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Project Title:	Puente Power Project	
TN #:	213834	
Document Title:	Report of Conversation re Concerns Regarding Thermal Plume Impacts to Oxnard Airport Operations	
Description:	N/A	
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CALIFORNIA ENERGY COMMISSION REPORT OF CONVERSATION



Siting, Trans		
Environment	Protection Division PROJECT TITLE: Puente Power Project	
E-mail	Meeting Location: NA	
NAME:	Andrea Koch (916-654- 3850) DATE: 7/11/16 - 7/28/16 TIME: Various	
WITH:	Todd McNamee, Director of the Ventura County Department of Airports (Todd.McNamee@ventura.org)	
SUBJECT:	Concerns Regarding Thermal Plume Impacts to Oxnard Airport Operations	

E-MAIL:

CEC staff exchanged e-mails with Todd McNamee discussing his concerns about potential impacts from the project's thermal plumes on Oxnard Airport operations.

CC:	Signed:
	Name: Andrea Koch

McNamee, Todd
Koch, Andrea@Energy; Castro, Ana
Rubio, Jorge: Steve DeGeorge; Powers, Erin; Gutierrez, Ashley@Energy; Fong, Jonathan@Energy; Knight, Eric@Energy;
<u>Willis. Kerry@Energy; Pittard. Shawn@Energy; Adams. Jim@Energy; Layton. Matthew@Energy; Leyva Record.</u>
Jacquelyn@Energy
RE: Puente Workshop
Thursday, July 28, 2016 1:35:18 PM

Thanks Andrea. The best way to coordinate on my end is through my management assistant, Ana Castro. I've copied her on this email and her direct phone number is 805-388-4211.

Todd

From: Koch, Andrea@Energy [mailto:Andrea.Koch@energy.ca.gov]

Sent: Wednesday, July 27, 2016 2:13 PM

To: McNamee, Todd <Todd.McNamee@ventura.org>

Cc: Rubio, Jorge <Jorge.Rubio@ventura.org>; Steve DeGeorge <sdegeorge@goventura.org>; Powers, Erin <erin.powers@ventura.org>; Gutierrez, Ashley@Energy <Ashley.Gutierrez@energy.ca.gov>; Fong, Jonathan@Energy <Jonathan.Fong@energy.ca.gov>; Knight, Eric@Energy <Eric.Knight@energy.ca.gov>; Willis, Kerry@Energy <Kerry.Willis@energy.ca.gov>; Pittard, Shawn@Energy <Shawn.Pittard@energy.ca.gov>; Adams, Jim@Energy <Jim.Adams@energy.ca.gov>; Layton, Matthew@Energy <Matthew.Layton@energy.ca.gov>; Leyva Record, Jacquelyn@Energy <Jacquelyn.Leyva@energy.ca.gov>

Subject: RE: Puente Workshop

Hi Todd.

I wanted to follow up and let you know that the comment period has been extended. The last day to provide comments is now September 15th.

I'd still like to schedule a discussion with you, but some key figures are out of the office, and I need to coordinate schedules. I intend to get in touch with you again next week.

Thanks!

Andrea

From: Koch, Andrea@Energy
Sent: Friday, July 22, 2016 8:18 AM
To: McNamee, Todd
Cc: Rubio, Jorge; Steve DeGeorge; Powers, Erin; Gutierrez, Ashley@Energy; Fong, Jonathan@Energy; Knight, Eric@Energy; Willis, Kerry@Energy; Pittard, Shawn@Energy; Adams, Jim@Energy; Layton, Matthew@Energy; Leyva Record, Jacquelyn@Energy
Subject: RE: Puente Workshop

Thanks for your comments, Todd. I think we should probably schedule a conference call with you to discuss them.

I'm sorry about Webex. I was also going to participate via Webex, but it stopped working right before the Traffic section was discussed. Jon Fong, my supervisor, stepped in, but the discussion was very brief and only consisted of two questions asked by the City of Oxnard. I'll find out what they were and let you know if they had anything to do with aviation.

I'll contact you early next week- hopefully Monday- and we'll schedule a discussion.

Thank you, and have a good weekend.

Andrea

From: McNamee, Todd [Todd.McNamee@ventura.org]
Sent: Thursday, July 21, 2016 7:15 PM
To: Koch, Andrea@Energy
Cc: Rubio, Jorge; Steve DeGeorge; Powers, Erin; Gutierrez, Ashley@Energy; Fong, Jonathan@Energy; Knight, Eric@Energy; Willis, Kerry@Energy; Pittard, Shawn@Energy; Adams, Jim@Energy; Layton, Matthew@Energy; Leyva Record, Jacquelyn@Energy
Subject: RE: Puente Workshop

Hi Andrea,

I attended the meeting until lunch, and then logged in using the WebX feature from my office. Unfortunately WebX disconnected many of us for some period of time and I'm not sure if the Traffic/Transportation section was discussed today. I emailed Ashley and I used the chat feature in WebX to attempt to find out, but did not receive a reply.

At any rate, I will be submitting written comments by the Aug 4 deadline. I want you to know that after further review of the PSA, I am very concerned with the high velocity plume and I feel the PSA understates the potential impact to aviation safety. In the PSA, CEC staff states that it evaluated the MITRE modeling of plumes (Appendix TT-1) but did not pursue it because it only goes up to 3,000 feet. Rather than dismiss it, I request CEC staff and/or NRG to contract with MITRE to evaluate the plume's impact to aviation safety rather than just relying on the Spillane Approach that does not appear to evaluate the plumes impact on aircraft overflight. According to MITRE, the probability of severe turbulence at an occurrence level of greater than 1 in 10,000,000 aircraft operations (Target Safety Level) is considered potentially significant. Figure 4 in the Traffic and Transportation section shows approx. 70 overflights of the project site under 4,000 feet within a two month period last year. At least 10 of those were less than 1,000 over the site. It seems that the potential for severe turbulence for an aircraft flying through the plume is much higher than the Target Safety Level as described by MITRE.

TRANS-6, adequately addresses stack height with obstruction lighting.

TRANS-7, Department of Airports does not agree that raising awareness is an appropriate mitigation of the impacts of the high velocity plume based on the experience of overflight occurring currently.

Dept of Airports requests adding another condition that requires CEC and/or NRG to contract with MITRE to analyze and factually state the potential for significant impact to aviation safety due to the high velocity plume prior to approving the project.

Thanks,

Todd

To: McNamee, Todd <Todd.McNamee@ventura.org> Cc: Rubio, Jorge <<u>Jorge.Rubio@ventura.org</u>>; Steve DeGeorge <<u>sdegeorge@goventura.org</u>>; Powers, Erin <<u>erin.powers@ventura.org</u>>; Gutierrez, Ashley@Energy <<u>Ashley.Gutierrez@energy.ca.gov</u>>; Fong, Jonathan@Energy <<u>Jonathan.Fong@energy.ca.gov</u>>; Knight, Eric@Energy <<u>Eric.Knight@energy.ca.gov</u>>; Willis, Kerry@Energy <<u>Kerry.Willis@energy.ca.gov</u>>; Pittard, Shawn@Energy <<u>Shawn.Pittard@energy.ca.gov</u>>; Adams, Jim@Energy <<u>Jim.Adams@energy.ca.gov</u>>; Layton, Matthew@Energy <<u>Matthew.Layton@energy.ca.gov</u>>; Leyva Record, Jacquelyn@Energy <<u>Jacquelyn.Leyva@energy.ca.gov</u>>

Subject: RE: Puente Workshop

Hi Todd.

It looks like since the workshop begins at 10:00, and Traffic is the second item on the agenda, we could go on as early as 10:30 or 11:00. It's always tough to predict timeframes, though. Sometimes things go much faster or slower than expected, and sometimes they get switched around.

Jacque Leyva-Record, Air Quality staff that can answer questions about the MITRE model, might not be available until a little bit later, probably closer to lunchtime. In any case, it sounds like Traffic will probably be done pretty early in the day!

Andrea

From: McNamee, Todd [mailto:Todd.McNamee@ventura.org]
Sent: Wednesday, July 20, 2016 12:53 PM
To: Koch, Andrea@Energy
Cc: Rubio, Jorge; Steve DeGeorge; Powers, Erin; Gutierrez, Ashley@Energy; Fong, Jonathan@Energy; Knight, Eric@Energy; Willis, Kerry@Energy; Pittard, Shawn@Energy; Adams, Jim@Energy; Layton, Matthew@Energy
Subject: RE: Puente Workshop

Thanks Andrea. A timeframe for the T&T discussion would be helpful so I can be present only when needed.

From: Koch, Andrea@Energy [mailto:Andrea.Koch@energy.ca.gov] Sent: Wednesday, July 20, 2016 12:49 PM To: McNamee, Todd <<u>Todd.McNamee@ventura.org</u>> Cc: Rubio, Jorge <<u>Jorge.Rubio@ventura.org</u>>; Steve DeGeorge <<u>sdegeorge@goventura.org</u>>; Powers, Erin <<u>erin.powers@ventura.org</u>>; Gutierrez, Ashley@Energy <<u>Ashley.Gutierrez@energy.ca.gov</u>>; Fong, Jonathan@Energy <<u>Jonathan.Fong@energy.ca.gov</u>>; Knight, Eric@Energy <<u>Eric.Knight@energy.ca.gov</u>>; Willis, Kerry@Energy <<u>Kerry.Willis@energy.ca.gov</u>>; Pittard, Shawn@Energy <<u>Shawn.Pittard@energy.ca.gov</u>>; Adams, Jim@Energy <<u>Jim.Adams@energy.ca.gov</u>>; Layton, Matthew@Energy <<u>Matthew.Layton@energy.ca.gov</u>> Subject: RE: Puente Workshop

Hi Todd.

You are correct about the availability of the MITRE model. There was a discussion about that in the attachment I sent over yesterday. I've attached it again for your reference. We don't currently use the MITRE model because there are some limitations that make it difficult to use. Here is what Air Quality staff wrote about their reasons for not currently using it:

Energy Commission Air Quality staff is currently working to incorporate the MITRE model into their plume analyses. However, staff needs to determine a CEQA threshold for significant impacts to aircraft that relates to the aircraft risk probability outputs of this model. Additionally, the MITRE model cannot be used to provide reasonable risk predictions on most variable exhaust temperature thermal plume sources, such as cooling towers and air cooled condensers. Therefore, Energy Commission staff continues to recommend use of the "Spillane Approach"[1] to analyze plume velocity. The Spillane approach has been consistently used for all previous projects. It involves using a set of equations to determine plume vertical velocity under worst-case calm wind conditions.

In addition, I believe that the model doesn't provide information for plumes greater than 3,000 feet. We'll have Air Quality staff on-hand tomorrow to hopefully answer any modeling questions you might have.

Thank you for the answers you provided to my questions. It looks like the PSA section incorrectly states that the project is not within the Oxnard Airport Sphere of Influence. I'll correct that in the FSA.

I'm trying to see if I can find out more information about the timeframe for the Traffic and Transportation discussion. If I find that out, I'll let you know!

Thanks again for your feedback.

Andrea

From: McNamee, Todd [mailto:Todd.McNamee@ventura.org]
Sent: Wednesday, July 20, 2016 11:04 AM
To: Koch, Andrea@Energy
Cc: Rubio, Jorge; Steve DeGeorge; Powers, Erin; Gutierrez, Ashley@Energy; Fong, Jonathan@Energy; Knight, Eric@Energy; Willis, Kerry@Energy; Pittard, Shawn@Energy; Adams, Jim@Energy; Layton, Matthew@Energy
Subject: RE: Puente Workshop

Hi Andrea,

There is a September 2015 memo from the FAA (attached) on this topic that does provide an analysis tool from MITRE. Has this tool been used as part of the Energy Commission analysis?

Answers to your questions:

- ACLUP Easement is recommended, not required. In some cases it becomes a condition of development from the permitting jurisdiction, and in other cases it is that the developer grants the easement in the spirit of cooperation on the project.
- The Study Area and the Sphere of Influence are one and the same based on an amendment to the ACLUP back in the early 2000's. The project therefore lies within the Sphere of Influence.
- The federal NOTAM you reference advises pilots to avoid overflight, but does not prohibit it, and it is security based, not hazard to aircraft based. Also, if you pull up the NOTAM list for Oxnard Airport, this NOTAM does not appear so it does not serve as a reminder, nor does this notice give specifics on location and potential hazards associated with the plume.

I look forward to discussing the effects of wind on the plume with Matt tomorrow.

Regards,

Todd

From: Koch, Andrea@Energy [mailto:Andrea.Koch@energy.ca.gov]
Sent: Tuesday, July 19, 2016 3:33 PM
To: McNamee, Todd <<u>Todd.McNamee@ventura.org</u>>
Cc: Rubio, Jorge <<u>Jorge.Rubio@ventura.org</u>>; Steve DeGeorge <<u>sdegeorge@goventura.org</u>>; Powers, Erin
<<u>erin.powers@ventura.org</u>>; Gutierrez, Ashley@Energy <<u>Ashley.Gutierrez@energy.ca.gov</u>>; Fong,
Jonathan@Energy <<u>Jonathan.Fong@energy.ca.gov</u>>; Knight, Eric@Energy <<u>Eric.Knight@energy.ca.gov</u>>; Willis, Kerry@Energy <<u>Kerry.Willis@energy.ca.gov</u>>; Pittard, Shawn@Energy
<<u>Shawn.Pittard@energy.ca.gov</u>>; Adams, Jim@Energy <<u>Jim.Adams@energy.ca.gov</u>>; Layton,
Matthew@Energy <<u>Matthew.Layton@energy.ca.gov</u>>
Subject: RE: Puente Workshop

Hi Todd.

You're correct about the FAA's Determination of No Hazard only referencing the stack height. Unfortunately, the FAA provides no regulations pertaining to plumes. We have tried contacting the FAA on various projects to obtain plume comments, but they remain uninvolved and stress that they only review the physical heights of the structures. I've attached a summary of the generic guidance the FAA provides about plumes.

Thank you for your link to the Ventura County ACLUP. I reviewed this document as part of the PSA process but took a closer look again. It looks like there is no specific policy requiring that an avigation easement be granted, but that you are recommending an easement be granted due to the project's proximity to flight paths, correct? Also, I reviewed Chapter 6, Table 6B as you recommended. It refers to land use compatibility standards in different safety zones. However, Exhibit 6B shows that Puente is not located in any of these safety zones. Could you explain why Table 6B provides guidance for Puente?

The PSA states that Puente is located within the Oxnard Airport's Study Area, but not within the Oxnard Airport's Sphere of Influence. Please let me know if this is incorrect.

We can definitely talk at the workshop about updating the Pilot Guide. Thank you for the information.

You are correct that there is nothing in the PSA specifically stating that wind would break up the plume, although it does state that worst-case plume velocity is under calm wind conditions. (See Appendix TT-1 of the Traffic and Transportation section.) From my discussions with Air Quality staff, wind very quickly dissipates plume velocity, and a plume would not be blown closer to the airport. We will have staff at the workshop (Matt Layton) who would be able to address this if you would like to know more.

I'll try to track down the federal NOTAM. I understand there was one issued for security reasons prohibiting overflight of power plants, but I'm unsure as to whether it's still in effect. If I find anything, I'll pass it on.

Finally, you are correct that pilot overflight of the Puente plant is possible. We have received information from the FAA showing that while most flight paths occur south of the project site, overflight does occur. However, it appears that overflight is not necessary and could be avoided, which of course depends on proper notification of pilots.

Thank you for the information. I look forward to speaking with you at the workshop, and please let me know if anything comes up between now and then.

Andrea

From: McNamee, Todd [Todd.McNamee@ventura.org]
Sent: Tuesday, July 19, 2016 1:40 PM
To: Koch, Andrea@Energy; Adams, Jim@Energy
Cc: Rubio, Jorge; Steve DeGeorge; Powers, Erin; Gutierrez, Ashley@Energy; Fong, Jonathan@Energy; Knight, Eric@Energy; Willis, Kerry@Energy; Pittard, Shawn@Energy
Subject: RE: Puente Workshop

Hi Andrea,

The FAA determination of no hazard you provided does not reference the plume, but only the height of the stack. The "power" and "frequencies" in the determination seem to refer to electronic transmissions and possible interference, not the plume. Is there a separate review by the FAA of the plume?

Per your request, the Ventura County Airport Comprehensive Airport Land Use Plan (ACLUP) contains the policy of recommending avigation easements be granted over parcels being developed near the airport. While the proposed Puente power plant lies outside the traffic pattern zone, it certainly lies in proximity to flight paths and within the airports sphere of influence. This is the reason for me requesting an avigation easement that protects the right to fly over the parcel. The ACLUP document is available on our website in the document library

http://vcportal.ventura.org/AIRPORTS/docs/document_library/Doc_Airport_LandUse_Plan.pdf and the information can be found in Chapter 6, Table 6B.

The pilot guide is published by the Department of Airports through a contracted firm, Coffman Associates. The guide is attached and I believe an update would be more than a new cover. There would be staff time involved, but the primary cost is for Coffman to produce the updates and print the guides. I don't recall the previous cost.

As for the plume, and the impact on calm wind days versus windy days, I'm not finding discussion in the staff report that describes the vertical plume being reduced due to winds. Can you please point me to that? I was going to ask for more information in this area to better understand this and was also wondering if the wind would blow the plume closer to the airport, thus exacerbating the hazard. And I don't find a published federal NOTAM prohibiting overflight of the existing power plant.

Lastly, it is difficult to say what the actual flight tracks are for the Oxnard airport as they are not depicted in the ACLUP nor the Airport Master Plan. Certainly our noise guide recommends flying to the coast before proceeding on course to the north or south, and the control tower provides guidance, but it is ultimately up to the pilot exercising his/her discretion as to when to begin the turn. This is the reason for my previous comment and depiction (attached). It is entirely possible for pilots to overfly the power plant when departing runway 25 with a turn north up the coast.

Thanks,

Todd

From: Koch, Andrea@Energy [mailto:Andrea.Koch@energy.ca.gov]

Sent: Monday, July 18, 2016 12:28 PM

To: McNamee, Todd <<u>Todd.McNamee@ventura.org</u>>; Adams, Jim@Energy <<u>Jim.Adams@energy.ca.gov</u>>
Cc: Rubio, Jorge <<u>Jorge.Rubio@ventura.org</u>>; Steve DeGeorge <<u>sdegeorge@goventura.org</u>>; Powers, Erin
<<u>erin.powers@ventura.org</u>>; Gutierrez, Ashley@Energy <<u>Ashley.Gutierrez@energy.ca.gov</u>>; Fong,
Jonathan@Energy <<u>Jonathan.Fong@energy.ca.gov</u>>; Knight, Eric@Energy <<u>Eric.Knight@energy.ca.gov</u>>; Willis, Kerry@Energy <<u>Kerry.Willis@energy.ca.gov</u>>; Pittard, Shawn@Energy

<<u>Shawn.Pittard@energy.ca.gov</u>>

Subject: RE: Puente Workshop

Hi Todd.

Thank you for your comments and the attached figure, which is a very helpful visual.

Here is a copy of the FAA's Determination of No Hazard for the exhaust stack: <u>http://docketpublic.energy.ca.gov/PublicDocuments/15-AFC-</u> <u>01/TN206297_20151007T143524_Federal_Aviation_Administration_Determination_of_No_Hazard_to_A.pdf</u>

Jim Adams told me that he thinks you mentioned the existence of a regulation or policy somewhere requiring that avigation easements be granted to the County. If so, could you let me know where that is?

I also have a question about the Department of Airports Pilot Guide you mentioned. Is this published by Ventura County? Where can I find it? What would the funding for an update cover (i.e., staff time for the update)?

Also, I wanted to talk a bit more about the Puente plume and see if it alleviates any of your concerns. The worst-case plume vertical velocity of 4.3 m/s up to 4,260 feet AGL would occur only under calm wind conditions (below 0.5 m/s), which occur at the site only 2.7% of the time. The plume vertical velocity very quickly decreases as the wind blows, as the wind easily disrupts the integrity of the plume. Also, the P3 is a simple-cycle peaking facility that would operate no more than 2,453 hours per year. Actual operation is expected to be less, perhaps 500 to 1,000 hours per year. The likelihood of calm winds coinciding with operation of the facility is low, and it would be very infrequent that the plume would reach heights up to 4,260 feet AGL.

Also, we're assuming that pilots probably wouldn't want to fly directly over the area anyway, given that there are existing plumes in the area generated by MGS Unit 3 and McGrath. The P3's stack would be located approximately 1,440 feet from the 80-foot-high stack at the McGrath power plant, and approximately 879 feet from the four 54-foot-high stacks at MGS Unit 3. MGS Unit 3, which will remain in operation, creates thermal plumes estimated to exceed the 4.3 m/s threshold at altitudes up to 3,700 AGL. SCE McGrath creates thermal plumes estimated to exceed this threshold at altitudes up to 838 AGL. Also, isn't there a federal NOTAM in effect prohibiting overflight of power plants?

I also wanted to address your comment about the Del Norte Alternative. I reviewed Exhibit 2F and Exhibit 2G in the Airport Comprehensive Land Use Plan for Ventura County, and the Del Norte Alternative, located at the northeast corner of 5th Street and Del Norte Boulevard, would be right under the arrival subtracks and the helicopter arrival tracks for Camarillo Airport. It looks like many of the flight tracks for Puente are located south of the project, and the project is more easily avoided, as it is located further away from the traffic pattern of the nearest airport (Oxnard).

Thanks for your input! Please feel free to contact me with further comments and/or to provide them at the workshop.

Andrea

Hi Andrea,

I will be attending. Now that I have more information, I'm concerned about the hi-velocity plume created by P3 located 2 miles off of the departure end of the runway that goes as high as 4.260 feet above ground. Pilots could easily turn over the plume at altitudes much lower than 4,260 feet and be subject to turbulence (see attached).

The report talks about making pilots aware through notification as a mitigation factor for the P3 site, but that same rationale was not considered sufficient for the Del Norte alternative location. Energy Commission staff has recommended against that site due to safety concerns from the potential aircraft overflight from Camarillo airport.

If notification and raising awareness is proper mitigation, I would recommend the following:

P3 be outfitted with obstruction lighting (already included). An avigation easement be granted the County of Ventura. The P3 proponent assist (fund) to update the Department of Airports Pilot Guide to reflect hi-velocity plume at the P3 site.

These are my initial thoughts.

Also, is it possible to get a copy of the FAA's findings to your 7460 submittal? The 188 foot tall stack stands out to me as quite tall for that location.

Thanks,

Todd

From: Koch, Andrea@Energy [mailto:Andrea.Koch@energy.ca.gov]
Sent: Monday, July 11, 2016 11:54 AM
To: McNamee, Todd <<u>Todd.McNamee@ventura.org</u>>
Subject: Puente Workshop

Hi Todd.

There is a public workshop on the Puente Preliminary Staff Assessment (PSA) on July 21st and possibly also on July 22nd, if more time is needed. Here is the link to the workshop notice:

http://docketpublic.energy.ca.gov/PublicDocuments/15-AFC-01/TN212205 20160708T144237 PSA Workshop Notice.pdf

Were you planning on attending? I know that you requested an avigation easement over the plant, which we advised against in the PSA. (See the top of page 4.11-22 of the attachment for the text.) You don't need to attend, but I'm trying to gage the level of interest in the Traffic and Transportation section to see if we need anyone to attend the workshop in-person, and to see if we need to investigate any issues before the workshop.

Thanks!

Andrea

Andrea Koch Environmental Planner II (916) 654-3850 <u>Andrea.Koch@energy.ca.gov</u>

California Energy Commission Siting, Transmission, and Environmental Protection Division

[1] Best, P. et al. 2003. Aviation Safety and Buoyant Plumes. Presented at the Clean Air Conference, Newcastle, New South Wales, Australia. By Peter Best, Lena Jackson, Mark Kanowski of Katestone Environmental, Toowong, Queensland, Australia and Kevin Spillane of Bendigo, Victoria, Australia.