/2019

Amanda Beck
Sacramento Municipal Utility District
6201 S St., MS MD-2
Sacramento, CA 95817

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Wind Turbine P1N1
Location:	Rio Vista, CA
Latitude:	38-07-18.49N NAD 83
Longitude:	121-45-46.46W
Heights:	166 feet site elevation (SE)
	591 feet above ground level (AGL)
	757 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure would have no substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on the operation of air navigation facilities. Therefore, pursuant to the authority delegated to me, it is hereby determined that the structure would not be a hazard to air navigation provided the following condition(s) is(are) met:

As a condition to this Determination, the structure is to be marked/lighted in accordance with FAA Advisory circular 70/7460-1 L Change 2, Obstruction Marking and Lighting, white paint/synchronized red lights - Chapters 4,12&13(Turbines).

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

__X__ At least 60 days prior to start of construction (7460-2, Part 1)
__X__ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

See attachment for additional condition(s) or information.

This determination expires on 08/01/2020 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is subject to review if an interested party files a petition that is received by the FAA on or before March 03, 2019. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted to the Manager of the Airspace Policy Group. Petitions can be submitted via mail to Federal Aviation Administration, 800 Independence Ave, SW, Room 423, Washington, DC 20591, via email at OEPetitions@faa.gov, or via facsimile (202) 267-9328.

This determination becomes final on March 13, 2019 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. For any questions regarding your petition, please contact Airspace Policy Group via telephone – 202-267-8783.

This determination is based, in part, on the foregoing description which includes specific coordinates and heights. This determination is valid for coordinates within one (1) second latitude/longitude and up to the approved AMSL height listed above. If a certified 1A or 2C accuracy survey was required to mitigate an adverse effect, any change in coordinates or increase in height will require a new certified accuracy survey and may require a new aeronautical study.

If construction or alteration is dismantled or destroyed, you must submit notice to the FAA within 5 days after the construction or alteration is dismantled or destroyed.

Additional wind turbines or met towers proposed in the future may cause a cumulative effect on the national airspace system. All information from submission of Supplemental Notice (7460-2 Part 2) will be considered the final data (including heights) for this structure. Any future construction or alteration, including but not limited to changes in heights, requires separate notice to the FAA.

Obstruction marking and lighting recommendations for wind turbine farms are based on the scheme for the entire project. ANY change to the height, location or number of turbines within this project will require a reanalysis of the marking and lighting recommendation for the entire project. In particular, the removal of previously planned or built turbines/turbine locations from the project will often result in a change in the marking/lighting recommendation for other turbines within the project. It is the proponent's responsibility to contact the FAA to discuss the process for developing a revised obstruction marking and lighting plan should this occur.

In order to ensure proper conspicuity of turbines at night during construction, all turbines should be lit with temporary lighting once they reach a height of 200 feet or greater until such time the permanent lighting configuration is turned on. As the height of the structure continues to increase, the temporary lighting should be relocated to the uppermost part of the structure. The temporary lighting may be turned off for periods when they would interfere with construction personnel. If practical, permanent obstruction lights should be installed and operated at each level as construction progresses. An FAA Type L-810 steady red light fixture shall be

used to light the structure during the construction phase. If power is not available, turbines shall be lit with self-contained, solar powered LED steady red light fixture that meets the photometric requirements of an FAA Type L-810 lighting system. The lights should be positioned to ensure that a pilot has an unobstructed view of at least one light at each level. The use of a NOTAM (D) to not light turbines within a project until the entire project has been completed is prohibited.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

This aeronautical study considered and analyzed the impact on existing and proposed arrival, departure, and en route procedures for aircraft operating under both visual flight rules and instrument flight rules; the impact on all existing and planned public-use airports, military airports and aeronautical facilities; and the cumulative impact resulting from the studied structure when combined with the impact of other existing or proposed structures. The study disclosed that the described structure would have no substantial adverse effect on air navigation.

An account of the study findings, aeronautical objections received by the FAA during the study (if any), and the basis for the FAA's decision in this matter can be found on the following page(s).

If we can be of further assistance, please contact Steve Phillips, at (816) 329-2523, or steve.phillips@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2018-WTW-13393-OE.

Signature Control No: 387140390-395150231 (DNH -WT)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Map(s)

Abbreviations:
AGL, Above Ground Level
AMSL, Above Mean Sea Level
ARSR, Air Route Surveillance Radar
ASN, Aeronautical Study Number
ASR, Airport Surveillance Radar
ATC, Air Traffic Control
CAT, Category
CFR, Code of Federal Regulations
DASR, Digital Airport Surveillance Radar
IFR, Instrument Flight Rules
MVA, Minimum Vectoring Altitude
NM, Nautical Mile
RWY, Runway
TPA, Traffic Pattern Airspace
TRACON, Terminal Radar Approach Control
VFR, Visual Flight Rules

The proposed structures are part of a proposed wind farm that would be located approximately 5.02 - 9.07 NM southwest of the Airport Reference Point for the Rio Vista Municipal Airport (O88), Rio Vista, CA. The ASNs with coordinates, AGL heights, and AMSL heights are as shown on page one. They would exceed the obstruction standards of 14 CFR Part 77 as follows:

Section 77.17(a)(1): by 92 feet; a height that exceeds 499 feet AGL.

Section 77.17(a)(2): A height that is 200 feet AGL, or above the established airport elevation, whichever is higher, within 3 NM miles of the established reference point of O88 and that height increases in the proportion of 100 feet for each additional NM from the airport up to a maximum of 499 feet. The following would exceed:

2018-WTW-13388-OE by 190 feet
2018-WTW-13389-OE by 187 feet
2018-WTW-13390-OE by 169 feet
2018-WTW-13391-OE by 154 feet
2018-WTW-13392-OE by 141 feet

2018-WTW-13393-OE by 179 feet
2018-WTW-13394-OE by 167 feet
2018-WTW-13395-OE by 163 feet
2018-WTW-13396-OE by 156 feet

Section 77.17(a)(3): A height that increases a minimum instrument flight altitude within a terminal area;

The following would increase the Northern California TRACON (NCT) MVA for NCT_MVA_FUS3_2017 Sector MCC_B from 1,700 feet AMSL to 1,800 feet AMSL.

2018-WTW-13388-OE
2018-WTW-13389-OE
2018-WTW-13390-OE
2018-WTW-13391-OE
2018-WTW-13393-OE

2018-WTW-13397-OE
2018-WTW-13398-OE
2018-WTW-13399-OE
2018-WTW-13400-OE
2018-WTW-13403-OE

2018-WTW-13404-OE
2018-WTW-13405-OE

The turbines would be within the line of sight of the Stockton, CA. (SCK) ASR-11, the Travis (SUU) DASR, the Mill Valley (QMV) ARSR-4, and the McClellan (MCC) ASR-9 facilities. The proposals will affect the quality and/or availability of radar signals. The effects would be unwanted primary returns (clutter) and primary target drops, all in the area of the turbines. Tracked primary targets could diverge from the aircraft path and follow wind turbines, when the aircraft is over or near the turbines.

In order to facilitate the public comment process, the studies were circularized under ASN 2018-WTW-13388-OE on December 04, 2018, to all known aviation interests and to non-aeronautical interests that may be affected by the proposal. One letter of objection was received as a result of the circularization.

The Solano County Airport Land Use Commission (County) submitted comments that may not necessarily be an "objection" but rather statements. Some of their statements are simply repeating applicable law / rule / orders. They stated that these would be the tallest wind turbines in the area and larger than other onshore turbines elsewhere. Also stated was a belief that these have electromagnetic effects on radar. One statement said they "have seen information that conflicts" with the preliminary analysis of not exceeding TPA. Instead of submitting that stated information, a request was made for the FAA to see if any other obstruction standard was exceeded.

We are not sure what to make of the statement about these being the tallest in the area. Simply being taller than other structures has never been, nor will it ever be, the sole indicator of whether the structure would present an unacceptable impact upon the safe and efficient use of the navigable airspace.

The letter left the impression that the County believes exceeding one or more of the obstruction standards of 14 CFR Part 77 is reason enough to determine the proposal to be a hazard. That is not the case. It is the result of the aeronautical study that determines whether the structure would be a hazard or no hazard to air navigation. We will always compare proposed structures against all of the obstruction standards but will not circularize the standards that are not exceeded nor any standards and/or effects that are beyond the scope of the public to provide information about.

Records indicate that O88 has approximately 35,000 operations per year primarily from CAT A and B general aviation aircraft. All except one of the proposed turbines lie beyond the TPA for all RWYs and aircraft categories. That one proposal is on the edge of the RWY 15/33 TPA for CAT D, but at 2,199 feet long, this

RWY is incapable of sustaining CAT D aircraft operations. The size of the TPA is based upon the aircraft that regularly use a particular RWY. The preliminary assessment of not exceeding TPA has been confirmed.

Note: Aircraft categories are based on approach speed, CAT A = less than 91 knots, CAT B = 91- 120 knots, CAT C = 121-140 knots, CAT D = 141-165 knots.

The County submitted a lot about radar effects. Wind turbines rarely, if ever create "electromagnetic" interference. If they are within the line of sight of a radar sensor, they may be detected by that sensor and may therefore be a physical interference. Simply being "seen" by the radar is not the real issue though. How that target (in this case, the wind turbine) is processed and displayed for ATC is the key. The users of the system (ATC) is the sole decider on whether the system is acceptable to be able to perform their duties. Although there may be others entities using these radar systems, the responsibility and authority of the FAA is the safe and efficient use of the navigable airspace, including the impact of the radar effects on air navigation.

The turbines would be within the line of sight of the Stockton, CA. (SCK) ASR-11, the Travis (SUU) DASR, the Mill Valley (QMV) ARSR-4, and the McClellan (MCC) ASR-9 facilities. However, this would not cause an unacceptable adverse impact on ATC operations at this time.

The aeronautical study disclosed that the proposed structures would have the adverse effect as described above on the NCT MVA. MVAs are solely used by ATC and not published for public use and are not circulated for public comment. The study disclosed that increasing the MVA in the area of the turbines would not impact a significant number of operations. The proposed structures would have no other effect on any existing or proposed arrival, departure, or en route IFR operations or procedures.

Study for possible VFR effect disclosed that the proposals would have no effect on existing or proposed VFR arrival or departure operations. As stated above, the proposals are beyond normal traffic pattern airspace. Therefore, the proposal would not have an adverse effect on VFR traffic pattern operations at O88, or any other known public use or military airports. At 591 feet AGL, the structures would extend upwards into altitudes commonly used for en route VFR flight; however, no information was received to indicate they would be located along a regularly used VFR route or that they would pose a problem for pilots operating en route. Therefore, they would not have a substantial adverse effect on en route VFR flight operations.

The proposed structures would be appropriately obstruction marked/lighted to make them more conspicuous to airmen should circumnavigation be necessary.

The cumulative impact of the proposed structures, when combined with other proposed and existing structures, is not considered to be significant. Study did not disclose any significant adverse effect on existing or proposed public-use or military airports or navigational facilities, nor would the proposals affect the capacity of any known existing or planned public-use or military airport.

Therefore, it is determined that the proposed construction would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation providing the conditions set forth in this determination are met.

Additional conditions:

As a condition of this determination it is required that Notice of Actual Construction or Alteration (7460-2 Part 1) be E-filed at least 60 full days prior to the start of construction so that appropriate action can be taken to amend the effected procedure(s) and/or altitude(s).


TRAVIS AFB (SUU)
CT 120.75
ATIS 135.55 292.125
63 L 110
RIO VISTA (O88)
AWOS-A 127.075
23 L 42 122.725
RP 25, 33
Denverton
402
(273)
levee
18
(Pvt)
203
(208)
227
(225)
ISLE
702'
REJOY
Rio
Vista
gas
wells
292
(300)
488
334
levee
492
071°
400
(395)
PITTS
OAKEY
461
(450)
stacks
462
stack
PITTSBURG
I-263
ANTIOCH
(Pvt)
FUNNY FARM
29 - 19
TAMs/Supplement
Class D eff hrs

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2018-WTW-13394-OE

Issued Date: 02/01/2019

Amanda Beck
Sacramento Municipal Utility District
6201 S St., MS MD-2
Sacramento, CA 95817

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Wind Turbine P1N2
Location:	Rio Vista, CA
Latitude:	38-07-08.51N NAD 83
Longitude:	121-45-43.44W
Heights:	157 feet site elevation (SE)
	591 feet above ground level (AGL)
	748 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure would have no substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on the operation of air navigation facilities. Therefore, pursuant to the authority delegated to me, it is hereby determined that the structure would not be a hazard to air navigation provided the following condition(s) is(are) met:

As a condition to this Determination, the structure is to be marked/lighted in accordance with FAA Advisory circular 70/7460-1 L Change 2, Obstruction Marking and Lighting, white paint/synchronized red lights - Chapters 4,12&13(Turbines).

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

__X__ At least 60 days prior to start of construction (7460-2, Part 1)
__X__ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

See attachment for additional condition(s) or information.

This determination expires on 08/01/2020 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is subject to review if an interested party files a petition that is received by the FAA on or before March 03, 2019. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted to the Manager of the Airspace Policy Group. Petitions can be submitted via mail to Federal Aviation Administration, 800 Independence Ave, SW, Room 423, Washington, DC 20591, via email at OEPetitions@faa.gov, or via facsimile (202) 267-9328.

This determination becomes final on March 13, 2019 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. For any questions regarding your petition, please contact Airspace Policy Group via telephone – 202-267-8783.

This determination is based, in part, on the foregoing description which includes specific coordinates and heights. This determination is valid for coordinates within one (1) second latitude/longitude and up to the approved AMSL height listed above. If a certified 1A or 2C accuracy survey was required to mitigate an adverse effect, any change in coordinates or increase in height will require a new certified accuracy survey and may require a new aeronautical study.

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Obstruction marking and lighting recommendations for wind turbine farms are based on the scheme for the entire project. ANY change to the height, location or number of turbines within this project will require a reanalysis of the marking and lighting recommendation for the entire project. In particular, the removal of previously planned or built turbines/turbine locations from the project will often result in a change in the marking/lighting recommendation for other turbines within the project. It is the proponent's responsibility to contact the FAA to discuss the process for developing a revised obstruction marking and lighting plan should this occur.

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This aeronautical study considered and analyzed the impact on existing and proposed arrival, departure, and en route procedures for aircraft operating under both visual flight rules and instrument flight rules; the impact on all existing and planned public-use airports, military airports and aeronautical facilities; and the cumulative impact resulting from the studied structure when combined with the impact of other existing or proposed structures. The study disclosed that the described structure would have no substantial adverse effect on air navigation.

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If we can be of further assistance, please contact Steve Phillips, at (816) 329-2523, or steve.phillips@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2018-WTW-13394-OE.

Signature Control No: 387140391-395150230 (DNH -WT)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Map(s)

Abbreviations:
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AMSL, Above Mean Sea Level
ARSR, Air Route Surveillance Radar
ASN, Aeronautical Study Number
ASR, Airport Surveillance Radar
ATC, Air Traffic Control
CAT, Category
CFR, Code of Federal Regulations
DASR, Digital Airport Surveillance Radar
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MVA, Minimum Vectoring Altitude
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The proposed structures are part of a proposed wind farm that would be located approximately 5.02 - 9.07 NM southwest of the Airport Reference Point for the Rio Vista Municipal Airport (O88), Rio Vista, CA. The ASNs with coordinates, AGL heights, and AMSL heights are as shown on page one. They would exceed the obstruction standards of 14 CFR Part 77 as follows:

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2018-WTW-13392-OE by 141 feet

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RWY is incapable of sustaining CAT D aircraft operations. The size of the TPA is based upon the aircraft that regularly use a particular RWY. The preliminary assessment of not exceeding TPA has been confirmed.

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The aeronautical study disclosed that the proposed structures would have the adverse effect as described above on the NCT MVA. MVAs are solely used by ATC and not published for public use and are not circulated for public comment. The study disclosed that increasing the MVA in the area of the turbines would not impact a significant number of operations. The proposed structures would have no other effect on any existing or proposed arrival, departure, or en route IFR operations or procedures.

Study for possible VFR effect disclosed that the proposals would have no effect on existing or proposed VFR arrival or departure operations. As stated above, the proposals are beyond normal traffic pattern airspace. Therefore, the proposal would not have an adverse effect on VFR traffic pattern operations at O88, or any other known public use or military airports. At 591 feet AGL, the structures would extend upwards into altitudes commonly used for en route VFR flight; however, no information was received to indicate they would be located along a regularly used VFR route or that they would pose a problem for pilots operating en route. Therefore, they would not have a substantial adverse effect on en route VFR flight operations.

The proposed structures would be appropriately obstruction marked/lighted to make them more conspicuous to airmen should circumnavigation be necessary.

The cumulative impact of the proposed structures, when combined with other proposed and existing structures, is not considered to be significant. Study did not disclose any significant adverse effect on existing or proposed public-use or military airports or navigational facilities, nor would the proposals affect the capacity of any known existing or planned public-use or military airport.

Therefore, it is determined that the proposed construction would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation providing the conditions set forth in this determination are met.

Additional conditions:

As a condition of this determination it is required that Notice of Actual Construction or Alteration (7460-2 Part 1) be E-filed at least 60 full days prior to the start of construction so that appropriate action can be taken to amend the effected procedure(s) and/or altitude(s).

Sectional Map for ASN 2018-WTW-13394-OE

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2018-WTW-13395-OE

Issued Date: 02/01/2019

Amanda Beck
Sacramento Municipal Utility District
6201 S St., MS MD-2
Sacramento, CA 95817

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Wind Turbine P1N3
Location:	Rio Vista, CA
Latitude:	38-06-53.36N NAD 83
Longitude:	121-45-15.19W
Heights:	115 feet site elevation (SE)
	591 feet above ground level (AGL)
	706 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure would have no substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on the operation of air navigation facilities. Therefore, pursuant to the authority delegated to me, it is hereby determined that the structure would not be a hazard to air navigation provided the following condition(s) is(are) met:

As a condition to this Determination, the structure is to be marked/lighted in accordance with FAA Advisory circular 70/7460-1 L Change 2, Obstruction Marking and Lighting, white paint/synchronized red lights - Chapters 4,12&13(Turbines).

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

__X__ At least 60 days prior to start of construction (7460-2, Part 1)
__X__ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

See attachment for additional condition(s) or information.

This determination expires on 08/01/2020 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is subject to review if an interested party files a petition that is received by the FAA on or before March 03, 2019. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted to the Manager of the Airspace Policy Group. Petitions can be submitted via mail to Federal Aviation Administration, 800 Independence Ave, SW, Room 423, Washington, DC 20591, via email at OEPetitions@faa.gov, or via facsimile (202) 267-9328.

This determination becomes final on March 13, 2019 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. For any questions regarding your petition, please contact Airspace Policy Group via telephone – 202-267-8783.

This determination is based, in part, on the foregoing description which includes specific coordinates and heights. This determination is valid for coordinates within one (1) second latitude/longitude and up to the approved AMSL height listed above. If a certified 1A or 2C accuracy survey was required to mitigate an adverse effect, any change in coordinates or increase in height will require a new certified accuracy survey and may require a new aeronautical study.

If construction or alteration is dismantled or destroyed, you must submit notice to the FAA within 5 days after the construction or alteration is dismantled or destroyed.

Additional wind turbines or met towers proposed in the future may cause a cumulative effect on the national airspace system. All information from submission of Supplemental Notice (7460-2 Part 2) will be considered the final data (including heights) for this structure. Any future construction or alteration, including but not limited to changes in heights, requires separate notice to the FAA.

Obstruction marking and lighting recommendations for wind turbine farms are based on the scheme for the entire project. ANY change to the height, location or number of turbines within this project will require a reanalysis of the marking and lighting recommendation for the entire project. In particular, the removal of previously planned or built turbines/turbine locations from the project will often result in a change in the marking/lighting recommendation for other turbines within the project. It is the proponent's responsibility to contact the FAA to discuss the process for developing a revised obstruction marking and lighting plan should this occur.

In order to ensure proper conspicuity of turbines at night during construction, all turbines should be lit with temporary lighting once they reach a height of 200 feet or greater until such time the permanent lighting configuration is turned on. As the height of the structure continues to increase, the temporary lighting should be relocated to the uppermost part of the structure. The temporary lighting may be turned off for periods when they would interfere with construction personnel. If practical, permanent obstruction lights should be installed and operated at each level as construction progresses. An FAA Type L-810 steady red light fixture shall be

used to light the structure during the construction phase. If power is not available, turbines shall be lit with self-contained, solar powered LED steady red light fixture that meets the photometric requirements of an FAA Type L-810 lighting system. The lights should be positioned to ensure that a pilot has an unobstructed view of at least one light at each level. The use of a NOTAM (D) to not light turbines within a project until the entire project has been completed is prohibited.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

This aeronautical study considered and analyzed the impact on existing and proposed arrival, departure, and en route procedures for aircraft operating under both visual flight rules and instrument flight rules; the impact on all existing and planned public-use airports, military airports and aeronautical facilities; and the cumulative impact resulting from the studied structure when combined with the impact of other existing or proposed structures. The study disclosed that the described structure would have no substantial adverse effect on air navigation.

An account of the study findings, aeronautical objections received by the FAA during the study (if any), and the basis for the FAA's decision in this matter can be found on the following page(s).

If we can be of further assistance, please contact Steve Phillips, at (816) 329-2523, or steve.phillips@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2018-WTW-13395-OE.

Signature Control No: 387140392-395150233 (DNH -WT)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Map(s)

Abbreviations:
AGL, Above Ground Level
AMSL, Above Mean Sea Level
ARSR, Air Route Surveillance Radar
ASN, Aeronautical Study Number
ASR, Airport Surveillance Radar
ATC, Air Traffic Control
CAT, Category
CFR, Code of Federal Regulations
DASR, Digital Airport Surveillance Radar
IFR, Instrument Flight Rules
MVA, Minimum Vectoring Altitude
NM, Nautical Mile
RWY, Runway
TPA, Traffic Pattern Airspace
TRACON, Terminal Radar Approach Control
VFR, Visual Flight Rules

The proposed structures are part of a proposed wind farm that would be located approximately 5.02 - 9.07 NM southwest of the Airport Reference Point for the Rio Vista Municipal Airport (O88), Rio Vista, CA. The ASNs with coordinates, AGL heights, and AMSL heights are as shown on page one. They would exceed the obstruction standards of 14 CFR Part 77 as follows:

Section 77.17(a)(1): by 92 feet; a height that exceeds 499 feet AGL.

Section 77.17(a)(2): A height that is 200 feet AGL, or above the established airport elevation, whichever is higher, within 3 NM miles of the established reference point of O88 and that height increases in the proportion of 100 feet for each additional NM from the airport up to a maximum of 499 feet. The following would exceed:

2018-WTW-13388-OE by 190 feet
2018-WTW-13389-OE by 187 feet
2018-WTW-13390-OE by 169 feet
2018-WTW-13391-OE by 154 feet
2018-WTW-13392-OE by 141 feet

2018-WTW-13393-OE by 179 feet
2018-WTW-13394-OE by 167 feet
2018-WTW-13395-OE by 163 feet
2018-WTW-13396-OE by 156 feet

Section 77.17(a)(3): A height that increases a minimum instrument flight altitude within a terminal area;

The following would increase the Northern California TRACON (NCT) MVA for NCT_MVA_FUS3_2017 Sector MCC_B from 1,700 feet AMSL to 1,800 feet AMSL.

2018-WTW-13388-OE
2018-WTW-13389-OE
2018-WTW-13390-OE
2018-WTW-13391-OE
2018-WTW-13393-OE

2018-WTW-13397-OE
2018-WTW-13398-OE
2018-WTW-13399-OE
2018-WTW-13400-OE
2018-WTW-13403-OE

2018-WTW-13404-OE
2018-WTW-13405-OE

The turbines would be within the line of sight of the Stockton, CA. (SCK) ASR-11, the Travis (SUU) DASR, the Mill Valley (QMV) ARSR-4, and the McClellan (MCC) ASR-9 facilities. The proposals will affect the quality and/or availability of radar signals. The effects would be unwanted primary returns (clutter) and primary target drops, all in the area of the turbines. Tracked primary targets could diverge from the aircraft path and follow wind turbines, when the aircraft is over or near the turbines.

In order to facilitate the public comment process, the studies were circularized under ASN 2018-WTW-13388-OE on December 04, 2018, to all known aviation interests and to non-aeronautical interests that may be affected by the proposal. One letter of objection was received as a result of the circularization.

The Solano County Airport Land Use Commission (County) submitted comments that may not necessarily be an "objection" but rather statements. Some of their statements are simply repeating applicable law / rule / orders. They stated that these would be the tallest wind turbines in the area and larger than other onshore turbines elsewhere. Also stated was a belief that these have electromagnetic effects on radar. One statement said they "have seen information that conflicts" with the preliminary analysis of not exceeding TPA. Instead of submitting that stated information, a request was made for the FAA to see if any other obstruction standard was exceeded.

We are not sure what to make of the statement about these being the tallest in the area. Simply being taller than other structures has never been, nor will it ever be, the sole indicator of whether the structure would present an unacceptable impact upon the safe and efficient use of the navigable airspace.

The letter left the impression that the County believes exceeding one or more of the obstruction standards of 14 CFR Part 77 is reason enough to determine the proposal to be a hazard. That is not the case. It is the result of the aeronautical study that determines whether the structure would be a hazard or no hazard to air navigation. We will always compare proposed structures against all of the obstruction standards but will not circularize the standards that are not exceeded nor any standards and/or effects that are beyond the scope of the public to provide information about.

Records indicate that O88 has approximately 35,000 operations per year primarily from CAT A and B general aviation aircraft. All except one of the proposed turbines lie beyond the TPA for all RWYs and aircraft categories. That one proposal is on the edge of the RWY 15/33 TPA for CAT D, but at 2,199 feet long, this

RWY is incapable of sustaining CAT D aircraft operations. The size of the TPA is based upon the aircraft that regularly use a particular RWY. The preliminary assessment of not exceeding TPA has been confirmed.

Note: Aircraft categories are based on approach speed, CAT A = less than 91 knots, CAT B = 91- 120 knots, CAT C = 121-140 knots, CAT D = 141-165 knots.

The County submitted a lot about radar effects. Wind turbines rarely, if ever create "electromagnetic" interference. If they are within the line of sight of a radar sensor, they may be detected by that sensor and may therefore be a physical interference. Simply being "seen" by the radar is not the real issue though. How that target (in this case, the wind turbine) is processed and displayed for ATC is the key. The users of the system (ATC) is the sole decider on whether the system is acceptable to be able to perform their duties. Although there may be others entities using these radar systems, the responsibility and authority of the FAA is the safe and efficient use of the navigable airspace, including the impact of the radar effects on air navigation.

The turbines would be within the line of sight of the Stockton, CA. (SCK) ASR-11, the Travis (SUU) DASR, the Mill Valley (QMV) ARSR-4, and the McClellan (MCC) ASR-9 facilities. However, this would not cause an unacceptable adverse impact on ATC operations at this time.

The aeronautical study disclosed that the proposed structures would have the adverse effect as described above on the NCT MVA. MVAs are solely used by ATC and not published for public use and are not circulated for public comment. The study disclosed that increasing the MVA in the area of the turbines would not impact a significant number of operations. The proposed structures would have no other effect on any existing or proposed arrival, departure, or en route IFR operations or procedures.

Study for possible VFR effect disclosed that the proposals would have no effect on existing or proposed VFR arrival or departure operations. As stated above, the proposals are beyond normal traffic pattern airspace. Therefore, the proposal would not have an adverse effect on VFR traffic pattern operations at O88, or any other known public use or military airports. At 591 feet AGL, the structures would extend upwards into altitudes commonly used for en route VFR flight; however, no information was received to indicate they would be located along a regularly used VFR route or that they would pose a problem for pilots operating en route. Therefore, they would not have a substantial adverse effect on en route VFR flight operations.

The proposed structures would be appropriately obstruction marked/lighted to make them more conspicuous to airmen should circumnavigation be necessary.

The cumulative impact of the proposed structures, when combined with other proposed and existing structures, is not considered to be significant. Study did not disclose any significant adverse effect on existing or proposed public-use or military airports or navigational facilities, nor would the proposals affect the capacity of any known existing or planned public-use or military airport.

Therefore, it is determined that the proposed construction would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation providing the conditions set forth in this determination are met.

Additional conditions:

As a condition of this determination it is required that Notice of Actual Construction or Alteration (7460-2 Part 1) be E-filed at least 60 full days prior to the start of construction so that appropriate action can be taken to amend the effected procedure(s) and/or altitude(s).


TRAVIS AFB (SUU)
CT 120.75
ATIS 135.55 292.125
RIO VISTA (O88)
AWOS-A 127.075
122.725
RP 25, 33
REJOY
702'
gas wells
Rio Vista
ISLETO
OAKEY
PITTS
stack
I-263
ANTIOCH
PITTSBURG
FUNNY FARM
levee
(Pvt)
AMs/Supplement
Class D eff hrs

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2018-WTW-13396-OE

Issued Date: 02/01/2019

Amanda Beck
Sacramento Municipal Utility District
6201 S St., MS MD-2
Sacramento, CA 95817

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Wind Turbine P1N4
Location:	Rio Vista, CA
Latitude:	38-06-43.69N NAD 83
Longitude:	121-45-03.40W
Heights:	54 feet site elevation (SE)
	591 feet above ground level (AGL)
	645 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure would have no substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on the operation of air navigation facilities. Therefore, pursuant to the authority delegated to me, it is hereby determined that the structure would not be a hazard to air navigation provided the following condition(s) is(are) met:

As a condition to this Determination, the structure is to be marked/lighted in accordance with FAA Advisory circular 70/7460-1 L Change 2, Obstruction Marking and Lighting, white paint/synchronized red lights - Chapters 4,12&13(Turbines).

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

__X__ At least 60 days prior to start of construction (7460-2, Part 1)
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See attachment for additional condition(s) or information.

This determination expires on 08/01/2020 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is subject to review if an interested party files a petition that is received by the FAA on or before March 03, 2019. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted to the Manager of the Airspace Policy Group. Petitions can be submitted via mail to Federal Aviation Administration, 800 Independence Ave, SW, Room 423, Washington, DC 20591, via email at OEPetitions@faa.gov, or via facsimile (202) 267-9328.

This determination becomes final on March 13, 2019 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. For any questions regarding your petition, please contact Airspace Policy Group via telephone – 202-267-8783.

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Signature Control No: 387140393-395150245 (DNH -WT)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
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Map(s)

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Therefore, it is determined that the proposed construction would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation providing the conditions set forth in this determination are met.

Additional conditions:

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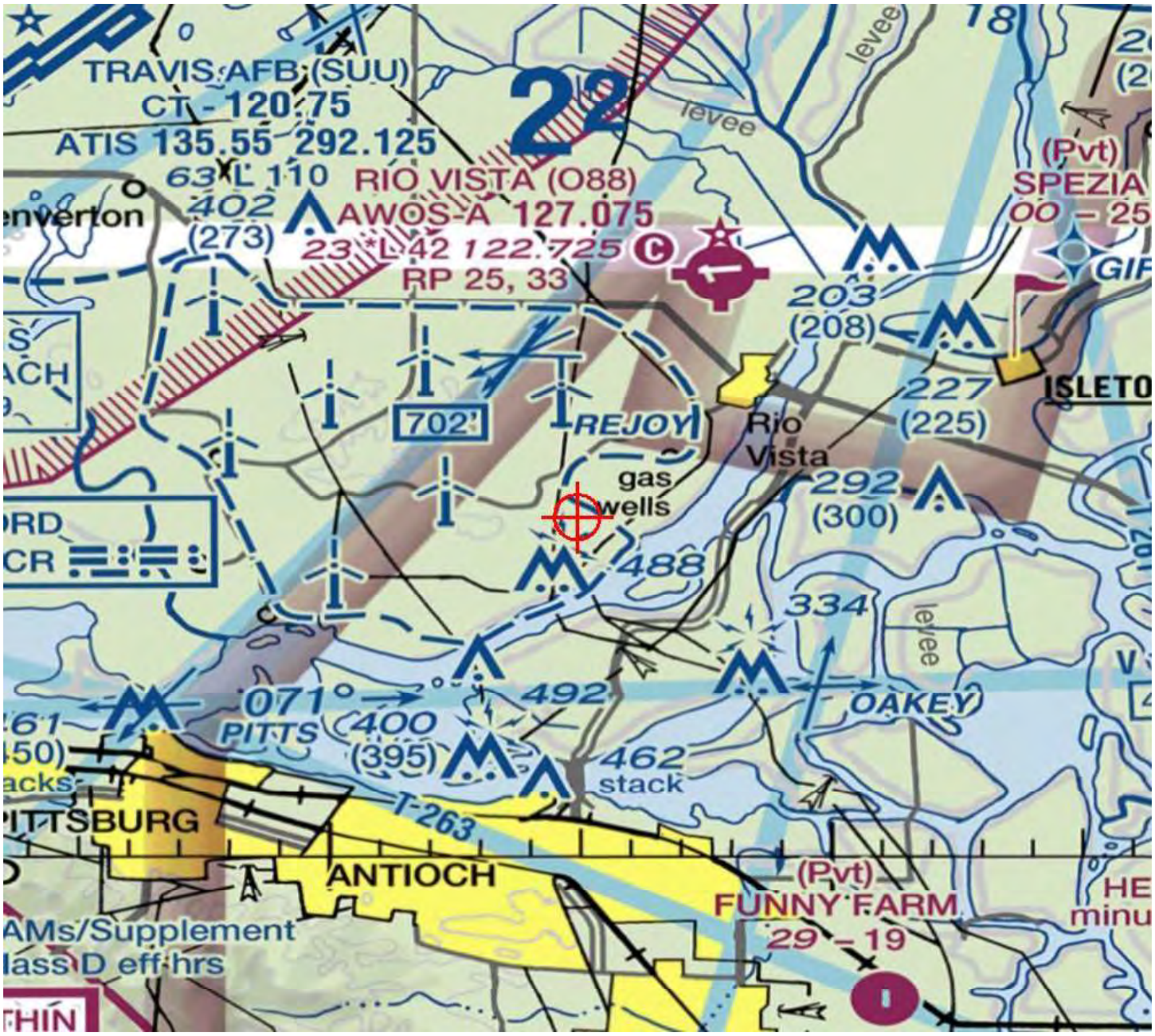
TRAVIS AFB (SUU)
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RIO VISTA (O88)
AWOS-A 127.075
23 L 42 122.725
RP 25, 33
22
levee
(Pvt)
SPEZIA
203
(208)
227
(225)
ISLETO
Rio
Vista
REJOY
702'
gas
wells
292
(300)
488
334
levee
071°
PITTS
400
(395)
492
OAKEY
462
stack
I-263
ANTIOCH
(Pvt)
FUNNY FARM
29 – 19
AMs/Supplement
lass D eff hrs

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2018-WTW-13397-OE

Issued Date: 02/01/2019

Amanda Beck
Sacramento Municipal Utility District
6201 S St., MS MD-2
Sacramento, CA 95817

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Wind Turbine P4N1
Location:	Rio Vista, CA
Latitude:	38-05-33.53N NAD 83
Longitude:	121-49-52.57W
Heights:	242 feet site elevation (SE)
	591 feet above ground level (AGL)
	833 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure would have no substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on the operation of air navigation facilities. Therefore, pursuant to the authority delegated to me, it is hereby determined that the structure would not be a hazard to air navigation provided the following condition(s) is(are) met:

As a condition to this Determination, the structure is to be marked/lighted in accordance with FAA Advisory circular 70/7460-1 L Change 2, Obstruction Marking and Lighting, white paint/synchronized red lights - Chapters 4,12&13(Turbines).

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

__X__ At least 60 days prior to start of construction (7460-2, Part 1)
__X__ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

See attachment for additional condition(s) or information.

This determination expires on 08/01/2020 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is subject to review if an interested party files a petition that is received by the FAA on or before March 03, 2019. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted to the Manager of the Airspace Policy Group. Petitions can be submitted via mail to Federal Aviation Administration, 800 Independence Ave, SW, Room 423, Washington, DC 20591, via email at OEPetitions@faa.gov, or via facsimile (202) 267-9328.

This determination becomes final on March 13, 2019 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. For any questions regarding your petition, please contact Airspace Policy Group via telephone – 202-267-8783.

This determination is based, in part, on the foregoing description which includes specific coordinates and heights. This determination is valid for coordinates within one (1) second latitude/longitude and up to the approved AMSL height listed above. If a certified 1A or 2C accuracy survey was required to mitigate an adverse effect, any change in coordinates or increase in height will require a new certified accuracy survey and may require a new aeronautical study.

If construction or alteration is dismantled or destroyed, you must submit notice to the FAA within 5 days after the construction or alteration is dismantled or destroyed.

Additional wind turbines or met towers proposed in the future may cause a cumulative effect on the national airspace system. All information from submission of Supplemental Notice (7460-2 Part 2) will be considered the final data (including heights) for this structure. Any future construction or alteration, including but not limited to changes in heights, requires separate notice to the FAA.

Obstruction marking and lighting recommendations for wind turbine farms are based on the scheme for the entire project. ANY change to the height, location or number of turbines within this project will require a reanalysis of the marking and lighting recommendation for the entire project. In particular, the removal of previously planned or built turbines/turbine locations from the project will often result in a change in the marking/lighting recommendation for other turbines within the project. It is the proponent's responsibility to contact the FAA to discuss the process for developing a revised obstruction marking and lighting plan should this occur.

In order to ensure proper conspicuity of turbines at night during construction, all turbines should be lit with temporary lighting once they reach a height of 200 feet or greater until such time the permanent lighting configuration is turned on. As the height of the structure continues to increase, the temporary lighting should be relocated to the uppermost part of the structure. The temporary lighting may be turned off for periods when they would interfere with construction personnel. If practical, permanent obstruction lights should be installed and operated at each level as construction progresses. An FAA Type L-810 steady red light fixture shall be

used to light the structure during the construction phase. If power is not available, turbines shall be lit with self-contained, solar powered LED steady red light fixture that meets the photometric requirements of an FAA Type L-810 lighting system. The lights should be positioned to ensure that a pilot has an unobstructed view of at least one light at each level. The use of a NOTAM (D) to not light turbines within a project until the entire project has been completed is prohibited.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

This aeronautical study considered and analyzed the impact on existing and proposed arrival, departure, and en route procedures for aircraft operating under both visual flight rules and instrument flight rules; the impact on all existing and planned public-use airports, military airports and aeronautical facilities; and the cumulative impact resulting from the studied structure when combined with the impact of other existing or proposed structures. The study disclosed that the described structure would have no substantial adverse effect on air navigation.

An account of the study findings, aeronautical objections received by the FAA during the study (if any), and the basis for the FAA's decision in this matter can be found on the following page(s).

If we can be of further assistance, please contact Steve Phillips, at (816) 329-2523, or steve.phillips@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2018-WTW-13397-OE.

Signature Control No: 387140394-395150234 (DNH -WT)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Map(s)

Abbreviations:
AGL, Above Ground Level
AMSL, Above Mean Sea Level
ARSR, Air Route Surveillance Radar
ASN, Aeronautical Study Number
ASR, Airport Surveillance Radar
ATC, Air Traffic Control
CAT, Category
CFR, Code of Federal Regulations
DASR, Digital Airport Surveillance Radar
IFR, Instrument Flight Rules
MVA, Minimum Vectoring Altitude
NM, Nautical Mile
RWY, Runway
TPA, Traffic Pattern Airspace
TRACON, Terminal Radar Approach Control
VFR, Visual Flight Rules

The proposed structures are part of a proposed wind farm that would be located approximately 5.02 - 9.07 NM southwest of the Airport Reference Point for the Rio Vista Municipal Airport (O88), Rio Vista, CA. The ASNs with coordinates, AGL heights, and AMSL heights are as shown on page one. They would exceed the obstruction standards of 14 CFR Part 77 as follows:

Section 77.17(a)(1): by 92 feet; a height that exceeds 499 feet AGL.

Section 77.17(a)(2): A height that is 200 feet AGL, or above the established airport elevation, whichever is higher, within 3 NM miles of the established reference point of O88 and that height increases in the proportion of 100 feet for each additional NM from the airport up to a maximum of 499 feet. The following would exceed:

2018-WTW-13388-OE by 190 feet
2018-WTW-13389-OE by 187 feet
2018-WTW-13390-OE by 169 feet
2018-WTW-13391-OE by 154 feet
2018-WTW-13392-OE by 141 feet

2018-WTW-13393-OE by 179 feet
2018-WTW-13394-OE by 167 feet
2018-WTW-13395-OE by 163 feet
2018-WTW-13396-OE by 156 feet

Section 77.17(a)(3): A height that increases a minimum instrument flight altitude within a terminal area;

The following would increase the Northern California TRACON (NCT) MVA for NCT_MVA_FUS3_2017 Sector MCC_B from 1,700 feet AMSL to 1,800 feet AMSL.

2018-WTW-13388-OE
2018-WTW-13389-OE
2018-WTW-13390-OE
2018-WTW-13391-OE
2018-WTW-13393-OE

2018-WTW-13397-OE
2018-WTW-13398-OE
2018-WTW-13399-OE
2018-WTW-13400-OE
2018-WTW-13403-OE

2018-WTW-13404-OE
2018-WTW-13405-OE

The turbines would be within the line of sight of the Stockton, CA. (SCK) ASR-11, the Travis (SUU) DASR, the Mill Valley (QMV) ARSR-4, and the McClellan (MCC) ASR-9 facilities. The proposals will affect the quality and/or availability of radar signals. The effects would be unwanted primary returns (clutter) and primary target drops, all in the area of the turbines. Tracked primary targets could diverge from the aircraft path and follow wind turbines, when the aircraft is over or near the turbines.

In order to facilitate the public comment process, the studies were circularized under ASN 2018-WTW-13388-OE on December 04, 2018, to all known aviation interests and to non-aeronautical interests that may be affected by the proposal. One letter of objection was received as a result of the circularization.

The Solano County Airport Land Use Commission (County) submitted comments that may not necessarily be an "objection" but rather statements. Some of their statements are simply repeating applicable law / rule / orders. They stated that these would be the tallest wind turbines in the area and larger than other onshore turbines elsewhere. Also stated was a belief that these have electromagnetic effects on radar. One statement said they "have seen information that conflicts" with the preliminary analysis of not exceeding TPA. Instead of submitting that stated information, a request was made for the FAA to see if any other obstruction standard was exceeded.

We are not sure what to make of the statement about these being the tallest in the area. Simply being taller than other structures has never been, nor will it ever be, the sole indicator of whether the structure would present an unacceptable impact upon the safe and efficient use of the navigable airspace.

The letter left the impression that the County believes exceeding one or more of the obstruction standards of 14 CFR Part 77 is reason enough to determine the proposal to be a hazard. That is not the case. It is the result of the aeronautical study that determines whether the structure would be a hazard or no hazard to air navigation. We will always compare proposed structures against all of the obstruction standards but will not circularize the standards that are not exceeded nor any standards and/or effects that are beyond the scope of the public to provide information about.

Records indicate that O88 has approximately 35,000 operations per year primarily from CAT A and B general aviation aircraft. All except one of the proposed turbines lie beyond the TPA for all RWYs and aircraft categories. That one proposal is on the edge of the RWY 15/33 TPA for CAT D, but at 2,199 feet long, this

RWY is incapable of sustaining CAT D aircraft operations. The size of the TPA is based upon the aircraft that regularly use a particular RWY. The preliminary assessment of not exceeding TPA has been confirmed.

Note: Aircraft categories are based on approach speed, CAT A = less than 91 knots, CAT B = 91- 120 knots, CAT C = 121-140 knots, CAT D = 141-165 knots.

The County submitted a lot about radar effects. Wind turbines rarely, if ever create "electromagnetic" interference. If they are within the line of sight of a radar sensor, they may be detected by that sensor and may therefore be a physical interference. Simply being "seen" by the radar is not the real issue though. How that target (in this case, the wind turbine) is processed and displayed for ATC is the key. The users of the system (ATC) is the sole decider on whether the system is acceptable to be able to perform their duties. Although there may be others entities using these radar systems, the responsibility and authority of the FAA is the safe and efficient use of the navigable airspace, including the impact of the radar effects on air navigation.

The turbines would be within the line of sight of the Stockton, CA. (SCK) ASR-11, the Travis (SUU) DASR, the Mill Valley (QMV) ARSR-4, and the McClellan (MCC) ASR-9 facilities. However, this would not cause an unacceptable adverse impact on ATC operations at this time.

The aeronautical study disclosed that the proposed structures would have the adverse effect as described above on the NCT MVA. MVAs are solely used by ATC and not published for public use and are not circulated for public comment. The study disclosed that increasing the MVA in the area of the turbines would not impact a significant number of operations. The proposed structures would have no other effect on any existing or proposed arrival, departure, or en route IFR operations or procedures.

Study for possible VFR effect disclosed that the proposals would have no effect on existing or proposed VFR arrival or departure operations. As stated above, the proposals are beyond normal traffic pattern airspace. Therefore, the proposal would not have an adverse effect on VFR traffic pattern operations at O88, or any other known public use or military airports. At 591 feet AGL, the structures would extend upwards into altitudes commonly used for en route VFR flight; however, no information was received to indicate they would be located along a regularly used VFR route or that they would pose a problem for pilots operating en route. Therefore, they would not have a substantial adverse effect on en route VFR flight operations.

The proposed structures would be appropriately obstruction marked/lighted to make them more conspicuous to airmen should circumnavigation be necessary.

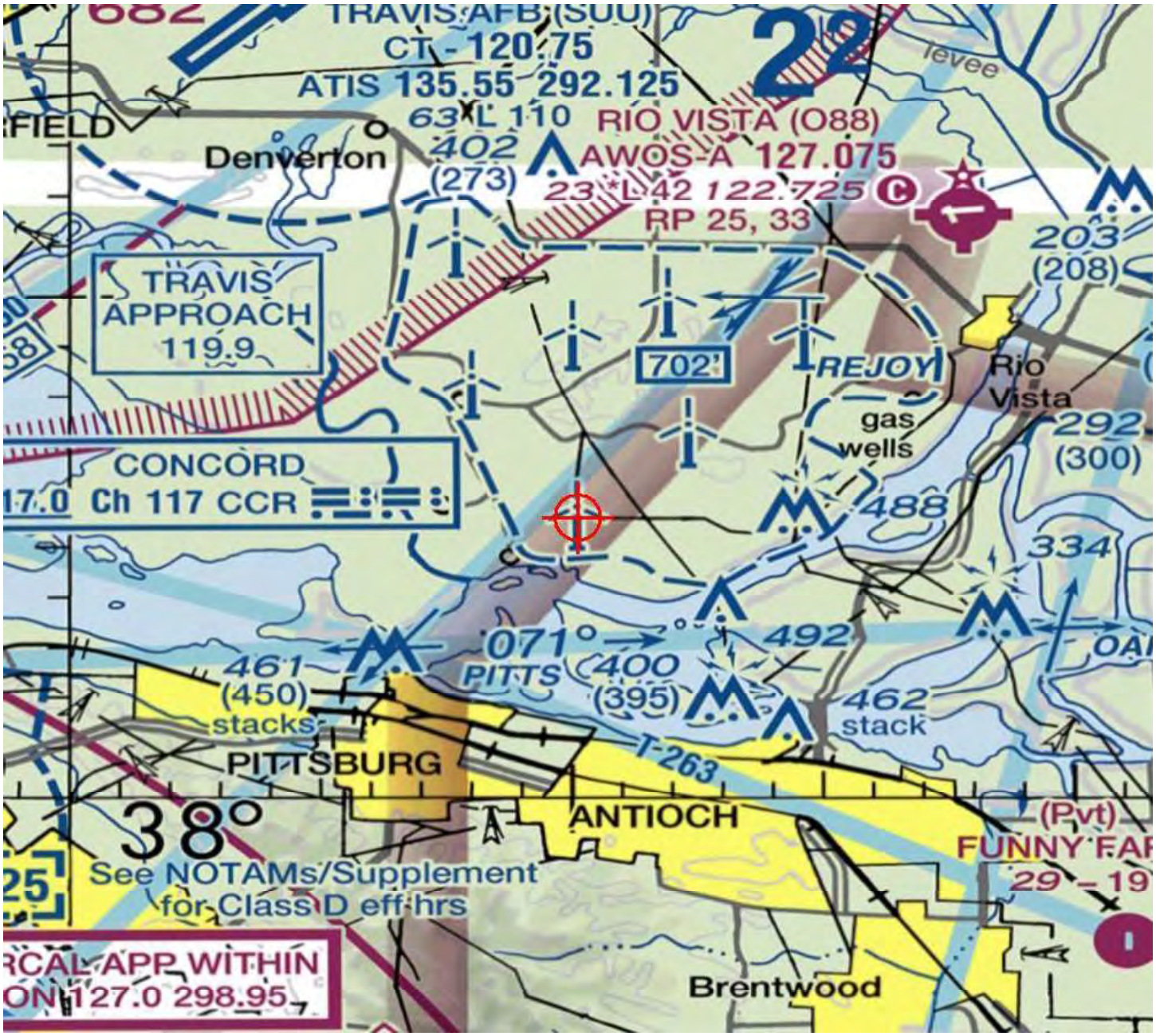
The cumulative impact of the proposed structures, when combined with other proposed and existing structures, is not considered to be significant. Study did not disclose any significant adverse effect on existing or proposed public-use or military airports or navigational facilities, nor would the proposals affect the capacity of any known existing or planned public-use or military airport.

Therefore, it is determined that the proposed construction would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation providing the conditions set forth in this determination are met.

Additional conditions:

As a condition of this determination it is required that Notice of Actual Construction or Alteration (7460-2 Part 1) be E-filed at least 60 full days prior to the start of construction so that appropriate action can be taken to amend the effected procedure(s) and/or altitude(s).

Sectional Map for ASN 2018-WTW-13397-OE



Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2018-WTW-13398-OE

Issued Date: 02/01/2019

Amanda Beck
Sacramento Municipal Utility District
6201 S St., MS MD-2
Sacramento, CA 95817

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Wind Turbine P4N2
Location:	Rio Vista, CA
Latitude:	38-05-08.34N NAD 83
Longitude:	121-50-03.54W
Heights:	173 feet site elevation (SE)
	591 feet above ground level (AGL)
	764 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure would have no substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on the operation of air navigation facilities. Therefore, pursuant to the authority delegated to me, it is hereby determined that the structure would not be a hazard to air navigation provided the following condition(s) is(are) met:

As a condition to this Determination, the structure is to be marked/lighted in accordance with FAA Advisory circular 70/7460-1 L Change 2, Obstruction Marking and Lighting, white paint/synchronized red lights - Chapters 4,12&13(Turbines).

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

__X__ At least 60 days prior to start of construction (7460-2, Part 1)
__X__ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

See attachment for additional condition(s) or information.

This determination expires on 08/01/2020 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

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This determination is based, in part, on the foregoing description which includes specific coordinates and heights. This determination is valid for coordinates within one (1) second latitude/longitude and up to the approved AMSL height listed above. If a certified 1A or 2C accuracy survey was required to mitigate an adverse effect, any change in coordinates or increase in height will require a new certified accuracy survey and may require a new aeronautical study.

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Obstruction marking and lighting recommendations for wind turbine farms are based on the scheme for the entire project. ANY change to the height, location or number of turbines within this project will require a reanalysis of the marking and lighting recommendation for the entire project. In particular, the removal of previously planned or built turbines/turbine locations from the project will often result in a change in the marking/lighting recommendation for other turbines within the project. It is the proponent's responsibility to contact the FAA to discuss the process for developing a revised obstruction marking and lighting plan should this occur.

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used to light the structure during the construction phase. If power is not available, turbines shall be lit with self-contained, solar powered LED steady red light fixture that meets the photometric requirements of an FAA Type L-810 lighting system. The lights should be positioned to ensure that a pilot has an unobstructed view of at least one light at each level. The use of a NOTAM (D) to not light turbines within a project until the entire project has been completed is prohibited.

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This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

This aeronautical study considered and analyzed the impact on existing and proposed arrival, departure, and en route procedures for aircraft operating under both visual flight rules and instrument flight rules; the impact on all existing and planned public-use airports, military airports and aeronautical facilities; and the cumulative impact resulting from the studied structure when combined with the impact of other existing or proposed structures. The study disclosed that the described structure would have no substantial adverse effect on air navigation.

An account of the study findings, aeronautical objections received by the FAA during the study (if any), and the basis for the FAA's decision in this matter can be found on the following page(s).

If we can be of further assistance, please contact Steve Phillips, at (816) 329-2523, or steve.phillips@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2018-WTW-13398-OE.

Signature Control No: 387140395-395150227 (DNH -WT)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Map(s)

Abbreviations:
AGL, Above Ground Level
AMSL, Above Mean Sea Level
ARSR, Air Route Surveillance Radar
ASN, Aeronautical Study Number
ASR, Airport Surveillance Radar
ATC, Air Traffic Control
CAT, Category
CFR, Code of Federal Regulations
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2018-WTW-13403-OE

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Records indicate that O88 has approximately 35,000 operations per year primarily from CAT A and B general aviation aircraft. All except one of the proposed turbines lie beyond the TPA for all RWYs and aircraft categories. That one proposal is on the edge of the RWY 15/33 TPA for CAT D, but at 2,199 feet long, this

RWY is incapable of sustaining CAT D aircraft operations. The size of the TPA is based upon the aircraft that regularly use a particular RWY. The preliminary assessment of not exceeding TPA has been confirmed.

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The aeronautical study disclosed that the proposed structures would have the adverse effect as described above on the NCT MVA. MVAs are solely used by ATC and not published for public use and are not circulated for public comment. The study disclosed that increasing the MVA in the area of the turbines would not impact a significant number of operations. The proposed structures would have no other effect on any existing or proposed arrival, departure, or en route IFR operations or procedures.

Study for possible VFR effect disclosed that the proposals would have no effect on existing or proposed VFR arrival or departure operations. As stated above, the proposals are beyond normal traffic pattern airspace. Therefore, the proposal would not have an adverse effect on VFR traffic pattern operations at O88, or any other known public use or military airports. At 591 feet AGL, the structures would extend upwards into altitudes commonly used for en route VFR flight; however, no information was received to indicate they would be located along a regularly used VFR route or that they would pose a problem for pilots operating en route. Therefore, they would not have a substantial adverse effect on en route VFR flight operations.

The proposed structures would be appropriately obstruction marked/lighted to make them more conspicuous to airmen should circumnavigation be necessary.

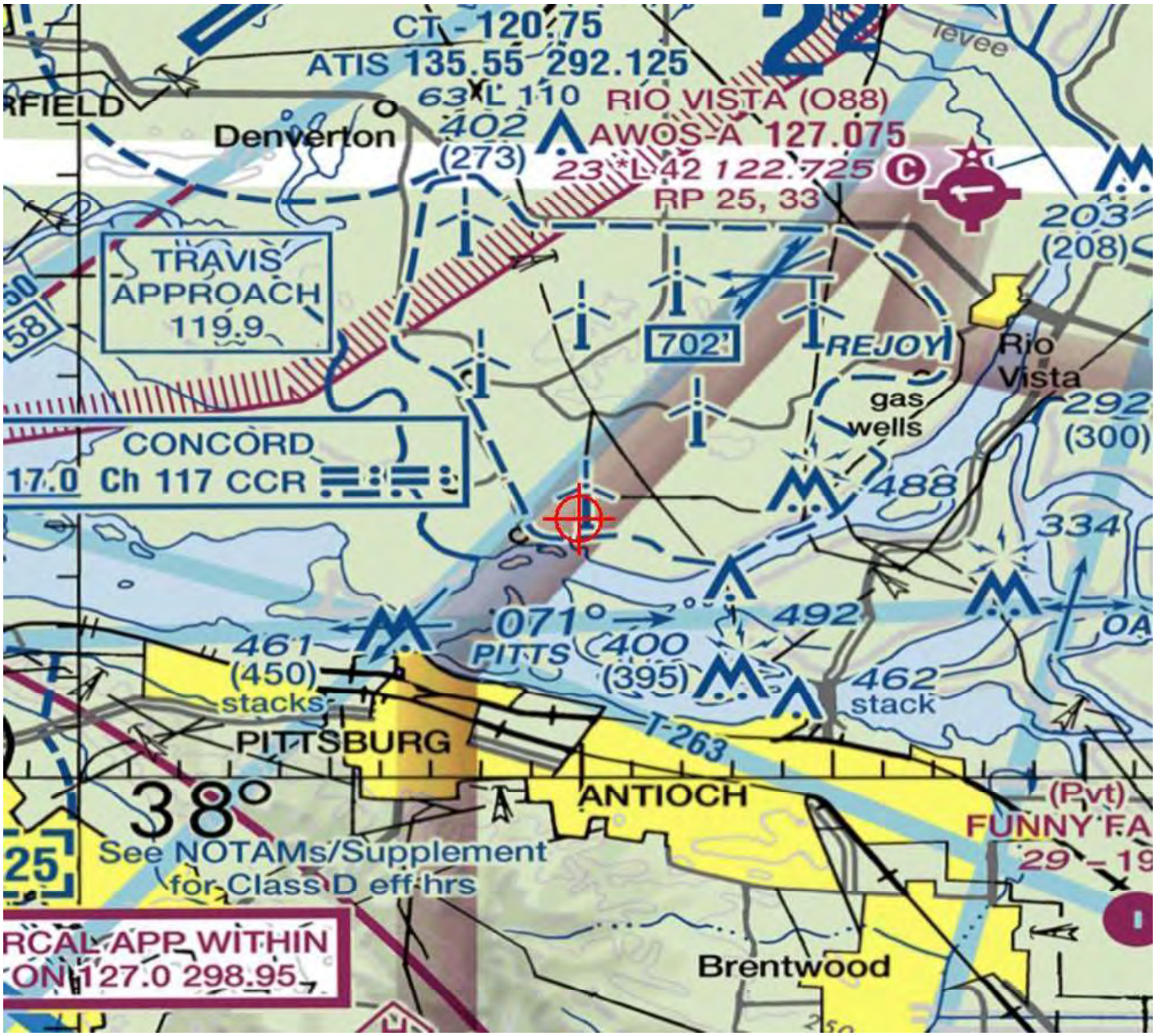
The cumulative impact of the proposed structures, when combined with other proposed and existing structures, is not considered to be significant. Study did not disclose any significant adverse effect on existing or proposed public-use or military airports or navigational facilities, nor would the proposals affect the capacity of any known existing or planned public-use or military airport.

Therefore, it is determined that the proposed construction would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation providing the conditions set forth in this determination are met.

Additional conditions:

As a condition of this determination it is required that Notice of Actual Construction or Alteration (7460-2 Part 1) be E-filed at least 60 full days prior to the start of construction so that appropriate action can be taken to amend the effected procedure(s) and/or altitude(s).

Sectional Map for ASN 2018-WTW-13398-OE



Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2018-WTW-13399-OE

Issued Date: 02/01/2019

Amanda Beck
Sacramento Municipal Utility District
6201 S St., MS MD-2
Sacramento, CA 95817

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Wind Turbine P4N3
Location:	Rio Vista, CA
Latitude:	38-05-24.68N NAD 83
Longitude:	121-49-44.45W
Heights:	214 feet site elevation (SE)
	591 feet above ground level (AGL)
	805 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure would have no substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on the operation of air navigation facilities. Therefore, pursuant to the authority delegated to me, it is hereby determined that the structure would not be a hazard to air navigation provided the following condition(s) is(are) met:

As a condition to this Determination, the structure is to be marked/lighted in accordance with FAA Advisory circular 70/7460-1 L Change 2, Obstruction Marking and Lighting, white paint/synchronized red lights - Chapters 4,12&13(Turbines).

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

__X__ At least 60 days prior to start of construction (7460-2, Part 1)
__X__ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

See attachment for additional condition(s) or information.

This determination expires on 08/01/2020 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is subject to review if an interested party files a petition that is received by the FAA on or before March 03, 2019. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted to the Manager of the Airspace Policy Group. Petitions can be submitted via mail to Federal Aviation Administration, 800 Independence Ave, SW, Room 423, Washington, DC 20591, via email at OEPetitions@faa.gov, or via facsimile (202) 267-9328.

This determination becomes final on March 13, 2019 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. For any questions regarding your petition, please contact Airspace Policy Group via telephone – 202-267-8783.

This determination is based, in part, on the foregoing description which includes specific coordinates and heights. This determination is valid for coordinates within one (1) second latitude/longitude and up to the approved AMSL height listed above. If a certified 1A or 2C accuracy survey was required to mitigate an adverse effect, any change in coordinates or increase in height will require a new certified accuracy survey and may require a new aeronautical study.

If construction or alteration is dismantled or destroyed, you must submit notice to the FAA within 5 days after the construction or alteration is dismantled or destroyed.

Additional wind turbines or met towers proposed in the future may cause a cumulative effect on the national airspace system. All information from submission of Supplemental Notice (7460-2 Part 2) will be considered the final data (including heights) for this structure. Any future construction or alteration, including but not limited to changes in heights, requires separate notice to the FAA.

Obstruction marking and lighting recommendations for wind turbine farms are based on the scheme for the entire project. ANY change to the height, location or number of turbines within this project will require a reanalysis of the marking and lighting recommendation for the entire project. In particular, the removal of previously planned or built turbines/turbine locations from the project will often result in a change in the marking/lighting recommendation for other turbines within the project. It is the proponent's responsibility to contact the FAA to discuss the process for developing a revised obstruction marking and lighting plan should this occur.

In order to ensure proper conspicuity of turbines at night during construction, all turbines should be lit with temporary lighting once they reach a height of 200 feet or greater until such time the permanent lighting configuration is turned on. As the height of the structure continues to increase, the temporary lighting should be relocated to the uppermost part of the structure. The temporary lighting may be turned off for periods when they would interfere with construction personnel. If practical, permanent obstruction lights should be installed and operated at each level as construction progresses. An FAA Type L-810 steady red light fixture shall be

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This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

This aeronautical study considered and analyzed the impact on existing and proposed arrival, departure, and en route procedures for aircraft operating under both visual flight rules and instrument flight rules; the impact on all existing and planned public-use airports, military airports and aeronautical facilities; and the cumulative impact resulting from the studied structure when combined with the impact of other existing or proposed structures. The study disclosed that the described structure would have no substantial adverse effect on air navigation.

An account of the study findings, aeronautical objections received by the FAA during the study (if any), and the basis for the FAA's decision in this matter can be found on the following page(s).

If we can be of further assistance, please contact Steve Phillips, at (816) 329-2523, or steve.phillips@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2018-WTW-13399-OE.

Signature Control No: 387140396-395150242 (DNH -WT)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Map(s)

Abbreviations:
AGL, Above Ground Level
AMSL, Above Mean Sea Level
ARSR, Air Route Surveillance Radar
ASN, Aeronautical Study Number
ASR, Airport Surveillance Radar
ATC, Air Traffic Control
CAT, Category
CFR, Code of Federal Regulations
DASR, Digital Airport Surveillance Radar
IFR, Instrument Flight Rules
MVA, Minimum Vectoring Altitude
NM, Nautical Mile
RWY, Runway
TPA, Traffic Pattern Airspace
TRACON, Terminal Radar Approach Control
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The proposed structures are part of a proposed wind farm that would be located approximately 5.02 - 9.07 NM southwest of the Airport Reference Point for the Rio Vista Municipal Airport (O88), Rio Vista, CA. The ASNs with coordinates, AGL heights, and AMSL heights are as shown on page one. They would exceed the obstruction standards of 14 CFR Part 77 as follows:

Section 77.17(a)(1): by 92 feet; a height that exceeds 499 feet AGL.

Section 77.17(a)(2): A height that is 200 feet AGL, or above the established airport elevation, whichever is higher, within 3 NM miles of the established reference point of O88 and that height increases in the proportion of 100 feet for each additional NM from the airport up to a maximum of 499 feet. The following would exceed:

2018-WTW-13388-OE by 190 feet
2018-WTW-13389-OE by 187 feet
2018-WTW-13390-OE by 169 feet
2018-WTW-13391-OE by 154 feet
2018-WTW-13392-OE by 141 feet

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2018-WTW-13394-OE by 167 feet
2018-WTW-13395-OE by 163 feet
2018-WTW-13396-OE by 156 feet

Section 77.17(a)(3): A height that increases a minimum instrument flight altitude within a terminal area;

The following would increase the Northern California TRACON (NCT) MVA for NCT_MVA_FUS3_2017 Sector MCC_B from 1,700 feet AMSL to 1,800 feet AMSL.

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2018-WTW-13390-OE
2018-WTW-13391-OE
2018-WTW-13393-OE

2018-WTW-13397-OE
2018-WTW-13398-OE
2018-WTW-13399-OE
2018-WTW-13400-OE
2018-WTW-13403-OE

2018-WTW-13404-OE
2018-WTW-13405-OE

The turbines would be within the line of sight of the Stockton, CA. (SCK) ASR-11, the Travis (SUU) DASR, the Mill Valley (QMV) ARSR-4, and the McClellan (MCC) ASR-9 facilities. The proposals will affect the quality and/or availability of radar signals. The effects would be unwanted primary returns (clutter) and primary target drops, all in the area of the turbines. Tracked primary targets could diverge from the aircraft path and follow wind turbines, when the aircraft is over or near the turbines.

In order to facilitate the public comment process, the studies were circularized under ASN 2018-WTW-13388-OE on December 04, 2018, to all known aviation interests and to non-aeronautical interests that may be affected by the proposal. One letter of objection was received as a result of the circularization.

The Solano County Airport Land Use Commission (County) submitted comments that may not necessarily be an "objection" but rather statements. Some of their statements are simply repeating applicable law / rule / orders. They stated that these would be the tallest wind turbines in the area and larger than other onshore turbines elsewhere. Also stated was a belief that these have electromagnetic effects on radar. One statement said they "have seen information that conflicts" with the preliminary analysis of not exceeding TPA. Instead of submitting that stated information, a request was made for the FAA to see if any other obstruction standard was exceeded.

We are not sure what to make of the statement about these being the tallest in the area. Simply being taller than other structures has never been, nor will it ever be, the sole indicator of whether the structure would present an unacceptable impact upon the safe and efficient use of the navigable airspace.

The letter left the impression that the County believes exceeding one or more of the obstruction standards of 14 CFR Part 77 is reason enough to determine the proposal to be a hazard. That is not the case. It is the result of the aeronautical study that determines whether the structure would be a hazard or no hazard to air navigation. We will always compare proposed structures against all of the obstruction standards but will not circularize the standards that are not exceeded nor any standards and/or effects that are beyond the scope of the public to provide information about.

Records indicate that O88 has approximately 35,000 operations per year primarily from CAT A and B general aviation aircraft. All except one of the proposed turbines lie beyond the TPA for all RWYs and aircraft categories. That one proposal is on the edge of the RWY 15/33 TPA for CAT D, but at 2,199 feet long, this

RWY is incapable of sustaining CAT D aircraft operations. The size of the TPA is based upon the aircraft that regularly use a particular RWY. The preliminary assessment of not exceeding TPA has been confirmed.

Note: Aircraft categories are based on approach speed, CAT A = less than 91 knots, CAT B = 91- 120 knots, CAT C = 121-140 knots, CAT D = 141-165 knots.

The County submitted a lot about radar effects. Wind turbines rarely, if ever create "electromagnetic" interference. If they are within the line of sight of a radar sensor, they may be detected by that sensor and may therefore be a physical interference. Simply being "seen" by the radar is not the real issue though. How that target (in this case, the wind turbine) is processed and displayed for ATC is the key. The users of the system (ATC) is the sole decider on whether the system is acceptable to be able to perform their duties. Although there may be others entities using these radar systems, the responsibility and authority of the FAA is the safe and efficient use of the navigable airspace, including the impact of the radar effects on air navigation.

The turbines would be within the line of sight of the Stockton, CA. (SCK) ASR-11, the Travis (SUU) DASR, the Mill Valley (QMV) ARSR-4, and the McClellan (MCC) ASR-9 facilities. However, this would not cause an unacceptable adverse impact on ATC operations at this time.

The aeronautical study disclosed that the proposed structures would have the adverse effect as described above on the NCT MVA. MVAs are solely used by ATC and not published for public use and are not circulated for public comment. The study disclosed that increasing the MVA in the area of the turbines would not impact a significant number of operations. The proposed structures would have no other effect on any existing or proposed arrival, departure, or en route IFR operations or procedures.

Study for possible VFR effect disclosed that the proposals would have no effect on existing or proposed VFR arrival or departure operations. As stated above, the proposals are beyond normal traffic pattern airspace. Therefore, the proposal would not have an adverse effect on VFR traffic pattern operations at O88, or any other known public use or military airports. At 591 feet AGL, the structures would extend upwards into altitudes commonly used for en route VFR flight; however, no information was received to indicate they would be located along a regularly used VFR route or that they would pose a problem for pilots operating en route. Therefore, they would not have a substantial adverse effect on en route VFR flight operations.

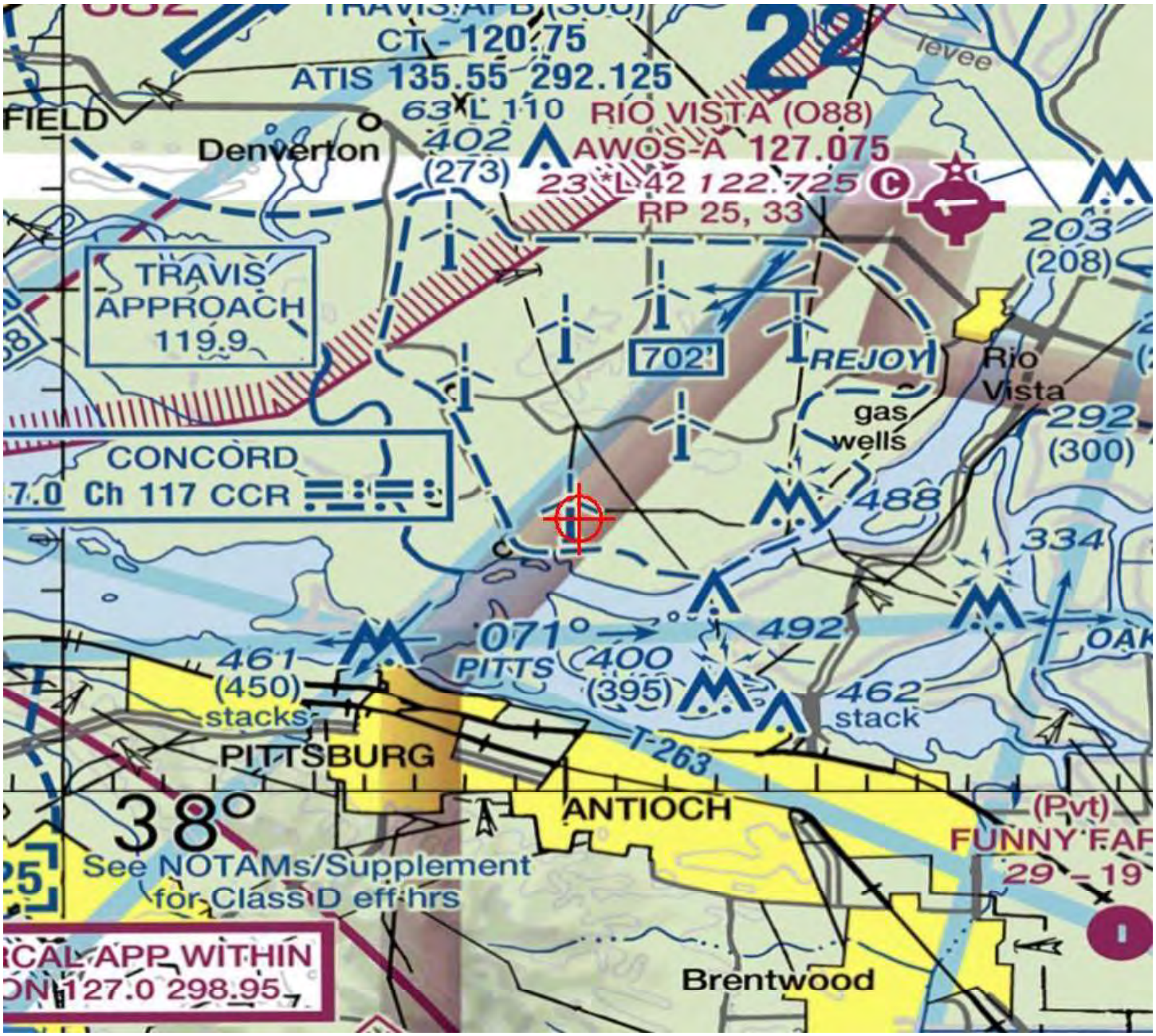
The proposed structures would be appropriately obstruction marked/lighted to make them more conspicuous to airmen should circumnavigation be necessary.

The cumulative impact of the proposed structures, when combined with other proposed and existing structures, is not considered to be significant. Study did not disclose any significant adverse effect on existing or proposed public-use or military airports or navigational facilities, nor would the proposals affect the capacity of any known existing or planned public-use or military airport.

Therefore, it is determined that the proposed construction would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation providing the conditions set forth in this determination are met.

Additional conditions:

As a condition of this determination it is required that Notice of Actual Construction or Alteration (7460-2 Part 1) be E-filed at least 60 full days prior to the start of construction so that appropriate action can be taken to amend the effected procedure(s) and/or altitude(s).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ATIS 135.55 292.125
RIO VISTA (O88)
AWOS-A 127.075
122.725
RP 25, 33
Denverton
TRAVIS APPROACH 119.9
CONCORD
Ch 117 CCR
702'
REJOY
Rio Vista
gas wells
levee
203
(208)
292
(300)
488
334
492
071°
PITTS
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(395)
461
(450)
stacks
462
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PITTSBURG
I-263
ANTIOCH
(Pvt)
FUNNY FAR
29 - 19
38°
See NOTAMs/Supplement
for Class D eff hrs
Brentwood

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2018-WTW-13400-OE

Issued Date: 02/01/2019

Amanda Beck
Sacramento Municipal Utility District
6201 S St., MS MD-2
Sacramento, CA 95817

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Wind Turbine P4N4
Location:	Rio Vista, CA
Latitude:	38-05-02.29N NAD 83
Longitude:	121-49-31.33W
Heights:	208 feet site elevation (SE)
	591 feet above ground level (AGL)
	799 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure would have no substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on the operation of air navigation facilities. Therefore, pursuant to the authority delegated to me, it is hereby determined that the structure would not be a hazard to air navigation provided the following condition(s) is(are) met:

As a condition to this Determination, the structure is to be marked/lighted in accordance with FAA Advisory circular 70/7460-1 L Change 2, Obstruction Marking and Lighting, white paint/synchronized red lights - Chapters 4,12&13(Turbines).

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

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See attachment for additional condition(s) or information.

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NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

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An account of the study findings, aeronautical objections received by the FAA during the study (if any), and the basis for the FAA's decision in this matter can be found on the following page(s).

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Signature Control No: 387140399-395150237 (DNH -WT)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
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Map(s)

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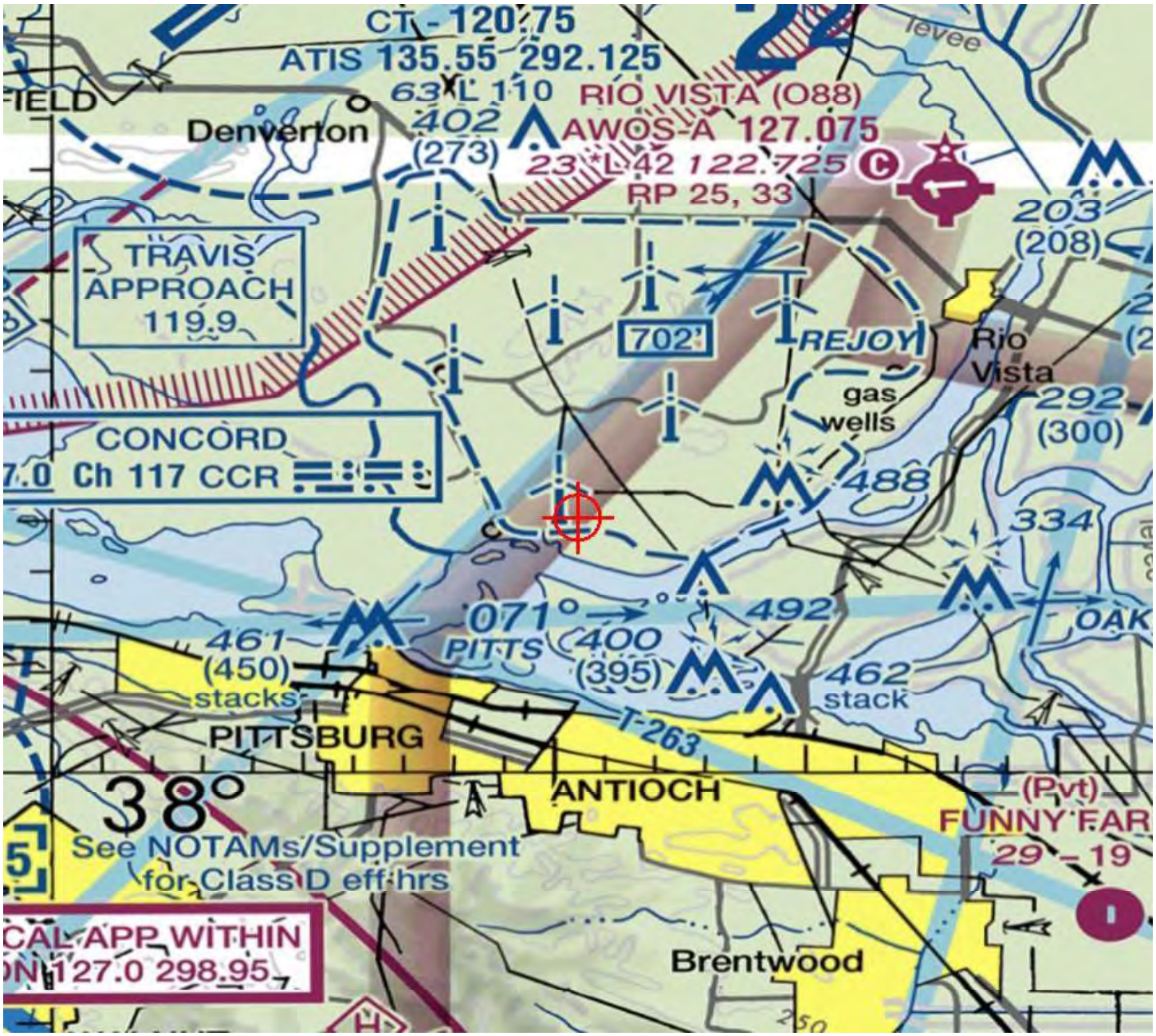
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ATIS 135.55 292.125
RIO VISTA (O88)
AWOS-A 127.075
L 110
402
(273)
L 42 122.725
RP 25, 33
Denverton
levee
TRAVIS
APPROACH
119.9
CONCORD
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REJOY
Rio
Vista
gas
wells
203
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Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2018-WTW-13401-OE

Issued Date: 02/01/2019

Amanda Beck
Sacramento Municipal Utility District
6201 S St., MS MD-2
Sacramento, CA 95817

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Wind Turbine P4N5
Location:	Rio Vista, CA
Latitude:	38-04-53.15N NAD 83
Longitude:	121-49-40.77W
Heights:	103 feet site elevation (SE)
	591 feet above ground level (AGL)
	694 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure would have no substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on the operation of air navigation facilities. Therefore, pursuant to the authority delegated to me, it is hereby determined that the structure would not be a hazard to air navigation provided the following condition(s) is(are) met:

As a condition to this Determination, the structure is to be marked/lighted in accordance with FAA Advisory circular 70/7460-1 L Change 2, Obstruction Marking and Lighting, white paint/synchronized red lights - Chapters 4,12&13(Turbines).

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

__X__ At least 60 days prior to start of construction (7460-2, Part 1)
__X__ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

See attachment for additional condition(s) or information.

This determination expires on 08/01/2020 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is subject to review if an interested party files a petition that is received by the FAA on or before March 03, 2019. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted to the Manager of the Airspace Policy Group. Petitions can be submitted via mail to Federal Aviation Administration, 800 Independence Ave, SW, Room 423, Washington, DC 20591, via email at OEPetitions@faa.gov, or via facsimile (202) 267-9328.

This determination becomes final on March 13, 2019 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. For any questions regarding your petition, please contact Airspace Policy Group via telephone – 202-267-8783.

This determination is based, in part, on the foregoing description which includes specific coordinates and heights. This determination is valid for coordinates within one (1) second latitude/longitude and up to the approved AMSL height listed above. If a certified 1A or 2C accuracy survey was required to mitigate an adverse effect, any change in coordinates or increase in height will require a new certified accuracy survey and may require a new aeronautical study.

If construction or alteration is dismantled or destroyed, you must submit notice to the FAA within 5 days after the construction or alteration is dismantled or destroyed.

Additional wind turbines or met towers proposed in the future may cause a cumulative effect on the national airspace system. All information from submission of Supplemental Notice (7460-2 Part 2) will be considered the final data (including heights) for this structure. Any future construction or alteration, including but not limited to changes in heights, requires separate notice to the FAA.

Obstruction marking and lighting recommendations for wind turbine farms are based on the scheme for the entire project. ANY change to the height, location or number of turbines within this project will require a reanalysis of the marking and lighting recommendation for the entire project. In particular, the removal of previously planned or built turbines/turbine locations from the project will often result in a change in the marking/lighting recommendation for other turbines within the project. It is the proponent's responsibility to contact the FAA to discuss the process for developing a revised obstruction marking and lighting plan should this occur.

In order to ensure proper conspicuity of turbines at night during construction, all turbines should be lit with temporary lighting once they reach a height of 200 feet or greater until such time the permanent lighting configuration is turned on. As the height of the structure continues to increase, the temporary lighting should be relocated to the uppermost part of the structure. The temporary lighting may be turned off for periods when they would interfere with construction personnel. If practical, permanent obstruction lights should be installed and operated at each level as construction progresses. An FAA Type L-810 steady red light fixture shall be

used to light the structure during the construction phase. If power is not available, turbines shall be lit with self-contained, solar powered LED steady red light fixture that meets the photometric requirements of an FAA Type L-810 lighting system. The lights should be positioned to ensure that a pilot has an unobstructed view of at least one light at each level. The use of a NOTAM (D) to not light turbines within a project until the entire project has been completed is prohibited.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

This aeronautical study considered and analyzed the impact on existing and proposed arrival, departure, and en route procedures for aircraft operating under both visual flight rules and instrument flight rules; the impact on all existing and planned public-use airports, military airports and aeronautical facilities; and the cumulative impact resulting from the studied structure when combined with the impact of other existing or proposed structures. The study disclosed that the described structure would have no substantial adverse effect on air navigation.

An account of the study findings, aeronautical objections received by the FAA during the study (if any), and the basis for the FAA's decision in this matter can be found on the following page(s).

If we can be of further assistance, please contact Steve Phillips, at (816) 329-2523, or steve.phillips@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2018-WTW-13401-OE.

Signature Control No: 387140402-395150240 (DNH -WT)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Map(s)

Abbreviations:
AGL, Above Ground Level
AMSL, Above Mean Sea Level
ARSR, Air Route Surveillance Radar
ASN, Aeronautical Study Number
ASR, Airport Surveillance Radar
ATC, Air Traffic Control
CAT, Category
CFR, Code of Federal Regulations
DASR, Digital Airport Surveillance Radar
IFR, Instrument Flight Rules
MVA, Minimum Vectoring Altitude
NM, Nautical Mile
RWY, Runway
TPA, Traffic Pattern Airspace
TRACON, Terminal Radar Approach Control
VFR, Visual Flight Rules

The proposed structures are part of a proposed wind farm that would be located approximately 5.02 - 9.07 NM southwest of the Airport Reference Point for the Rio Vista Municipal Airport (O88), Rio Vista, CA. The ASNs with coordinates, AGL heights, and AMSL heights are as shown on page one. They would exceed the obstruction standards of 14 CFR Part 77 as follows:

Section 77.17(a)(1): by 92 feet; a height that exceeds 499 feet AGL.

Section 77.17(a)(2): A height that is 200 feet AGL, or above the established airport elevation, whichever is higher, within 3 NM miles of the established reference point of O88 and that height increases in the proportion of 100 feet for each additional NM from the airport up to a maximum of 499 feet. The following would exceed:

2018-WTW-13388-OE by 190 feet
2018-WTW-13389-OE by 187 feet
2018-WTW-13390-OE by 169 feet
2018-WTW-13391-OE by 154 feet
2018-WTW-13392-OE by 141 feet

2018-WTW-13393-OE by 179 feet
2018-WTW-13394-OE by 167 feet
2018-WTW-13395-OE by 163 feet
2018-WTW-13396-OE by 156 feet

Section 77.17(a)(3): A height that increases a minimum instrument flight altitude within a terminal area;

The following would increase the Northern California TRACON (NCT) MVA for NCT_MVA_FUS3_2017 Sector MCC_B from 1,700 feet AMSL to 1,800 feet AMSL.

2018-WTW-13388-OE
2018-WTW-13389-OE
2018-WTW-13390-OE
2018-WTW-13391-OE
2018-WTW-13393-OE

2018-WTW-13397-OE
2018-WTW-13398-OE
2018-WTW-13399-OE
2018-WTW-13400-OE
2018-WTW-13403-OE

2018-WTW-13404-OE
2018-WTW-13405-OE

The turbines would be within the line of sight of the Stockton, CA. (SCK) ASR-11, the Travis (SUU) DASR, the Mill Valley (QMV) ARSR-4, and the McClellan (MCC) ASR-9 facilities. The proposals will affect the quality and/or availability of radar signals. The effects would be unwanted primary returns (clutter) and primary target drops, all in the area of the turbines. Tracked primary targets could diverge from the aircraft path and follow wind turbines, when the aircraft is over or near the turbines.

In order to facilitate the public comment process, the studies were circularized under ASN 2018-WTW-13388-OE on December 04, 2018, to all known aviation interests and to non-aeronautical interests that may be affected by the proposal. One letter of objection was received as a result of the circularization.

The Solano County Airport Land Use Commission (County) submitted comments that may not necessarily be an "objection" but rather statements. Some of their statements are simply repeating applicable law / rule / orders. They stated that these would be the tallest wind turbines in the area and larger than other onshore turbines elsewhere. Also stated was a belief that these have electromagnetic effects on radar. One statement said they "have seen information that conflicts" with the preliminary analysis of not exceeding TPA. Instead of submitting that stated information, a request was made for the FAA to see if any other obstruction standard was exceeded.

We are not sure what to make of the statement about these being the tallest in the area. Simply being taller than other structures has never been, nor will it ever be, the sole indicator of whether the structure would present an unacceptable impact upon the safe and efficient use of the navigable airspace.

The letter left the impression that the County believes exceeding one or more of the obstruction standards of 14 CFR Part 77 is reason enough to determine the proposal to be a hazard. That is not the case. It is the result of the aeronautical study that determines whether the structure would be a hazard or no hazard to air navigation. We will always compare proposed structures against all of the obstruction standards but will not circularize the standards that are not exceeded nor any standards and/or effects that are beyond the scope of the public to provide information about.

Records indicate that O88 has approximately 35,000 operations per year primarily from CAT A and B general aviation aircraft. All except one of the proposed turbines lie beyond the TPA for all RWYs and aircraft categories. That one proposal is on the edge of the RWY 15/33 TPA for CAT D, but at 2,199 feet long, this

RWY is incapable of sustaining CAT D aircraft operations. The size of the TPA is based upon the aircraft that regularly use a particular RWY. The preliminary assessment of not exceeding TPA has been confirmed.

Note: Aircraft categories are based on approach speed, CAT A = less than 91 knots, CAT B = 91- 120 knots, CAT C = 121-140 knots, CAT D = 141-165 knots.

The County submitted a lot about radar effects. Wind turbines rarely, if ever create "electromagnetic" interference. If they are within the line of sight of a radar sensor, they may be detected by that sensor and may therefore be a physical interference. Simply being "seen" by the radar is not the real issue though. How that target (in this case, the wind turbine) is processed and displayed for ATC is the key. The users of the system (ATC) is the sole decider on whether the system is acceptable to be able to perform their duties. Although there may be others entities using these radar systems, the responsibility and authority of the FAA is the safe and efficient use of the navigable airspace, including the impact of the radar effects on air navigation.

The turbines would be within the line of sight of the Stockton, CA. (SCK) ASR-11, the Travis (SUU) DASR, the Mill Valley (QMV) ARSR-4, and the McClellan (MCC) ASR-9 facilities. However, this would not cause an unacceptable adverse impact on ATC operations at this time.

The aeronautical study disclosed that the proposed structures would have the adverse effect as described above on the NCT MVA. MVAs are solely used by ATC and not published for public use and are not circulated for public comment. The study disclosed that increasing the MVA in the area of the turbines would not impact a significant number of operations. The proposed structures would have no other effect on any existing or proposed arrival, departure, or en route IFR operations or procedures.

Study for possible VFR effect disclosed that the proposals would have no effect on existing or proposed VFR arrival or departure operations. As stated above, the proposals are beyond normal traffic pattern airspace. Therefore, the proposal would not have an adverse effect on VFR traffic pattern operations at O88, or any other known public use or military airports. At 591 feet AGL, the structures would extend upwards into altitudes commonly used for en route VFR flight; however, no information was received to indicate they would be located along a regularly used VFR route or that they would pose a problem for pilots operating en route. Therefore, they would not have a substantial adverse effect on en route VFR flight operations.

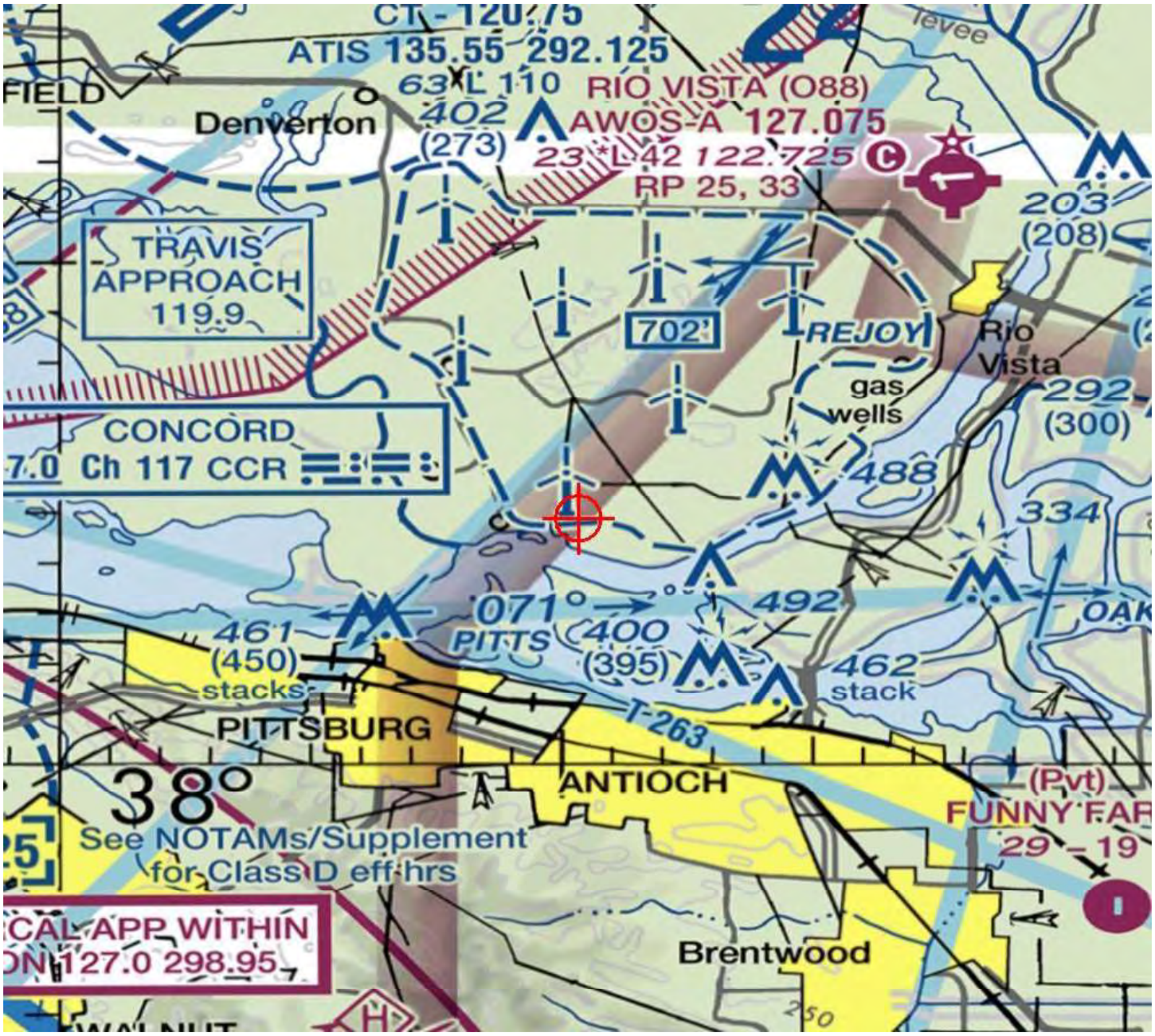
The proposed structures would be appropriately obstruction marked/lighted to make them more conspicuous to airmen should circumnavigation be necessary.

The cumulative impact of the proposed structures, when combined with other proposed and existing structures, is not considered to be significant. Study did not disclose any significant adverse effect on existing or proposed public-use or military airports or navigational facilities, nor would the proposals affect the capacity of any known existing or planned public-use or military airport.

Therefore, it is determined that the proposed construction would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation providing the conditions set forth in this determination are met.

Additional conditions:

As a condition of this determination it is required that Notice of Actual Construction or Alteration (7460-2 Part 1) be E-filed at least 60 full days prior to the start of construction so that appropriate action can be taken to amend the effected procedure(s) and/or altitude(s).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Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2018-WTW-13402-OE

Issued Date: 02/01/2019

Amanda Beck
Sacramento Municipal Utility District
6201 S St., MS MD-2
Sacramento, CA 95817

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Wind Turbine P4N6
Location:	Rio Vista, CA
Latitude:	38-04-43.66N NAD 83
Longitude:	121-49-43.80W
Heights:	116 feet site elevation (SE)
	591 feet above ground level (AGL)
	707 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure would have no substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on the operation of air navigation facilities. Therefore, pursuant to the authority delegated to me, it is hereby determined that the structure would not be a hazard to air navigation provided the following condition(s) is(are) met:

As a condition to this Determination, the structure is to be marked/lighted in accordance with FAA Advisory circular 70/7460-1 L Change 2, Obstruction Marking and Lighting, white paint/synchronized red lights - Chapters 4,12&13(Turbines).

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

__X__ At least 60 days prior to start of construction (7460-2, Part 1)
__X__ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

See attachment for additional condition(s) or information.

This determination expires on 08/01/2020 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is subject to review if an interested party files a petition that is received by the FAA on or before March 03, 2019. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted to the Manager of the Airspace Policy Group. Petitions can be submitted via mail to Federal Aviation Administration, 800 Independence Ave, SW, Room 423, Washington, DC 20591, via email at OEPetitions@faa.gov, or via facsimile (202) 267-9328.

This determination becomes final on March 13, 2019 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. For any questions regarding your petition, please contact Airspace Policy Group via telephone – 202-267-8783.

This determination is based, in part, on the foregoing description which includes specific coordinates and heights. This determination is valid for coordinates within one (1) second latitude/longitude and up to the approved AMSL height listed above. If a certified 1A or 2C accuracy survey was required to mitigate an adverse effect, any change in coordinates or increase in height will require a new certified accuracy survey and may require a new aeronautical study.

If construction or alteration is dismantled or destroyed, you must submit notice to the FAA within 5 days after the construction or alteration is dismantled or destroyed.

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Obstruction marking and lighting recommendations for wind turbine farms are based on the scheme for the entire project. ANY change to the height, location or number of turbines within this project will require a reanalysis of the marking and lighting recommendation for the entire project. In particular, the removal of previously planned or built turbines/turbine locations from the project will often result in a change in the marking/lighting recommendation for other turbines within the project. It is the proponent's responsibility to contact the FAA to discuss the process for developing a revised obstruction marking and lighting plan should this occur.

In order to ensure proper conspicuity of turbines at night during construction, all turbines should be lit with temporary lighting once they reach a height of 200 feet or greater until such time the permanent lighting configuration is turned on. As the height of the structure continues to increase, the temporary lighting should be relocated to the uppermost part of the structure. The temporary lighting may be turned off for periods when they would interfere with construction personnel. If practical, permanent obstruction lights should be installed and operated at each level as construction progresses. An FAA Type L-810 steady red light fixture shall be

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This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

This aeronautical study considered and analyzed the impact on existing and proposed arrival, departure, and en route procedures for aircraft operating under both visual flight rules and instrument flight rules; the impact on all existing and planned public-use airports, military airports and aeronautical facilities; and the cumulative impact resulting from the studied structure when combined with the impact of other existing or proposed structures. The study disclosed that the described structure would have no substantial adverse effect on air navigation.

An account of the study findings, aeronautical objections received by the FAA during the study (if any), and the basis for the FAA's decision in this matter can be found on the following page(s).

If we can be of further assistance, please contact Steve Phillips, at (816) 329-2523, or steve.phillips@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2018-WTW-13402-OE.

Signature Control No: 387140406-395150243 (DNH -WT)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Map(s)

Abbreviations:
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AMSL, Above Mean Sea Level
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CFR, Code of Federal Regulations
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The proposed structures are part of a proposed wind farm that would be located approximately 5.02 - 9.07 NM southwest of the Airport Reference Point for the Rio Vista Municipal Airport (O88), Rio Vista, CA. The ASNs with coordinates, AGL heights, and AMSL heights are as shown on page one. They would exceed the obstruction standards of 14 CFR Part 77 as follows:

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2018-WTW-13399-OE
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2018-WTW-13403-OE

2018-WTW-13404-OE
2018-WTW-13405-OE

The turbines would be within the line of sight of the Stockton, CA. (SCK) ASR-11, the Travis (SUU) DASR, the Mill Valley (QMV) ARSR-4, and the McClellan (MCC) ASR-9 facilities. The proposals will affect the quality and/or availability of radar signals. The effects would be unwanted primary returns (clutter) and primary target drops, all in the area of the turbines. Tracked primary targets could diverge from the aircraft path and follow wind turbines, when the aircraft is over or near the turbines.

In order to facilitate the public comment process, the studies were circularized under ASN 2018-WTW-13388-OE on December 04, 2018, to all known aviation interests and to non-aeronautical interests that may be affected by the proposal. One letter of objection was received as a result of the circularization.

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The letter left the impression that the County believes exceeding one or more of the obstruction standards of 14 CFR Part 77 is reason enough to determine the proposal to be a hazard. That is not the case. It is the result of the aeronautical study that determines whether the structure would be a hazard or no hazard to air navigation. We will always compare proposed structures against all of the obstruction standards but will not circularize the standards that are not exceeded nor any standards and/or effects that are beyond the scope of the public to provide information about.

Records indicate that O88 has approximately 35,000 operations per year primarily from CAT A and B general aviation aircraft. All except one of the proposed turbines lie beyond the TPA for all RWYs and aircraft categories. That one proposal is on the edge of the RWY 15/33 TPA for CAT D, but at 2,199 feet long, this

RWY is incapable of sustaining CAT D aircraft operations. The size of the TPA is based upon the aircraft that regularly use a particular RWY. The preliminary assessment of not exceeding TPA has been confirmed.

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The aeronautical study disclosed that the proposed structures would have the adverse effect as described above on the NCT MVA. MVAs are solely used by ATC and not published for public use and are not circulated for public comment. The study disclosed that increasing the MVA in the area of the turbines would not impact a significant number of operations. The proposed structures would have no other effect on any existing or proposed arrival, departure, or en route IFR operations or procedures.

Study for possible VFR effect disclosed that the proposals would have no effect on existing or proposed VFR arrival or departure operations. As stated above, the proposals are beyond normal traffic pattern airspace. Therefore, the proposal would not have an adverse effect on VFR traffic pattern operations at O88, or any other known public use or military airports. At 591 feet AGL, the structures would extend upwards into altitudes commonly used for en route VFR flight; however, no information was received to indicate they would be located along a regularly used VFR route or that they would pose a problem for pilots operating en route. Therefore, they would not have a substantial adverse effect on en route VFR flight operations.

The proposed structures would be appropriately obstruction marked/lighted to make them more conspicuous to airmen should circumnavigation be necessary.

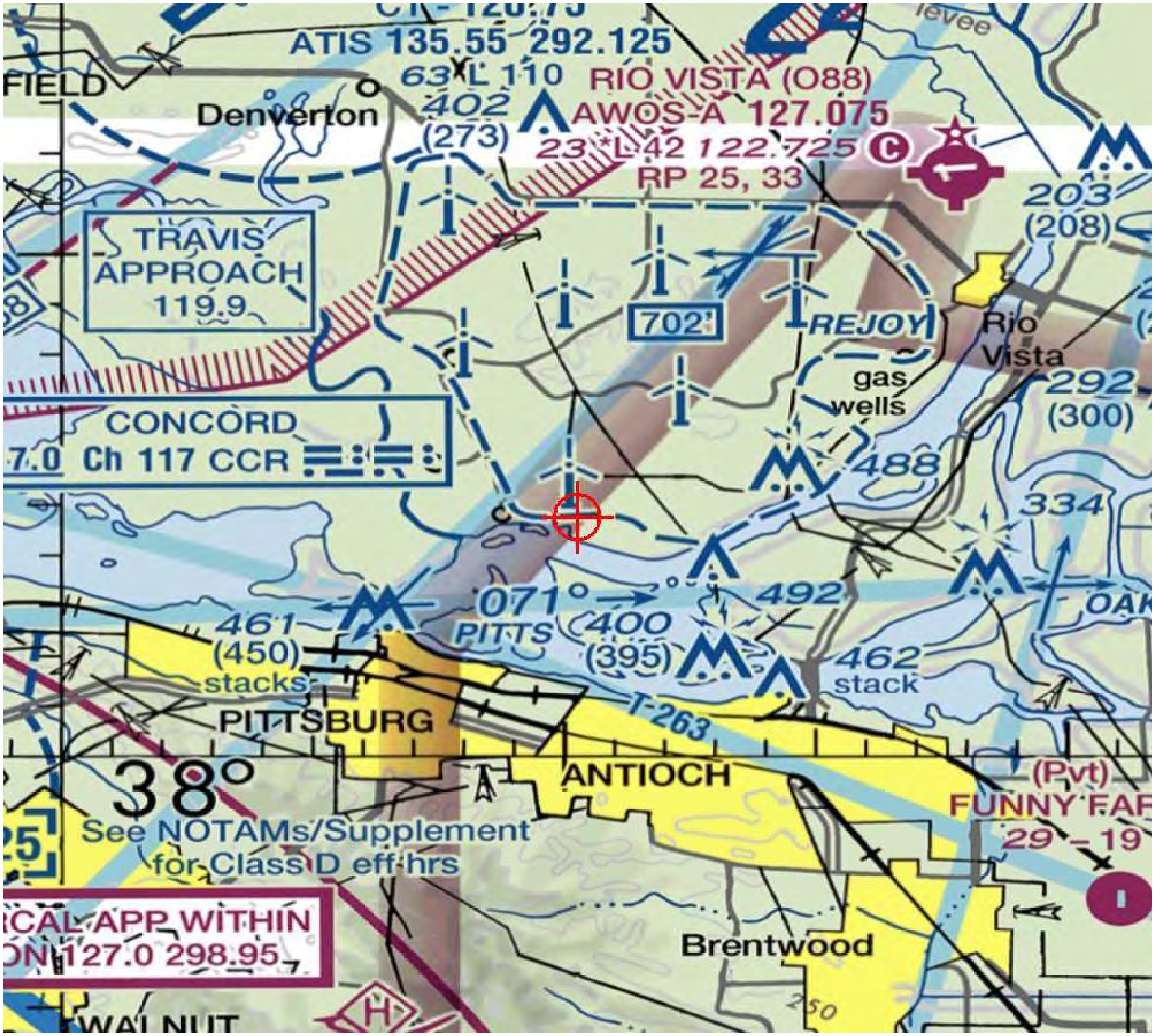
The cumulative impact of the proposed structures, when combined with other proposed and existing structures, is not considered to be significant. Study did not disclose any significant adverse effect on existing or proposed public-use or military airports or navigational facilities, nor would the proposals affect the capacity of any known existing or planned public-use or military airport.

Therefore, it is determined that the proposed construction would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation providing the conditions set forth in this determination are met.

Additional conditions:

As a condition of this determination it is required that Notice of Actual Construction or Alteration (7460-2 Part 1) be E-filed at least 60 full days prior to the start of construction so that appropriate action can be taken to amend the effected procedure(s) and/or altitude(s).

Sectional Map for ASN 2018-WTW-13402-OE



Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2018-WTW-13403-OE

Issued Date: 02/01/2019

Amanda Beck
Sacramento Municipal Utility District
6201 S St., MS MD-2
Sacramento, CA 95817

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Wind Turbine P4N7
Location:	Rio Vista, CA
Latitude:	38-04-29.29N NAD 83
Longitude:	121-49-03.88W
Heights:	180 feet site elevation (SE)
	591 feet above ground level (AGL)
	771 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure would have no substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on the operation of air navigation facilities. Therefore, pursuant to the authority delegated to me, it is hereby determined that the structure would not be a hazard to air navigation provided the following condition(s) is(are) met:

As a condition to this Determination, the structure is to be marked/lighted in accordance with FAA Advisory circular 70/7460-1 L Change 2, Obstruction Marking and Lighting, white paint/synchronized red lights - Chapters 4,12&13(Turbines).

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

__X__ At least 60 days prior to start of construction (7460-2, Part 1)
__X__ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

See attachment for additional condition(s) or information.

This determination expires on 08/01/2020 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is subject to review if an interested party files a petition that is received by the FAA on or before March 03, 2019. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted to the Manager of the Airspace Policy Group. Petitions can be submitted via mail to Federal Aviation Administration, 800 Independence Ave, SW, Room 423, Washington, DC 20591, via email at OEPetitions@faa.gov, or via facsimile (202) 267-9328.

This determination becomes final on March 13, 2019 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. For any questions regarding your petition, please contact Airspace Policy Group via telephone – 202-267-8783.

This determination is based, in part, on the foregoing description which includes specific coordinates and heights. This determination is valid for coordinates within one (1) second latitude/longitude and up to the approved AMSL height listed above. If a certified 1A or 2C accuracy survey was required to mitigate an adverse effect, any change in coordinates or increase in height will require a new certified accuracy survey and may require a new aeronautical study.

If construction or alteration is dismantled or destroyed, you must submit notice to the FAA within 5 days after the construction or alteration is dismantled or destroyed.

Additional wind turbines or met towers proposed in the future may cause a cumulative effect on the national airspace system. All information from submission of Supplemental Notice (7460-2 Part 2) will be considered the final data (including heights) for this structure. Any future construction or alteration, including but not limited to changes in heights, requires separate notice to the FAA.

Obstruction marking and lighting recommendations for wind turbine farms are based on the scheme for the entire project. ANY change to the height, location or number of turbines within this project will require a reanalysis of the marking and lighting recommendation for the entire project. In particular, the removal of previously planned or built turbines/turbine locations from the project will often result in a change in the marking/lighting recommendation for other turbines within the project. It is the proponent's responsibility to contact the FAA to discuss the process for developing a revised obstruction marking and lighting plan should this occur.

In order to ensure proper conspicuity of turbines at night during construction, all turbines should be lit with temporary lighting once they reach a height of 200 feet or greater until such time the permanent lighting configuration is turned on. As the height of the structure continues to increase, the temporary lighting should be relocated to the uppermost part of the structure. The temporary lighting may be turned off for periods when they would interfere with construction personnel. If practical, permanent obstruction lights should be installed and operated at each level as construction progresses. An FAA Type L-810 steady red light fixture shall be

used to light the structure during the construction phase. If power is not available, turbines shall be lit with self-contained, solar powered LED steady red light fixture that meets the photometric requirements of an FAA Type L-810 lighting system. The lights should be positioned to ensure that a pilot has an unobstructed view of at least one light at each level. The use of a NOTAM (D) to not light turbines within a project until the entire project has been completed is prohibited.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

This aeronautical study considered and analyzed the impact on existing and proposed arrival, departure, and en route procedures for aircraft operating under both visual flight rules and instrument flight rules; the impact on all existing and planned public-use airports, military airports and aeronautical facilities; and the cumulative impact resulting from the studied structure when combined with the impact of other existing or proposed structures. The study disclosed that the described structure would have no substantial adverse effect on air navigation.

An account of the study findings, aeronautical objections received by the FAA during the study (if any), and the basis for the FAA's decision in this matter can be found on the following page(s).

If we can be of further assistance, please contact Steve Phillips, at (816) 329-2523, or steve.phillips@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2018-WTW-13403-OE.

Signature Control No: 387140407-395150244 (DNH -WT)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Map(s)

Abbreviations:
AGL, Above Ground Level
AMSL, Above Mean Sea Level
ARSR, Air Route Surveillance Radar
ASN, Aeronautical Study Number
ASR, Airport Surveillance Radar
ATC, Air Traffic Control
CAT, Category
CFR, Code of Federal Regulations
DASR, Digital Airport Surveillance Radar
IFR, Instrument Flight Rules
MVA, Minimum Vectoring Altitude
NM, Nautical Mile
RWY, Runway
TPA, Traffic Pattern Airspace
TRACON, Terminal Radar Approach Control
VFR, Visual Flight Rules

The proposed structures are part of a proposed wind farm that would be located approximately 5.02 - 9.07 NM southwest of the Airport Reference Point for the Rio Vista Municipal Airport (O88), Rio Vista, CA. The ASNs with coordinates, AGL heights, and AMSL heights are as shown on page one. They would exceed the obstruction standards of 14 CFR Part 77 as follows:

Section 77.17(a)(1): by 92 feet; a height that exceeds 499 feet AGL.

Section 77.17(a)(2): A height that is 200 feet AGL, or above the established airport elevation, whichever is higher, within 3 NM miles of the established reference point of O88 and that height increases in the proportion of 100 feet for each additional NM from the airport up to a maximum of 499 feet. The following would exceed:

2018-WTW-13388-OE by 190 feet
2018-WTW-13389-OE by 187 feet
2018-WTW-13390-OE by 169 feet
2018-WTW-13391-OE by 154 feet
2018-WTW-13392-OE by 141 feet

2018-WTW-13393-OE by 179 feet
2018-WTW-13394-OE by 167 feet
2018-WTW-13395-OE by 163 feet
2018-WTW-13396-OE by 156 feet

Section 77.17(a)(3): A height that increases a minimum instrument flight altitude within a terminal area;

The following would increase the Northern California TRACON (NCT) MVA for NCT_MVA_FUS3_2017 Sector MCC_B from 1,700 feet AMSL to 1,800 feet AMSL.

2018-WTW-13388-OE
2018-WTW-13389-OE
2018-WTW-13390-OE
2018-WTW-13391-OE
2018-WTW-13393-OE

2018-WTW-13397-OE
2018-WTW-13398-OE
2018-WTW-13399-OE
2018-WTW-13400-OE
2018-WTW-13403-OE

2018-WTW-13404-OE
2018-WTW-13405-OE

The turbines would be within the line of sight of the Stockton, CA. (SCK) ASR-11, the Travis (SUU) DASR, the Mill Valley (QMV) ARSR-4, and the McClellan (MCC) ASR-9 facilities. The proposals will affect the quality and/or availability of radar signals. The effects would be unwanted primary returns (clutter) and primary target drops, all in the area of the turbines. Tracked primary targets could diverge from the aircraft path and follow wind turbines, when the aircraft is over or near the turbines.

In order to facilitate the public comment process, the studies were circularized under ASN 2018-WTW-13388-OE on December 04, 2018, to all known aviation interests and to non-aeronautical interests that may be affected by the proposal. One letter of objection was received as a result of the circularization.

The Solano County Airport Land Use Commission (County) submitted comments that may not necessarily be an "objection" but rather statements. Some of their statements are simply repeating applicable law / rule / orders. They stated that these would be the tallest wind turbines in the area and larger than other onshore turbines elsewhere. Also stated was a belief that these have electromagnetic effects on radar. One statement said they "have seen information that conflicts" with the preliminary analysis of not exceeding TPA. Instead of submitting that stated information, a request was made for the FAA to see if any other obstruction standard was exceeded.

We are not sure what to make of the statement about these being the tallest in the area. Simply being taller than other structures has never been, nor will it ever be, the sole indicator of whether the structure would present an unacceptable impact upon the safe and efficient use of the navigable airspace.

The letter left the impression that the County believes exceeding one or more of the obstruction standards of 14 CFR Part 77 is reason enough to determine the proposal to be a hazard. That is not the case. It is the result of the aeronautical study that determines whether the structure would be a hazard or no hazard to air navigation. We will always compare proposed structures against all of the obstruction standards but will not circularize the standards that are not exceeded nor any standards and/or effects that are beyond the scope of the public to provide information about.

Records indicate that O88 has approximately 35,000 operations per year primarily from CAT A and B general aviation aircraft. All except one of the proposed turbines lie beyond the TPA for all RWYs and aircraft categories. That one proposal is on the edge of the RWY 15/33 TPA for CAT D, but at 2,199 feet long, this

RWY is incapable of sustaining CAT D aircraft operations. The size of the TPA is based upon the aircraft that regularly use a particular RWY. The preliminary assessment of not exceeding TPA has been confirmed.

Note: Aircraft categories are based on approach speed, CAT A = less than 91 knots, CAT B = 91- 120 knots, CAT C = 121-140 knots, CAT D = 141-165 knots.

The County submitted a lot about radar effects. Wind turbines rarely, if ever create "electromagnetic" interference. If they are within the line of sight of a radar sensor, they may be detected by that sensor and may therefore be a physical interference. Simply being "seen" by the radar is not the real issue though. How that target (in this case, the wind turbine) is processed and displayed for ATC is the key. The users of the system (ATC) is the sole decider on whether the system is acceptable to be able to perform their duties. Although there may be others entities using these radar systems, the responsibility and authority of the FAA is the safe and efficient use of the navigable airspace, including the impact of the radar effects on air navigation.

The turbines would be within the line of sight of the Stockton, CA. (SCK) ASR-11, the Travis (SUU) DASR, the Mill Valley (QMV) ARSR-4, and the McClellan (MCC) ASR-9 facilities. However, this would not cause an unacceptable adverse impact on ATC operations at this time.

The aeronautical study disclosed that the proposed structures would have the adverse effect as described above on the NCT MVA. MVAs are solely used by ATC and not published for public use and are not circulated for public comment. The study disclosed that increasing the MVA in the area of the turbines would not impact a significant number of operations. The proposed structures would have no other effect on any existing or proposed arrival, departure, or en route IFR operations or procedures.

Study for possible VFR effect disclosed that the proposals would have no effect on existing or proposed VFR arrival or departure operations. As stated above, the proposals are beyond normal traffic pattern airspace. Therefore, the proposal would not have an adverse effect on VFR traffic pattern operations at O88, or any other known public use or military airports. At 591 feet AGL, the structures would extend upwards into altitudes commonly used for en route VFR flight; however, no information was received to indicate they would be located along a regularly used VFR route or that they would pose a problem for pilots operating en route. Therefore, they would not have a substantial adverse effect on en route VFR flight operations.

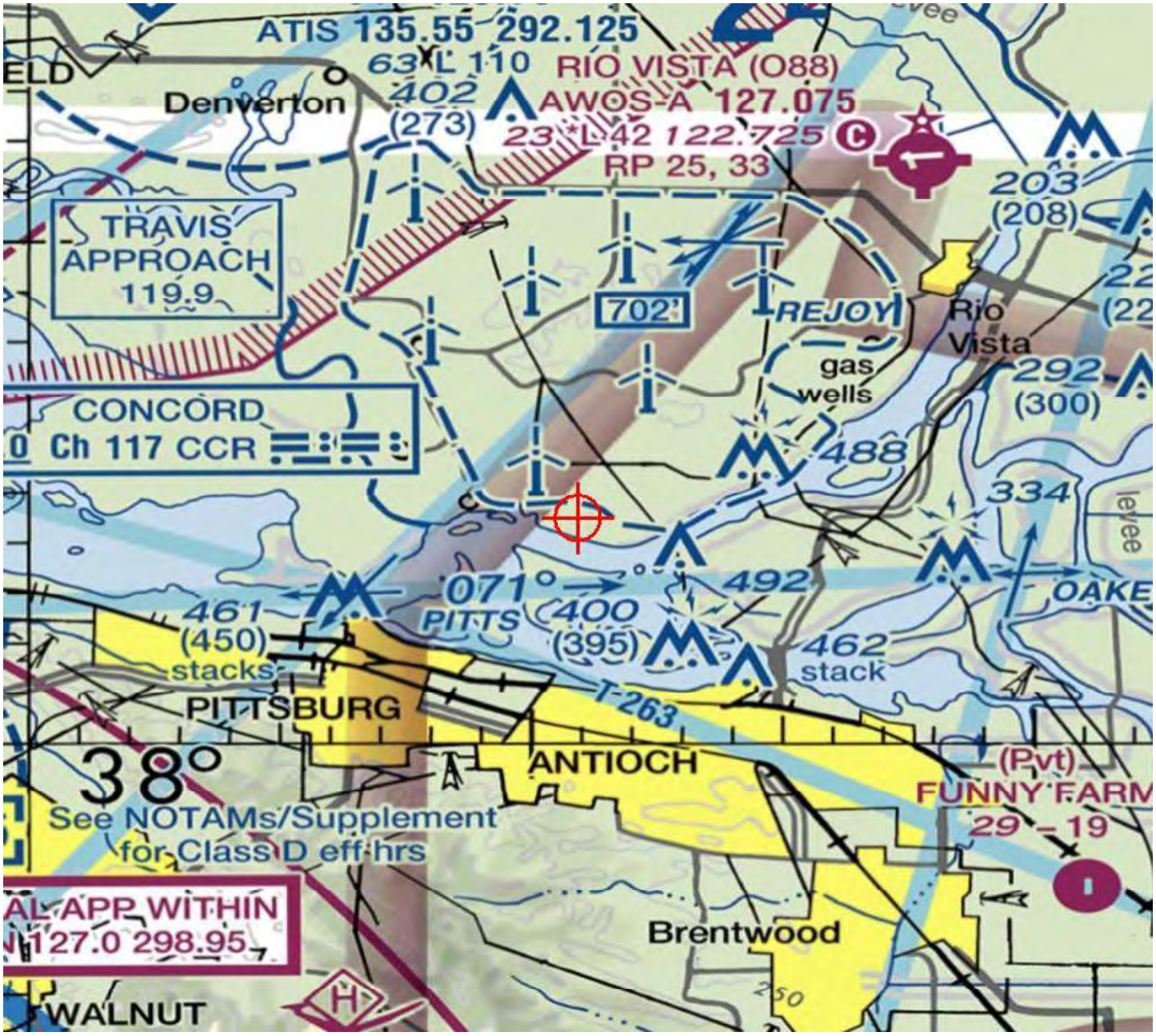
The proposed structures would be appropriately obstruction marked/lighted to make them more conspicuous to airmen should circumnavigation be necessary.

The cumulative impact of the proposed structures, when combined with other proposed and existing structures, is not considered to be significant. Study did not disclose any significant adverse effect on existing or proposed public-use or military airports or navigational facilities, nor would the proposals affect the capacity of any known existing or planned public-use or military airport.

Therefore, it is determined that the proposed construction would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation providing the conditions set forth in this determination are met.

Additional conditions:

As a condition of this determination it is required that Notice of Actual Construction or Alteration (7460-2 Part 1) be E-filed at least 60 full days prior to the start of construction so that appropriate action can be taken to amend the effected procedure(s) and/or altitude(s).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122.725
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TRAVIS APPROACH 119.9
CONCORD
Ch 117 CCR
REJOY
Rio Vista
gas wells
071°
PITTS
PITTSBURG
ANTIOCH
Brentwood
FUNNY FARM
See NOTAMs/Supplement for Class D eff hrs
WALNUT
I-263

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2018-WTW-13404-OE

Issued Date: 02/01/2019

Amanda Beck
Sacramento Municipal Utility District
6201 S St., MS MD-2
Sacramento, CA 95817

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Wind Turbine P4N8
Location:	Rio Vista, CA
Latitude:	38-04-48.12N NAD 83
Longitude:	121-48-51.19W
Heights:	211 feet site elevation (SE)
	591 feet above ground level (AGL)
	802 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure would have no substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on the operation of air navigation facilities. Therefore, pursuant to the authority delegated to me, it is hereby determined that the structure would not be a hazard to air navigation provided the following condition(s) is(are) met:

As a condition to this Determination, the structure is to be marked/lighted in accordance with FAA Advisory circular 70/7460-1 L Change 2, Obstruction Marking and Lighting, white paint/synchronized red lights - Chapters 4,12&13(Turbines).

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

__X__ At least 60 days prior to start of construction (7460-2, Part 1)
__X__ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

See attachment for additional condition(s) or information.

This determination expires on 08/01/2020 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is subject to review if an interested party files a petition that is received by the FAA on or before March 03, 2019. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted to the Manager of the Airspace Policy Group. Petitions can be submitted via mail to Federal Aviation Administration, 800 Independence Ave, SW, Room 423, Washington, DC 20591, via email at OEPetitions@faa.gov, or via facsimile (202) 267-9328.

This determination becomes final on March 13, 2019 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. For any questions regarding your petition, please contact Airspace Policy Group via telephone – 202-267-8783.

This determination is based, in part, on the foregoing description which includes specific coordinates and heights. This determination is valid for coordinates within one (1) second latitude/longitude and up to the approved AMSL height listed above. If a certified 1A or 2C accuracy survey was required to mitigate an adverse effect, any change in coordinates or increase in height will require a new certified accuracy survey and may require a new aeronautical study.

If construction or alteration is dismantled or destroyed, you must submit notice to the FAA within 5 days after the construction or alteration is dismantled or destroyed.

Additional wind turbines or met towers proposed in the future may cause a cumulative effect on the national airspace system. All information from submission of Supplemental Notice (7460-2 Part 2) will be considered the final data (including heights) for this structure. Any future construction or alteration, including but not limited to changes in heights, requires separate notice to the FAA.

Obstruction marking and lighting recommendations for wind turbine farms are based on the scheme for the entire project. ANY change to the height, location or number of turbines within this project will require a reanalysis of the marking and lighting recommendation for the entire project. In particular, the removal of previously planned or built turbines/turbine locations from the project will often result in a change in the marking/lighting recommendation for other turbines within the project. It is the proponent's responsibility to contact the FAA to discuss the process for developing a revised obstruction marking and lighting plan should this occur.

In order to ensure proper conspicuity of turbines at night during construction, all turbines should be lit with temporary lighting once they reach a height of 200 feet or greater until such time the permanent lighting configuration is turned on. As the height of the structure continues to increase, the temporary lighting should be relocated to the uppermost part of the structure. The temporary lighting may be turned off for periods when they would interfere with construction personnel. If practical, permanent obstruction lights should be installed and operated at each level as construction progresses. An FAA Type L-810 steady red light fixture shall be

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This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

This aeronautical study considered and analyzed the impact on existing and proposed arrival, departure, and en route procedures for aircraft operating under both visual flight rules and instrument flight rules; the impact on all existing and planned public-use airports, military airports and aeronautical facilities; and the cumulative impact resulting from the studied structure when combined with the impact of other existing or proposed structures. The study disclosed that the described structure would have no substantial adverse effect on air navigation.

An account of the study findings, aeronautical objections received by the FAA during the study (if any), and the basis for the FAA's decision in this matter can be found on the following page(s).

If we can be of further assistance, please contact Steve Phillips, at (816) 329-2523, or steve.phillips@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2018-WTW-13404-OE.

Signature Control No: 387140408-395150232 (DNH -WT)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Map(s)

Abbreviations:
AGL, Above Ground Level
AMSL, Above Mean Sea Level
ARSR, Air Route Surveillance Radar
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ASR, Airport Surveillance Radar
ATC, Air Traffic Control
CAT, Category
CFR, Code of Federal Regulations
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MVA, Minimum Vectoring Altitude
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The proposed structures are part of a proposed wind farm that would be located approximately 5.02 - 9.07 NM southwest of the Airport Reference Point for the Rio Vista Municipal Airport (O88), Rio Vista, CA. The ASNs with coordinates, AGL heights, and AMSL heights are as shown on page one. They would exceed the obstruction standards of 14 CFR Part 77 as follows:

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Section 77.17(a)(3): A height that increases a minimum instrument flight altitude within a terminal area;

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2018-WTW-13403-OE

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In order to facilitate the public comment process, the studies were circularized under ASN 2018-WTW-13388-OE on December 04, 2018, to all known aviation interests and to non-aeronautical interests that may be affected by the proposal. One letter of objection was received as a result of the circularization.

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The letter left the impression that the County believes exceeding one or more of the obstruction standards of 14 CFR Part 77 is reason enough to determine the proposal to be a hazard. That is not the case. It is the result of the aeronautical study that determines whether the structure would be a hazard or no hazard to air navigation. We will always compare proposed structures against all of the obstruction standards but will not circularize the standards that are not exceeded nor any standards and/or effects that are beyond the scope of the public to provide information about.

Records indicate that O88 has approximately 35,000 operations per year primarily from CAT A and B general aviation aircraft. All except one of the proposed turbines lie beyond the TPA for all RWYs and aircraft categories. That one proposal is on the edge of the RWY 15/33 TPA for CAT D, but at 2,199 feet long, this

RWY is incapable of sustaining CAT D aircraft operations. The size of the TPA is based upon the aircraft that regularly use a particular RWY. The preliminary assessment of not exceeding TPA has been confirmed.

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The turbines would be within the line of sight of the Stockton, CA. (SCK) ASR-11, the Travis (SUU) DASR, the Mill Valley (QMV) ARSR-4, and the McClellan (MCC) ASR-9 facilities. However, this would not cause an unacceptable adverse impact on ATC operations at this time.

The aeronautical study disclosed that the proposed structures would have the adverse effect as described above on the NCT MVA. MVAs are solely used by ATC and not published for public use and are not circulated for public comment. The study disclosed that increasing the MVA in the area of the turbines would not impact a significant number of operations. The proposed structures would have no other effect on any existing or proposed arrival, departure, or en route IFR operations or procedures.

Study for possible VFR effect disclosed that the proposals would have no effect on existing or proposed VFR arrival or departure operations. As stated above, the proposals are beyond normal traffic pattern airspace. Therefore, the proposal would not have an adverse effect on VFR traffic pattern operations at O88, or any other known public use or military airports. At 591 feet AGL, the structures would extend upwards into altitudes commonly used for en route VFR flight; however, no information was received to indicate they would be located along a regularly used VFR route or that they would pose a problem for pilots operating en route. Therefore, they would not have a substantial adverse effect on en route VFR flight operations.

The proposed structures would be appropriately obstruction marked/lighted to make them more conspicuous to airmen should circumnavigation be necessary.

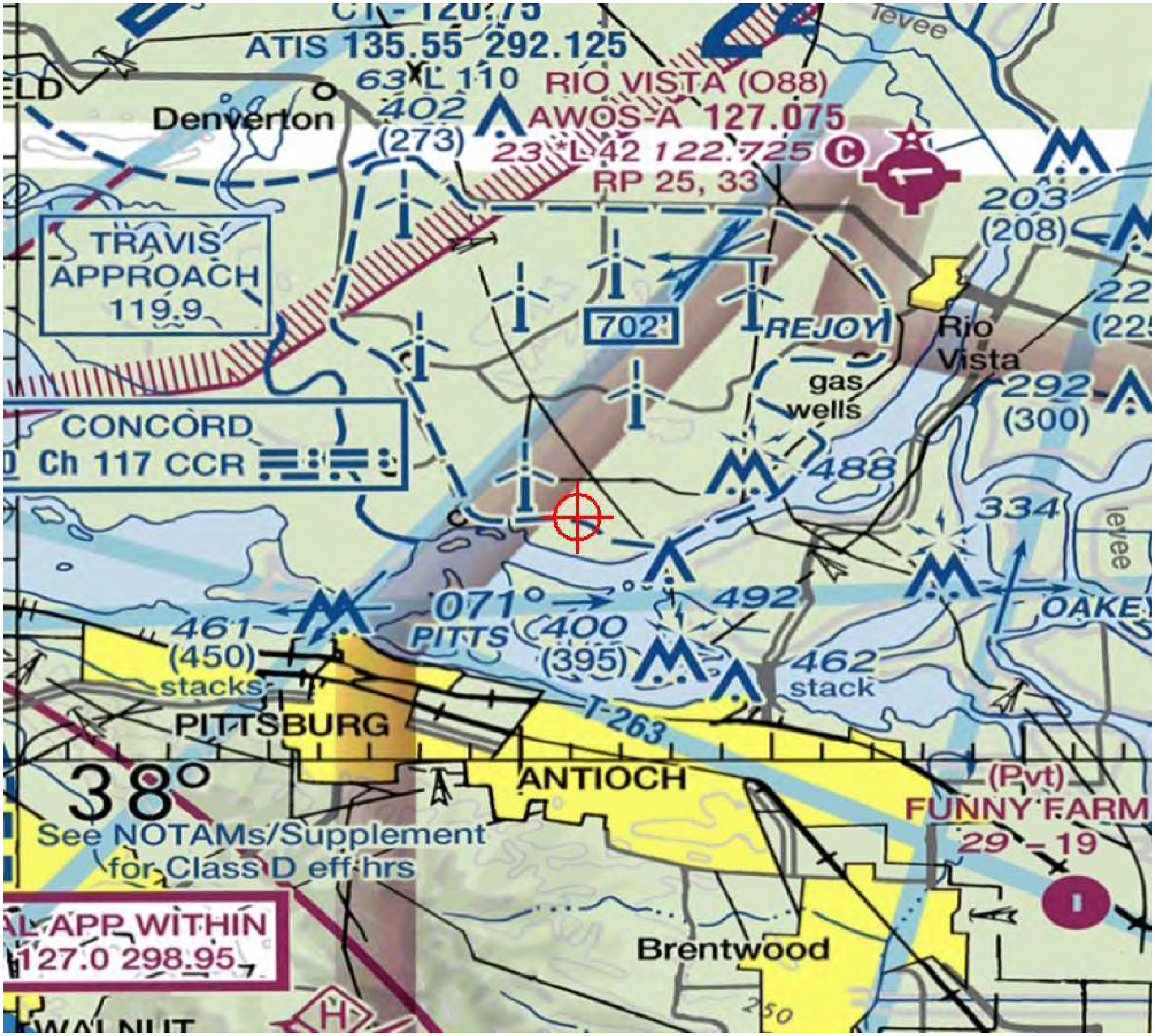
The cumulative impact of the proposed structures, when combined with other proposed and existing structures, is not considered to be significant. Study did not disclose any significant adverse effect on existing or proposed public-use or military airports or navigational facilities, nor would the proposals affect the capacity of any known existing or planned public-use or military airport.

Therefore, it is determined that the proposed construction would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation providing the conditions set forth in this determination are met.

Additional conditions:

As a condition of this determination it is required that Notice of Actual Construction or Alteration (7460-2 Part 1) be E-filed at least 60 full days prior to the start of construction so that appropriate action can be taken to amend the effected procedure(s) and/or altitude(s).

Sectional Map for ASN 2018-WTW-13404-OE



Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2018-WTW-13405-OE

Issued Date: 02/01/2019

Amanda Beck
Sacramento Municipal Utility District
6201 S St., MS MD-2
Sacramento, CA 95817

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Wind Turbine P4N9
Location:	Rio Vista, CA
Latitude:	38-04-38.20N NAD 83
Longitude:	121-48-46.20W
Heights:	216 feet site elevation (SE)
	591 feet above ground level (AGL)
	807 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure would have no substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on the operation of air navigation facilities. Therefore, pursuant to the authority delegated to me, it is hereby determined that the structure would not be a hazard to air navigation provided the following condition(s) is(are) met:

As a condition to this Determination, the structure is to be marked/lighted in accordance with FAA Advisory circular 70/7460-1 L Change 2, Obstruction Marking and Lighting, white paint/synchronized red lights - Chapters 4,12&13(Turbines).

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

__X__ At least 60 days prior to start of construction (7460-2, Part 1)
__X__ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

See attachment for additional condition(s) or information.

This determination expires on 08/01/2020 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is subject to review if an interested party files a petition that is received by the FAA on or before March 03, 2019. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted to the Manager of the Airspace Policy Group. Petitions can be submitted via mail to Federal Aviation Administration, 800 Independence Ave, SW, Room 423, Washington, DC 20591, via email at OEPetitions@faa.gov, or via facsimile (202) 267-9328.

This determination becomes final on March 13, 2019 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. For any questions regarding your petition, please contact Airspace Policy Group via telephone – 202-267-8783.

This determination is based, in part, on the foregoing description which includes specific coordinates and heights. This determination is valid for coordinates within one (1) second latitude/longitude and up to the approved AMSL height listed above. If a certified 1A or 2C accuracy survey was required to mitigate an adverse effect, any change in coordinates or increase in height will require a new certified accuracy survey and may require a new aeronautical study.

If construction or alteration is dismantled or destroyed, you must submit notice to the FAA within 5 days after the construction or alteration is dismantled or destroyed.

Additional wind turbines or met towers proposed in the future may cause a cumulative effect on the national airspace system. All information from submission of Supplemental Notice (7460-2 Part 2) will be considered the final data (including heights) for this structure. Any future construction or alteration, including but not limited to changes in heights, requires separate notice to the FAA.

Obstruction marking and lighting recommendations for wind turbine farms are based on the scheme for the entire project. ANY change to the height, location or number of turbines within this project will require a reanalysis of the marking and lighting recommendation for the entire project. In particular, the removal of previously planned or built turbines/turbine locations from the project will often result in a change in the marking/lighting recommendation for other turbines within the project. It is the proponent's responsibility to contact the FAA to discuss the process for developing a revised obstruction marking and lighting plan should this occur.

In order to ensure proper conspicuity of turbines at night during construction, all turbines should be lit with temporary lighting once they reach a height of 200 feet or greater until such time the permanent lighting configuration is turned on. As the height of the structure continues to increase, the temporary lighting should be relocated to the uppermost part of the structure. The temporary lighting may be turned off for periods when they would interfere with construction personnel. If practical, permanent obstruction lights should be installed and operated at each level as construction progresses. An FAA Type L-810 steady red light fixture shall be

used to light the structure during the construction phase. If power is not available, turbines shall be lit with self-contained, solar powered LED steady red light fixture that meets the photometric requirements of an FAA Type L-810 lighting system. The lights should be positioned to ensure that a pilot has an unobstructed view of at least one light at each level. The use of a NOTAM (D) to not light turbines within a project until the entire project has been completed is prohibited.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

This aeronautical study considered and analyzed the impact on existing and proposed arrival, departure, and en route procedures for aircraft operating under both visual flight rules and instrument flight rules; the impact on all existing and planned public-use airports, military airports and aeronautical facilities; and the cumulative impact resulting from the studied structure when combined with the impact of other existing or proposed structures. The study disclosed that the described structure would have no substantial adverse effect on air navigation.

An account of the study findings, aeronautical objections received by the FAA during the study (if any), and the basis for the FAA's decision in this matter can be found on the following page(s).

If we can be of further assistance, please contact Steve Phillips, at (816) 329-2523, or steve.phillips@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2018-WTW-13405-OE.

Signature Control No: 387140409-395150238 (DNH -WT)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Map(s)

Abbreviations:
AGL, Above Ground Level
AMSL, Above Mean Sea Level
ARSR, Air Route Surveillance Radar
ASN, Aeronautical Study Number
ASR, Airport Surveillance Radar
ATC, Air Traffic Control
CAT, Category
CFR, Code of Federal Regulations
DASR, Digital Airport Surveillance Radar
IFR, Instrument Flight Rules
MVA, Minimum Vectoring Altitude
NM, Nautical Mile
RWY, Runway
TPA, Traffic Pattern Airspace
TRACON, Terminal Radar Approach Control
VFR, Visual Flight Rules

The proposed structures are part of a proposed wind farm that would be located approximately 5.02 - 9.07 NM southwest of the Airport Reference Point for the Rio Vista Municipal Airport (O88), Rio Vista, CA. The ASNs with coordinates, AGL heights, and AMSL heights are as shown on page one. They would exceed the obstruction standards of 14 CFR Part 77 as follows:

Section 77.17(a)(1): by 92 feet; a height that exceeds 499 feet AGL.

Section 77.17(a)(2): A height that is 200 feet AGL, or above the established airport elevation, whichever is higher, within 3 NM miles of the established reference point of O88 and that height increases in the proportion of 100 feet for each additional NM from the airport up to a maximum of 499 feet. The following would exceed:

2018-WTW-13388-OE by 190 feet
2018-WTW-13389-OE by 187 feet
2018-WTW-13390-OE by 169 feet
2018-WTW-13391-OE by 154 feet
2018-WTW-13392-OE by 141 feet

2018-WTW-13393-OE by 179 feet
2018-WTW-13394-OE by 167 feet
2018-WTW-13395-OE by 163 feet
2018-WTW-13396-OE by 156 feet

Section 77.17(a)(3): A height that increases a minimum instrument flight altitude within a terminal area;

The following would increase the Northern California TRACON (NCT) MVA for NCT_MVA_FUS3_2017 Sector MCC_B from 1,700 feet AMSL to 1,800 feet AMSL.

2018-WTW-13388-OE
2018-WTW-13389-OE
2018-WTW-13390-OE
2018-WTW-13391-OE
2018-WTW-13393-OE

2018-WTW-13397-OE
2018-WTW-13398-OE
2018-WTW-13399-OE
2018-WTW-13400-OE
2018-WTW-13403-OE

2018-WTW-13404-OE
2018-WTW-13405-OE

The turbines would be within the line of sight of the Stockton, CA. (SCK) ASR-11, the Travis (SUU) DASR, the Mill Valley (QMV) ARSR-4, and the McClellan (MCC) ASR-9 facilities. The proposals will affect the quality and/or availability of radar signals. The effects would be unwanted primary returns (clutter) and primary target drops, all in the area of the turbines. Tracked primary targets could diverge from the aircraft path and follow wind turbines, when the aircraft is over or near the turbines.

In order to facilitate the public comment process, the studies were circularized under ASN 2018-WTW-13388-OE on December 04, 2018, to all known aviation interests and to non-aeronautical interests that may be affected by the proposal. One letter of objection was received as a result of the circularization.

The Solano County Airport Land Use Commission (County) submitted comments that may not necessarily be an "objection" but rather statements. Some of their statements are simply repeating applicable law / rule / orders. They stated that these would be the tallest wind turbines in the area and larger than other onshore turbines elsewhere. Also stated was a belief that these have electromagnetic effects on radar. One statement said they "have seen information that conflicts" with the preliminary analysis of not exceeding TPA. Instead of submitting that stated information, a request was made for the FAA to see if any other obstruction standard was exceeded.

We are not sure what to make of the statement about these being the tallest in the area. Simply being taller than other structures has never been, nor will it ever be, the sole indicator of whether the structure would present an unacceptable impact upon the safe and efficient use of the navigable airspace.

The letter left the impression that the County believes exceeding one or more of the obstruction standards of 14 CFR Part 77 is reason enough to determine the proposal to be a hazard. That is not the case. It is the result of the aeronautical study that determines whether the structure would be a hazard or no hazard to air navigation. We will always compare proposed structures against all of the obstruction standards but will not circularize the standards that are not exceeded nor any standards and/or effects that are beyond the scope of the public to provide information about.

Records indicate that O88 has approximately 35,000 operations per year primarily from CAT A and B general aviation aircraft. All except one of the proposed turbines lie beyond the TPA for all RWYs and aircraft categories. That one proposal is on the edge of the RWY 15/33 TPA for CAT D, but at 2,199 feet long, this

RWY is incapable of sustaining CAT D aircraft operations. The size of the TPA is based upon the aircraft that regularly use a particular RWY. The preliminary assessment of not exceeding TPA has been confirmed.

Note: Aircraft categories are based on approach speed, CAT A = less than 91 knots, CAT B = 91- 120 knots, CAT C = 121-140 knots, CAT D = 141-165 knots.

The County submitted a lot about radar effects. Wind turbines rarely, if ever create "electromagnetic" interference. If they are within the line of sight of a radar sensor, they may be detected by that sensor and may therefore be a physical interference. Simply being "seen" by the radar is not the real issue though. How that target (in this case, the wind turbine) is processed and displayed for ATC is the key. The users of the system (ATC) is the sole decider on whether the system is acceptable to be able to perform their duties. Although there may be others entities using these radar systems, the responsibility and authority of the FAA is the safe and efficient use of the navigable airspace, including the impact of the radar effects on air navigation.

The turbines would be within the line of sight of the Stockton, CA. (SCK) ASR-11, the Travis (SUU) DASR, the Mill Valley (QMV) ARSR-4, and the McClellan (MCC) ASR-9 facilities. However, this would not cause an unacceptable adverse impact on ATC operations at this time.

The aeronautical study disclosed that the proposed structures would have the adverse effect as described above on the NCT MVA. MVAs are solely used by ATC and not published for public use and are not circulated for public comment. The study disclosed that increasing the MVA in the area of the turbines would not impact a significant number of operations. The proposed structures would have no other effect on any existing or proposed arrival, departure, or en route IFR operations or procedures.

Study for possible VFR effect disclosed that the proposals would have no effect on existing or proposed VFR arrival or departure operations. As stated above, the proposals are beyond normal traffic pattern airspace. Therefore, the proposal would not have an adverse effect on VFR traffic pattern operations at O88, or any other known public use or military airports. At 591 feet AGL, the structures would extend upwards into altitudes commonly used for en route VFR flight; however, no information was received to indicate they would be located along a regularly used VFR route or that they would pose a problem for pilots operating en route. Therefore, they would not have a substantial adverse effect on en route VFR flight operations.

The proposed structures would be appropriately obstruction marked/lighted to make them more conspicuous to airmen should circumnavigation be necessary.

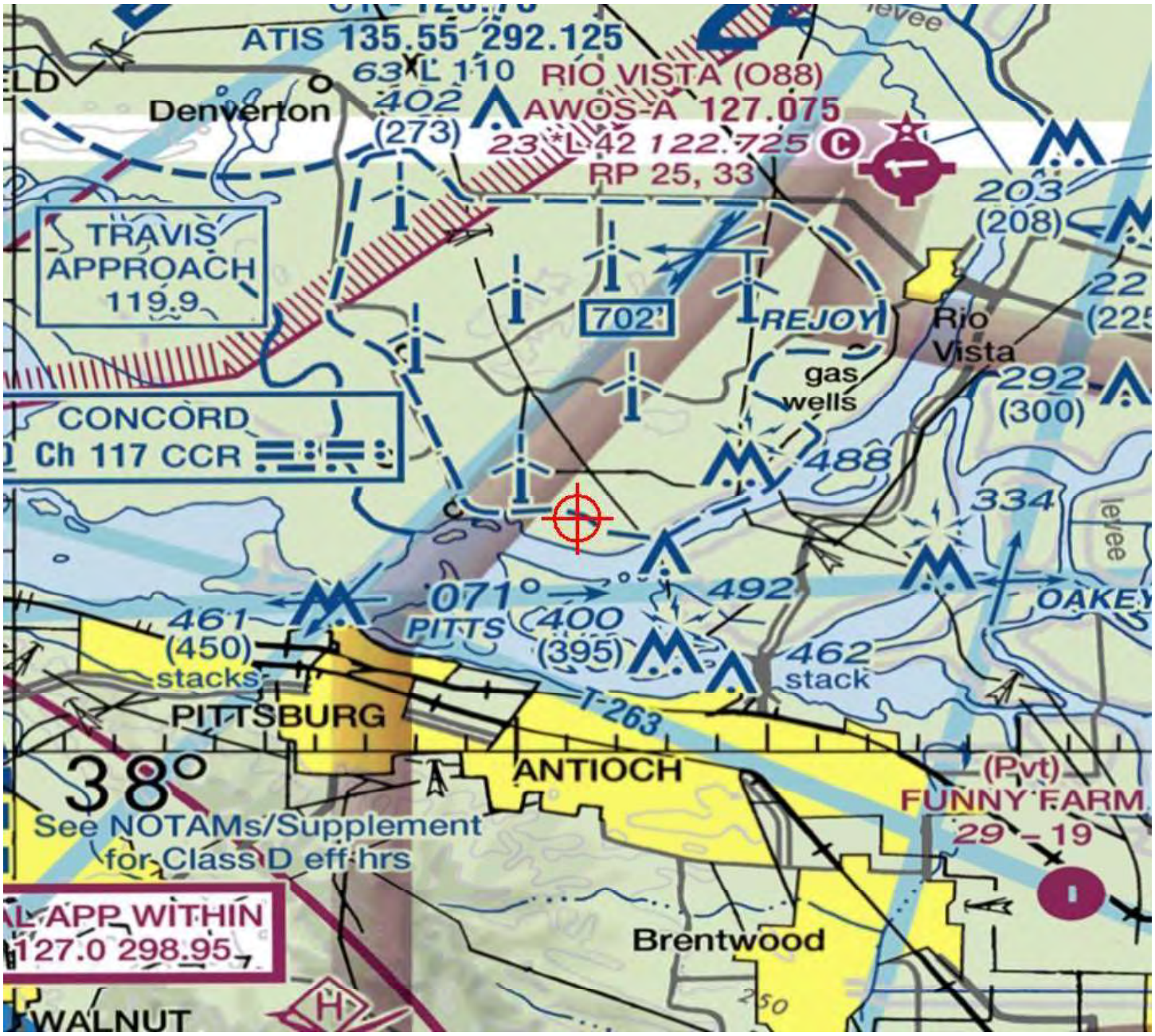
The cumulative impact of the proposed structures, when combined with other proposed and existing structures, is not considered to be significant. Study did not disclose any significant adverse effect on existing or proposed public-use or military airports or navigational facilities, nor would the proposals affect the capacity of any known existing or planned public-use or military airport.

Therefore, it is determined that the proposed construction would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation providing the conditions set forth in this determination are met.

Additional conditions:

As a condition of this determination it is required that Notice of Actual Construction or Alteration (7460-2 Part 1) be E-filed at least 60 full days prior to the start of construction so that appropriate action can be taken to amend the effected procedure(s) and/or altitude(s).

Sectional Map for ASN 2018-WTW-13405-OE



Mail Processing Center
Federal Aviation Administration
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Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2018-WTW-13406-OE

Issued Date: 02/01/2019

Amanda Beck
Sacramento Municipal Utility District
6201 S St., MS MD-2
Sacramento, CA 95817

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Wind Turbine P4N10
Location:	Rio Vista, CA
Latitude:	38-04-22.44N NAD 83
Longitude:	121-48-30.99W
Heights:	148 feet site elevation (SE)
	591 feet above ground level (AGL)
	739 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure would have no substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on the operation of air navigation facilities. Therefore, pursuant to the authority delegated to me, it is hereby determined that the structure would not be a hazard to air navigation provided the following condition(s) is(are) met:

As a condition to this Determination, the structure is to be marked/lighted in accordance with FAA Advisory circular 70/7460-1 L Change 2, Obstruction Marking and Lighting, white paint/synchronized red lights - Chapters 4,12&13(Turbines).

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

__X__ At least 60 days prior to start of construction (7460-2, Part 1)
__X__ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

See attachment for additional condition(s) or information.

This determination expires on 08/01/2020 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is subject to review if an interested party files a petition that is received by the FAA on or before March 03, 2019. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted to the Manager of the Airspace Policy Group. Petitions can be submitted via mail to Federal Aviation Administration, 800 Independence Ave, SW, Room 423, Washington, DC 20591, via email at OEPetitions@faa.gov, or via facsimile (202) 267-9328.

This determination becomes final on March 13, 2019 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. For any questions regarding your petition, please contact Airspace Policy Group via telephone – 202-267-8783.

This determination is based, in part, on the foregoing description which includes specific coordinates and heights. This determination is valid for coordinates within one (1) second latitude/longitude and up to the approved AMSL height listed above. If a certified 1A or 2C accuracy survey was required to mitigate an adverse effect, any change in coordinates or increase in height will require a new certified accuracy survey and may require a new aeronautical study.

If construction or alteration is dismantled or destroyed, you must submit notice to the FAA within 5 days after the construction or alteration is dismantled or destroyed.

Additional wind turbines or met towers proposed in the future may cause a cumulative effect on the national airspace system. All information from submission of Supplemental Notice (7460-2 Part 2) will be considered the final data (including heights) for this structure. Any future construction or alteration, including but not limited to changes in heights, requires separate notice to the FAA.

Obstruction marking and lighting recommendations for wind turbine farms are based on the scheme for the entire project. ANY change to the height, location or number of turbines within this project will require a reanalysis of the marking and lighting recommendation for the entire project. In particular, the removal of previously planned or built turbines/turbine locations from the project will often result in a change in the marking/lighting recommendation for other turbines within the project. It is the proponent's responsibility to contact the FAA to discuss the process for developing a revised obstruction marking and lighting plan should this occur.

In order to ensure proper conspicuity of turbines at night during construction, all turbines should be lit with temporary lighting once they reach a height of 200 feet or greater until such time the permanent lighting configuration is turned on. As the height of the structure continues to increase, the temporary lighting should be relocated to the uppermost part of the structure. The temporary lighting may be turned off for periods when they would interfere with construction personnel. If practical, permanent obstruction lights should be installed and operated at each level as construction progresses. An FAA Type L-810 steady red light fixture shall be

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This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

This aeronautical study considered and analyzed the impact on existing and proposed arrival, departure, and en route procedures for aircraft operating under both visual flight rules and instrument flight rules; the impact on all existing and planned public-use airports, military airports and aeronautical facilities; and the cumulative impact resulting from the studied structure when combined with the impact of other existing or proposed structures. The study disclosed that the described structure would have no substantial adverse effect on air navigation.

An account of the study findings, aeronautical objections received by the FAA during the study (if any), and the basis for the FAA's decision in this matter can be found on the following page(s).

If we can be of further assistance, please contact Steve Phillips, at (816) 329-2523, or steve.phillips@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2018-WTW-13406-OE.

Signature Control No: 387140410-395150239 (DNH -WT)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Map(s)

Abbreviations:
AGL, Above Ground Level
AMSL, Above Mean Sea Level
ARSR, Air Route Surveillance Radar
ASN, Aeronautical Study Number
ASR, Airport Surveillance Radar
ATC, Air Traffic Control
CAT, Category
CFR, Code of Federal Regulations
DASR, Digital Airport Surveillance Radar
IFR, Instrument Flight Rules
MVA, Minimum Vectoring Altitude
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The proposed structures are part of a proposed wind farm that would be located approximately 5.02 - 9.07 NM southwest of the Airport Reference Point for the Rio Vista Municipal Airport (O88), Rio Vista, CA. The ASNs with coordinates, AGL heights, and AMSL heights are as shown on page one. They would exceed the obstruction standards of 14 CFR Part 77 as follows:

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2018-WTW-13392-OE by 141 feet

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2018-WTW-13395-OE by 163 feet
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2018-WTW-13399-OE
2018-WTW-13400-OE
2018-WTW-13403-OE

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2018-WTW-13405-OE

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In order to facilitate the public comment process, the studies were circularized under ASN 2018-WTW-13388-OE on December 04, 2018, to all known aviation interests and to non-aeronautical interests that may be affected by the proposal. One letter of objection was received as a result of the circularization.

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The letter left the impression that the County believes exceeding one or more of the obstruction standards of 14 CFR Part 77 is reason enough to determine the proposal to be a hazard. That is not the case. It is the result of the aeronautical study that determines whether the structure would be a hazard or no hazard to air navigation. We will always compare proposed structures against all of the obstruction standards but will not circularize the standards that are not exceeded nor any standards and/or effects that are beyond the scope of the public to provide information about.

Records indicate that O88 has approximately 35,000 operations per year primarily from CAT A and B general aviation aircraft. All except one of the proposed turbines lie beyond the TPA for all RWYs and aircraft categories. That one proposal is on the edge of the RWY 15/33 TPA for CAT D, but at 2,199 feet long, this

RWY is incapable of sustaining CAT D aircraft operations. The size of the TPA is based upon the aircraft that regularly use a particular RWY. The preliminary assessment of not exceeding TPA has been confirmed.

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The County submitted a lot about radar effects. Wind turbines rarely, if ever create "electromagnetic" interference. If they are within the line of sight of a radar sensor, they may be detected by that sensor and may therefore be a physical interference. Simply being "seen" by the radar is not the real issue though. How that target (in this case, the wind turbine) is processed and displayed for ATC is the key. The users of the system (ATC) is the sole decider on whether the system is acceptable to be able to perform their duties. Although there may be others entities using these radar systems, the responsibility and authority of the FAA is the safe and efficient use of the navigable airspace, including the impact of the radar effects on air navigation.

The turbines would be within the line of sight of the Stockton, CA. (SCK) ASR-11, the Travis (SUU) DASR, the Mill Valley (QMV) ARSR-4, and the McClellan (MCC) ASR-9 facilities. However, this would not cause an unacceptable adverse impact on ATC operations at this time.

The aeronautical study disclosed that the proposed structures would have the adverse effect as described above on the NCT MVA. MVAs are solely used by ATC and not published for public use and are not circulated for public comment. The study disclosed that increasing the MVA in the area of the turbines would not impact a significant number of operations. The proposed structures would have no other effect on any existing or proposed arrival, departure, or en route IFR operations or procedures.

Study for possible VFR effect disclosed that the proposals would have no effect on existing or proposed VFR arrival or departure operations. As stated above, the proposals are beyond normal traffic pattern airspace. Therefore, the proposal would not have an adverse effect on VFR traffic pattern operations at O88, or any other known public use or military airports. At 591 feet AGL, the structures would extend upwards into altitudes commonly used for en route VFR flight; however, no information was received to indicate they would be located along a regularly used VFR route or that they would pose a problem for pilots operating en route. Therefore, they would not have a substantial adverse effect on en route VFR flight operations.

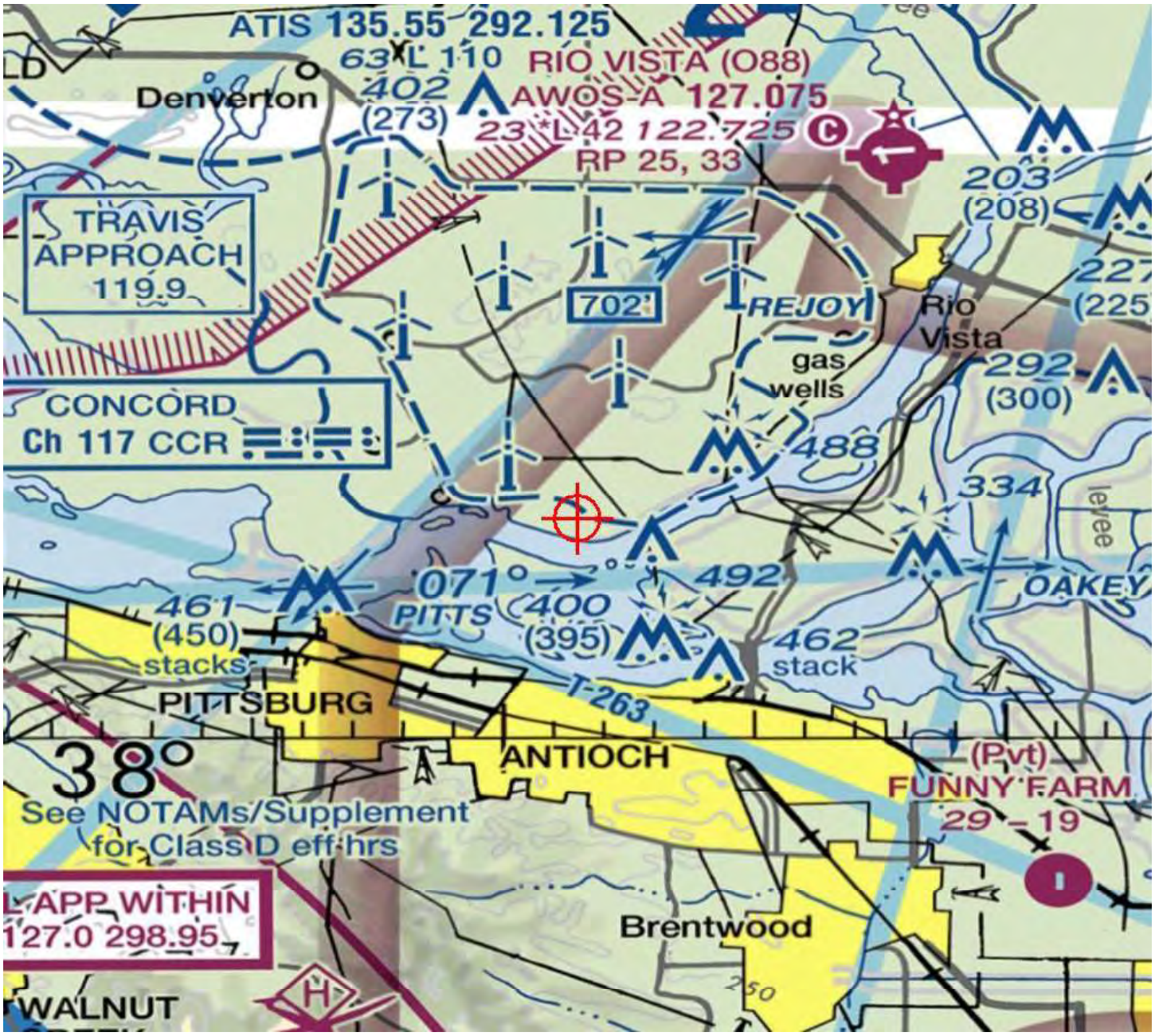
The proposed structures would be appropriately obstruction marked/lighted to make them more conspicuous to airmen should circumnavigation be necessary.

The cumulative impact of the proposed structures, when combined with other proposed and existing structures, is not considered to be significant. Study did not disclose any significant adverse effect on existing or proposed public-use or military airports or navigational facilities, nor would the proposals affect the capacity of any known existing or planned public-use or military airport.

Therefore, it is determined that the proposed construction would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation providing the conditions set forth in this determination are met.

Additional conditions:

As a condition of this determination it is required that Notice of Actual Construction or Alteration (7460-2 Part 1) be E-filed at least 60 full days prior to the start of construction so that appropriate action can be taken to amend the effected procedure(s) and/or altitude(s).


ATIS 135.55 292.125
RIO VISTA (O88)
AWOS-A 127.075
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TRAVIS
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462
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I-263
PITTSBURG
ANTIOCH
38°
See NOTAMs/Supplement
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FAA Determinations Extensions

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2018-WTW-13394-OE

Issued Date: 01/28/2021

Amanda Beck
Sacramento Municipal Utility District
6201 S St., MS MD-2
Sacramento, CA 95817

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine P1N2
Location:	Rio Vista, CA
Latitude:	38-07-08.51N NAD 83
Longitude:	121-45-43.44W
Heights:	157 feet site elevation (SE) 591 feet above ground level (AGL) 748 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

This extension is subject to review if an interested party files a petition that is received by the FAA on or before February 27, 2021. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted to the Manager of the Rules and Regulations Group. Petitions can be submitted via mail to Federal Aviation Administration, 800 Independence Ave, SW, Washington, DC 20591, via email at OEPetitions@faa.gov, or via facsimile (202) 267-9328.

This extension becomes final on March 09, 2021 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. For any questions regarding your petition, please contact Rules and Regulations Group via telephone – 202-267-8783.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 02/01/2022 unless otherwise extended, revised, or terminated by this office. You must adhere to all conditions identified in the original determination.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (206) 231-2990, or paul.holmquist@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2018-WTW-13394-OE.

Signature Control No: 387140391-466582664 (EXT -WT)
Paul Holmquist
Specialist

Attachment(s)
Additional Information

While the structure does not constitute a hazard to air navigation, it would be located within or near a military training area and/or route.

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2018-WTW-13392-OE

Issued Date: 01/28/2021

Amanda Beck
Sacramento Municipal Utility District
6201 S St., MS MD-2
Sacramento, CA 95817

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine P1R5
Location:	Rio Vista, CA
Latitude:	38-07-14.14N NAD 83
Longitude:	121-46-28.35W
Heights:	116 feet site elevation (SE)
	591 feet above ground level (AGL)
	707 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

This extension is subject to review if an interested party files a petition that is received by the FAA on or before February 27, 2021. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted to the Manager of the Rules and Regulations Group. Petitions can be submitted via mail to Federal Aviation Administration, 800 Independence Ave, SW, Washington, DC 20591, via email at OEPetitions@faa.gov, or via facsimile (202) 267-9328.

This extension becomes final on March 09, 2021 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. For any questions regarding your petition, please contact Rules and Regulations Group via telephone – 202-267-8783.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 02/01/2022 unless otherwise extended, revised, or terminated by this office. You must adhere to all conditions identified in the original determination.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (206) 231-2990, or paul.holmquist@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2018-WTW-13392-OE.

Signature Control No: 387140389-466582665 (EXT -WT)
Paul Holmquist
Specialist

Attachment(s)
Additional Information

While the structure does not constitute a hazard to air navigation, it would be located within or near a military training area and/or route.

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2018-WTW-13388-OE

Issued Date: 01/28/2021

Amanda Beck
Sacramento Municipal Utility District
6201 S St., MS MD-2
Sacramento, CA 95817

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine P1R1
Location:	Rio Vista, CA
Latitude:	38-07-54.16N NAD 83
Longitude:	121-46-31.47W
Heights:	208 feet site elevation (SE)
	591 feet above ground level (AGL)
	799 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

This extension is subject to review if an interested party files a petition that is received by the FAA on or before February 27, 2021. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted to the Manager of the Rules and Regulations Group. Petitions can be submitted via mail to Federal Aviation Administration, 800 Independence Ave, SW, Washington, DC 20591, via email at OEPetitions@faa.gov, or via facsimile (202) 267-9328.

This extension becomes final on March 09, 2021 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. For any questions regarding your petition, please contact Rules and Regulations Group via telephone – 202-267-8783.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 02/01/2022 unless otherwise extended, revised, or terminated by this office. You must adhere to all conditions identified in the original determination.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (206) 231-2990, or paul.holmquist@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2018-WTW-13388-OE.

Signature Control No: 387140385-466582666 (EXT -WT)
Paul Holmquist
Specialist

Attachment(s)
Additional Information

While the structure does not constitute a hazard to air navigation, it would be located within or near a military training area and/or route.

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2018-WTW-13390-OE

Issued Date: 01/28/2021

Amanda Beck
Sacramento Municipal Utility District
6201 S St., MS MD-2
Sacramento, CA 95817

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine P1R3
Location:	Rio Vista, CA
Latitude:	38-07-35.49N NAD 83
Longitude:	121-46-28.29W
Heights:	189 feet site elevation (SE)
	591 feet above ground level (AGL)
	780 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

This extension is subject to review if an interested party files a petition that is received by the FAA on or before February 27, 2021. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted to the Manager of the Rules and Regulations Group. Petitions can be submitted via mail to Federal Aviation Administration, 800 Independence Ave, SW, Washington, DC 20591, via email at OEPetitions@faa.gov, or via facsimile (202) 267-9328.

This extension becomes final on March 09, 2021 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. For any questions regarding your petition, please contact Rules and Regulations Group via telephone – 202-267-8783.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 02/01/2022 unless otherwise extended, revised, or terminated by this office. You must adhere to all conditions identified in the original determination.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (206) 231-2990, or paul.holmquist@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2018-WTW-13390-OE.

Signature Control No: 387140387-466582667 (EXT -WT)
Paul Holmquist
Specialist

Attachment(s)
Additional Information

While the structure does not constitute a hazard to air navigation, it would be located within or near a military training area and/or route.

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2018-WTW-13399-OE

Issued Date: 01/28/2021

Amanda Beck
Sacramento Municipal Utility District
6201 S St., MS MD-2
Sacramento, CA 95817

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine P4N3
Location:	Rio Vista, CA
Latitude:	38-05-24.68N NAD 83
Longitude:	121-49-44.45W
Heights:	214 feet site elevation (SE) 591 feet above ground level (AGL) 805 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

This extension is subject to review if an interested party files a petition that is received by the FAA on or before February 27, 2021. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted to the Manager of the Rules and Regulations Group. Petitions can be submitted via mail to Federal Aviation Administration, 800 Independence Ave, SW, Washington, DC 20591, via email at OEPetitions@faa.gov, or via facsimile (202) 267-9328.

This extension becomes final on March 09, 2021 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. For any questions regarding your petition, please contact Rules and Regulations Group via telephone – 202-267-8783.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 02/01/2022 unless otherwise extended, revised, or terminated by this office. You must adhere to all conditions identified in the original determination.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (206) 231-2990, or paul.holmquist@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2018-WTW-13399-OE.

Signature Control No: 387140396-466582668 (EXT -WT)
Paul Holmquist
Specialist

Attachment(s)
Additional Information

While the structure does not constitute a hazard to air navigation, it would be located within or near a military training area and/or route.

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2018-WTW-13395-OE

Issued Date: 01/28/2021

Amanda Beck
Sacramento Municipal Utility District
6201 S St., MS MD-2
Sacramento, CA 95817

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine P1N3
Location:	Rio Vista, CA
Latitude:	38-06-53.36N NAD 83
Longitude:	121-45-15.19W
Heights:	115 feet site elevation (SE) 591 feet above ground level (AGL) 706 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

This extension is subject to review if an interested party files a petition that is received by the FAA on or before February 27, 2021. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted to the Manager of the Rules and Regulations Group. Petitions can be submitted via mail to Federal Aviation Administration, 800 Independence Ave, SW, Washington, DC 20591, via email at OEPetitions@faa.gov, or via facsimile (202) 267-9328.

This extension becomes final on March 09, 2021 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. For any questions regarding your petition, please contact Rules and Regulations Group via telephone – 202-267-8783.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 02/01/2022 unless otherwise extended, revised, or terminated by this office. You must adhere to all conditions identified in the original determination.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (206) 231-2990, or paul.holmquist@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2018-WTW-13395-OE.

Signature Control No: 387140392-466582669 (EXT -WT)
Paul Holmquist
Specialist

Attachment(s)
Additional Information

While the structure does not constitute a hazard to air navigation, it would be located within or near a military training area and/or route.

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2018-WTW-13397-OE

Issued Date: 01/28/2021

Amanda Beck
Sacramento Municipal Utility District
6201 S St., MS MD-2
Sacramento, CA 95817

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine P4N1
Location:	Rio Vista, CA
Latitude:	38-05-33.53N NAD 83
Longitude:	121-49-52.57W
Heights:	242 feet site elevation (SE)
	591 feet above ground level (AGL)
	833 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

This extension is subject to review if an interested party files a petition that is received by the FAA on or before February 27, 2021. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted to the Manager of the Rules and Regulations Group. Petitions can be submitted via mail to Federal Aviation Administration, 800 Independence Ave, SW, Washington, DC 20591, via email at OEPetitions@faa.gov, or via facsimile (202) 267-9328.

This extension becomes final on March 09, 2021 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. For any questions regarding your petition, please contact Rules and Regulations Group via telephone – 202-267-8783.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 02/01/2022 unless otherwise extended, revised, or terminated by this office. You must adhere to all conditions identified in the original determination.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (206) 231-2990, or paul.holmquist@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2018-WTW-13397-OE.

Signature Control No: 387140394-466582670 (EXT -WT)
Paul Holmquist
Specialist

Attachment(s)
Additional Information

While the structure does not constitute a hazard to air navigation, it would be located within or near a military training area and/or route.

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2018-WTW-13391-OE

Issued Date: 01/28/2021

Amanda Beck
Sacramento Municipal Utility District
6201 S St., MS MD-2
Sacramento, CA 95817

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine P1R4
Location:	Rio Vista, CA
Latitude:	38-07-25.84N NAD 83
Longitude:	121-46-31.86W
Heights:	187 feet site elevation (SE)
	591 feet above ground level (AGL)
	778 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

This extension is subject to review if an interested party files a petition that is received by the FAA on or before February 27, 2021. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted to the Manager of the Rules and Regulations Group. Petitions can be submitted via mail to Federal Aviation Administration, 800 Independence Ave, SW, Washington, DC 20591, via email at OEPetitions@faa.gov, or via facsimile (202) 267-9328.

This extension becomes final on March 09, 2021 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. For any questions regarding your petition, please contact Rules and Regulations Group via telephone – 202-267-8783.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 02/01/2022 unless otherwise extended, revised, or terminated by this office. You must adhere to all conditions identified in the original determination.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (206) 231-2990, or paul.holmquist@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2018-WTW-13391-OE.

Signature Control No: 387140388-466582671 (EXT -WT)
Paul Holmquist
Specialist

Attachment(s)
Additional Information

While the structure does not constitute a hazard to air navigation, it would be located within or near a military training area and/or route.

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2018-WTW-13393-OE

Issued Date: 01/28/2021

Amanda Beck
Sacramento Municipal Utility District
6201 S St., MS MD-2
Sacramento, CA 95817

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine P1N1
Location:	Rio Vista, CA
Latitude:	38-07-18.49N NAD 83
Longitude:	121-45-46.46W
Heights:	166 feet site elevation (SE)
	591 feet above ground level (AGL)
	757 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

This extension is subject to review if an interested party files a petition that is received by the FAA on or before February 27, 2021. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted to the Manager of the Rules and Regulations Group. Petitions can be submitted via mail to Federal Aviation Administration, 800 Independence Ave, SW, Washington, DC 20591, via email at OEPetitions@faa.gov, or via facsimile (202) 267-9328.

This extension becomes final on March 09, 2021 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. For any questions regarding your petition, please contact Rules and Regulations Group via telephone – 202-267-8783.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 02/01/2022 unless otherwise extended, revised, or terminated by this office. You must adhere to all conditions identified in the original determination.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (206) 231-2990, or paul.holmquist@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2018-WTW-13393-OE.

Signature Control No: 387140390-466582672 (EXT -WT)
Paul Holmquist
Specialist

Attachment(s)
Additional Information

While the structure does not constitute a hazard to air navigation, it would be located within or near a military training area and/or route.

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2018-WTW-13398-OE

Issued Date: 01/28/2021

Amanda Beck
Sacramento Municipal Utility District
6201 S St., MS MD-2
Sacramento, CA 95817

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine P4N2
Location:	Rio Vista, CA
Latitude:	38-05-08.34N NAD 83
Longitude:	121-50-03.54W
Heights:	173 feet site elevation (SE)
	591 feet above ground level (AGL)
	764 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

This extension is subject to review if an interested party files a petition that is received by the FAA on or before February 27, 2021. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted to the Manager of the Rules and Regulations Group. Petitions can be submitted via mail to Federal Aviation Administration, 800 Independence Ave, SW, Washington, DC 20591, via email at OEPetitions@faa.gov, or via facsimile (202) 267-9328.

This extension becomes final on March 09, 2021 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. For any questions regarding your petition, please contact Rules and Regulations Group via telephone – 202-267-8783.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 02/01/2022 unless otherwise extended, revised, or terminated by this office. You must adhere to all conditions identified in the original determination.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (206) 231-2990, or paul.holmquist@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2018-WTW-13398-OE.

Signature Control No: 387140395-466582673 (EXT -WT)
Paul Holmquist
Specialist

Attachment(s)
Additional Information

While the structure does not constitute a hazard to air navigation, it would be located within or near a military training area and/or route.

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2018-WTW-13402-OE

Issued Date: 01/28/2021

Amanda Beck
Sacramento Municipal Utility District
6201 S St., MS MD-2
Sacramento, CA 95817

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine P4N6
Location:	Rio Vista, CA
Latitude:	38-04-43.66N NAD 83
Longitude:	121-49-43.80W
Heights:	116 feet site elevation (SE)
	591 feet above ground level (AGL)
	707 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

This extension is subject to review if an interested party files a petition that is received by the FAA on or before February 27, 2021. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted to the Manager of the Rules and Regulations Group. Petitions can be submitted via mail to Federal Aviation Administration, 800 Independence Ave, SW, Washington, DC 20591, via email at OEPetitions@faa.gov, or via facsimile (202) 267-9328.

This extension becomes final on March 09, 2021 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. For any questions regarding your petition, please contact Rules and Regulations Group via telephone – 202-267-8783.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 02/01/2022 unless otherwise extended, revised, or terminated by this office. You must adhere to all conditions identified in the original determination.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (206) 231-2990, or paul.holmquist@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2018-WTW-13402-OE.

Signature Control No: 387140406-466582674 (EXT -WT)
Paul Holmquist
Specialist

Attachment(s)
Additional Information

While the structure does not constitute a hazard to air navigation, it would be located within or near a military training area and/or route.

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2018-WTW-13406-OE

Issued Date: 01/28/2021

Amanda Beck
Sacramento Municipal Utility District
6201 S St., MS MD-2
Sacramento, CA 95817

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine P4N10
Location:	Rio Vista, CA
Latitude:	38-04-22.44N NAD 83
Longitude:	121-48-30.99W
Heights:	148 feet site elevation (SE)
	591 feet above ground level (AGL)
	739 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

This extension is subject to review if an interested party files a petition that is received by the FAA on or before February 27, 2021. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted to the Manager of the Rules and Regulations Group. Petitions can be submitted via mail to Federal Aviation Administration, 800 Independence Ave, SW, Washington, DC 20591, via email at OEPetitions@faa.gov, or via facsimile (202) 267-9328.

This extension becomes final on March 09, 2021 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. For any questions regarding your petition, please contact Rules and Regulations Group via telephone – 202-267-8783.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 02/01/2022 unless otherwise extended, revised, or terminated by this office. You must adhere to all conditions identified in the original determination.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (206) 231-2990, or paul.holmquist@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2018-WTW-13406-OE.

Signature Control No: 387140410-466582675 (EXT -WT)
Paul Holmquist
Specialist

Attachment(s)
Additional Information

While the structure does not constitute a hazard to air navigation, it would be located within or near a military training area and/or route.

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2018-WTW-13396-OE

Issued Date: 01/28/2021

Amanda Beck
Sacramento Municipal Utility District
6201 S St., MS MD-2
Sacramento, CA 95817

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine P1N4
Location:	Rio Vista, CA
Latitude:	38-06-43.69N NAD 83
Longitude:	121-45-03.40W
Heights:	54 feet site elevation (SE) 591 feet above ground level (AGL) 645 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

This extension is subject to review if an interested party files a petition that is received by the FAA on or before February 27, 2021. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted to the Manager of the Rules and Regulations Group. Petitions can be submitted via mail to Federal Aviation Administration, 800 Independence Ave, SW, Washington, DC 20591, via email at OEPetitions@faa.gov, or via facsimile (202) 267-9328.

This extension becomes final on March 09, 2021 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. For any questions regarding your petition, please contact Rules and Regulations Group via telephone – 202-267-8783.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 02/01/2022 unless otherwise extended, revised, or terminated by this office. You must adhere to all conditions identified in the original determination.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (206) 231-2990, or paul.holmquist@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2018-WTW-13396-OE.

Signature Control No: 387140393-466582676 (EXT -WT)
Paul Holmquist
Specialist

Attachment(s)
Additional Information

While the structure does not constitute a hazard to air navigation, it would be located within or near a military training area and/or route.

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2018-WTW-13389-OE

Issued Date: 01/28/2021

Amanda Beck
Sacramento Municipal Utility District
6201 S St., MS MD-2
Sacramento, CA 95817

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine P1R2
Location:	Rio Vista, CA
Latitude:	38-07-44.90N NAD 83
Longitude:	121-46-20.90W
Heights:	183 feet site elevation (SE)
	591 feet above ground level (AGL)
	774 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

This extension is subject to review if an interested party files a petition that is received by the FAA on or before February 27, 2021. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted to the Manager of the Rules and Regulations Group. Petitions can be submitted via mail to Federal Aviation Administration, 800 Independence Ave, SW, Washington, DC 20591, via email at OEPetitions@faa.gov, or via facsimile (202) 267-9328.

This extension becomes final on March 09, 2021 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. For any questions regarding your petition, please contact Rules and Regulations Group via telephone – 202-267-8783.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 02/01/2022 unless otherwise extended, revised, or terminated by this office. You must adhere to all conditions identified in the original determination.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (206) 231-2990, or paul.holmquist@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2018-WTW-13389-OE.

Signature Control No: 387140386-466582677 (EXT -WT)
Paul Holmquist
Specialist

Attachment(s)
Additional Information

While the structure does not constitute a hazard to air navigation, it would be located within or near a military training area and/or route.

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2018-WTW-13403-OE

Issued Date: 01/28/2021

Amanda Beck
Sacramento Municipal Utility District
6201 S St., MS MD-2
Sacramento, CA 95817

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine P4N7
Location:	Rio Vista, CA
Latitude:	38-04-29.29N NAD 83
Longitude:	121-49-03.88W
Heights:	180 feet site elevation (SE)
	591 feet above ground level (AGL)
	771 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

This extension is subject to review if an interested party files a petition that is received by the FAA on or before February 27, 2021. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted to the Manager of the Rules and Regulations Group. Petitions can be submitted via mail to Federal Aviation Administration, 800 Independence Ave, SW, Washington, DC 20591, via email at OEPetitions@faa.gov, or via facsimile (202) 267-9328.

This extension becomes final on March 09, 2021 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. For any questions regarding your petition, please contact Rules and Regulations Group via telephone – 202-267-8783.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 02/01/2022 unless otherwise extended, revised, or terminated by this office. You must adhere to all conditions identified in the original determination.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (206) 231-2990, or paul.holmquist@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2018-WTW-13403-OE.

Signature Control No: 387140407-466582678 (EXT -WT)
Paul Holmquist
Specialist

Attachment(s)
Additional Information

While the structure does not constitute a hazard to air navigation, it would be located within or near a military training area and/or route.

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2018-WTW-13404-OE

Issued Date: 01/28/2021

Amanda Beck
Sacramento Municipal Utility District
6201 S St., MS MD-2
Sacramento, CA 95817

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine P4N8
Location:	Rio Vista, CA
Latitude:	38-04-48.12N NAD 83
Longitude:	121-48-51.19W
Heights:	211 feet site elevation (SE)
	591 feet above ground level (AGL)
	802 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

This extension is subject to review if an interested party files a petition that is received by the FAA on or before February 27, 2021. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted to the Manager of the Rules and Regulations Group. Petitions can be submitted via mail to Federal Aviation Administration, 800 Independence Ave, SW, Washington, DC 20591, via email at OEPetitions@faa.gov, or via facsimile (202) 267-9328.

This extension becomes final on March 09, 2021 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. For any questions regarding your petition, please contact Rules and Regulations Group via telephone – 202-267-8783.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 02/01/2022 unless otherwise extended, revised, or terminated by this office. You must adhere to all conditions identified in the original determination.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (206) 231-2990, or paul.holmquist@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2018-WTW-13404-OE.

Signature Control No: 387140408-466582679 (EXT -WT)
Paul Holmquist
Specialist

Attachment(s)
Additional Information

While the structure does not constitute a hazard to air navigation, it would be located within or near a military training area and/or route.

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2018-WTW-13405-OE

Issued Date: 01/28/2021

Amanda Beck
Sacramento Municipal Utility District
6201 S St., MS MD-2
Sacramento, CA 95817

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine P4N9
Location:	Rio Vista, CA
Latitude:	38-04-38.20N NAD 83
Longitude:	121-48-46.20W
Heights:	216 feet site elevation (SE)
	591 feet above ground level (AGL)
	807 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

This extension is subject to review if an interested party files a petition that is received by the FAA on or before February 27, 2021. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted to the Manager of the Rules and Regulations Group. Petitions can be submitted via mail to Federal Aviation Administration, 800 Independence Ave, SW, Washington, DC 20591, via email at OEPetitions@faa.gov, or via facsimile (202) 267-9328.

This extension becomes final on March 09, 2021 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. For any questions regarding your petition, please contact Rules and Regulations Group via telephone – 202-267-8783.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 02/01/2022 unless otherwise extended, revised, or terminated by this office. You must adhere to all conditions identified in the original determination.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (206) 231-2990, or paul.holmquist@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2018-WTW-13405-OE.

Signature Control No: 387140409-466582680 (EXT -WT)
Paul Holmquist
Specialist

Attachment(s)
Additional Information

While the structure does not constitute a hazard to air navigation, it would be located within or near a military training area and/or route.

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2018-WTW-13401-OE

Issued Date: 01/28/2021

Amanda Beck
Sacramento Municipal Utility District
6201 S St., MS MD-2
Sacramento, CA 95817

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine P4N5
Location:	Rio Vista, CA
Latitude:	38-04-53.15N NAD 83
Longitude:	121-49-40.77W
Heights:	103 feet site elevation (SE) 591 feet above ground level (AGL) 694 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

This extension is subject to review if an interested party files a petition that is received by the FAA on or before February 27, 2021. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted to the Manager of the Rules and Regulations Group. Petitions can be submitted via mail to Federal Aviation Administration, 800 Independence Ave, SW, Washington, DC 20591, via email at OEPetitions@faa.gov, or via facsimile (202) 267-9328.

This extension becomes final on March 09, 2021 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. For any questions regarding your petition, please contact Rules and Regulations Group via telephone – 202-267-8783.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 02/01/2022 unless otherwise extended, revised, or terminated by this office. You must adhere to all conditions identified in the original determination.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (206) 231-2990, or paul.holmquist@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2018-WTW-13401-OE.

Signature Control No: 387140402-466582681 (EXT -WT)
Paul Holmquist
Specialist

Attachment(s)
Additional Information

While the structure does not constitute a hazard to air navigation, it would be located within or near a military training area and/or route.

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2018-WTW-13400-OE

Issued Date: 01/28/2021

Amanda Beck
Sacramento Municipal Utility District
6201 S St., MS MD-2
Sacramento, CA 95817

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine P4N4
Location:	Rio Vista, CA
Latitude:	38-05-02.29N NAD 83
Longitude:	121-49-31.33W
Heights:	208 feet site elevation (SE)
	591 feet above ground level (AGL)
	799 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

This extension is subject to review if an interested party files a petition that is received by the FAA on or before February 27, 2021. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted to the Manager of the Rules and Regulations Group. Petitions can be submitted via mail to Federal Aviation Administration, 800 Independence Ave, SW, Washington, DC 20591, via email at OEPetitions@faa.gov, or via facsimile (202) 267-9328.

This extension becomes final on March 09, 2021 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. For any questions regarding your petition, please contact Rules and Regulations Group via telephone – 202-267-8783.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 02/01/2022 unless otherwise extended, revised, or terminated by this office. You must adhere to all conditions identified in the original determination.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (206) 231-2990, or paul.holmquist@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2018-WTW-13400-OE.

Signature Control No: 387140399-466582682 (EXT -WT)
Paul Holmquist
Specialist

Attachment(s)
Additional Information

While the structure does not constitute a hazard to air navigation, it would be located within or near a military training area and/or route.