Appendix E

Speaker Registration Cards and Summary of Oral Comments from Scoping Meetings

Appendix E-1

August 19, 2014 Meeting in Barstow

- Summary of Oral Comments
- Speaker Registration Cards
- Comment Transcript
- Report Submitted by Waldo Stakes on Wind Turbines

Appendix E-1. Summary of Oral Comments Received at Scoping Meetings

Name & Organization	Comments
Scoping Meeting, August 19, 2014 (6:00 pm to 8:00 pm) – Barstow, CA	
Doug Ruland	• Requests that the California Department of Fish and Wildlife and the US Fish and Wildlife Service provide input on the project if sensitive species are identified, their findings should be included in the EIR/EIS before a decision is made on the project.
Joel McCabe	• Concerned about the stability of the grid. • Wants the EIR/EIS to include examination of natural gas components added to wind and solar generating stations. • Believes utilizing natural gas to help stabilize the grid is contrary to solving energy problems.
John Zemanek, Alliance for Desert Preservation	• Is concerned that the PEA has not considered the biome or ecosystems in the desert area within the CDCA boundaries. • The approval process including an amendment to the CDCA plan cannot be removed from the environmental review process. • Wants to see that the EIS/EIR moves in conjunction with the planned amendment and takes into consideration the fragile desert environment. • Did not agree with how alternatives were analyzed in the PEA. Would like a clear statement of objectives that considers the potential for future renewable energy projects to result from CLTP and that includes alternatives that take this future development in consideration.
Waldo Stakes	• Submitted 120-page study about the aerodynamic effects of giant wind turbines. • Will file a tort lawsuit if any of the parties involved in the project own SCE stock. • Is concerned that CLTP will lead to installation of wind turbines, which will create a wide no-fly zone that will jeopardize the safety of individuals residing in that area of the project if a fire or health issue arose.
Bryan Mashian	• Wants the EIR/EIS to identify and discuss each specific cultural site including mitigation efforts that SCE will take to protect cultural resources. • Indicated that the BLM cultural resource inventory is not completed and feels no meaningful comments can be made until a site-specific plan is developed. • Public needs site-specific detail to provide meaningful input on existing and any new potential alternatives to the proposal. • Note: added additional comment that there is no way to engage only submit questions or concerns.
Walter Royle	• Wants the EIR/EIS to include an analysis of the cumulative and secondary effects from the construction noise & air quality associated with OHV use.
Steve Mills	• Wants the EIR/EIS to include analysis on the growth inducing impact of the project.
Robert Howells, Alliance for Desert Preservation	• Believes that the EIR/EIS needs to identify and discuss biological resources including mitigation efforts that will be put in place. • Measures need to be put into place to ensure that environmental disturbances from the project incur the least negative impact on high-value wildlife habitat, impact from OHV's and increased human presence in the area, as well as, increased threat of fires. There needs to be proof that restoration efforts will work in a desert environment.
Neal Nadler	• Believes project is not warranted after attending the CEC workshop on integrating environmental information in the renewable energy planning process and listening to speakers from the CEC and CPUC who indicated that the energy needs for California can be met by easy access to existing lines, as well as, CPUC indicated their PS goals are at 33% in terms of procurement. • Wants to know how the development planning criteria for the CDCA amendment takes into account if the project is warranted and if the potential environmental damage to the desert is warranted.

Appendix E-1. Summary of Oral Comments Received at Scoping Meetings

Name & Organization	Comments
Reza Hadaegh	• Believes the project does not conform with the Energy Transmission Initiative's EA which recommends projects use the most cost effective measures with the least impact on the environment. • Asking that the EIR/EIS and the CDCA include clear analysis of the project including the alternatives. • Asking that the EIR include and analyze the impact of other similar transmission projects to help determine if Coolwater Lugo is necessary.
Richard Ravana, Alliance for Desert Preservation	• The PEA did not address the problems of non-native plant development that evolves with ground disturbance nor does it address the problems they create on restoration efforts. • The PEA does not include any discussion of the effect of climate change on the restoration process. • Asking that the EIR/EIS include these topics.
Ezra Cohen, Alliance for Desert Preservation	• The PEA did not address the protection of unique and special habitat within the project area. • Wants the location of high value wildlife included in the EIR/EIS and a plan outlining the specific protection methodology that will be used during construction.
Sharon Sloan	• Believes that the agencies should wait and see what transmission is really needed before approving the CLTP; local officials and thousands of residents oppose projects such as the North Peak Wind Project. Concerned that this approach puts the "cart before the horse".
John Smith	• Understands the format for submitting comments, but feels no format for asking questions and getting answers in a public format has been properly addressed. • The need for the CLTP and the Desert View Substation must be presented; it is not a shortage of electricity but power consumption. • Rural communities should not be required to bear the self-inflicted problems arising from unbridled over development in other locations.
Gaither Loenstein, Economic Development and Planning Manager, City of Barstow	• Alignment Alternative 9 is adjacent to lands designated in the Barstow General Plan for single family residences which would have significant and severe impact on visual resources. • This would create adverse impact on land and property values. • The City feels that Alternative 10 would be a preferable alignment and would avoid the issues mentioned.
Ted Weasma	• EIR/EIS must consider night sky lighting impact from working at night and if lighting is placed on tall towers. • There is no positive benefit to this community only to Los Angeles. The Mojave Desert communities should not be made to continuously support Los Angeles.
Neville Slade, Mojave Community Conservation Collaborative	• The project will lead to renewable energy sprawl in the desert, which is unneeded, poorly planned and very poorly sited. Future renewable projects will be strongly contested by residents. • Another project called AV Clearview has a more direct route than the project. • Restoration potential is important, once damaged it is impossible to restore cleared land with old-style technologies. • Wants precautionary oversight implemented to consider the impact on the environmental sustainability, social sustainability and economic sustainability of the project area.
Karen Gray, Marine Corps Logistic Base, Community Planning and Liaison	• Segments 8, 9, 10 and 11 will cross military land and will come very close to the base. • Project will disrupt a new military training program that is being planned and will disrupt military activity between the installation base and the project area. • Believes that the southwest range restricted air space and ground ranges cannot be replaced. • These concerns have been brought to the attention of the SCE engineers and will continue to be expressed.

Speaker Registration Card

(Please Print Clearly) **Coolwater-Lugo Transmission Project EIR/EIS**

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√(18)

AUGUST 19, 2014 (Evening) Barstow, CA

Oral Speaker Comments

Transcript # 1914936

CERTIFIED TRANSCRIPT

SCE'S PROPOSED
COOLWATER-LUGO TRANSMISSION PROJECT EIR/EIS

CPUC/BLM SCOPING MEETING
FOR PREPARATION OF A DRAFT EIR/EIS

August 19, 2014

Barstow, California

Reported by:

CRYSTAL WHITE

CSR No. 13841

Job No. 1914936

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be great.

Again, I'm going to be calling three people at a time to expedite this. If you can just line up over here, there's a microphone right here that you can speak into.

MR. BARNSDALE: Chester, just one thing I want to reiterate to the public so that everyone understands. When you submit a public comment to us or to me, it does become a public record. So if you have concerns about privacy, then you'll probably want to leave your address off is all I'm saying. Thank you.

MR. BRITT: Right. Okay. So the first three names -- and I apologize if I get them wrong. Actually, we need you to pronounce your name when you start making your comments so the court reporter can get that in the record and we know who is speaking on the audio portion.

So it's Doug Ruland, Joel McCabe and John Zemanek. Again, please state your name for the record. Thank you.

DOUG RULAND: Good evening. I'm Doug Ruland. I've been a friend of the California desert for over 50 years. And I really enjoy its beauty and tranquility.

I'd like to address one issue that I feel has been left out. First of all, to my knowledge, neither the California Fish and Wildlife nor the U.S. Wildlife has passed on whether the Coolwater-Lugo project can proceed without jeopardy of any species. Approving a project that will require permitting for these agencies without their evaluation included in both the

Environmental Impact Report and the Environmental Impact Statement means that the project is not final, and it could be modified by subsequent permitting.

I believe that the public is entitled to know if the agency's charged with protecting these resources agree with Edison, the evaluation, that everything will be fine.

So I'd like to know that that is included in the Environmental Impact Report and the Impact Statement. And the congress has stated that our California desert conservation area is very fragile, easily scarred and not easily restored. So I think we need to do things prudently. Thank you.

MR. BRITT: Thank you.

JOEL MCCABE: Good evening. My name is Joel McCabe. My comment is related to the stability -- or I should say the instability of the grid. I understand the grid experiences stability problems once large scale, solar and wind power sources exceed a certain level.

So far there is no solution for this suggested in the PEA, other than to add natural gas components to each solar and wind-generating station.

Cool-Water Lugo's purpose is to enable new construction of new utility scale solar and wind projects. The EIR and EIS must examine in detail the environmental effect of the natural gas components. Utilizing natural gas to help stabilize the grid is contrary to solving our energy problems. Thank you.

MR. BRITT: And after John speaks, the next three will be Waldo Stakes, Brian Mashian and Walter Royle.

JOHN ZEMANEK: All right. Good evening. I can't blame you for slightly mispronouncing my name because you had to go off my handwriting, and I feel sorry for you.

My name is John Zemanek. And I'm speaking here tonight as a spokesperson for the Alliance for Desert Preservation. I wanted to touch on a few things just very briefly. One is that as you've ably explained tonight the -- this approval process entails a number of things, an amendment to the CDCA plan. That amendment process cannot be in any way surgically removed from the environmental review process. Thus far, all I have to go on is the PEA. And I must say that there's just nothing that comes across from the PEA that suggest that there's any consideration of the very special biome, which is the California desert within the CDCA boundaries.

And I strongly suggest that as the EIS and EIR now go forward in conjunction with the planned amendment, that the proper attention be given at every stage and at every particular -- to just how fragile this desert is.

The other thing I wanted to touch on -- and I apologize if I'm pushing hard on this PEA, it's the only thing we have to go on so far, and I have spent a lot of time looking at it. I would respectfully suggest that there is, in fact, a very, very clear statement of preference of certain alternatives over

others and the PEA. I would like to see that disappear by the time we get to the EIR. A lot of the preference comes about because of the way the comparison is done. The comparison starts with the assumptions regarding what the objectives and purpose of Coolwater-Lugo is. And then based upon that, basically, all the other alternatives are simply pretty much set aside.

That's not good analysis. And it is not based upon, really, a full understanding of what Coolwater-Lugo would accomplish. I mean the purpose of Coolwater-Lugo, as forthrightly stated at the beginning of the PEA, is to enable the delivery of lots of renewable energy which would be installed in the desert.

Once that becomes the objective, then, of course, any alternatives that doesn't do that is going to be set aside rather quickly as not being satisfactory. But then, by the same token, the environmental consequences of all this renewable energy that would spring up as a result of having the transmutability from Coolwater-Lugo needs to be looked at clearly and with an objective eye.

So far, that has been missing from the PEA. I'm looking forward to seeing those large omissions corrected in the EIR/EIS. Thank you very much.

MR. BRITT: Thank you.

WALDO STAKES: Hi everybody. I'm Waldo Stakes. I study

aerodynamics. The last time I stood before the Bureau of Land Management, I promised them a 100-page report on the effects of -- if anybody knows, there's not a dinosaur in this room, you know what I mean? I mean we're talking about feeding the dinosaur here at the Coolwater-Lugo project. There's this dinosaur just outside the building; it's 450 feet tall. There's 71 of them in the first phase. There's 14 phases of them. And without the dinosaurs, we wouldn't need Coolwater-Lugo. So that's the key; okay?

We're basically talking about the food for the dinosaur. I talked to BLM the last time I was in front of them. I told them I'd have a 100-page report. This is 120 pages. I'm sorry. But essentially, it's the study of aerodynamics of these giant wind turbines that you guys want to put up, which is the whole purpose of Coolwater-Lugo. I'm sorry, that's the truth.

So let's talk about the truth. A couple things are -- just real quick, give me a second. I brought some marking pens here, but I can never get them out of the thing. The idea is we're going to put up 71 giant turbines in the first phase. They put them up -- they put them up on the tops of the mountains here; okay? And the reason why they do that is because air coming from the ocean is compressed and it goes over the mountains. It accelerates. It turns the blades more consistently and has better efficiency; okay?

So you want to put these turbines on top of the mountain.

The problem with them is they generate vortices from their ring tips. Now, remember the size of these things are like having a 747 and a half spinning around at 185 miles an hour, just the turbulence kills. Just at the set of wind turbines kills 275,000 birds a year, just the turbulence, okay?

You're talking about endangered species. You kill a quarter million something off a year, you're going to lose it pretty fast. That's not the cool part. The cool part is this: Those turbulences -- they come off and they get bigger --

UNKNOWN SPEAKER: You need to speak in the microphone.

MR. BRITT: Speak in the microphone.

WALDO STAKES: I'm sorry.

MR. DAVIDSON: Can you speak a little slower so that our court reporter can --

WALDO STAKES: Sorry. And my wife's a court reporter.

So you got these turbulences and they form like a cone. And so you got 71 of these cones kind of intermixing. What happens is you get this no-fly zone. And it's for three and a half to four miles. Now, that 100-page report -- I brought 62 pages of it -- is a report done by Kansas State University. They spent two years trying to figure it out. They say you can't fly an aircraft, within three and a half to four miles of these wind turbines; this is what this means. Here is the point. Here's your house. Your houses are here on both sides and in the valleys, right? Now, here is your house on fire.

Your house is on fire. The airplanes that would put your houses out -- because the ground fire department cannot handle that, okay? They can't fly there now. So that's going to turn those areas into a no fly zone, not only just for the aircraft but for MedEvac. You got a heart attack, you're done. You better drive yourself to the hospital. You're dead. That's the key. I'm not talking about financial issues or dead birds. I'm talking about dead people; okay?

Now, here's the thing, I wrote in that 120-page report you've been warned. So what happens is when my friends here all lose their houses, I will set up a tort lawsuit, And we'll sue everybody who even decided it was a good idea, because they're really important to me. I'm important to me. My family is important to me. See, that's kind of how I feel about it.

The one last thing I wanted to say was this: Anybody involved in making this decision, I want to make sure they don't have any SCE stock in their portfolios over x percentages or executives of any sort with SCE because that will be a conflict of interest. If that's the case, when I do organize that tort suit, I'm also going to hire a PI, and he's going to find out everything about everybody.

I don't care if it will cost me a million dollars. It'll be worth it, because if I lose my house, you're going to lose yours too.

Thank you very much.

BRYAN MASHIAN: Good evening. My name is a Bryan Mashian. And when I heard that there's 64 miles of this transmission line that's going to cross our state, it's pretty clear it's going to cross federal, state and public land.

And all these lands contain a diverse and important cultural resources, such as historical structures, cultural landscapes and archaeological sites. And all of these belong to us. These are important to us because they represent our shared history, our heritage and culture. And it's important that they're protected.

But the means of protecting these cultural resources is totally unaddressed by the PEA. The EIS/EIR must specifically identify and discuss each specific site, 'cause we have a lot of different cultural sites that each one needs to be specifically addressed. You can't lump them together. You can't ignore them. That's for sure.

And there are difficulties in protecting each one of these cultural sites. The EIR/EIS specifically has to address each cultural resource and specify what mitigation efforts the Southern California Edison is going to take to protect that cultural resource that's important to us.

This is necessary for the public to have a meaningful input. I appreciate this meeting, but if you haven't considered what's critical to us, how do you want me to tell you what to do? You've totally side-stepped it. So it's important that if

you want our real -- if you genuinely and earnestly want our input, what you should do is, in a meaningful way, address the alternatives and the need for the changing the proposed alignment. Then we'll give you our comments. The cultural resource inventory is not complete.

BLM is still doing work to decide what is significant and worthy of protection. Until a site-specific plan is developed for each critical area so that the public can meaningfully and logically comment, it's premature for you or anybody to make a decision that could affect these valuable and precious cultural and biological resources. The public needs to know enough site-specific detail to provide meaningful input on existing and any new potential alternatives to the proposal.

Thank you.

MR. BRITT: Thank you.

Just before Walter starts to speak, the next three will be Steve Mills, Robert Howells and Neil Nadler.

WALTER ROYLE: I'd like to talk about the off-highway vehicle abuse.

MR. BRITT: Can you state your name?

WALTER ROYLE: I'm Walter Royle.

The PEA -- and I heard earlier as you mentioned about construction noise and air quality -- I think we all assume that the newly disturbed and newly accessed lands will not be subject to new abuse from unauthorized OHV views. Further, the BLM to

adequately manage OHV views is well-known. The EIS and EIR must do a realistic and thorough analysis of these cumulative and secondary effects of the proposed public.

Thank you.

MR. BRITT: Thank you. Steve Mills, Robert Howells and Neil Nadler.

STEVE MILLS: Well, during your presentation today, I looked at the screen.

MR. BRITT: If you can just state your name.

STEVE MILLS: Oh, I'm sorry. Steve Mills.

During the presentation, I noticed, when you were displaying the various elements that are being considered, that the growth-inducing impact wasn't among them. And I do know that under the SEQA rules, that has to be assessed. And I also noticed that growth-inducing impact, that element was just crossed over in the PEA.

So the PEA acknowledges in the operation impact section that an additional. 1,000 megawatts of transmission capacity is to be added. And that these other generation projects can result in a potentially significant environmental impact. And yet, the PEA concludes that the proposed project is not anticipated to encourage or facilitate other activities that could significantly affect the environment.

So there's a little bit of a disconnect here that needs to be addressed in the context of the growth-inducing impacts

element.

That's my comment. Thank you.

MR. BRITT: Thank you.

ROBERT HOWELLS: Good evening. My name IS Robert Howells. I'm a Lucerne Valley property owner, high desert native and a member of the board of directors of the Alliance for Desert Preservation.

So 63 miles of new high-power transmission lines and 160 acre substation. I think you don't even had to have looked at the PEA to understand that this will have significant environmental impact. And that much is clear. I spent a lot of time looking through the PEA. It is clear. There will be significant environmental impact. What isn't clear at all from the PEA is how that will be handled. The PEA relies on these kind of boilerplate language, the applicant proposed measures; that's the term. APM pops up over and over again obviously.

I mean I hope it's very clear that the EIR/EIS has to rely on specific language, not APMs that basically translate as, "Don't worry. We've got it handled." We need, as Mr. Mashian said, for cultural resources, we need for biological resources for sensitive wild habitat.

And there is a lot of high value wildlife habitat in that corridor, and I would say even in the area of the substation. So we need side-by-side analysis of it. And we need to know exactly what's there and exactly how it's going to be protected

in each case.

Secondly, I wanted to say that the PEA relies way too much on the assumption that everything can be restored after disturbance. And it's clear there's going to be a lot of disturbances, 63 miles of transmission lines and 160-acre desert substation.

So the PEA doesn't examine the assumption at all that everything can be restored after this disturbance. In fact, it's very, very difficult to restore habitat after disturbance. And I would also submit, as Mr. Royle mentioned, OHVs will add to that disturbance as well as the construction process. %%

It's just inevitable that a project like this is inviting the presence of OHVs, and I know the BLM has been challenged in handling OHVs in the past. So that needs to be added to the equation, because with OHV use and all of that disturbance, it can be very, very difficult to protect against the inevitable increased fires and the inevitable increased human disturbance as a result of the increased access that Coolwater-Lugo would provide.

Thank you.

MR. BRITT: Thank you. When Neil comes up, the next three will be Reza Hadeagh, Richard Ravana and Ezra Cohen.

NEIL NADLER: My my name is Neil Nadler. At the California Energy Commission workshop on integrating environmental information in the renewable energy planning processes, which

took place on August 5th, 2014, CPU supervisor of renewable procurement and resource planning, Paul Douglas, stated that:

"California can easily satisfy its renewable energy needs from numerous locations throughout all of California that already have easy access to existing transmission lines."

At the same workshop, Ed Randolph of the CPUC stated:

"We are by large at the 33 percent, our PS goal, in terms of procurement."

These remarkable statements from the CPUC call into serious question whether Coolwater-Lugo is even needed and certainly whether any additional environmental damage to the desert is justified.

In developing planning criteria for the CDCA plan amendment, how does the BLM and PUC intend to take this into account? The CPUC has the renewable portfolio calculator in for complete overhaul.

This proposed Coolwater-Lugo transmission line project is based on old assumption and outdated technology. The new and improved calculator will afford increased availability and lower costs, which will lead to greater flexibility and siting of transmission lines and potentially fewer transmission investments and less impacts to the economy change.

Thank you.

MR. BRITT: Thank you. Reza and then Richard Ravana.

REZA HADAEGH: Good evening, gentlemen. My name is Reza

Hadaegh. My property is on Hesperia Road in Lucerne Valley. In the same meeting, the August 5th meeting in Sacramento that Mr. Nadler referred to, at the very beginning, Chair Robert Wisenmiller set the tone, and I'm quoting him by saying:

"That not all technologies are equal, nor all sites are equal." Even if they have great transmission access or -- and it's really important to remember that to come up with easier locations that are easier to develop in terms of environmental values.

I think as the state has gone on record saying that we already are -- in terms of procurement at the 33%, I think the focus is a lot more on the environmental aspects of both renewable project sites as well as transmission sites that would need to support them.

The renewable energy transmission initiative seems to be on board with that. In their phase 1-B environmental assessment of CREZ -- this is dated December 31, 2008 -- they state, and I'm quoting:

"All ETIs go to identify electric transmission facilities needed to provide access to areas which can provide renewable energy most cost effectively and with the least impact to the environment." End of quote.

But it's increasingly clear that Coolwater-Lugo is neither cost effective nor environmentally sound compared to other alternatives for transmitting renewable energy. So I'm here

tonight to add my voice to the voice of others that we expect this panel and the EIR and EIS that are forthcoming to include an implement environmental use and elements of the CDC plan amendment to show us how these alternatives will work and spell them out clearly and effectively.

And I also -- in closing, I just want to say, please do not look at Coolwater-Lugo in a bubble. Coolwater-Lugo is being put in place. And I expect the environmental impact report would look at the impact of other projects that are required to justify the presence of the transmission facility such as Coolwater Lugo. That needs to be part of your Environmental Impact Report.

Thank you very much.

MR. BRITT: Thank you.

RICHARD RAVANA: Gentlemen.

Chester, you got it right. My name is Richard Ravana. I'm the president for the Alliance of Desert Preservation. Tonight we've heard a lot about ground disturbance. And, Jon, I think you even spoke about ground disturbance and habitats being affected.

My concern is about the restoration process. The PEA does not address the problems of non-native plants that are typically associated with development that comes in the ground disturbance, nor does it discuss the problems that non-native plants create for the restoration after the disturbance.

And also, I was looking at one of your slides. It touched on climate change. But the PEA does not include any discussion of how climate change might affect the restoration process. The EIR/EIS must create these ambitions. Thank you.

MR. BRITT: Thank you. And the next three speakers will be Sharon Sloan, John Smith and Gaither Loenstein.

EZRA COHEN: Good evening. My name is Ezra Cohen. And I'm a member of the Alliance for Desert Preservation. I'm here to address some of the shortcomings that I find in the PEA. The means of protecting unique and special habitat encountered in the proposed construction of Coolwater-Lugo needs to be spelled out, and the locations of the high-value wildlife habitat must be stated. The PEA doesn't specify locations or means.

The EIS and EIR must put forth an actual plan to protect special areas until construction. This needs to be analyzed now and discussed so the feasibility of really protecting these areas is disclosed. This is the only way for the public to have meaningful input on the alternative and the need for changing propped alignments. Thank you.

MR. BRITT: Thank you. All right. Sharon Stone or Sloan.

SHARON SLOAN: I'm a movie star.

MR. BRITT: A lot of people know who that is.

John Smith and Gaither Loenstein.

SHARON SLOAN: Thank you. I'm Sharon Sloan. And the main comments that I want to make is that we cannot put the cart

before the horse. You know, Edison has done enough to show that transmission is feasible, but what we now need to do is wait and see what transmission is really needed and where the transmission is really needed. For that, there needs to be final approval of individual renewable energy projects.

You can't assume that these projects are going to be approved, and therefore go ahead and approve Coolwater-Lugo. That would just not be the correct order for things to unfold. I'd like to point out like for North Peak Wind project, we have two county supervisors who've come out in opposition. We have thousands of people who have signed letters and petitions. We've got the fire chief of Apple Valley who's come out against it.

So you can't assume that these projects that would supposedly be used in Coolwater-Lugo are even going to be approved. And so if you do approve Coolwater-Lugo first, you're going to put pressure on a lot of governmental agencies to approve projects that might not be correctly sited, that might be put in areas they have no business being. But because there's Coolwater-Lugo there, off come the other projects.

So again, I'd say, please do this in the correct order and don't put the cart before the horse.

Thank you.

MR. BRITT: Thank you.

JOHN SMITH: My name is John Smith. I'm just about

straight up as my name. Unfortunately, I'm about that plainspoken.

There's a couple of things that came up as you were making comments. One, you made a comment as to the format for submitting comments. But you never laid out the format for asking questions and getting them answered in a public format. So I'd like you to address that.

Now, I'm going to really stir the fire. I want you to bear in mind that you need to frame the premise for the need of the Coolwater-Lugo and Desert View substation. So far the issue has been couched in the concept that the need is due to a shortage of electricity. The fact is the issue is actually power consumption.

It is the height of political cowardice that real communities be forced to bear the solutions of the self-inflicted problems arising from unbridled over development elsewhere.

Thank you.

MR. BRITT: So just to respond quickly to the point about the questions, I think we made it very clear that we're at the very beginning of the process, so we don't have a lot of answers to questions because we were recently hired to do this independent evaluation environmental document.

So the scoping process is really to collect information from you so that we consider it while we're doing the technical

evaluation. So we do have some boards. We do have some knowledge, obviously, that's found in these documents. We are going to make ourselves available after the meeting to try to answer as many questions that we can.

But what we really need is information from you so we can consider it as we go forward. The next process will be when the draft document is done. And at that point, there will be a lot more information that we can respond to at that point. So I just wanted to quickly make that point.

BRYAN MASHIAN: I think the gentleman made a good point. There is no point in the process that you described so far where the public can ask questions and get answers. Nowhere have you described the situation where any one of us can come up to you and say, "What about this question that I have? What's your answer?"

You keep taking input. That's great. This is a great start, but your process is flawed, because you're not giving us an opportunity to engage you. You're taking information, going to go in a black box. We don't know what you're going to do with it. Then you're going to come out with a report and you're going to give us 90 days to read thousands of pages, and then what? We can't engage you. You need to give us a chance to ask questions. And we deserve answers.

MR. BRITT: Sir, the process does allow for that. In the next round, when you provide a comment, it becomes part of the

draft environmental document. And it's required by law to be responded to every single comment and question that is provided during the public hearing phase will be answered directly in the final environmental documents.

So again, we're at the beginning. We collect information. People provide it. We use that information as, obviously, something that we consider as we do the technical work. Then we provide a draft document. We come back out. You guys have 90 days to look at that draft document and then respond to it with questions and comments. And those, then, are part of the formal record that get responded to directly in the final environmental document. So every single question and every single comment will be responded to.

We'll go ahead and start the next person. Gaither.

GAITHER LOENSTEIN: My name is Gaither Loenstein. I'm just going to speak from here. It's the advantage of being the local guy.

I'm the economic development and planning manager for the City of Barstow. I want to start by welcoming everyone to Barstow. And on your way out of town, be sure to have a meal or fill up your gas tanks and spend some money. We need the revenue.

I want to speak specifically about alignment alternative 9 on the map that was distributed with the notice of preparation. This particular Alignment Alternative is immediately adjacent to

lands that are designated for single-family residential development on the Barstow general plan and, as such, it would have a significant adverse impact on visual resources that would affect our community.

It would also have an adverse impact on land and realty. And I notice that's another one of the factors that you're going to be considering. From the people of Barstow's perspective, alternative 10 would be a far preferable alignment as it would not have those impacts that I just cited.

Thank you.

MR. BRITT: The last three cards I have -- I'm going to read their names to you. Anyone else who would like to speak, Raul is walking around, and he'll collect those -- we have Ted Weasma, Neville Slade and Karen Gray.

TED WEASMA: My name is Ted Weasma. I'm a local rate payer, and I've also had a lot of experience in looking at EISs and EIRs and SEQA documents and so on. Many years, both in and outside the government, I'd have to say one of the things that was missing in here was paying attention to night sky and impact on night sky, from working at night or if you can put any lighting on these tall towers. Something needs to be done to address that issue.

Bottom line for me is as a rate payer, I see this whole process very negative for the local area, 'cause all it means is we're going to have increased Southern California Edison

rates to cover this. So essentially SCE is subsidizing these private companies that want to put in these new power projects in the area so they make a good profit. The SCE board of directors and so on make a good profit. And we have to pay for it, everybody that's in here.

Bottom line, there is no positive benefit for the people of this community that there may be some temporary construction, but there is a positive benefit is more power down for Los Angeles. And I don't think Mojave Desert should continuously be made to support Los Angeles. We already get the excrement from Los Angeles. Let's cut it off.

Thank you.

THE WITNESS: My name is Neville Slade. I'm -- surprising as it sounds, being from southern Texas, I actually have lived here for 28, closer to 30 years. And my wife and I are building a sustainable learning center -- I'm a local educator -- and it's very close to the Desert View substation.

But more important than that, I'm part of a group called the Mojave Community Conservation Collaborative, because I love this country. I grew up in South Africa where people didn't get this kind of opportunity to have a voice. I so respect CPUC, especially in this case, giving the public a voice. I like your name. Public Utility Commission. I focus on the public.

And we were informed because we realize that this -- our research and having worked and being an educator at a community

college here in natural resource management, this project would be the head of a movement to cause renewable -- what I believe will be renewable energy sprawl across our desert, which is unneeded, poorly planned and very poorly sited.

And so we formed this group to collaborate with other community groups, because when you look at the environmental sustainability of our community, our plants, our animals and you look at the social sustainability of our communities that are severely impacted already, and you look at the economic sustainability of our communities, our people communities, we believe that this project, Southern California Edison Coolwater-Lugo project, would be the impetus to do something that we need to look at from a precautionary standpoint.

Let's not do something that's unneeded. We know that at the moment, the only renewable -- thanks to the person that talked about, "Where are these renewable projects?" They are are going to be very strongly contested. You can see tonight the people of this area are extremely concerned. I got a letter about this three days ago. I knew about it already. But we have been very poorly informed with Southern California Edison and not had an opportunity to engage.

I've work with a local community group for years. We are still meeting. We were not even given meetings to ask some basic questions about this project and often given misinformation.

So socially, sustainability, we'll be severely impacted. Our rural living style, whether it's riding a horse, riding an OHV vehicle, going out hunting, bird hunting in the north peaks area with my son, whether it's raising my family to appreciate this incredibly -- what's considered as you know -- apparently, the Germans know this better than us -- the most biodiverse sunny desert in the world. It is absolutely unique, and it has been severely impacted already. Fires, we are the recreational hub for 12 million people within two hours' drive, guys.

We already -- the poor ol' BLM folks. I've seen a few of them today. You're not controlling the OHV. Well, there's 12 million of these little buggers, as we call them, inside Africa running around. How the heck do you expect these people to do that?

But we've got incredibly good conservation groups up here. And I include the natural resource management agencies, BLM, forest service. These people work their hearts out, and they care about this desert. And we're going to give that up because Southern California Edison -- who's now a transmission company, they don't generate very much anymore, they're going to take a very circuitous route through our desert with the stated goal, which wasn't stated at first, by the way, to encourage renewable energy in some of the best habitats and most populated areas in this area where people love this lifestyle and love this desert. They're going to take the circuitous route. There's another

project called AV Clearwater -- Clearview that goes much more directly, so thank you.

So it's about social sustainment -- and please consider that -- and also economic sustainability. These projects don't generate local jobs. This money is going out -- I'm talking renewable energy jobs going out to big developers in other parts of the game. No local taxes, by the way -- and we have to maintain, and real estate values in areas like this, we think might plummet 25 percent if this kind of huge renewable energy impact happens.

And then restoration. I do restoration. It is impossible to restore this kind of impact when you clear the land for these old-style technologies. And believe me, the technologies we're putting in will be on -- ten acres will be on top of my car in ten years' time. This will be out of date before it will even happen. It's impossible to restore that. If you don't think that's true, when you go home to L.A. or wherever people are driving, drive back through Antelope Valley where agriculture -- and I'm an agriculturist -- destroyed land and used land, and its barren, guys. It doesn't come back on its own. If you destroy the soil, take away the seed bank from fire or other big disturbance, it will not come back in our lifetimes or anyone else's lifetimes.

So please be precautionary about this and apply the principle, and please listen to the people, because we need a

voice. And as you can tell, we want a voice. And I think you've heard some pretty interesting comments tonight. So thank you. And I'm a teacher, so the shortest I can speak is half an hour.

MR. BRITT: Thank you. So Karen is the last speaker card, so if anyone else would like to speak, it's going to be after Karen.

KAREN GRAY: Good evening. My name is Karen Gray, and I serve as the MCLB Barstow's Community Plan and Liaison. So I'm here today to speak on behalf of the command. We had very big concerns about sections -- segments 11, 9, 8, as well as 10.

Those cross military land, come very close to the base. We are actually looking at and programming out for military training. It's not ground training or anything that's going to cause hazards; however, these will disturb what we're trying to do and will mitigate military activity between both installations and in the area.

The southwest houses, not only the pristine habitats that we share with OHV, but it also is part of the southwest ranges that you really cannot replace the restricted air space as well as the ground ranges. So Edison did come. We spoke at the initial phases of this with their engineers. We expressed the same concerns with section 11, 9 and 8. We will continue to express those concerns. And I will give future input, so thank you. And I would add 10 as well. Thank you.

MR. BRITT: So I have no more speaker cards, so I want to thank everyone.

Andrew, do you have anything to say before we conclude?

MR. BARNSDALE: I just want to say this group has been fantastic. But I have to say I have been doing this for 22 years, and I've never run into a crowd that is well informed as you guys. You guys have done a great job, and we've certainly heard you. So thanks for participating and thanks for coming. We'll be back. So we'll see each other again.

I, the undersigned, a Certified Shorthand Reporter of the State of California, do hereby certify:

That the foregoing proceedings were taken before me at the time and place herein set forth; that a verbatim record of the proceedings was made by me using machine shorthand which was thereafter transcribed under my direction; further, that the foregoing is an accurate transcription thereof.

I further certify that I am neither financially interested in the action nor a relative or employee of any attorney of any of the parties.

IN WITNESS WHEREOF, I have this date subscribed my name.

Dated: September 3, 2014

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CRYSTAL WHITE

CSR No. 13841

The Author:

My name is Waldo Stakes and I am a world recognized expert on aerodynamics and its effects on vehicles. I have lectured to graduate and post graduate students at the University of Southern California on numerous occasions on this subject. I have shot six television programs concerning this subject and written books.

I have designed many aircraft; one named the "W Wave" design which is a supersonic aircraft that generates no shock wave as it flies at supersonic speeds over cities. It was given gratis to the Experimental Aircraft Association for future study. Currently NASA and two Phds. at MIT are studying the design for implementation as future aircraft.

I have flown a man in a flight rocket more times than most of the fledgling rocket companies have and I am currently building a rocket powered car with a 2,000 mile per hour speed potential. I am currently the curator at the Colonel Vernon P. Saxon Jr. Aerospace Museum in Boron, California. If you want to know more about my credentials simply look up my name on Google search. The point I am making here is that I know aerodynamic effects as they have been the focus of my life.

Originally when I heard about the wind turbine project in our area I was excited. I am a big proponent of renewable energy and I think wind turbines are a great idea when placed in the proper place. I have solar power panels on my own home and have designed and am currently building an Earthen Berm home that will use $1/10^{th}$ of the energy of a modern Southern California designed home. I like the green trend the country is taking and in my mind it is at least fifty years overdue.

Even so I have to disagree with the current trend in increasing electricity production. We don't need to generate more electricity. We simply need to develop all of our products to use much less electricity. The diode lamp, laptop and cell phone are perfect examples of what can be done with research.

Ironically most of our household appliances still use the same 120 volt electric motors developed by Nicola Tesla in the 1890s. We need to move into the age of microelectronics. The 21st century needs to be the century of the milliamp not the megawatt. If money was spent to develop higher efficiency appliances, we would not be having these current power concerns.

Probable fire damage and death as a result of wind turbine installation In close proximity and upwind of populated areas

By: Waldo Stakes
August 19th, 2014

Premise:

Currently a series of 14 phases of large wind turbines are planned to be installed on the mountain ranges just south of the towns of rural Apple Valley, Lucerne and their neighboring townships. They are to be installed in strategic high performance positions along the south sides of the Ord and the San Bernardino Mountains. They will look down on the Mojave Desert. The word "Mojave" is Native American for "Big Wind."

These locations were chosen because of the Venturi effect created by the compression of the prevailing air masses as they are accelerated upward and over the mountain tops. This effect will turn the giant wind turbine blades at a greater velocity and deliver a more consistent performance and thus power output and generate a greater profit.

The first phase of installations is to consist of 71 turbines. They are of the 450 foot tall, 2-4 Megawatt Siemens brand wind turbine power generators.

I contend that this installation will present a dangerous situation to the people living in these areas, not just an inconvenience or financial difficulty but possibly a matter of life and death. If something tragic happens, all of the installers and those that allowed the installation to happen in the first place after they have been warned by this paper will be totally responsible. Read this paper and know that YOU HAVE BEEN WARNED!

Main problems with the proposed wind turbine Installations

Problem #1:

In studying the wind turbines that are to be installed on our mountains a concern arose for me. The first and not the greatest flaw I see in the prevailing designs currently being used for this project is that the electric generators are located at the top of a nearly 300 foot tall tower. This makes servicing them difficult and when they overheat and burst into flames, the fire problem is now 300 feet up in the air and spews burning debris everywhere. (See Attached Photos and article A-1) These are just a handful of the hundreds of photos of burning wind turbines on the internet illustrating that this is not an isolated occurrence but happens quite frequently.

Logically, using a geared shaft or belt running down the tower and spinning the generators located at ground level would be a much better and safer design. The generator mass now located at the base of the wind turbine would make it easier to construct, it would be more stable in high winds and if a fire should break out, it is easily accessible by ground fire personnel. It would be a better, safer and stronger wind turbine. The extra cost to design one of this type would more than pay for itself in potential lawsuit loss as a result of being the cause of a fire, which from what I understand is inevitable.

In talking to wind farmers, (of which I even considered becoming one myself thirty years ago) they tell me one in twenty of these wind turbines will eventually be overworked in a hot environment and burst into flame. If that is true, then in the first phase installation on our mountains alone at least three turbines will without a doubt start a fire. (71 turbines divided by 20 equals 3.5 fires "for sure") We are talking about a fire 300 feet in the air that cannot be put out with any resources we have in this area.

If you drive through the wind turbine fields located near Palm Springs or near Tehachapi you will notice that many of the buildings at the top of the towers (this is where the electric generators are located) are scorched and melted. This is indicative of fires caused by the overworked generators.

Now some would say that a potential wild fire could be averted simply by clearing the acreage around the base of the wind turbine. But in a very high wind scenario this will not be enough to thwart the problem as the burning debris will blow more than a quarter of a mile away in a typical high Mojave Desert wind.

Problem #2:

Once the turbines are afire, they will ignite the areas below them especially in the dry Mojave Desert where their installation is proposed. The fire will spread with the speed of the wind carried by the dry hot grasses.

I have been involved in three wildfires in the fifteen years I have lived on the Ord Mountains of the Mojave Desert. They are to say the least, your worst nightmare and CANNOT BE STOPPED BY GROUND FIRE FIGHTING PERSONNEL!

The only hope people have of surviving a wild fire in this part of the Mojave Desert where the terrain is dry and rugged is the aircraft fire support which flies in from three locations less than 100 miles away from this area. The closest aircraft fly in from a base in Menifee. That takes about 30 minutes to happen. In that time 20 to 30 acres will burn even if there is no wind to accelerate the spread of the fire.

Wild fire spreads faster in the open desert than it does in a wooded area because there are no trees to block the spread. Fed by the dry grass and explosive Greasewood bushes and combustible Joshua Trees, the flames spread with the speed of the wind. Some of the Joshua Trees in this area are over One Thousand years old. They contain a combustible sap that once ignited will stay burning for days.

So after a fire has begun, all the people of the Mojave Desert area can do is wait for the fire retardant spraying aircraft to arrive and drop their water and chemical retardant in front of the fire to stop its progression. The ground fire forces merely divert small patches or fingers which break away of the main fire in order to try and contain the blaze.

The point I am making here is that without the presence of the Fire Suppression aircraft the fires will burn unchecked putting thousands of households and fire fighting personnel in jeopardy.

Now because of the inter reacting turbulent wakes created downwind of the 71 wind turbines, proposed fire fighting aircraft and helicopters will not be able to protect the area south of Highway 18. That area would be from the mountain tops where they are installed all the way to the flat lands just south of Highway 18. The fire support aircraft will be in danger of having their flight paths destabilized because of these wakes, making this entire area a NO FLY ZONE and off limits to aircraft traffic.

I can show you the result of the last big fire we had in the area which burnt 70,000 acres, destroyed 70 homes and killed animals and livestock. The Joshua trees never came back and what is left is a grass covered wasteland. This last fire came within 12 feet of my property fence line. I was lucky but many were not. It was finally contained by aircraft with ground support but raged on for nearly a week.

I have enclosed a recently completed report. Report No. K-Tran: KU-13-6 concluded in January 2014. It was conducted at the University of Kansas by Ph.D., P.E., L.S. Thomas E. Mulinazzi and Ph.D. Zhongquan Charlie Zheng. I call it item A-2. It is 62 pages long and the math is a bit tedious but its conclusion is that in a calm situation an aircraft has to be at least 3.5 to 4 miles away from a wind turbine field installation in order to not be affected by the turbulence created by the spinning turbine blades.

Also included is a photo (A-3) taken in a fog that illustrates how the wakes of turbulence created by each turbine can fold together into a wall of turbulence that can toss a standard aircraft to the ground.

Included article A-4 tells how this data is new and as such hasn't been reviewed by all the committees studying the effects created by wind turbines located near habited areas. So I did not expect anyone now reading this document to know this. But now you do know and I hope your decisions will take all this new data into consideration before making any decisions that may injure or kill anyone or destroy their property.

Some would argue that the turbines could simply be shut off during a fire situation. I say there is still a spool down time and there is also the turbulence that is created by the winds simply sweeping around the blades and the massive towers which are as tall as a thirty story building.

I have included an article about the Firefighting community of Australia demanding a study to be done. This is Article A-5; the recently completed Kansas University study is just that.

Some believe that the turbulence from a single wind turbine spinning in a twenty mile per hour wind causes the tips of the over 200 feet in diameter rotor blade to move at 185 miles per hour. This force is greater than the turbulence created by a 747 Jumbo Jet at landing. Keep in mind that air traffic controllers keep aircraft spaced apart by miles simply to keep from have one aircraft destabilize another during landing. Article A-6 illustrates this. They call for wind turbines to be located no closer than 1,000 meters from a helipad to guarantee safety. That translates to nearly ¾ of a mile.

The Department of Defense is having none of the wind turbine turbulence and radar interference problems near its Air Force and Naval bases. Enclosed are three articles- B-1, B-2 and B-3 that tell about what they are trying to do about it. Besides the turbulence and destabilizing danger to the military aircraft, it seems the rotating blades fool radar and confuse air traffic controllers as to where the aircraft really are in local air space.

Problem #3:

If the wind turbines are installed in the proposed area there is another risk to the people who live here which also has to be addressed. In a life and death situation where a helicopter Medivac has to be called in such as Mercy Air in order to get a patient to a trauma center or to a cardiac care unit as quick as possible, the patient will have to be taken out by automobile ambulance because of the NO FLY ZONE created by the wind turbines. The extra time needed to do this would probably degrade the chance of survival by the patient.

Enclosed are two articles C-1 and C-2 which state that many Medivac units located around the nation have decided to avoid the problem of flying near or into the turbulent wakes created by these wind farms. Laws have been written in a handful of states at this time giving these Medivac companies the freedom to avoid these areas. Of course the people of these areas or shall I say victims are left to there own devices.

Conclusion:

As you can see the evidence is plain and clear. WIND TURBINES MUST NOT BE ALLOWED NEAR POPULATED AREAS THAT HAVE THE AFORMENTIONED NEEDS AND CONCERNS! If the BLM still allows the wind turbine installation to occur, let it be known that they had been thoroughly warned and chose otherwise. Logically there is no reason to allow that to happen but the World is a very different place nowadays.

Federal land owned by all Americans is to be offered to foreign companies in order to install foreign technology for profit? I was under the impression that federal BLM land was to be protected by the BLM not offered to the highest bidder in order to fatten SCEs' coiffures!

Be assured that if something tragic happens the people will make all involved pay restitution and not just the local insurance companies.

National Wind Watch

August 20, 2013
Texas

Turbine goes up in flames

By John Mangalonzo | Abilene Reporter-News | August 19, 2013 | www.reporternews.com

Black smoke was highly visible between Trent and Sweetwater Monday as a wind turbine at the Trent Wind Farm caught fire.

Sweetwater Fire Chief Grant Madden said crews from his department and from the Trent Volunteer Fire Department were sent to the location just south of Interstate 20 and east of Lake Sweetwater at 10 a.m.

"There was no need for us to go up in the turbine so we didn't," Madden said. "We stayed well enough away and controlled the grass fires from the falling embers and fiberglass."

Fire officials aren't sure whether the cause of the fire was an overheated bearing on the motor or an electrical problem, but Madden said "normally it's a bearing."

The wind farm is owned by GE Power, Madden said.

"They (GE officials) won't know for a while (what caused the fire) because they wait until it cools down and check the structural stability before they even go up (the turbine)." Madden said. "The fire went down a hill a little bit. It was right on the edge of the mesa so the wind did blow some of the fiberglass down a little bit on the face of the hill there."

Due to recent rains, the area was not too dry and firefighters were able to contain the blaze to a small area.

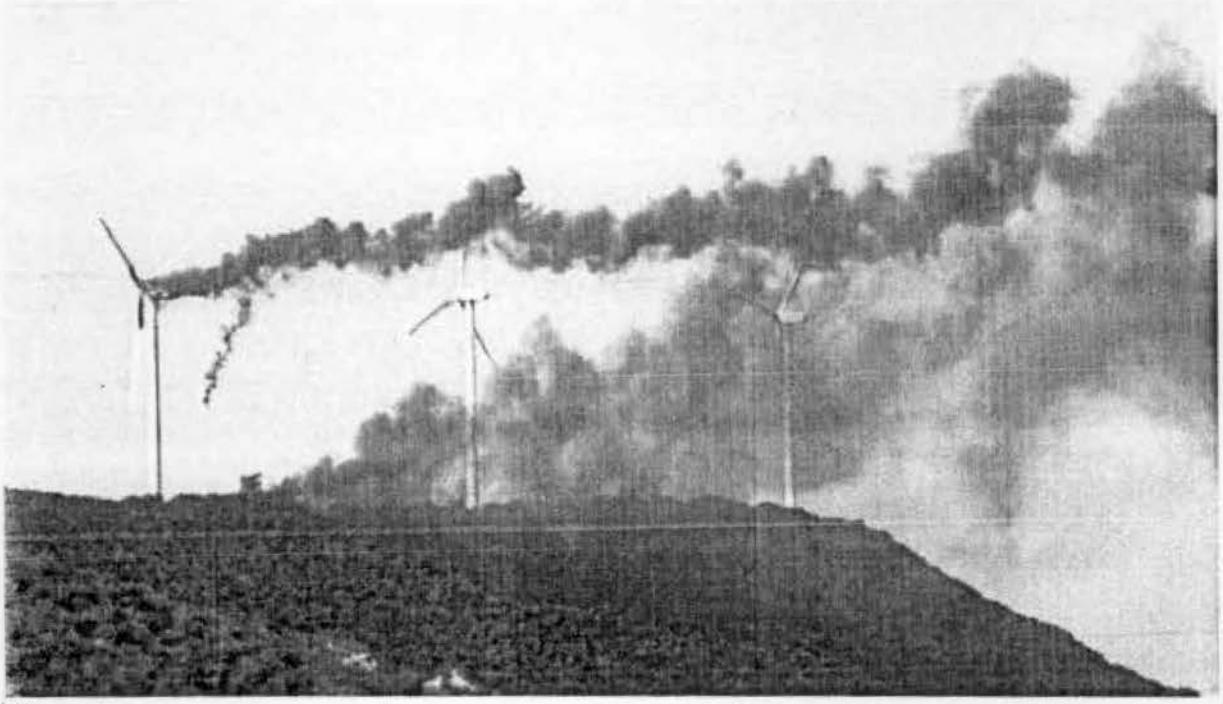
"We don't get near the turbine when it's burning because pieces fall off and sometimes big pieces fall off," Madden pointed out. "I doubt it was two acres that burned. If it all burned underneath, there probably would have been about an acre-and-a-half to two acres, but I doubt seriously that even one acre burned."

In October 2011, volunteer firefighters from the Elm Creek Citizens Association, Buffalo Gap and View put out a wind turbine blaze, which fire officials said sparked a grass fire in the Callahan Divide Wind Energy Center. The fire was the second turbine blaze in the area during that time.

West Texas has more than 2,000 wind turbines, and the number continues to increase as development costs fall and wind turbine technology improves. More than $1 billion in new investment is pending for 2013 construction.

The fire Monday was limited to a single turbine. The last firetruck left the scene some three hours after the initial call.

No injuries were reported.



[1]

Burning fragments fall from a wind turbine on the Trent Wind Farm Monday. The fire could be seen from Interstate 20 and seemed to burn out after an hour.
Ronald W. Erdrich/Reporter-News

[2]

Light shines through the burned-out module of a wind turbine (second from left) on the Trent Wind Farm Monday. Shortly before 11 a.m., the turbine caught fire and could be seen burning from Interstate 20.
Ronald W. Erdrich/Reporter-News

URL to article: **https://www.wind-watch.org/news/2013/08/20/turbine-goes-up-in-flames/**

URLs in this post:
[1] https://www.wind-watch.org/news/wp-content/uploads/2013/08/Trent-Wind-Farm-turbine-fire.jpg>
[2] https://www.wind-watch.org/news/wp-content/uploads/2013/08/burned-out-wind-turbine-nacelle.jpg>

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EAST COUNTY MAGAZINE

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Printer-friendly

Wind company fails to call fire department, lets blaze burn overnight

By Miriam Raftery

Photo: Tehachapi fire, 2012

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2013 fire in Ontario, Canada, a March 30, 2012 fire in a 2011 fire in Scotland in which a turbine ignited in high winds.

The wind industry claims wind turbine fires are rare. But the facts suggest otherwise. Vestas is not the only manufacturer plagued with fires linked to equipment failures. Hundreds of fires have occurred, and likely more, since

there is no reporting requirement in many locations.

Two brush fires in California in July 2012 were caused by wind turbines. A wind turbine fire in Riverside caused a wildfire that burned 367 acres; nearby residents in a box canyon narrowly escaped disaster. Also last summer, a wind turbine sparked a grass fire in Tehachapi.

The website "Turbines on Fire" observes that " you only have to look at insurers reports to get a better understanding of accident rates and insurance claims made by wind energy developers to get a truer account of the health and safety aspect of turbines. According to the IMIA Insurance of Wind Turbines report, a report that was compiled based on 15 years of the Wind Energy industry in Danish markets; Mechanical faults (blade failure and other faults) accounted for 40% of claims, Lightning accounted for 20% of claims, Fire accounted for 7% of claims, Storm accounted for 4% of claims, Liability for 0.5% of claims, and Others (LOP, short circuit, etc.) accounted for 28.5% of claims.

In December 2011 the Daily Telegraph reported that RenewableUK confirmed that there had been 1500 wind turbine accidents and incidents in the UK alone in the past 5 years.

Caithness Wind Farms compiled a detailed report on wind farm accidents throughout the UK and Internationally, by sourcing news articles, accident reports and insurance documents. They state that "fire is the second most common accident cause in incidents found. ..The biggest problem with wind turbine fires is that, because

of the turbine height, the fire brigade can do little but watch it burn itself out.... in a storm it means burning debris being scattered over a wide area,... In dry weather there is obviously a wider-area fire risk." Moreover, the site reveals, "Two fire accidents have badly burned wind industry workers."

Fires can occur from numerous sources besides turbine malfunctions, including lightning strikes and wildland fires that start outside the wind facility.

Wind turbines are proposed in the most-fire prone areas of the nation, including multiple massive wind projects in East County. Each turbine also contains hundreds of gallons for flammable fuel oil, a situation some fire officials have warned is a recipe for disaster if a fire starts at a wind project during dry conditions with Santa Ana winds.

Common sense dictates that locating wind projects in high-fire risk areas close to homes in rugged terrain is extremely risky. Failing to require wind facility operators to promptly notify the local fire department is foolhardy, since wind companies would have every incentive to try and hide fires that could paint a negative picture of the industry's safety record.

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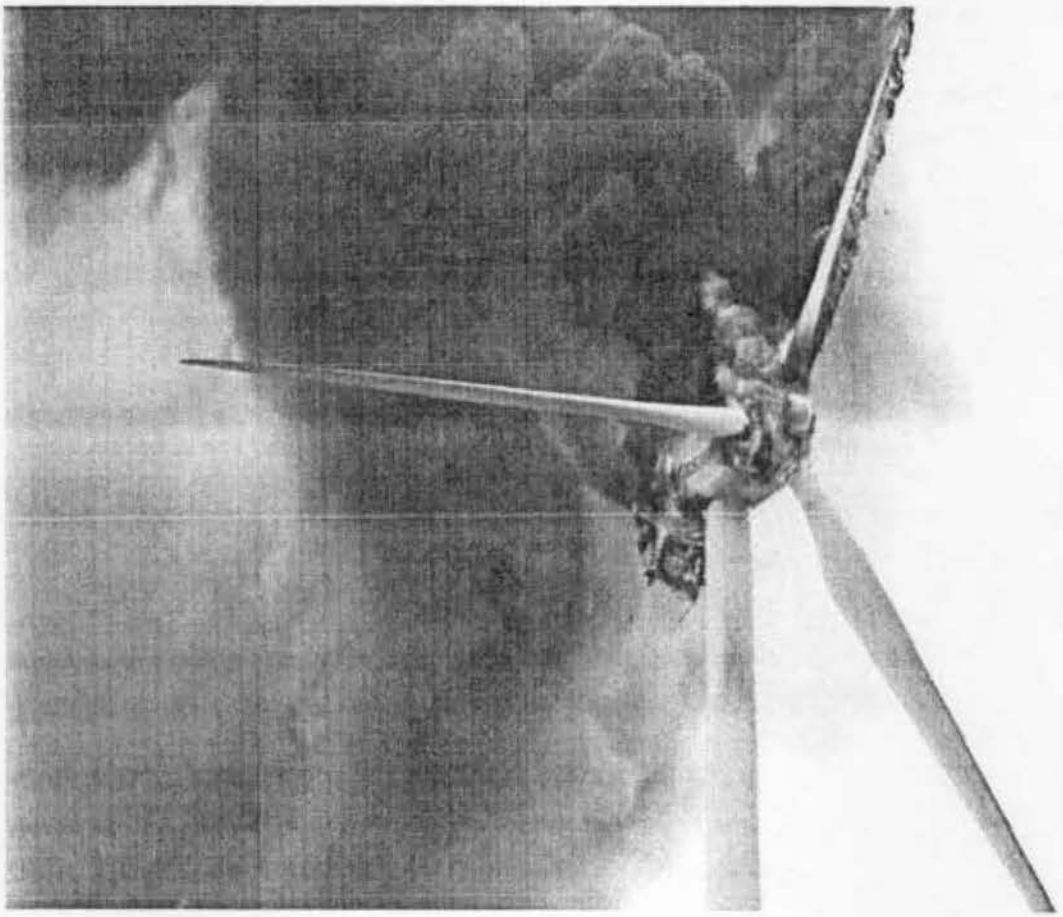

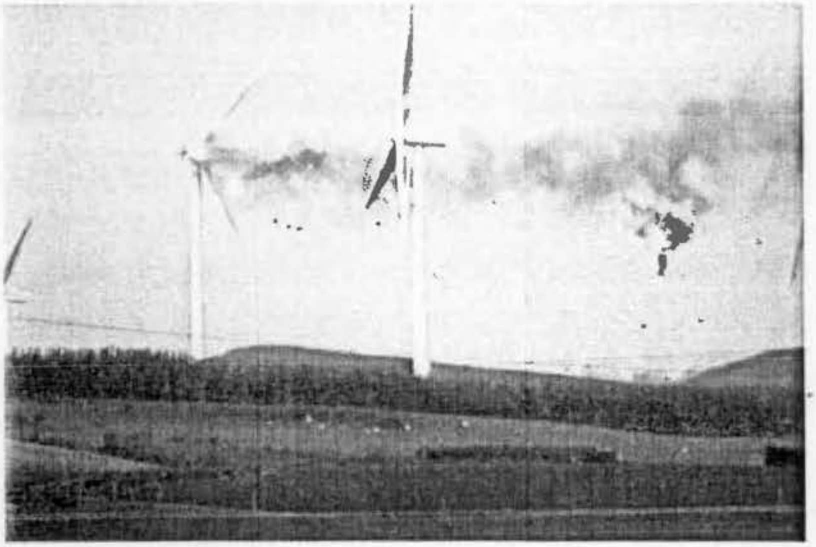


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WARNING NOTICE


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Wind Farm Turbulence Impacts on General Aviation Airports in Kansas

Thomas E. Mulinazzi, Ph.D., P.E., L.S.
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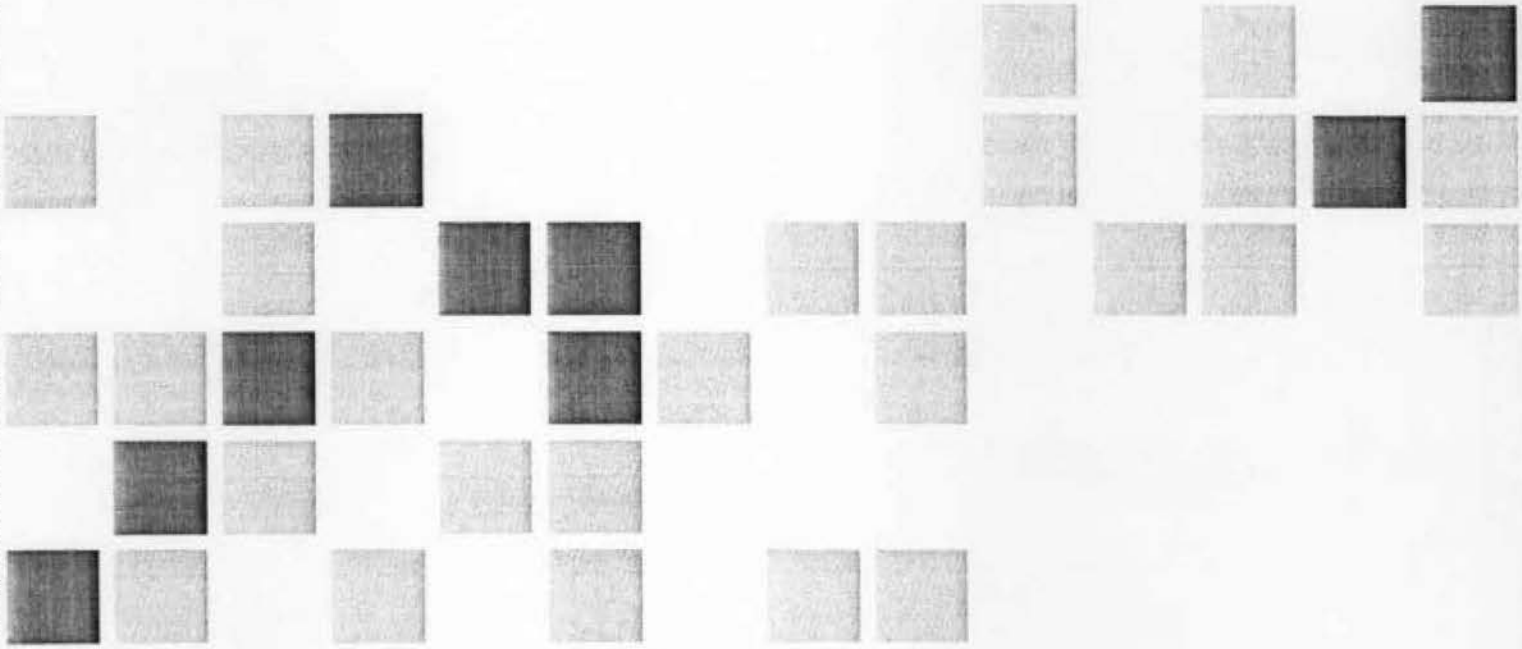

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Wind turbines and wind farms have become popular in the State of Kansas. Some general aviation pilots have expressed a concern about the turbulence that the spinning blades are creating. If a wind farm is built near an airport, does this affect the operations in and out of that airport? Other problems associated with wind farms are their impact on agricultural aviation and their influence on radar detection of aircraft in the vicinity of a wind farm.

This research project has three objectives:

1. Determine the amount and pattern of the turbulence from a single wind turbine.
   Determine the amount and pattern of wind turbulence from a wind farm, both in a horizontal direction and in a vertical direction.
   This information will result in recommendations concerning the location of wind farms and their impacts of the safe operation of airports and other aviation activities.

The results of this project support the findings in the literature search that the turbulence from a wind turbine can impact operations at a general aviation airport. Two case studies were used to illustrate the impact of turbulence from a wind turbine on a general aviation airport. This project analyzed the roll hazard and the crosswind hazard resulting from a wind farm located near a general aviation airport. The wind turbine wake model is based on a theoretical helical vortex model and the decay rate is calculated following the aircraft wake decay rate in the atmosphere.

The roll hazard analysis showed that for the Rooks County Regional Airport, the potential roll hazard index is in the high range as far out as 2.84 miles. For the Pratt Regional Airport, the roll hazard index is in the high range as far out as 1.14 miles. These numbers are based on a gust wind of 40 mph that is below the turbine brake wind speed of 55 mph. As the results show, the scenario is different according to the relative locations and orientations of the airport and the nearby wind farm. Therefore, the analysis has to be performed for each specific regional airport.

The crosswind hazard analysis for the Rooks County Regional Airport showed part of the airport in the high range even under the mild wind condition at 10 mph. The wind turbine wake increases the crosswind component to more than 12 mph which is considered high risk crosswind for small general aviation aircraft. For the Pratt Regional Airport, the crosswind hazard is relatively small under the mild wind condition (10 mph). When there is a gust of 40 mph wind, the turbine wake induced crosswind puts the majority of runway areas to high hazard areas at both of the airports.

It is recommended that additional studies should be performed to draw the proper correlation between the hazard index developed in this and the safe of aircraft at low and at low altitudes near or at a aviation

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Wind Farm Turbulence Impacts on General Aviation Airports in Kansas

Final Report

Prepared by

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A Report on Research Sponsored by

THE KANSAS DEPARTMENT OF TRANSPORTATION
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and

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LAWRENCE, KANSAS

January 2014

PREFACE

The Kansas Department of Transportation's (KDOT) Kansas Transportation Research and New-Developments (K-TRAN) Research Program funded this research project. It is an ongoing, cooperative and comprehensive research program addressing transportation needs of the state of Kansas utilizing academic and research resources from KDOT, Kansas State University and the University of Kansas. Transportation professionals in KDOT and the universities jointly develop the projects included in the research program.

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Abstract

Wind turbines and wind farms have become popular in the State of Kansas. Some general aviation pilots have expressed a concern about the turbulence that the spinning blades are creating. If a wind farm is built near an airport, does this affect the operations in and out of that airport? Other problems associated with wind farms are their impact on agricultural aviation and their influence on radar detection of aircraft in the vicinity of a wind farm.

This research project has three objectives:

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2. Determine the amount and pattern of wind turbulence from a wind farm, both in a horizontal direction and in a vertical direction.
3. This information will result in recommendations concerning the location of wind farms and their impacts of the safe operation of airports and other aviation activities.

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The crosswind hazard analysis for the Rooks County Regional Airport showed part of the airport in the high range even under the mild wind condition at 10 mph. The wind turbine wake

increases the crosswind component to more than 12 mph which is considered high risk crosswind for small general aviation aircraft. For the Pratt Regional Airport, the crosswind hazard is relatively small under the mild wind condition (10 mph). When there is a gust of 40 mph wind, the turbine wake-induced crosswind puts the majority of runway areas to high hazard areas at both of the airports.

It is recommended that additional studies should be performed to draw the proper correlation between the hazard index developed in this study and the safe operation of aircraft at low airspeeds and at low flight altitudes operating near or at a general aviation airport.

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Chapter 1: Introduction

Wind turbines and wind farms have become popular in the State of Kansas. Figure 1.1 shows the proposed and existing wind farm projects in Kansas as of February 2013. However, some general aviation pilots have expressed a concern about the turbulence that the spinning blades are creating. If a wind farm is built near an airport, does this affect the operations in and out of that airport? Other problems associated with wind farms are their impact on agricultural aviation and their influence on radar detection of aircraft in the vicinity of a wind farm.

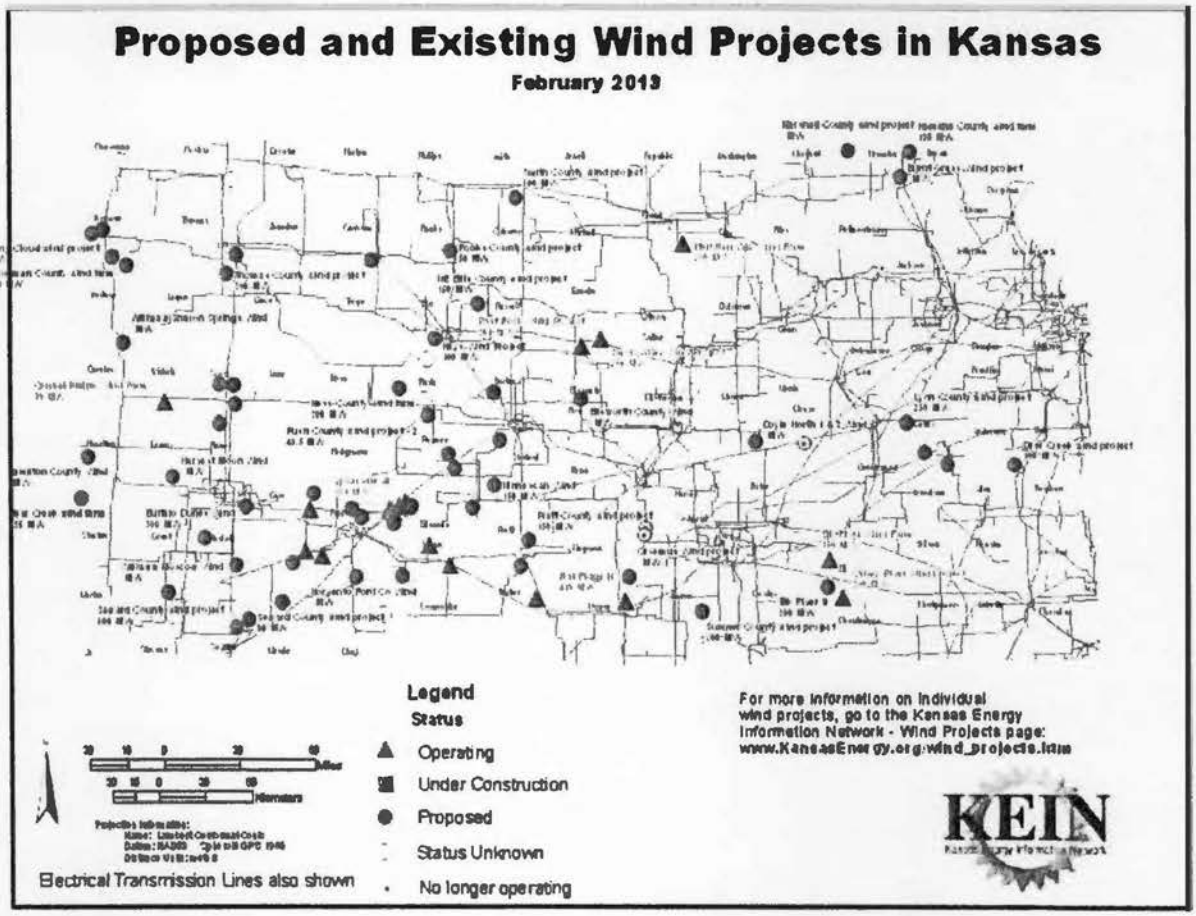


FIGURE 1.1
Proposed and Existing Wind Projects in Kansas

This research project has three objectives:

1. Determine the amount and pattern of the turbulence from a single wind turbine.

2. Determine the amount and pattern of wind turbulence from a wind farm, both in a horizontal direction and in a vertical direction.
3. This information will result in recommendations concerning the location of wind farms and their impacts of the safe operation of airports and other aviation activities.

There were five tasks in this project:

1. Determine the amount and pattern of the turbulence from a single wind turbine.
2. Determine the amount and pattern of wind turbulence from a wind farm.
3. Locate the existing and planned wind farms in the State of Kansas.
4. Locate the existing general aviation airports and their proximity to existing and proposed wind farms.
5. Write the final report

Chapter 2: Literature Search

2.1 Wind Turbine Specifications

After going through the popular wind turbine models of the top 10 wind turbine manufacturing companies in the world, the height of the wind turbine hub varied from 165ft to a maximum of 450ft. Many times the height of the hub is site specific, as it depends on the height at which the wind speed is the maximum. The rotor diameters vary from around 260ft to a maximum of 500ft, though the average diameter is around 300ft. The rated power of the wind turbines is between 8.0 MW to 0.6 MW (www.aweo.org/windmodels).

Johan Meyers (Katholieke Universiteit Leuven, Belgium) and Charles Meneveau (Johns Hopkins University) tried to find the optimal turbine spacing in a fully developed wind-farm. The researchers used the computational studies based on the Large Eddy Simulation, which allows them to predict the wind velocity at the hub height as a function of wind turbine spacing and loading factors. In this research, they used this simulation to predict the optimal spacing as a function of above parameters along with ratio of turbine costs to land surface costs. They found out that for realistic cost ratios the average optimal turbine spacing should be 15 times the diameter of the rotor as against the conventional 7 times. The above is true for large wind farms on flat terrain whose length exceeds the atmospheric boundary layer (height of approximately 1 km). The optimal spacing of wind turbines in small wind farms may depend on the location, as the turbines in the front will be operating under powerful winds compared to the one behind (Meyers and Meneveau 2012).

Ivan Mustakerov and Daniela Borissova studied the problems associated with optimal wind farm design in Bulgaria. The authors developed an optimization model for wind turbine type, number and placement based on given wind conditions and wind farm area being developed. To determine the optimization criteria they used wind farm investment cost and total power as functions of wind turbine type and number. The researchers considered two main wind directions regarding uniform and predominant wind directions for wind farm of shapes – square and rectangular. After testing a d eveloped wind farm numerically, they observed that the different practical requirements and restrictions define the different choices. Their results also confirmed that using big size turbines is more profitable than a large number of small size

turbines. The numerical tests show that the developed optimization approach can be applied to wind farm design (Mustakerov and Borissova 2009).

2.2 Wind Terminology

Start-up speed: Speed at which the rotor and blade assembly starts to rotate.

Cut-in speed: The minimum speed at which the wind turbine will generate usable power, generally between 7 and 10mph.

Rated speed: It is the minimum speed at which the wind turbine will generate its designated rated power. It is generally between 25 and 35mph for most of the turbines.

Cut-out speed: The speed at which the turbines stop generating power and shuts down, usually between 45 and 80mph (www.energybible.com 2012).

2.3 Wind Farms and Aviation

2.3.1 Turbulence Impact Assessment

EMD International A/S conducted a study on the turbulence impact from a wind farm located off shore. This study was undertaken because some sailors and recreational users off the coast of the island Hiiumaa complained about the turbulence. In this study the actual locations of the wind turbines were not considered, but a large number of turbines were selected. The turbulence was calculated to be 8m/s at a 10 m height on off shore locations. The size of the wind farm considered in this study was 636 MW, distributed on 212 uni ts. For calculations Vestas V90-3 was used, which has a nominal power of 3 MW, a rotor diameter of 90m and a hub height of 80m. The turbulence of wind was described by turbulence intensity, which is the ratio of wind speed changes to mean wind speed. Turbulence depends on t he terrain; sea surface causes little turbulence while forest area causes very high turbulence. The higher the turbulence, the longer is the distance required for dissipation. The wind turbines add wake to the wind turbulence. The wake can be recognized up t o 2000m (about 6600ft) downwind side of the turbine. The wake turbulence is the largest behind the turbine and decreases further downstream. The turbulence from turbines has a short and predictable spectral size unlike the natural turbulence. They concluded that the maximum turbulence from a single turbine is at 200m and is almost negligible after 500m. The researchers concluded that the turbulence impact of the

turbines is negligible beyond a few hundred meters, when compared with the turbulence on land (EMD International A/S 2010).

2.3.2 CAA Policy and Guidelines on Wind Turbines

The Civil Aviation Authority (CAA) in England is the statutory corporation which oversees and regulates all aspects of civil aviation in the United Kingdom (UK). The study focused on the issues related to the UK but lessons still can be applied here. There was also recognition in their report that both aviation and wind energy were important to natural interests and each side should cooperate to find solution to potential problems. The CAA published this document to give the aviation stakeholder a better understanding of the wind turbine related issues. In Chapter 2 of their report, they identified several impacts of wind farms on aviation. They report that Primary Surveillance Radar is adversely affected. If the wind turbine falls within the line of sight of the radar, then the radar misinterprets a wind turbine as an aircraft. Sometimes wind turbines cause a loss of sensitivity in detection of aircrafts to an extent that they are lost completely. The wind turbines form an obstruction and, thus, there is a region behind the turbine in which aircrafts are masked and cannot be detected. The receiver requires a large range to detect reflected signals from small and large aircrafts. If there is an obstacle such as a wind turbine, then it reflects a significant amount of signals and thus the receiver becomes saturated. The wind turbine also affects the Secondary Surveillance Radar even though it does not rely on the reflections from an object. The turbulence caused by the wake of the turbine extends downstream of the blades. The wake intensity depends on the size and height of turbines. It has been seen that the wind turbines create wake vortices similar to aircraft vortices, these can be hazardous to an aircraft. "Published research shows measurements at 16 r otor diameters, approximately 1500m (5000ft) downstream of the wind turbine indicating that turbulence effects are still noticeable." The measurement of effect is very difficult even though modeling studies can predict the effects further downstream. The verification and validation processes of these models are still going on. They found that very light aircrafts such as gliders, gyroplanes, microlights, etc. are more susceptible to the wake turbulence. Thus, the CAA will analyze the

turbulence of wind farms near the airports on a case-by-case basis until they observe a significant pattern (Civil Aviation Authority 2011).

2.3.3 Airport Cooperative Research Program Synthesis 28: Investigating Safety Impacts of Energy Technologies on Airports and Aviation

This synthesis study was carried out to inform airport operators, aircraft pilots, airport planners and developers, legislators and regulators responsible for aviation safety of the visual and communications interference impacts of the new energy technologies on aviation. They list that the main concerns of using wind turbines are the height of the turbines and the communication system interference. In addition, the turbulence, lighting and marking of wind turbines are also a concern. Though CFR Part 77 deals with the height, size and location of aviation obstructions, this information is advisory in nature. Wind turbines are issued "No Hazard" determination if they are not located within the airport approach areas by the Federal Aviation Administration (FAA). Similar to the CAA findings, this report also states the adverse effects of wind turbines on the primary and secondary radars. They found that the turbulence from the wind turbines creates vortices at a distance of 2-6 rotor radii (250-750ft). Thus the aircrafts flying at a height of 200-400ft above ground, i.e. at the turbine level, are in danger. To minimize the effects of wind farms they have considered some mitigation options

- Appropriate siting to avoid communication system impacts.
- Re-route air traffic.
- Use of supplemental radars wherever the main radar is receiving false signals.
- Use radar absorbent materials on the turbines (Barret and Devita 2011).

2.3.4 NationAir Aviation Insurance

The NationAir Aviation Insurance (NAAI), an insurance company in Illinois, discussed the hazards of wind turbines to the aerial applicators. They say that the tax credits, and other grants and subsidies from the government drastically increased the number of wind turbines in the mid-west region. According to the NAAI Tower Policy all the recorded aerial applicator and tower collisions have been fatal. The wind turbine has hazards like wake turbulence and shadow flicker. The researchers found out that a typical commercial wind farm has 2.5 turbines per

square mile, with the exception of some states like Wisconsin, where there are 10-12 wind turbines per square mile. Turbine flickers can play visual "tricks" and lead to pilot disorientation. The specific location of wind farm can drastically impact application ability and its associated cost. The researchers also say that the MET (meteorological test towers) are very dangerous as they are below 200 feet and require no painting or marking. The NAAI has developed guidelines in order to inform the tower industry about the aerial applicators concerns, they are as follows:

- Construction Petitions should be provided to zoning authorities, landowners, applicators within a half mile from towers and regional agricultural aviation organizations.
- Towers should be avoided on prime agricultural land or locations which will inhibit spray.
- Information on whether the land will be or will not be suitable for aerial application after construction should be provided by the developers.
- The towers should be free standing without guy wires and in a linear pattern.
- Detailed field layout should be provided to those who work in the proximity after construction is completed. (NationAir Aviation Insurance 2012)

2.3.5 Other Reports

The De Kalb County, Indiana, case concerns the major safety of the MET towers set up to monitor the wind. The cost of aerial application increases with this and many operators refuse to operate within the confines of a wind farm. The farmers with land adjacent to a wind farm development are also affected. The operators charge 50% more than usual for aerial application in a wind farm zone. Potential impact on NexRad appears to be low, but one of the weather radars operating in Fort Wayne has seen impacts from towers in the Ohio counties of Paulding and Van Wert. The researcher concludes that the wind farm development will not affect aviation in all weather conditions but only in certain conditions. All the wind farm development should be studied on a case to case basis by a third party before local approvals are given. The researchers also state that the developments, which have been proven to not have any negative impacts, should not be restricted on unsubstantiated and unproven public claims. (Stump 2012)

The Fraunhofer Institute for Wind Energy and Energy System Technology (IWES) in Oldenburg, Germany developed a simulation which enables them to calculate the turbulence created by the wind farms, how they change the wind speed and how it affects the airplanes. The IWES conducted this research on behalf of BMR Windenergie, the operator of the wind farm, which has proposed a wind farm near an airfield. The researchers created a model of ground and wind profile of the area surrounding the proposed area of the wind farm. Over this model a grid was placed. The computer calculates the changes in the wind conditions and turbulence caused by the wind farms. Dr. Bernhard Stoevesandt said, "The true skill was creation of a grid: Because the points on the grid where the computer makes the individual calculations must lie exactly at the right place." Another challenge that the researcher faced was to depict the trail properly, which is the turbulence and wind conditions behind the rotor and determine its effects on aircraft. The researchers measured the trail at various individual points behind the rotor at actual wind farms in order to validate the simulations. The researchers carried out simulations for various wind directions, two different wind speeds and five different flight trajectories under which the airplanes will be influenced for varying lengths of time. The researchers found that the turbulence generated by the wind turbines is lower than the ordinary turbulence from the surrounding area. This finding can be applied to other airports to a limited extent, because of the fact that the surrounding terrain has a tremendous impact on the trail and, thus, it is very different for forested and hilly terrain compared to flat terrain (Stoevesandt 2012).

2.4 General Aviation

The FAA recommends a crosswind runway, if a runway orientation provides wind coverage less than 95% for any aircraft forecasted to use the airport on a regular basis. To calculate 95% wind coverage the crosswind should not exceed the following limits:

TABLE 2.1
Airport Reference Code for Maximum Crosswind

Airport Reference Code	Maximum Crosswind
A-I and B-I	12.10 mph
A-II and B-II	15 mph
A-III, B-III, and C-I through D-III	18.41 mph
A-IV through D-VI	23 mph

The Airport Reference Codes A-I or B-I are expected to accommodate single engine airplanes. Codes B-II or B-III refers to airports serving larger general aviation aircrafts and commuter type aircrafts. C-III is small or medium sized airports serving air carriers. And larger air carrier airports are with codes D-VI or D-V. (Federal Aviation Administration 2012)

Rate of change of wind speed and/or direction an aircraft experiences is called wind shear. There are two types of shear, namely vertical and horizontal, though generally they occur as a combination of both. Wind shear in aviation terms is defined as a sudden but sustained "variation in wind along the flight path of a pattern, intensity and duration that displaces the aircraft abruptly from its intended path so that substantial and timely control action is needed". Though wind shear is short lived it is probably the greatest hazard to aircrafts at low altitude. A substantial change in the lift generation linked with the aircraft inertia results in the displacement of the flight path. Terrain, constructed obstructions, thermals, and temperature inversions may cause wind shears. For a l ight aircraft, the closer to the surface a shear appears, the more dangerous it is. (Brandon 2012)

The Aircraft Owners and Pilots Association (AOPA) published two letters which state that "wind turbines have the potential to be a hazard to air navigation". "According to Greg Pecoraro, AOPA vice president of airports and state advocacy, it has become increasingly important for AOPA to educate lawmakers across the country about the effects of these systems on aviation, particularly so when the wind farms are in close proximity to airports. Aside from the obstruction itself, they can also interfere with communication and navigation, and wind patterns for all aircraft, especially gliders". Pecoraro went on to say, "If the systems (wind farms) were to be installed near arrival or departure paths of these facilities (airports), the safety of passengers and crew, as well as citizen below, would be greatly compromised" (Twombly 2009).

In an article titled, "Wind Farms Could be a Hazard to VFR Flights " the AOPA is urging the FAA to find the 130 wind turbines proposed for the Nantucket Sound near Cotuit, Massachusetts, would pose a hazard to the many low-altitude VFR flights between the three area airports. The turbines could also disrupt local radar systems". An AOPA Pilot Blog stated that "the National Weather Association newsletter had the statement that wind farms are showing up on NexRad radars. ... They make radar returns that look a lot like a tornado vortex" (Namowitz 2012).

Another AOPA report has the title "Wind Farms Can't Come at the Expense of Airports". The mayor of Kentland, Indiana protected his town's airport from a request by a local farmer to close the airport so he could build a wind turbine farm on his property" (AOPA 2010).

2.4.1 Imaginary Surfaces of Airports

To provide safe navigation of aircrafts to and from an airport, there are certain specifications to guard the airspace surrounding an airport. According to FAA, a runway protection zone should be provided at the end of a runway. It is an area on the ground beneath the approach surface, from the end of primary surface and extended to a point where the approach surface is 50ft above the primary surface. If the runway protection zone starts at any location 200ft beyond the end of the runway, then two protection zones are required, the approach protection zone and departure protection zone.

Part 77 of the Federal Aviation Regulations establishes standards to determine what would be considered as obstructions to the navigable airspace and sets requirements for notice to the FAA due to constructions and alterations; it also provides studies to explain the effects of obstructions on safe and efficient use of airspace. It is the responsibility of the airport operator to make sure that the aerial approaches to the airport are clear and protected and the land adjacent or in vicinity of the airport is restricted with measures such as zoning ordinances. Several imaginary surfaces have been established to determine whether an object is an obstruction to the airspace. These surfaces vary with the type of runway (e.g. utility, transport) and the approach planned for that runway (e.g. visual, non-precision instrument, etc.).

- Primary Surface: This surface is longitudinally centered on a runway. It extends 200ft from each end of the runway when the runway is paved; if the runway is unpaved it ends at the end of the runway. Its elevation is the same as that of the nearest point on the runway centerline.
- Horizontal Surface: This is a horizontal plane 150ft above the established airport elevation. The perimeter of this surface is constructed by swinging arcs of fixed radii from the end of the primary surfaces and the two arcs are joined by tangents.
- Conical Surface: It is a surface extending outwards and upwards from the periphery of horizontal surface at a slope of 20:1 for a horizontal distance of 4000ft.
- Approach Surface: This surface is longitudinally centered along the extended runway centerline. It extends outwards and upwards at a designated slope based on the type of approach planned or present.
- Transitional Surface: This surface extends outwards and upwards at right angles to the runway centerline and to the extended runway centerline at a slope of 7:1 from the sides of the primary surface up to horizontal surface and also from that of the approach surface. The width of the transitional surface is 5000ft from the edge of the approach surfaces.

Along with the above imaginary surfaces, existing or future objects are considered as obstructions if they are of greater height than any of following heights or obstructions:

- A height of 500ft above ground level at the site of the airport.
- A height of 200ft above ground level or above the established elevation of the airport, whichever is greater, within 3 nautical miles (3.45 miles) of the ARP (airport reference point) which has a longest runway of more than 3200ft. This is increased 100 ft for every mile up to 500 ft. at 6 miles from the ARP.
- A height within a terminal obstacle clearance area, including an initial approach segment, a departure area, and a circling approach area, that would result in the vertical distance between any point on the object and an established minimum instrument flight altitude in that area less than required obstacle clearance.

- A height that would increase the minimum obstacle clearance altitude within an obstacle clearance area along with turn and termination area on a federal airway or off-airway route.
- Any of the imaginary surfaces defined earlier. (Horonjeff, et al. 2010)

2.4.2 Operations at Airports

This is a standard operation procedure for an airport:

- First scan for traffic on the base and final approach legs. Turn on the landing and anti-collision lights, taxi on the runway and align with the runway centerline and take off.
- Departure Leg: Climb the extended runway centerline beyond departure end of runway up to 1000ft. Then look left and right to check for traffic conflict.
- Crosswind Leg: After climbing to the pattern altitude (1000ft) level off and reduce power. Go on crosswind for a half mile.
- Downwind Leg: Perform all the landing configuration tasks on this leg. Select a touchdown point on runway and descent when the spot is passed. Turn to base leg so as to achieve ½ - ¾ mile final approach leg.
- Base Leg: this leg is perpendicular to the runway. Scan for conflicting traffic on this leg. Approaching the turn point and scan for conflicts again.
- Final Approach Leg: Verify all the configurations. Keep scanning for traffic. Clear both sides of the final approach leg. (Air Safety Institute n.d.)

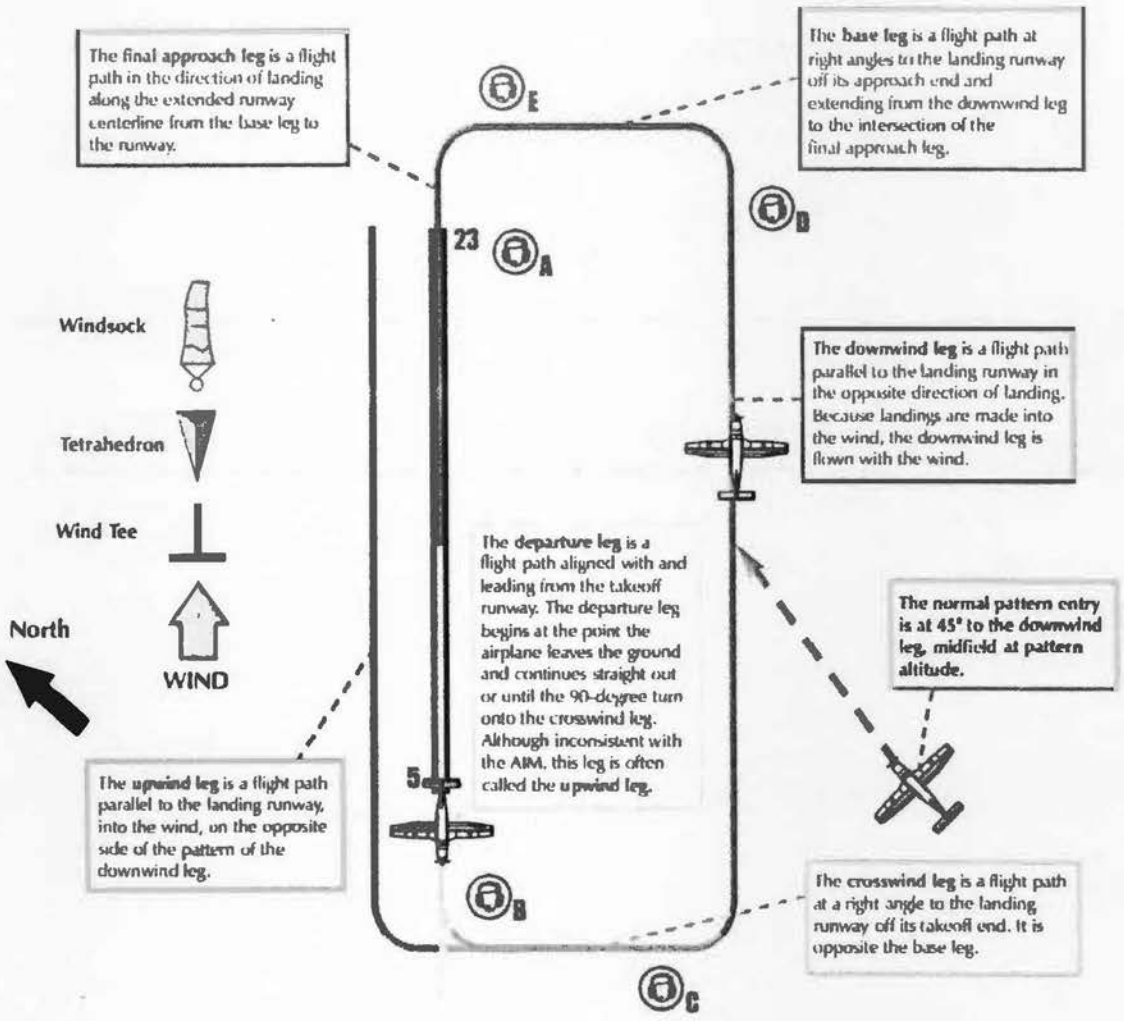


FIGURE 2.1
Non-Towered Airport Approach Traffic Pattern

Figure 2.1 illustrates the traffic pattern used when a p ilot approaches a non-towered airport. The location of a wind farm in relationship to an airport can impact the operations of the airport in three ways:

1. The wind turbines should not intersect any of the imaginary surfaces
2. The wind turbines should not be in the path of the recommended traffic pattern
3. The turbulence caused by the wind farm could impact airport operations even though the turbines don't violate 1 and 2 above.

2.5 Wind Farms and the Environment, Health, Agriculture, and Economics

The National Research Council studied the impacts of the wind farms on t he environment, aesthetics, cultural, recreational, social, and economics. The committee addressed the beneficial as well as harmful effects of wind farms. Though the committee studied the wind farms all over the US and world, their primary focus was on the wind farms located in the Mid-Atlantic Highland region. They concluded that wind farms had an adverse effect on ecology; birds and bat fatalities occurred due to collisions. They also observed that the new monopole turbines may have less fatalities compared to the older, lattice style turbines. They also observed that the bat fatalities were much higher compared to birds. They observed that the wind turbines had a great impact on the aesthetics of the area and this resulted in strong negative reactions. They suggest that the tools, which are available to study the project visibility and appearance as well as the landscape characteristics, should be used. Wind farms may have an impact on t he recreational, sacred and archeological sites as well, as natural scenery is part of recreation and, in the case of historic or sacred sites, their appreciation can be affected. The researchers do not have clarity to evaluate such situations and solve them. The noise from the rotor and flickering of the light due to the blades can cause irritation to the people living there. The noise can be monitored using various measurement techniques and the flickering of light has not been identified even as a mild annoyance, while in Europe it has been noted as a cause of concern. The wind turbine cause electromagnetic interference and has a potential to cause interference to television broadcasts. (National Research Council 2007)

Jay Calleja, Manager of Communications for National Agricultural Aviation Association, discusses the effects of wind energy on farming. The author states that when wind turbines are erected on the farm, aerial application becomes difficult. This is not only limited to the farm in which the turbines are installed, but the neighboring farms can also be affected. If the aerial aviators decide to apply on areas in or around wind turbines they will charge more. Apart from the fact that aerial application cannot be done, there is a deeper problem that exists and that being what the damage from the construction and maintenance does to the farm drainage systems. Although the wind companies do not say that they won't repair the damage, the amount of money that the wind companies are obligated to pay may not match the amount that is required

to fix the farm drainage system. The author also gives many examples of how farmers have been affected even though they did not have wind turbines on their farms. Finally, the author concludes that the aerial applicators should educate farmers about the overall effect that wind turbine construction can have on farmlands and the ability to maximize production. (Calleja 2010)

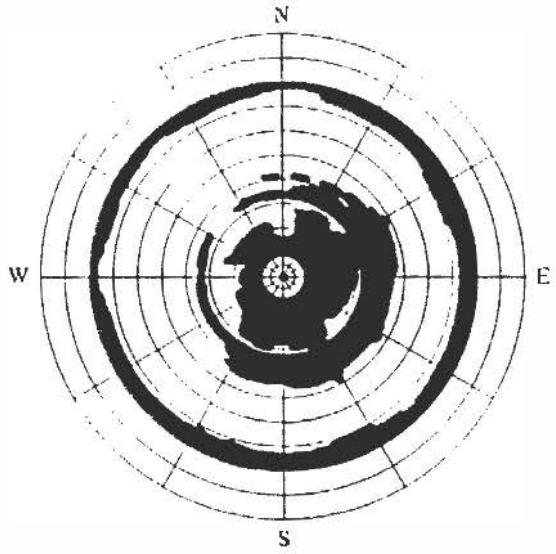
Howard Graham studied the political and social controversy surrounding the proposed wind farm in the Flint Hills region, Kansas. The author states that even though most people of Kansas will back a wind farm project due to various reasons: they trust environmental groups, back local and state government and mistrust energy companies. Yet, in the case of Flint Hills, the Tallgrass Ranchers and Protect the Flint Hills and many environmental organizations urged the local and state authorities to ban wind turbines in Wabaunsee County, Kansas. This was done mainly based on the reason that the wind turbines will alter the social, cultural and aesthetics of the hills. All the new structures in the county require a permit. In this county "the establishment of land uses except agricultural and single-family uses" requires a conditional use. Also, the county limits the industrial structures to a maximum height of 45 feet along major roads and highways. So, the county law prohibits the industrial scale turbines in two ways: the height is more than the maximum and they cannot be erected on agricultural land as they are not permitted as a conditional use. The people residing in Flint Hills felt that erecting wind turbines was like driving a knife in their hearts. Thus, the county enacted a moratorium period of 2002-2013, during which the "County Zoning Administration shall not accept nor process applications for conditional use permits in connection with wind turbine electric generating project" till the moratorium was repealed or expired. (Graham 2008)

Michael C. Slattery, Eric Lantz and Becky L. Johnson estimates the economic impact of a 1398MW wind power development in four counties of west Texas using Job and Economics Development Impacts model. Impacts of projects are estimated at a local level (within 100 miles of the wind farm) as well as the state level. The researchers observed that during the four year construction phase almost 4100 full time equivalent jobs were created and out of these 58% were accounted for by the turbine and supply chain industry. The researchers found that, assuming 4 years of construction and a 20 year life of the wind farm, the total lifetime economic activity in

the state will amount to $1.8 billion, or $1.3 million per MW of installed capacity. The total economic activity at local level over the 20 year life cycle was substantial at $ 730 million, or $0.52 million per MW of installed capacity. The researchers conclude that, with this kind of impact observed from the wind industry and the potential to increase impacts by manufacturing equipment instate and developing trained wind industry labor, Texas appears to be well equipped to have increasing impacts from wind farm development. (Slattery, Lantz and Johnson 2011)

Johannes Pohl, Gundula Hubner, and Anja Mohs studied the stress effects of aircraft obstruction markings of wind turbines. The researchers state that along with the visual impact on the landscape, the stress effect of the aircraft markings is an emerging topic for resistance. As the height of the turbines increases, the number of markings increases as well. The researchers used environmental and stress methodologies to analyze the stress impact. The researchers sent out a questionnaire to 420 residents with a direct sight of 13 wind farms. They found that no substantial annoyance was caused by the obstruction markings. They also observed that the residents exposed to xenon lights reported intense and multifaceted stress compared to those exposed to LED lights. Also, the xenon lights negatively affected the general acceptance of wind farms. The residents also report more annoyance towards non-synchronized lights compared to synchronized conditions under certain weather conditions. Thus, the authors recommend that, to increase the social acceptance of wind farms, xenon lights should be banned, synchronized lights should be used and light intensity should be adjusted. (Pohl, Hubner and Mohs 2012)

Giuseppe Carbone and Luciano Afferrante defined the setback distance and/or buffer zones to reduce the risk of damage or injury from rotor failure. Currently, the distances are based as a "Rule of Thumb" based on the height of the tower and are often overestimated. The researchers combined a 3D dynamic model of detached blade fragment with a rigorous probabilistic approach. Their results show that there are large portions which are safe, even though they are located within the maximum range of the detached blade. Figure 2.2 below shows the safe and unsafe zones around a wind turbine (Carbone and Afferrante 2013).



The external circle has a radius of 200 m and the radial distance between the two contiguous circles is 20 m. White areas are the safe regions.

FIGURE 2.2
Map of Impact Risk per Unit Area for a Detached Blade

Loren D. Knopper and Christopher A. Ollson reviewed the literature on the health effects of wind turbines and compared the peer-reviewed and popular literature. They searched for literature from the Thomas Reuters Web of Knowledge and Google. They concluded that the peer-reviewed differed from the popular literature in some ways. The reviewers found that the peer-reviewed studies the turbine annoyance was attributed to turbine noise, but were, in fact, strongly related to visual impact, attitude towards turbines and noise. The peer-reviewed articles only report health effects due to environmental stress that lead to annoyed/stressed state and does not demonstrate a link between physiological health effects of the people living close to the turbines and noise they emit. While on the other hand, they observed in popular literature that the health effects are related to the distances from the turbines. In conclusion, they observed that both type of studies had a common conclusion that being that the noise from turbine leads to annoyance to some people. They concluded that the change in the environment cause health effects and not the turbine specific variables like audible noise (Knopper and Ollson 2011).

2.6 Conclusion of the Literature Search

There is a need for more detailed information on the impact of the turbulence resulting from wind farms on a general aviation airport. The wind turbulence from a single wind turbine was simulated in the project and the methodology is presented in the next chapter of this report.

Chapter 3: Wind Turbine Wake Hazard Analysis

The potential hazard caused by wind turbine vortex wakes can be viewed as two different types: the induced roll hazard on the aircraft and the gusty crosswind from the vortex. Therefore, the wind turbine wake hazard is analyzed based on two criteria: *the roll hazard criterion and the crosswind hazard criterion.*

In the following analysis, we investigated two cases, the Rooks County Regional Airport and the Pratt Regional Airport. In each case, the potential roll and crosswind hazard range caused by the proposed nearby wind farm were studied.

The case study conditions are assumed as (www.aweo.org/windmodels):

- Wind turbine center height: h = 400 ft
- Turbine blade diameter: D = 300 ft
- Typical GA airplane wing span: L = 30 ft
- Atmospheric wind speed range: v = 10mph-40mph

3.1 Simulation of the Roll Hazard Caused by Wind Turbine Wake Helical Vortex

Under the situation of the highest wind speed V = 40 mph (58.67 ft/s), the circulation of the wind turbine wake helical vortex is $\Gamma = 5006.3$ (ft^2/s), which is calculated based on the model in Appendix A. Using this circulation value, a single turbine wake helical vortex was simulated. Figure 3.1 shows the simulated turbine wake helical vortex. The mathematical model is presented in Appendix B. The color represents the velocity magnitude.

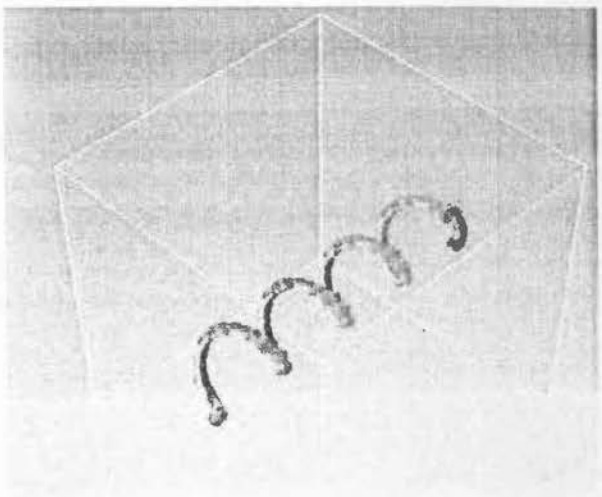


FIGURE 3.1
Wind Turbine Helical Vortex Model Used in the Case Analysis (with Color Representing the Velocity Magnitude)

Using the velocity field, the rolling moment coefficient acting on an airplane could be calculated (Appendix C). The hazard index range for the wind turbine induced rolling moment coefficient was defined as:

- Above an induced rolling moment coefficient of 0.28: high hazard
- Between 0.1 to 0.28: medium hazard
- And below 0.1: low hazard.

Please refer to the Appendix D to see how to determine these values.

3.2 The Rooks County Case

Figure 3.2 shows the aerial image and a sketch of the Rooks County Regional Airport. Runway 18-36 is the only existing runway in the center of the airport.

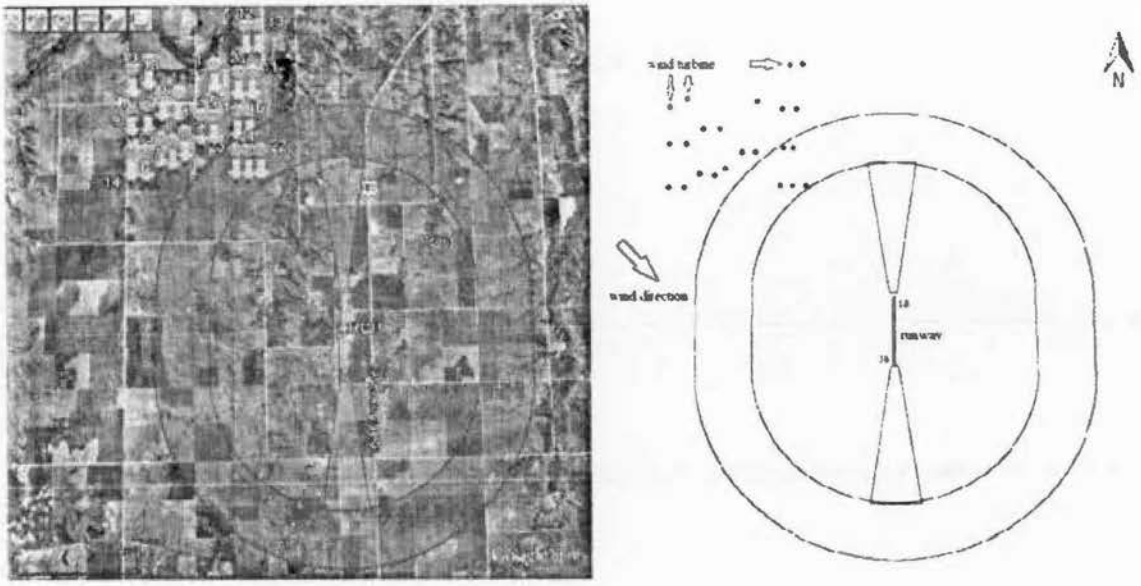


FIGURE 3.2
Rooks County Regional Airport and Wind Farm with a Scenario of a Northwest Wind

3.2.1 The Roll Hazard Analysis

Based on t his decay distribution in Appendix E, the induced rolling momentum coefficient due to the wind turbine wake on the encountering aircraft, and the hazard index near the runway, can be calculated. The contours for Runway 18-36 under the 40 m ph (which is assumed to be the highest possible safe wind speed under which wind turbines can operate) wind speed condition are shown in Figure 3.3. The rhombus area in Figure 3.3a is a cross section of the area where the helical vortex exists (between two red lines) and the area near the runway from south to north (between the two green lines). Figure 3.3b shows the exact rolling moment value in the area and Figure 3.3b shows the hazard index. As Figure 3.3b shows, the area around the runway is within the high hazard region (determined in 3.1).

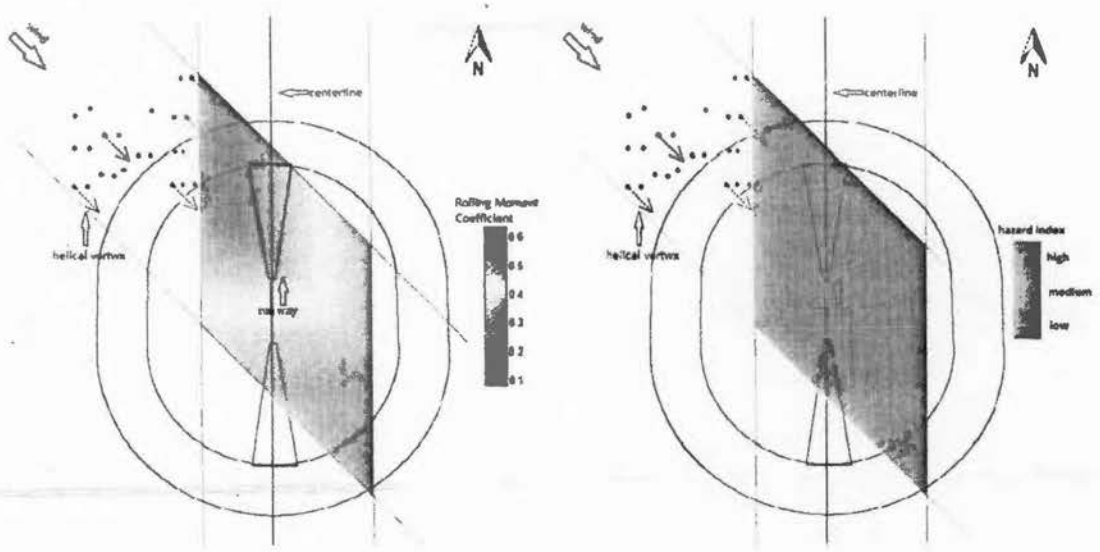


FIGURE 3.3
(a) Rolling Moment Coefficient and (b) Hazard Index around the Rooks County Regional Airport

Figure 3.4 is a plot of the end of Runway 18 and its approach surface from the airport layout plan drawing provided by the Kansas Department of Transportation. There are two approach surfaces: one is 20:1 approach surface and the other is 34:1 approach surface.

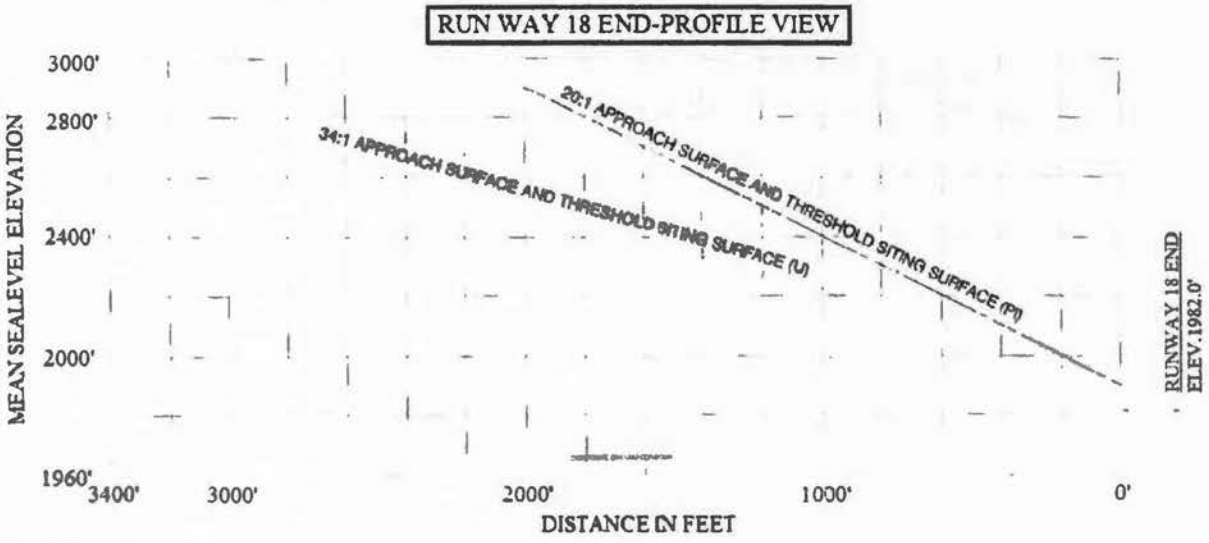


FIGURE 3.4
Approach Surface of Runway 18 in the Airport Layout Plan Drawing

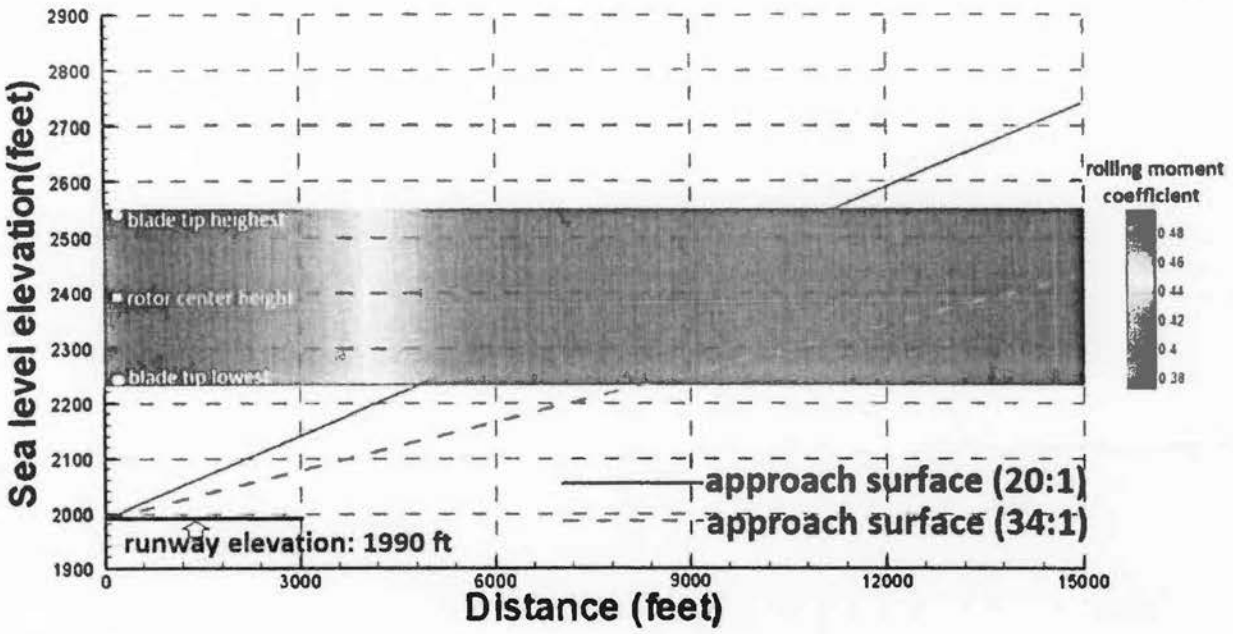


FIGURE 3.5
Rolling Moment Distribution along the Approach Aurface of Runway 18 (All in the High Hazard Index Range)

The approach surface portion in the above plot is about 100 ft. Since the turbine tower center is 400-foot high, we extended the plot following the trend and put the contours of the rolling moment coefficient in Figure 3.5 for the elevation between 2240 ft (the lowest blade tip elevation) and 2540 ft (the highest blade tip elevation). The rolling moment coefficient along this runway and the extended trend up to 15000 ft distance is always in the high hazard range. But for the approach surfaces, only within the height between two tips the airplane will experience the high hazard.

3.2.2 The Crosswind Hazard Analysis

Under the situation of the highest wind speed v = 40 mph (58.67 ft/s), the circulation of the wind turbine wake helical vortex is Γ = 5006.3 (ft^2/s). Using this circulation value, we simulated a single turbine wake helical vortex, as Figure 3.1 shows. In aviation, a crosswind is the component of wind that is blowing across the runway making landings and take-offs more difficult. Because the helical vortex can also enhance the crosswind, we need to assess the crosswind hazard in the area around the runway.

Figure 3.6 shows the aerial image and a sketch of the Rooks County Regional Airport. The wind direction is northwest. So as a component of it, the crosswind direction to Runway 18-36 is from west to east.

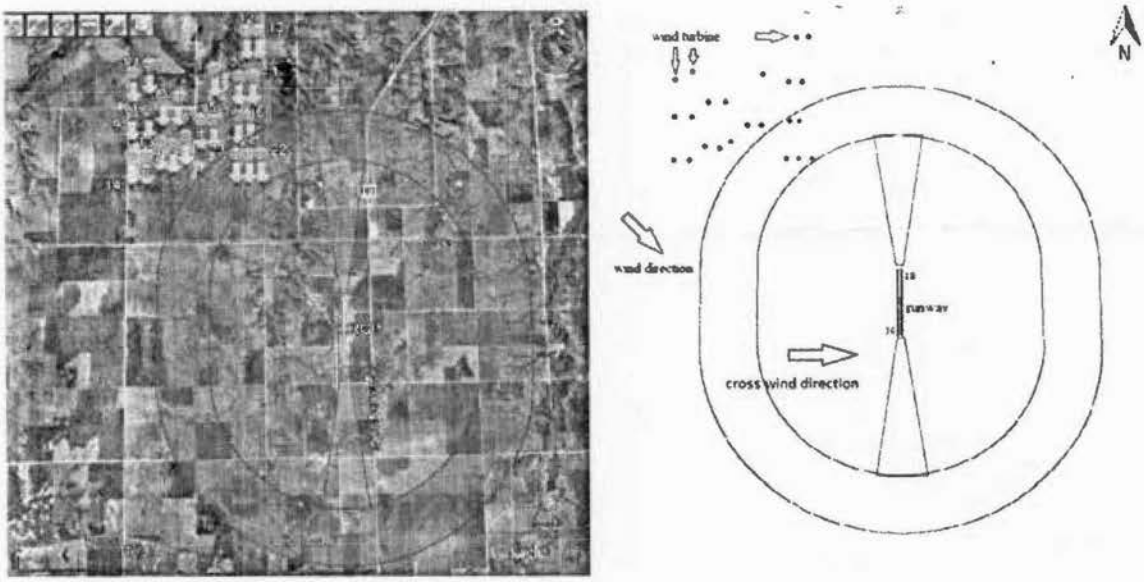


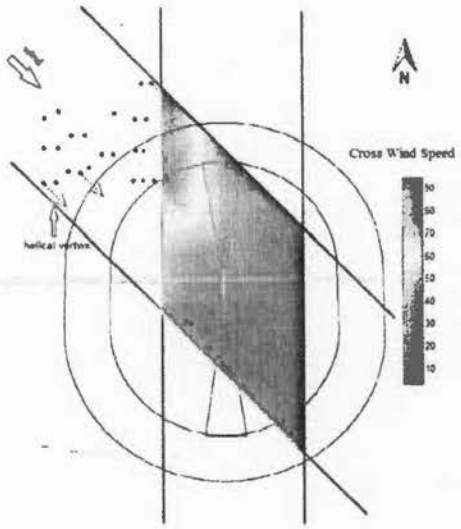
FIGURE 3.6
Wind Farm with a Northwest Wind

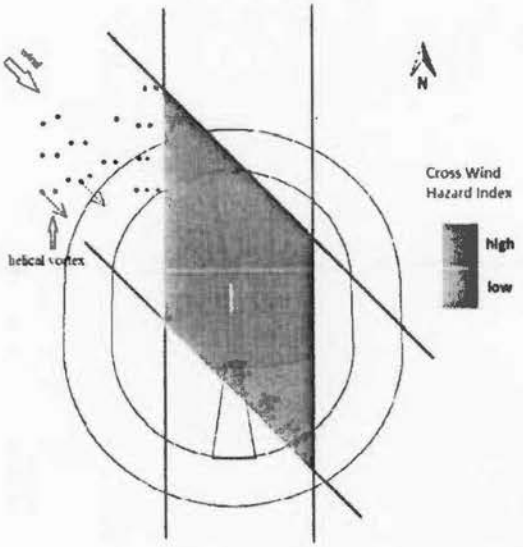
Based on the same decay distribution in Appendix E, the crosswind speed and the hazard index near the runway can be calculated (see Appendix F).

If there is a 40 mph gust, we only consider the crosswind induced by the helical vortex due to a gust-driven wind turbine wake. Any component of 40 mph gust itself is not included in the crosswind here. The contours for Runway 18-36 under the 40 mph (58.68 ft/s) gust wake are shown in Figures 3.7a and 3.7b. The rhombus area is a cross section of the area where the helical vortex exists (between the two red lines) and the area near the runway from south to north (between the two green lines). If we consider the crosswind above 12.1 mph (17.7 ft/s) as a high hazard, as shown in Table 2.1 from the literature, and below 12.1 as a low hazard, Figure 3.7b shows that a major portion of the runway is in the high hazard region.

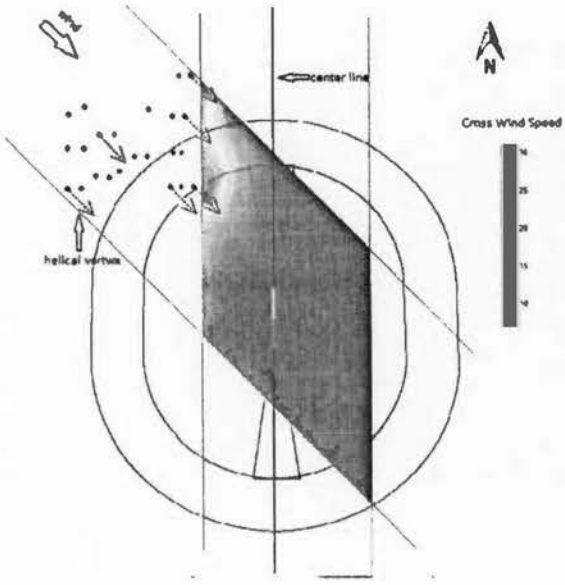
The contours for Runway 18-36 under the 10 mph (14.67 ft/s) continuous wind speed condition, which is a mild wind condition, are shown in Figures 3.7c and 3.7d. Assuming that the 10 mph wind blows constantly, we calculated the summation of the crosswind induced by helical

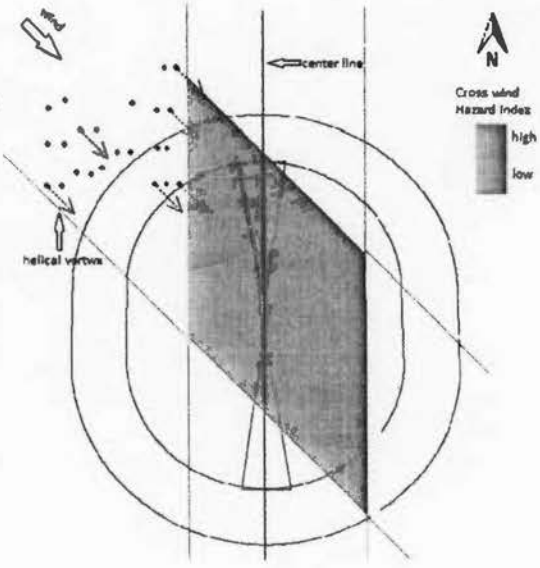
vortex and generated by the 10 mph wind itself. Figure 3.7d shows that a partial area around the runway is within the high hazard region.





(a) Turbine wake induced crosswind under 40 mph gust (b) Hazard index under 40 mph gust





(c) Crosswind speed under 10 mph wind (d) Hazard index under 10 mph wind

FIGURE 3.7
Crosswind Speed and Hazard around the Rooks County Regional Airport

3.3 The Pratt Regional Airport Case

Figure 3.8 shows the aerial image and a sketch map of the Pratt Regional Airport. Runway 17-35 is the only open runway.

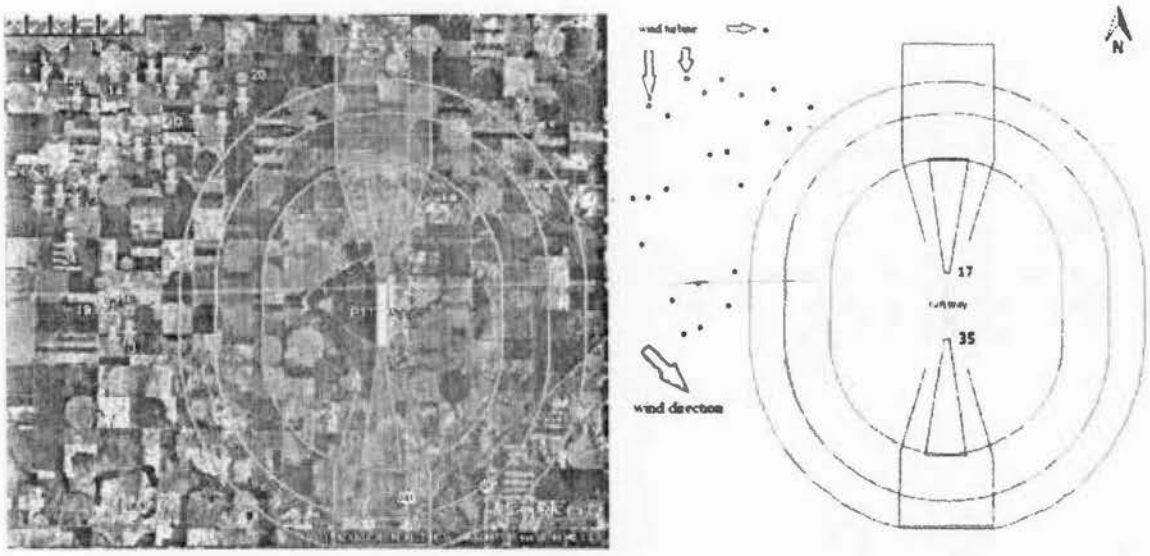


FIGURE 3.8
Pratt Regional Airport and Wind Farm with a Scenario of a Northwest Wind

3.3.1 The Roll Hazard Analysis

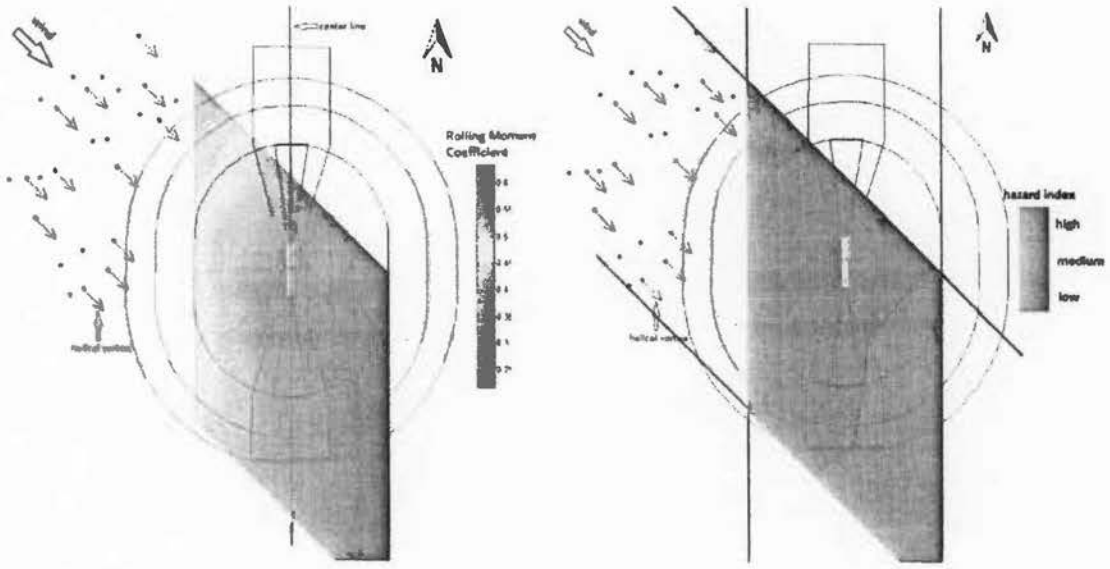


FIGURE 3.9
(a) Rolling Moment Coefficient and (b) Hazard Index around the Pratt Regional Airport

Based on this decay distribution in Appendix E, the rolling momentum coefficient can be calculated, and then the hazard index near the runway is determined. The contours for Runway 17-35 under the 40 mph wind speed condition are shown in Figure 3.9. Figure 3.9a shows the exact rolling moment value in the area, and Figure 3.9b shows the hazard index. As Figure 3.9b shows, the area around the runway is within the high hazard region.

Figure 3.10 is a plot of the end of Runway 17 and its approach surface from the airport layout plan drawing provided by KDOT. The approach surface is a 34:1 approach surface.

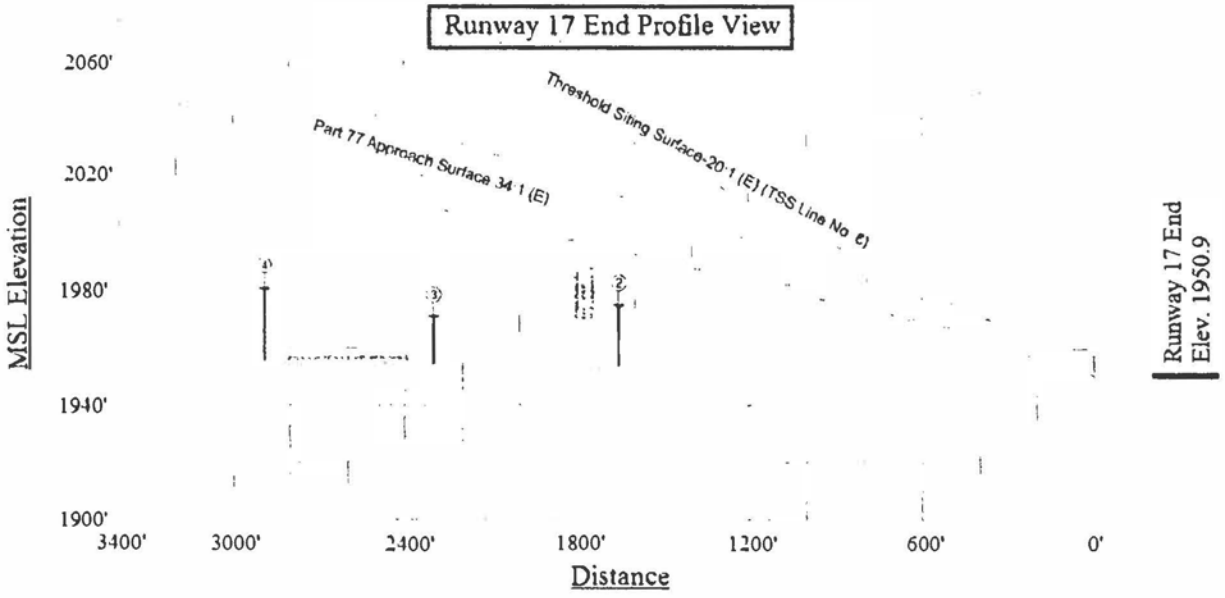


FIGURE 3.10
Approach Surface of Runway 17 in the Airport Layout Plan Drawing

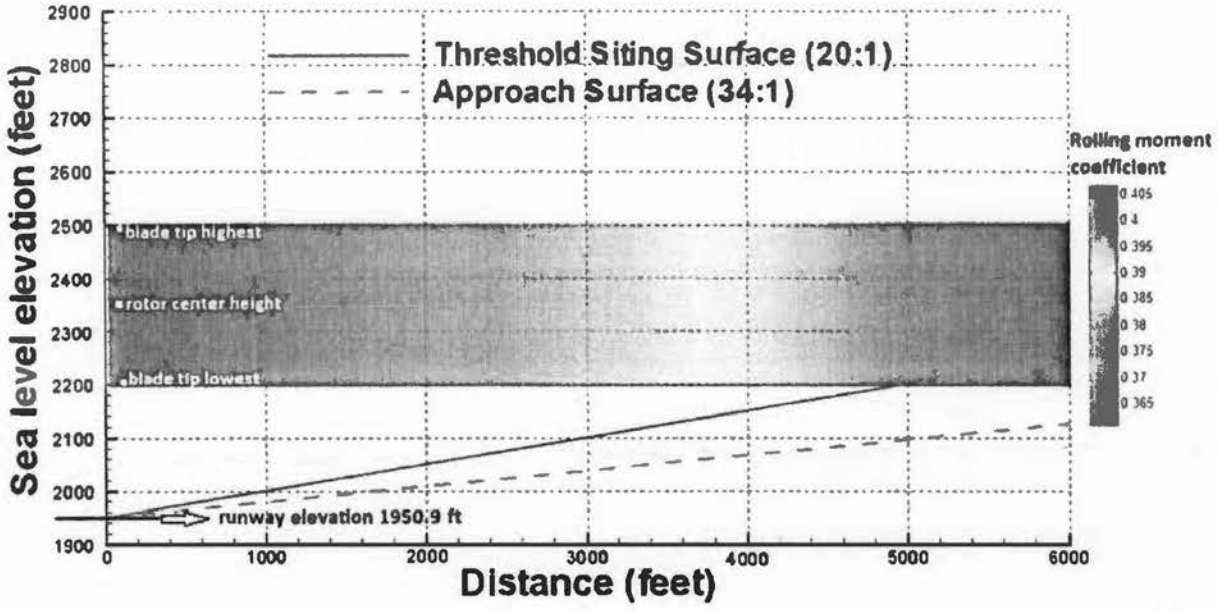


FIGURE 3.11
Rolling Moment Distribution along the Approach Surface of Runway 18 (All in the High Hazard Index Range)

We also extended the plot following the trend of the approaching surface and threshold siting surface and put the contours of rolling moment coefficient in Figure 3.11 for the elevation between 2200 ft and 2500 ft. The rolling moment coefficient along this runway and the extended trend up to 6000 ft (the limitation of the hazard area) distance is always in the high hazard range. The very end of the threshold site surface will experience the high hazard.

3.3.2 The Crosswind Hazard Analysis

Because the helical vortex can also enhance the crosswind acting on an airplane, we need to assess the crosswind hazard in the area around the runway in Pratt Regional Airport as well. Figure 3.12 shows the aerial image and a sketch map of Pratt Regional Airport. The crosswind direction to Runway 17-35 is from west to east.

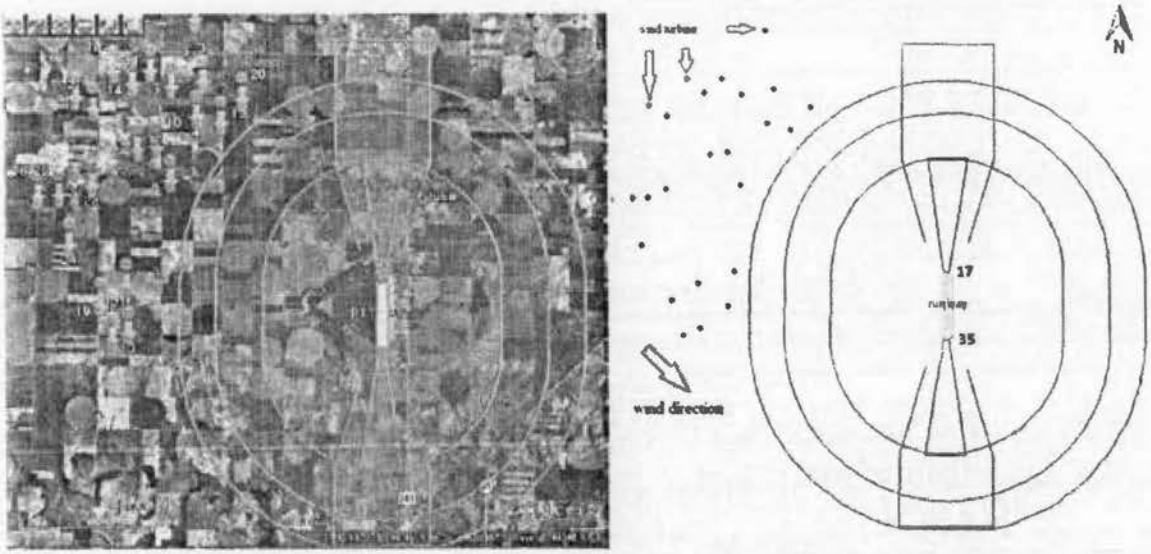
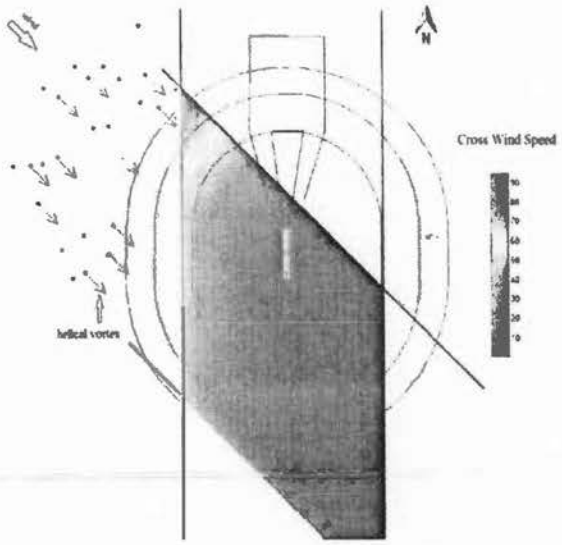


FIGURE 3.12
Pratt Regional Airport and Wind Farm with a Scenario of a Northwest Wind

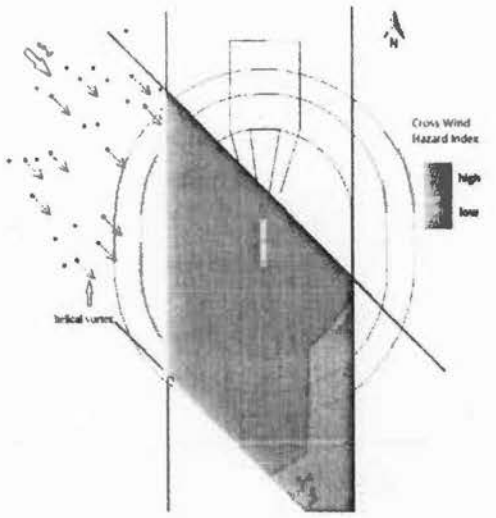
Based on the same decay distribution in Appendix E, the crosswind speed and the hazard index near the runway can be calculated (see Appendix F).

Again, the case was analyzed in two scenarios: one is the 40 mph gust, and the other is the 10 mph continuous wind. The contours of the crosswind and the corresponding hazard for the 17-35 runway under the 40 mph (58.68 ft/s) wind speed condition are shown in Figures 3.13a and 3.13b. The rhombus colorful area is a cross section of the area where the helical vortex exists (between the two red lines) and the area near the runway from south to north (between the two green lines). If we consider the crosswind above 12.1 mph (17.7 ft/s) as a high hazard, as shown in Table 2.1 from the literature, and below 12.1 as a low hazard, Figure 3.13b shows that the runway is in the high hazard region.

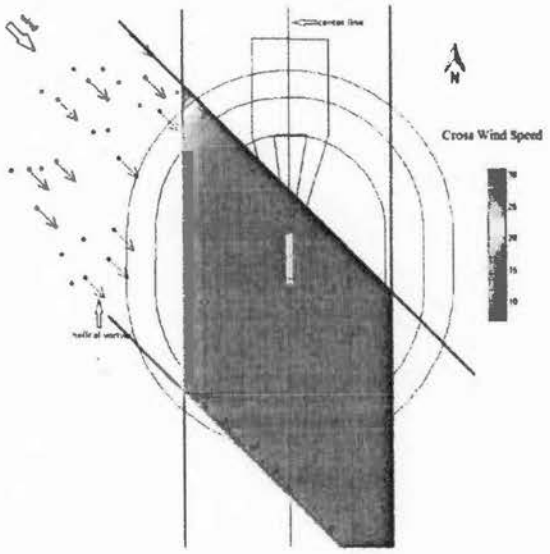
The contours for Runway 17-35 under the 10 mph (14.67 ft/s) continuous wind speed condition, which is a mild wind condition, are shown in Figures 3.7c and 3.7d. Figure 3.13d shows that only a very small area around the runway near the wind turbines is within the high hazard region.



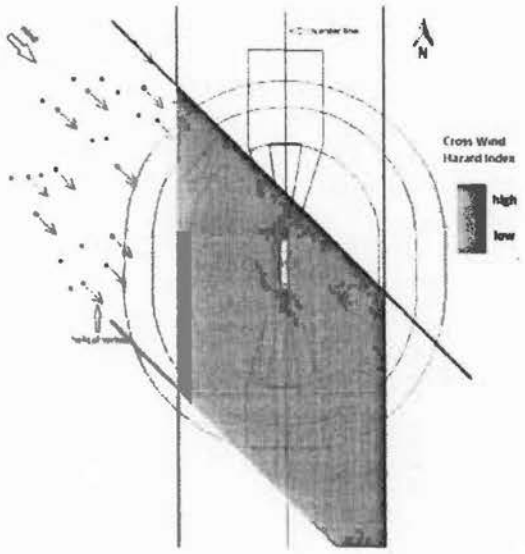
(a) Turbine wake induced crosswind under 40 mph gust



(b) Hazard index under 40 mph gust



(c) Crosswind speed under 10 mph wind



(d) Hazard index under 10 mph wind

FIGURE 3.13
Crosswind Speed and Hazard around the Pratt Regional Airport

Chapter 4: Conclusions and Recommendations

The literature review shows that wind farms may have an adverse impact on general aviation, in general, and more specifically with aircraft operating at or near an airport. The impacts of wind turbines on aviation include physical penetration of airspace, communication systems interferences and rotor blade-induced turbulence.

The results of this project support the findings in the literature search that the turbulence from a wind turbine can impact operations at a general aviation airport. Two case studies were used to illustrate the impact of turbulence from a wind turbine on a general aviation airport. This project analyzed the roll hazard and the crosswind hazard resulting from a wind farm located near a general aviation airport. The wind turbine wake model is based on a theoretical helical vortex model and the decay rate is calculated following the aircraft wake decay rate in the atmosphere.

The roll hazard analysis showed that for the Rooks County Regional Airport, the potential roll hazard index is in the high range as far out as 2.84 miles. For the Pratt Regional Airport, the roll hazard index is in the high range as far out as 1.14 miles. These numbers are based on a gust wind of 40 mph that is below the turbine brake wind speed of 55 mph. As the results show, the scenario is different according to the relative locations and orientations of the airport and the nearby wind farm. Therefore, the analysis has to be performed for each specific regional airport.

The crosswind hazard analysis for the Rooks County Regional Airport showed part of the airport in the high range even under the mild wind condition at 10 mph. The wind turbine wake increases the crosswind component to more than 12 mph which is considered high risk crosswind for small general aviation aircraft. For the Pratt Regional Airport, the crosswind hazard is relatively small under the mild wind condition (10 mph). When there is a gust of 40 mph wind, the turbine wake induced crosswind puts the majority of runway areas to high hazard areas at both of the airports.

It is recommended that additional studies should be performed to draw the proper correlation between the hazard index developed in this study and the safe operation of aircraft at low airspeeds and at low flight altitudes operating near or at a general aviation airport.

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Appendix A: Wind Turbine Wake Vortex Circulation

The experimental study referenced in this report was conducted in an aerodynamic/atmospheric boundary layer (AABL) wind tunnel located at Iowa State University as shown in Figure A.1 (Yang et al. 2012). This experiment was to simulate a radius of 45 m wind turbine using a 1:350 scale down small turbine. During the experiments, the wind speed at the hub height was set to be 4.0 m/s (i.e., U_0=4.0 m/s). The corresponding chord Reynolds number (i.e., based on the averaged chord length of the rotor blades and the wind speed at hub height) would be about 6,000, which is significantly lower than those of real wind turbines. The chord Reynolds number would have significant effects on the characteristics of wind turbine performance. However, the fundamental behavior of the helical tip vortices and turbulent wake flow structures at the downstream of wind turbines would be almost independent to the chord Reynolds number. The wind turbines with similar tip-speed-ratio (TSR) would produce similar near wake characteristics such as helical shape, rotation and tip vortices.

(Source: Yang, et al. 2012)

FIGURE A.1
Model of a Turbine in a Wind Tunnel Experiment

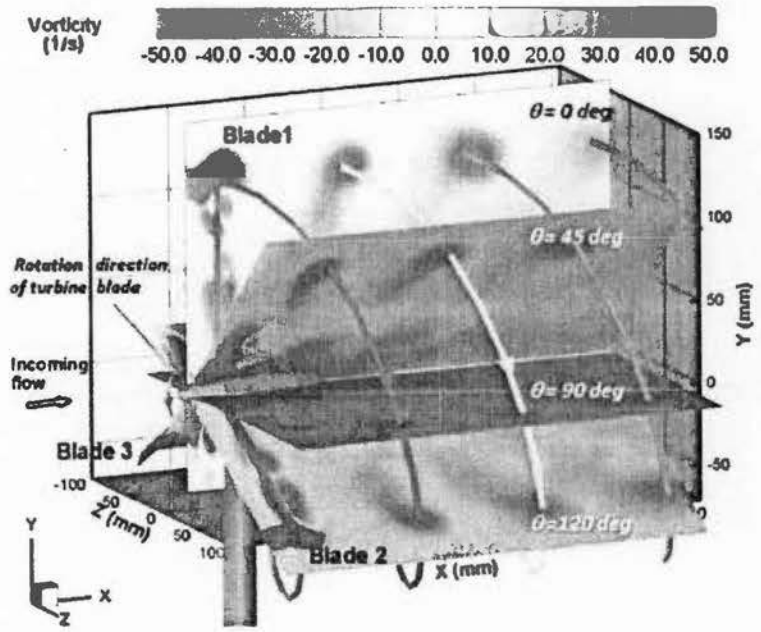
It is therefore reasonable using the data in Yang at el. (2012) to scale up the rotation based on the incoming wind speed and the dimension of the large wind turbine.

In that paper, $V_0 = 4$ m/s and the rotor diameter is 0.254 m and the vorticity and velocity result is shown in Figure A.2. Using the maximum of the velocity value and the area of vortex the circulation can be calculated:

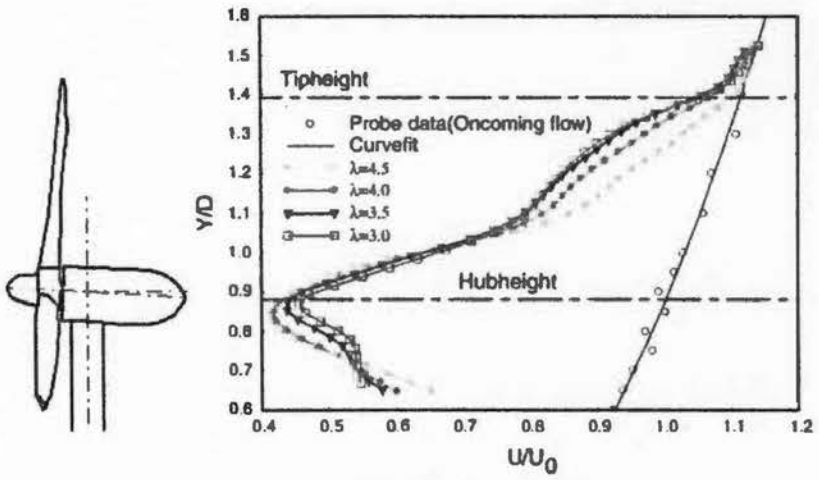
$$\Gamma = 2\pi rv = 2\pi \times 0.01\text{m} \times (4(\text{m/s}) * 1.15) = 0.289\ \text{m}^2/\text{s}$$

We thus can calculate the circulation in our case as:

$$\Gamma = 0.289\left(\frac{\text{m}^2}{\text{s}}\right) \times \left(\frac{17.88\left(\frac{\text{m}}{\text{s}}\right)}{4\left(\frac{\text{m}}{\text{s}}\right)}\right) \times \left(\frac{91.44\text{m}}{0.254\text{m}}\right) = 465.1\frac{\text{m}^2}{\text{s}} = 5006.3\frac{ft^2}{s}$$



(a) Vorticity result



(b) Velocity result

(Source: Yang et al. 2012)

FIGURE A.2
Vorticity and Velocity Distribution

Appendix B: Helical Vortex Model for Wind Turbine Vortex Wake

Wind turbine wakes are modeled by helical vortices (Hardin 1982). In a Cartesian coordinate, when the radius is less than the helical radius ($r < R_{helical}$):

$$u_r = \frac{\Gamma_{helical} R_{helical}}{\pi k^2} S_2$$

$$u_\phi = \frac{\Gamma_{helical} R_{helical}}{r \pi k} S_1$$

$$w = \frac{\Gamma_{helical}}{2\pi k} - \frac{\Gamma_{helical} R_{helical}}{\pi k^2} S_1$$

where $\Gamma_{helical}$ is the circulation of the vortex filament, $R_{helical}$ is the radius of the helical vortex, and:

$$S_1(r,\phi) = \sum_{m=1}^{\infty} m K'_m \left(\frac{R_{helical} m}{k} \right) I_m \left(\frac{rm}{k} \right) \cos(m\psi)$$

$$S_2(r,\phi) = \sum_{m=1}^{\infty} m K'_m \left(\frac{R_{helical} m}{k} \right) I'_m \left(\frac{rm}{k} \right) \sin(m\psi)$$

$$\psi = \phi - z/k$$

where K'_m and I_m are modified Bessel functions of the mth order.

When the radius is greater than the helical radius ($r > R_{helical}$):

$$u_r = \frac{\Gamma_{helical} R_{helical}}{\pi k^2} S_4$$

$$u_\phi = \frac{\Gamma_{helical}}{2\pi r} + \frac{\Gamma_{helical} R_{helical}}{r \pi k} S_3$$

$$w = -\frac{\Gamma_{helical} R_{helical}}{\pi k^2} S_3$$

where:

$$S_3(r,\phi) = \sum_{m=1}^{\infty} m K_m \left(\frac{rm}{k} \right) I'_m \left(\frac{R_{helical} m}{k} \right) \cos(m\psi)$$

$$S_4(r,\phi) = \sum_{m=1}^{\infty} m K'_m \left(\frac{rm}{k} \right) I'_m \left(\frac{R_{helical} m}{k} \right) \sin(m\psi)$$

Appendix C: Rolling Moment Coefficient Calculation

Since we have the wind turbine wake velocity field from the helical vortex model, we can calculate the induced rolling moment coefficient on an aircraft that flies through the wake (Zheng and Xu 2008). Considering the aircraft with a wing span of $2s_F$ and flying speed W_F, we have, for the lift force acting on a spanwise element section dx_F:

$$\rho W_F \Gamma_F(x_F) dx_F = \frac{1}{2}\rho {W_F}^2 C_{LF}(x_F)\, dx_F \cdot c_F(x_F) \qquad \text{Equation C.1}$$

where Γ_F is the circulation, C_{LF} is the lift coefficient, and $c_F(x_F)$ is the chord length of the aircraft at x_F. Assuming that $\partial C_{LF}/\partial\alpha$ is approximately constant in the range of angle of attack α, we have:

$$\Gamma_F(x_F) = \frac{\frac{1}{2} W_F \Delta\alpha \cdot \partial C_{LF}}{\partial\alpha}\ c_F(x_F) \qquad \text{Equation C.2}$$

Since

$$\Delta\alpha \approx \frac{v}{W_F} \qquad \text{Equation C.3}$$

where v is the vertical velocity component at the location of the wing (produced by the wake vortex system). We have

$$\Gamma_F(x_F) = \frac{1}{2} v(x_F) \frac{\partial C_{LF}}{\partial\alpha}\ c_F(x_F) \qquad \text{Equation C.4}$$

The rolling moment on the wing can then be expressed by:

$$M_{RF} = \int_{-s_F}^{s_F} \rho W_F \Gamma_F(x_F) x_F dx_F = \frac{1}{2}\rho W_F \frac{\partial C_{LF}}{\partial \alpha} \int_{-s_F}^{s_F} v(x_F)\, c_F(x_F)\, x_F dx_F$$ **Equation C.5**

And the rolling moment coefficient is:

$$C_{RF} = \frac{M_{RF}}{\frac{1}{2}\rho W_F{}^2 S_F \cdot 2s_F} = \frac{\partial C_{LF}}{\partial \alpha} \cdot \frac{1}{2S_F \cdot 2s_F} \int_{-s_F}^{s_F} v(x_F)\, c_F(x_F) x_F dx_F$$ **Equation C.6**

where S_F is the plan form area and is defined as

$$S_F = 2s_F \bar{c}_F$$ **Equation C.7**

with $\bar{c}_F$ equal to the average chord length of the wing.

Using a Fourier series, we define

$$\Gamma_F(\theta) = 4s_F W_F [\frac{P_0}{2} + \sum_1^N (P_0 cos2n\theta + Q_n sin2n\theta)]$$ **Equation C.8**

where θ is used to replace the spanwise coordinate of the airplane wing x_F, defined as:

$$cos\theta = -x_F/s_F.\ -1 \leq x_F/s_F \leq 1\ for\ 0 \leq \theta \leq \pi$$ **Equation C.9**

Then from the first part of Equation C.6, the rolling moment coefficient can be expressed as

$$C_{RF} = \frac{4{s_F}^2}{S_F} \int_0^{\pi} [\frac{P_0}{2} + \sum_1^N (P_n cos2n\theta + Q_n sin2n\theta)]\,(-cos\,\theta)(-sin\theta) d\theta$$

$$= \pi/4\,(AR)_F Q_1$$ **Equation C.10**

where $(AR)_F$ is the aspect ratio of the wing. Now with Equations C.4 and C.8, we have

$$\frac{v(x_F)}{W_F} = \frac{2\Gamma_F(x_F)}{W_F \frac{\partial C_{LF}}{\partial \alpha} c_F(x_F)} = \frac{4\,(AR)_F}{\frac{\partial C_{LF}}{\partial \alpha} \frac{c_F^{(6)}}{\bar{c}_F}} \left[\frac{P_0}{2} + \sum_1^N (P_n cos2n\theta + Q_n sin2n\theta)\right]$$

$$= \left[\frac{A_0}{2} + \sum_1^N (A_n cos2n\theta + B_n sin2n\theta)\right] \frac{\bar{c}_F}{c_F(\theta)} \qquad \textbf{Equation C.11}$$

for

$$A_n = \frac{4\,(AR)_F}{\frac{\partial C_{LF}}{\partial \alpha}} P_n \qquad \textbf{Equation C.12}$$

and

$$B_n = \frac{4\,(AR)_F}{\frac{\partial C_{LF}}{\partial \alpha}} Q_n \qquad \textbf{Equation C.13}$$

Hence, with Equation C.10

$$C_{RF} = \frac{\pi}{16} \frac{\partial C_{LF}}{\partial \alpha} B_1 \qquad \textbf{Equation C.14}$$

From Equation C.11 we can see that

$$\frac{A_0}{2} + \sum_1^N (A_n cos2n\theta + B_n sin2n\theta) = \frac{v(\theta)\, c_F(\theta)}{W_F \bar{c}_F} \qquad \textbf{Equation C.15}$$

That is, if we perform a Fourier series expansion on $\frac{v(\theta)\, c_F(\theta)}{W_F \bar{c}_F}$, only the first coefficient of the sine series of that series is needed to calculate the rolling moment coefficient.

If we let

$$F(\theta) = \frac{v(\theta)\, c_F(\theta)}{W_F \bar{c}_F} \qquad \textbf{Equation C.16}$$

then

$$C_{RF} = \frac{\pi}{16} \frac{\partial C_{LF}}{\partial \alpha} \frac{\pi}{2} \int_0^{\pi} F(\theta) \sin(2\theta) d\theta \qquad \textbf{Equation C.17}$$

where C_{LF} is the lift coefficient, α is the angle of attack. In our case, $\frac{\partial C_{LF}}{\partial \alpha}$ equals to 0.075/degree, 4.2972 /rad. In addition, θ can be determined by x_F, the position of each section, and s_F the length of the wing. $\cos(\theta) = -\frac{x_F}{s_F}$

where $v(\theta)$ is the vertical velocity, $c_F(\theta)$ is the chord length, $\overline{c_F}$ is the average chord length, W_F is the flying speed, for our case, its 80 m/s. And

$$\frac{c_F(\theta)}{\overline{c_F}} = \frac{20}{13}(1 - 0.7\,|\frac{x_F}{s_F}|) = \frac{20}{13}(1 - 0.7\,|\cos(\theta)|) \qquad \textbf{Equation C.18}$$

Appendix D: Roll Hazard Index

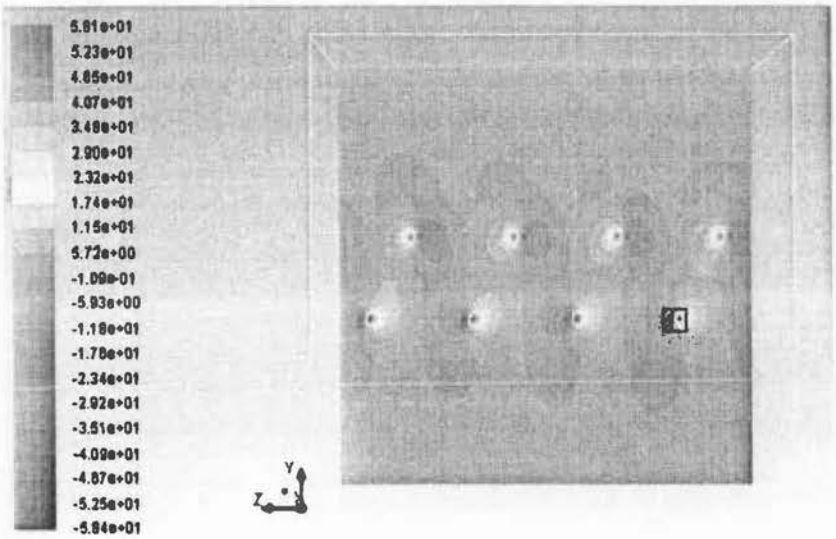


FIGURE D.1
Y-Direction Velocity on the Center X-Z Cutting Plane

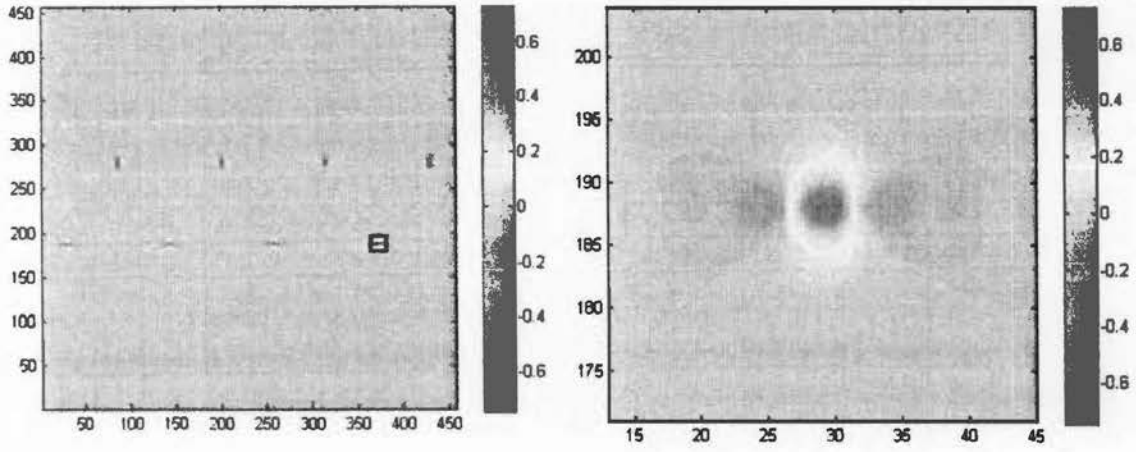


FIGURE D.2
(a) The Rolling Momentum Coefficient in the Domain and (b) in the Zoom-in Domain

In order to evaluate the roll hazard caused by the wind turbine wake, the induced rolling moment coefficient on a wake-penetrating aircraft is calculated based on the vertical component velocity distribution. Figure D.1 shows the y-direction velocity on a cutting plane. With the y-direction velocity, we can calculate the rolling moment coefficient using the relations developed in Appendix C. Figure D.2a is the resultant rolling momentum coefficient acting on a 30-ft

wingspan airplane when it is passing through the turbine wake region. The highest rolling momentum coefficient occurs at the center of the helical vortex core, which can be seen in Figure D.2b in a zoom-in region.

The relative magnitude between the operable rolling moment and the rolling moment induced by the wind turbine wake is used in this study to determine the hazard index.

The rolling moment coefficient that the airplane is able to operate is modeled by this formula:

$$C_R = 2C_{l\delta_A}\delta_A;$$

For a normal airplane

$$0 < C_{l\delta_A} < 0.4$$

$$0 < \delta_A < 20°$$

So at the maximum:

$$C_R = 2C_{l\delta_A}\delta_A = 2 \times 0.4 \times \frac{20}{180} \times \pi = 0.28$$

Appendix E: Rolling Moment Coefficient Decay with Distance

The local circulation Γ_l can be calculated by the initial circulation Γ_0 and vortex span b_0 after time t (Zheng et al. 2009):

$$\frac{\Gamma_l}{\Gamma_0} = \exp(-C\frac{t\Gamma_0}{2\pi {b_0}^2 {T_c}^*}) \qquad \text{Equation E.1}$$

where C is a constant of 0.45, and ${T_c}^*$ is determined by the following calculation:

$$\varepsilon^* = \frac{2\pi b_0}{\Gamma_0}(\varepsilon b_0)^{1/3} \qquad \text{Equation E.2}$$

For a high turbulence case at the turbulent intensity 10%, ε is 0.01 in our case, which indicates that ε^* has a high value and the eddy-dissipation rate in the entire range can be approximately related by this formula:

$$\varepsilon^*({T_c}^*)^{4/3} = 0.7475 \qquad \text{Equation E.3}$$

So

$${T_c}^* = (\frac{0.7475}{\varepsilon^*})^{3/4} = (\frac{0.7475\Gamma_0}{2\pi b_0(\varepsilon b_0)^{1/3}})^{3/4} \qquad \text{Equation E.4}$$

$$\frac{\Gamma_l}{\Gamma_0} = \exp\left(-C\frac{t\Gamma_0}{2\pi {b_0}^2\left(\frac{0.7475\Gamma_0}{2\pi b_0(\varepsilon b_0)^{\frac{1}{3}}}\right)^{\frac{3}{4}}}\right) = \exp\left(\frac{-Ct(\varepsilon\Gamma_0)^{1/4}}{0.956(\pi)^{1/4}b_0}\right) \qquad \text{Equation E.5}$$

At distance S with the wind speed V_0

$$t = \frac{S}{V_0} \qquad \text{Equation E.6}$$

$$\frac{\Gamma_1}{\Gamma_0} = \exp\left(\frac{-CS(\varepsilon\Gamma_0)^{0.25}}{1.2727 V_0 b_0}\right) \qquad \text{Equation E.7}$$

For the 18-36 runway of Rooks County Regional Airport under the northwest wind situation, the maximum induced rolling moment coefficient on the 30-ft wingspan GA aircraft caused by a wind turbine is 0.65, when the wake is close to the wind turbine. The induced rolling moment coefficient decays with distance due to atmospheric turbulence, as shown in Figure E.1. At lower wind speeds, the induced rolling moment coefficient becomes lower, and when the distance from the wind turbine increases, the coefficient value becomes lower.

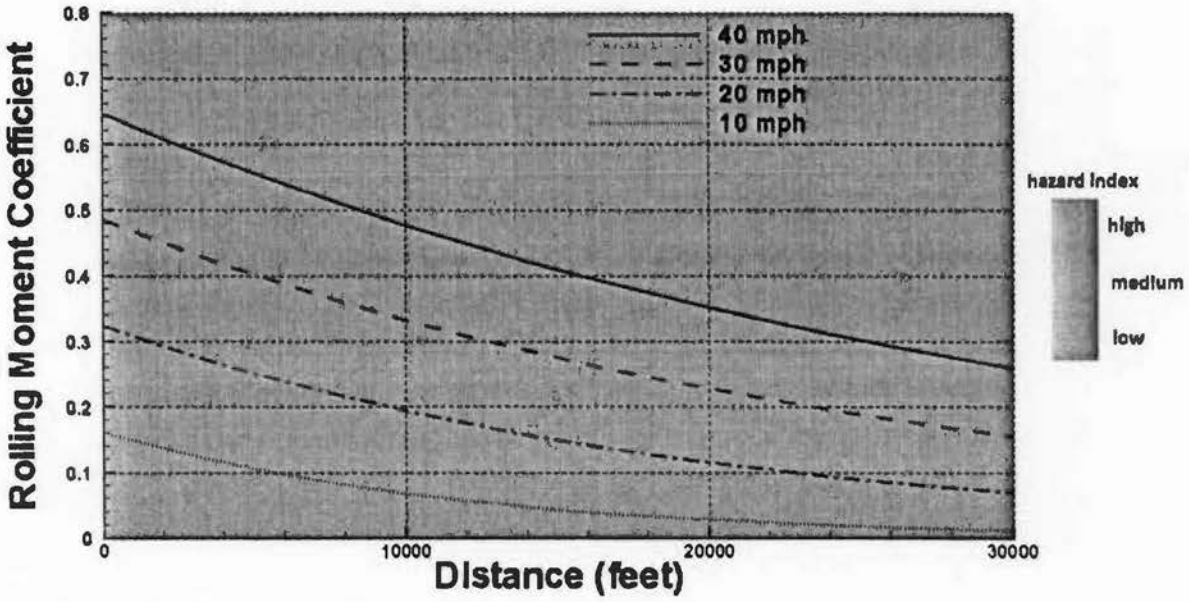


FIGURE E.1
Rolling Moment Coefficient Decay with Distance

For the 17-35 runway of Pratt Regional Airport under the northwest wind situation, the maximum induced rolling moment coefficient on the 30-ft wingspan GA aircraft caused by a wind turbine is 0.65, when the wake is close to the wind turbine. The induced rolling moment coefficient decays with distance due to atmospheric turbulence, as shown in Figure E.2. At lower wind speeds, the induced rolling moment coefficient becomes lower, and when the distance from the wind turbine increases, the coefficient value becomes lower.

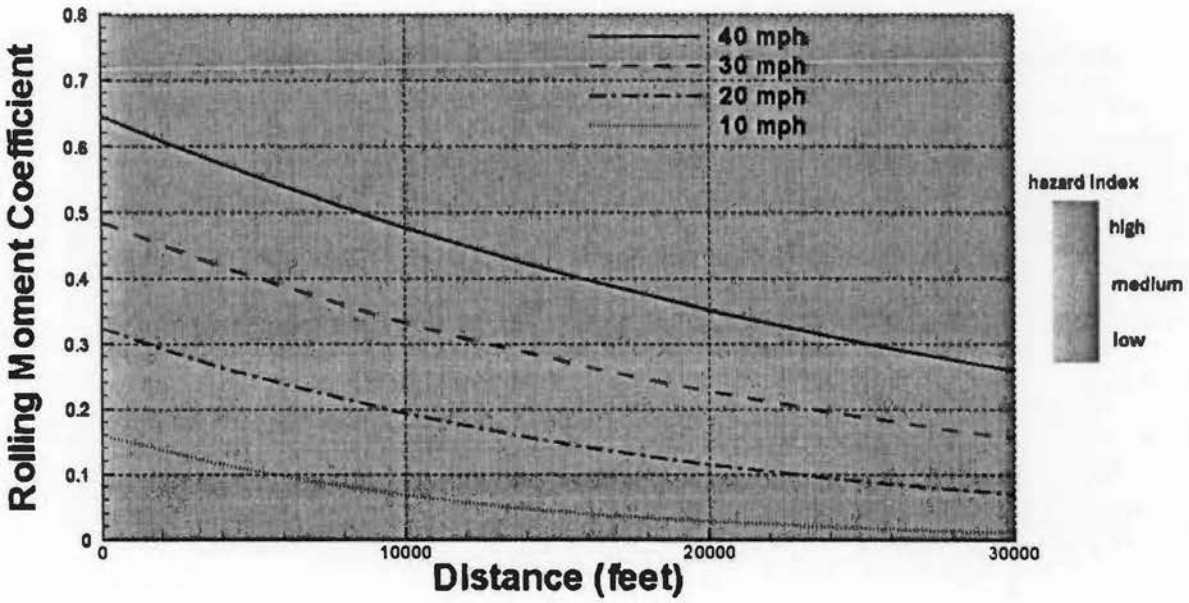


FIGURE E.2
Rolling Moment Coefficient Decay with Distance

Appendix F: Crosswind from Wind Turbine Wake on an Airplane

Figure F.1 shows the 45 degree direction velocity which is vertical to the aircraft body on a cutting plane parallel to the ground shown in Figure F.2. The maximum velocity from the turbine wake is 95.25 mph (139.7 ft/s).

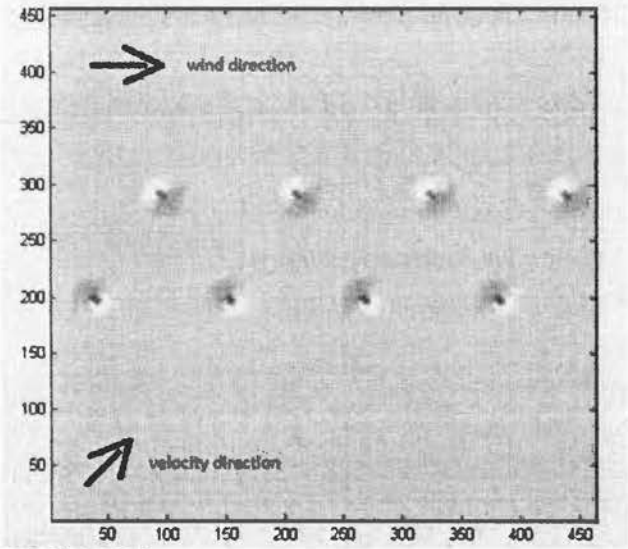


FIGURE F.1
45 Degree Direction Velocity Value from the Wind Turbine Wake on a Cutting Plane

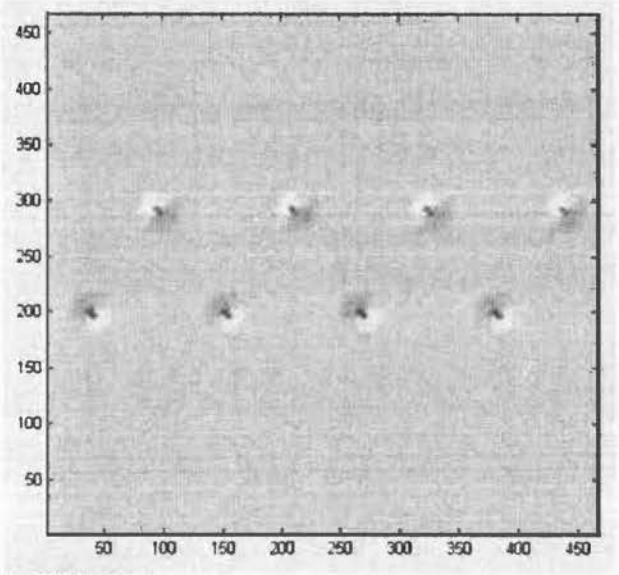


FIGURE F.2
45 Degree Direction Velocity Value Added by the Background Velocity

The value of background wind component on crosswind direction is the wind speed 40 mph multiplied by cosine 45 degree equal to 28.28 m ph ($40\ mph \times \frac{\sqrt{2}}{2} = 28.28\ mph = 41.48\ ft/s$). If we add this value to the velocity field in Figure F.1, it is what Figure F.2 shows. The maximum velocity is 123.53 mph (181.18 ft/s)

TABLE F.1
Possible Maximum Crosswind Velocity in the Wind Turbine Wake In Different Background Wind Speeds

Wind speed (mph)	40	30	20	10
Cross wind component (mph)	28.28	21.21	14.14	7.07
Max vortex induced cross wind (mph)	95.25	71.44	47.63	23.81
Max crosswind velocity (mph)	123.53	92.65	61.77	30.88

The limit, as shown in Table 2.1 in the literature, is 10.5 knot which is 12.1 mph (17.7 ft/s). Table F.1 lists the maximum crosswind velocity in different background wind speeds. If the wind is larger than 20 mph, the wind component at cross direction is already over the 12 mph limit. So we consider the 10 mph wind speed as an example to see the hazard in the airport.

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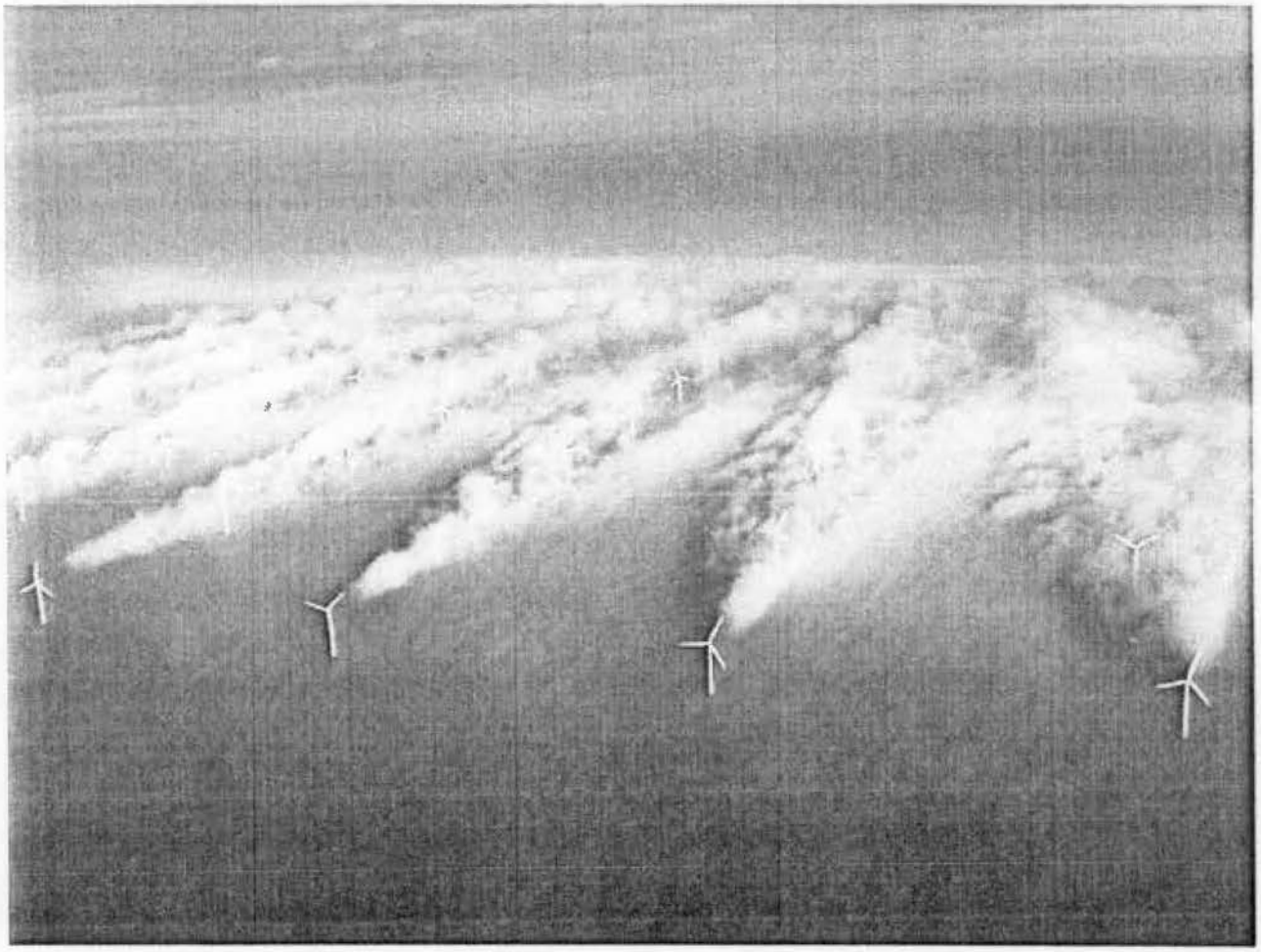
Department of Transportation

A3



A-4

The University of Kansas

Study finds small aircraft face risks at airports near wind farms [1]

Wed, 01/15/2014

Contact

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LAWRENCE — A study from the University of Kansas School of Engineering sheds light on a potential safety hazard that could affect hundreds of airports across the country and calls for updated guidelines to improve aviation safety. At issue is the proximity of wind farms to general aviation airports, and how the small aircraft that use them could be affected by the turbulence generated by wind turbines.

"We're really looking at two potential threats," said Tom Mulinazzi, professor of civil, environmental and architectural engineering. "These turbines can set up a circular vortex that can roll a plane if it gets in there. And they can increase crosswind speeds above what's expected, which can be a real danger to small aircraft, which don't typically take off and land with crosswinds stronger than about 12 miles per hour."

Mulinazzi, Professor of Aerospace Engineering Z. Charlie Zheng and his graduate student Anpeng He co-authored the report for the Aviation Division of the Kansas Department of Transportation.

By using advance computational aerodynamics modeling, the KU research team studied the effect of winds from 10-40 miles per hour. They found the higher the wind speed, the farther the turbulence reached – stretching as far as nearly three miles from a single turbine – before dissipating.

The KU team studied proposed wind farms that would be constructed near airports, one in Rooks County and the other in Pratt. At both airports, within nearly three miles of the runway, pilots

could potentially encounter a crosswind or a "roll upset" generated from a wind turbine.

Mulinazzi and Zheng presented their findings at the inaugural Kansas Aviation Expo in Wichita. Mulinazzi said it appears this study is the first of its kind in the United States. Current Federal Aviation Administration guidelines only evaluate vertical structures from a static perspective within an airport zone. However, wind farms are dynamic with spinning blades that can create rotational vortices.

"The FAA reviews the potential hazard of the physical height and location of any structure, but not any of the emissions from that structure," said Tiffany Brown, state aviation engineer with KDOT's Aviation Division. "This research points out a shortcoming in the current evaluation process and that is why this is so important."

KU is at the leading edge of studying this potential hazard.

"We found no research that looked at the impact of wind generated by wind farms on general aviation," Mulinazzi said. "But KDOT tells us they've been getting complaints from pilots about unexpected turbulence as they approach airports near wind farms, so we felt like the study was worthwhile, especially with the boom in wind farms and wind farm proposals in Kansas."

Kansas has about 140 public-use airports and many more private-use airports. There are 16 wind farms operating in Kansas today, but there are proposals for an additional 58, with some planned in close proximity to existing airports.

"So as state and local leaders consider these proposals for new wind farms, we're hoping to provide them with specific information they can use to create guidelines to ensure aircraft safety. Right now, there's really nothing on the books," Mulinazzi said.

Previous research into turbulence generated by wind farms had shown that airplanes could briefly disappear on radar when flying near a turbine, because radar interprets the movement of the blades as precipitation, which can mask the radar return of an aircraft. No previous research had analyzed the actual impact of this turbulence on aircraft handling and performance, Mulinazzi said.

The report has been submitted to KDOT and is designed to serve as a resource for Kansas cities and counties as they consider potential regulations that govern airport airspace and safety.

"Additional research is required to draw the true correlation between wind turbine vortices and aircraft performance," said Jesse Romo, acting director of KDOT Aviation. "This study proves that the concern is real but we need to take it to the next level to enact change in the FAA's evaluation process and to properly plan the location of wind farms that don't create an environment that compromises the safe and efficient operation of aircraft at an airport."

The University of Kansas is a major comprehensive research and teaching university. The university's mission is to lift students and society by educating leaders, building healthy communities and making discoveries that change the world. The KU News Service is the central public relations office for the Lawrence campus.

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Links on this page:

1. https://today.ku.edu/2014/01/15/study-finds-small-aircraft-face-risks-airports-near-wind-farms
2. codyh@ku.edu
3. kunews@ku.edu

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A-5

ABC NEWS

Fire-fighting pilots want Federal Government to investigate turbulence risk of wind turbines

PM By Natalie Whiting

Updated Fri 12 Jul 2013, 10:25am

The group representing pilots who provide aerial support during bushfires wants an investigation into whether wind turbines affect fire-fighting.

The Aerial Agricultural Association of Australia has written to the Federal Government with concerns about the turbines.

Chief executive Phil Hurst says the main concern is whether they create a turbulence risk.

PHOTO: Malcolm Barlow says proponents of wind farms should have to contribute to the costs of fire-fighting. (Audience submitted: Russell Luckock)

MAP: Goulburn 2580

"We know that wake turbulence is an issue and when you look at the safety regulations administered by CASA (Civil Aviation Safety Authority), there are wake turbulence separation regulations," he said.

"What we don't know is whether that translates directly to wind turbines."

The association has written to the Federal Department of Infrastructure asking them to undertake more research.

AUDIO: Listen to Natalie Whiting's report (PM)

"We're not doing it because we think we know the answer; we're doing it because we don't know the answer," Mr Hurst said.

"We do know that there was a recent report to the Australian Transport Safety Bureau from a pilot at low level who experienced severe turbulence and thought that it might have been linked to a wind turbine farm not far away - but again, we're taking a very open view of this."

Mr Hurst says the association is currently unable to provide comprehensive advice to pilots about turbines.

"There are a lot of issues for a pilot to deal with and one of the things that we like to do is try to manage workload," he said.

"It would be really good if we had a little more confidence about the potential impact of wind farms on the fire ground situation."

Anti-wind farm campaigners feel exposed

Humphrey Price-Jones is an anti-wind farm campaigner whose property in the Upper Lachlan Shire in the NSW Southern Tablelands borders a wind farm that is currently under construction.

"We feel very exposed," he said.

"Significant tracts of this shire are vulnerable and it is of great concern to many landholders living in the vicinity of towers and proposed towers."

Malcolm Barlow, a councillor in the Upper Lachlan Shire, says pilots are loath to fly anywhere near wind turbines, especially in smoky conditions.

"By and large, pilots won't go within even more than a kilometre of a wind turbine area when there's a fire there," he said.

There are six wind farms already built or approved in the shire, and another five applications being processed.

He says proponents of wind farms should have to contribute to the costs of fire-fighting.

"They should make a contribution to the community in which they're being placed, because they've placed that community in a greater risk of fire and in a decreased capacity to fight the fire," he said.

Fire service says ground crews most important asset

Mr Barlow says about 40 per cent of fire-fighting capacity is aerial, and the figure is higher in rugged areas where ground crews cannot get in.

But the New South Wales Rural Fire Service disagrees with that figure.

Assistant Commissioner Bruce McDonald says it is more like 10 per cent, and emphasises that firefighters on the ground are always the most important asset.

"Our ground troops can access around wind turbines anyway," he said.

"There are generally maintenance tracks up to the turbines and those sorts of things. There is general ground access and that's our primary source of fire fighting."

Mr McDonald says wind farms are just one of the risks pilots face when fighting fires.

"Aircraft are restricted by a number of things - wind farms is one of them, as are power transmission lines, TV towers, mountains, etc," he said.

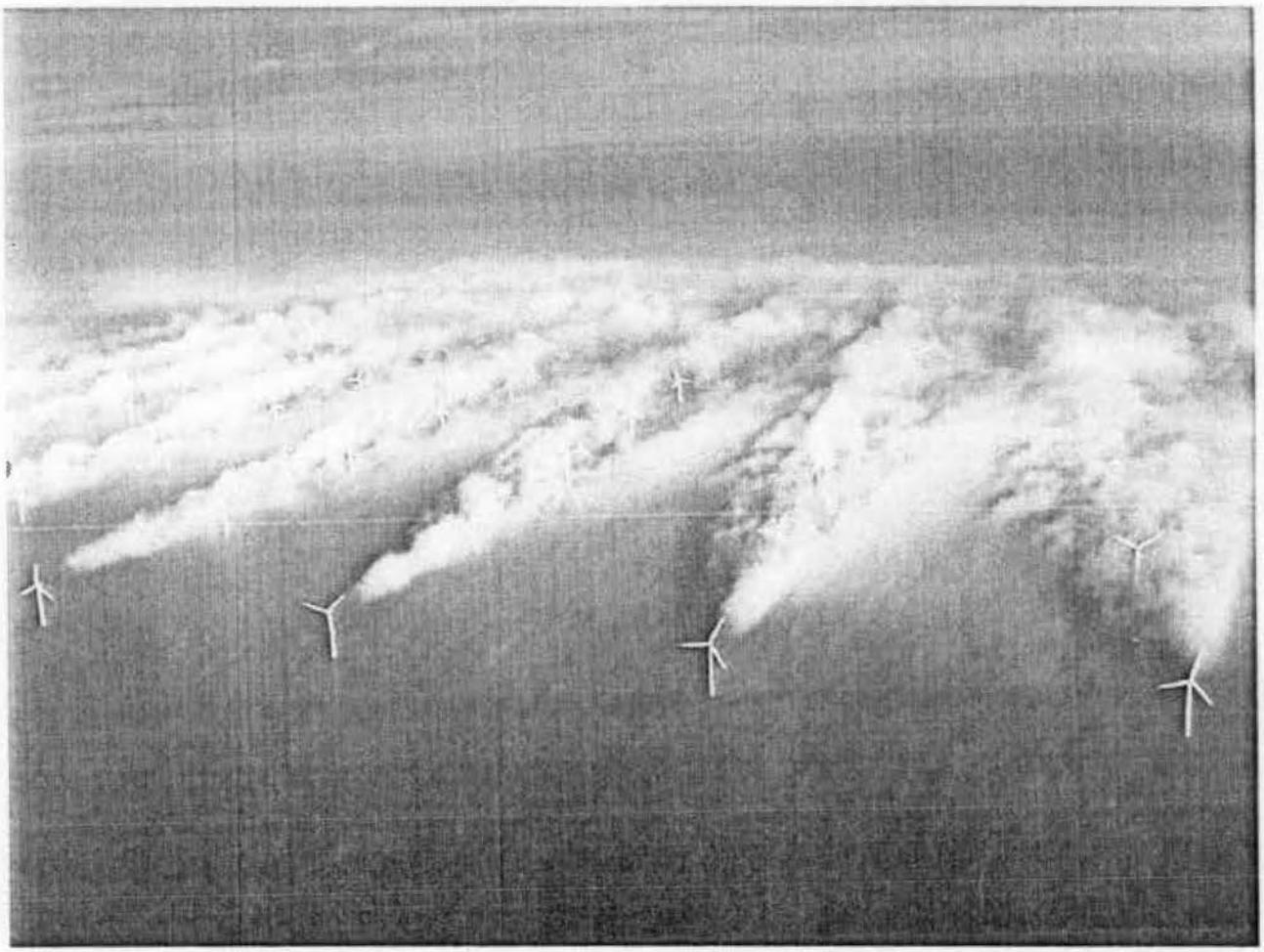
"We've also got to recall that aircraft are operating in fairly smoky and windy conditions, so it's a fairly dangerous occupation. They do have to be aware of the risks."

Mr McDonald says the RFS does not have a policy on fighting blazes near wind farms.

"Each fire is different, each fire is dynamic, and we determine the strategy based on the fire, which can be a difference in fuel or topography, terrain, etc," he said.

Topics: bushfire, fires, disasters-and-accidents, federal-government, emergency-planning, wind-energy, alternative-energy, environment, goulburn-2580, nsw, australia

First posted Thu 11 Jul 2013, 10:25pm



Further information regarding turbulence wake

Wind turbines consist of aerofoil shaped blades arranged in a vertical plane. The effect of removing e blades is to reduce the wind speed behind the turbine. This along with tip losses creates vortices or v understood for aircraft, it has been documented that there have been serious and fatal accidents in t were unable to maintain control after being caught in the wake vortex generated by heavier aircraft. published a *"Safety Sense"* leaflet providing information for pilots concerning the dangers of wake tu

Link to Safety Sense leaflet

The following text is extracted directly from the above leaflet:

> *"The heavier the aircraft and the slower it is flying, the stronger the vortex. Among other fa proportional to the span of the aircraft which generates it, for instance a Boeing 747, with a spc both wingtips each with a diameter of around 65 metres."*

The proposed wind turbines have a blade diameter of 82 metres – greater than the above mentioned assumed that they will generate vortices of considerable magnitude.

A 6

Save Our Salcey

Saving Salcey Forest From Industrial Development

Aviation

Even the most ardent wind farm supporter would not want to be accountable for an air accident and of wind farms was imperative.

A modern wind turbine will create disturbed air flow (turbulence wake) for up to 20 rotor diameters ones proposed in Stoke Goldington, turbulence wake will affect aircraft up to 1,640 metres away fro

Additionally, the CAA's guidance for obstacles is that "no obstacles greater that 150 feet should be w

A responsible response to the "turbine wake created by wind farms" and the 'CAA guidance that Stoke heights wind farm is not viable. *This wind farm proposal is just 900 metres from a helip*

Further CAA documentation regarding turbulence wake at airfields

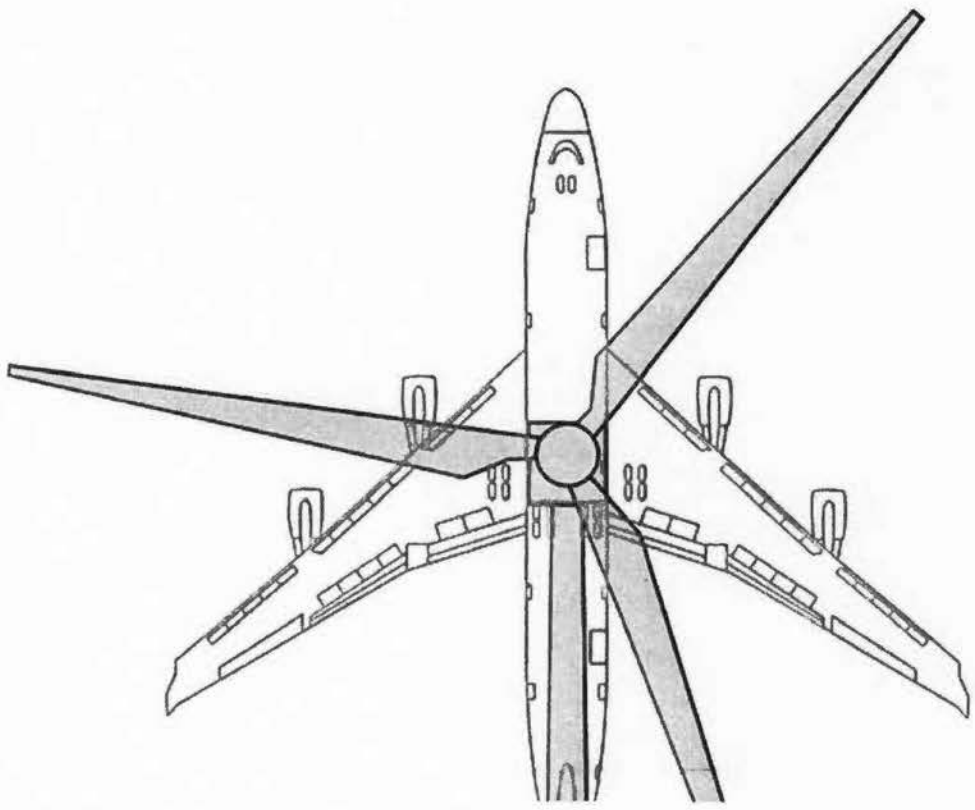
A further CAA publication *"Aeronautical Information Circular (AIC) P 18/ 2009 Wake Turbulence'* aircraft in order to avoid problems of wake turbulence.

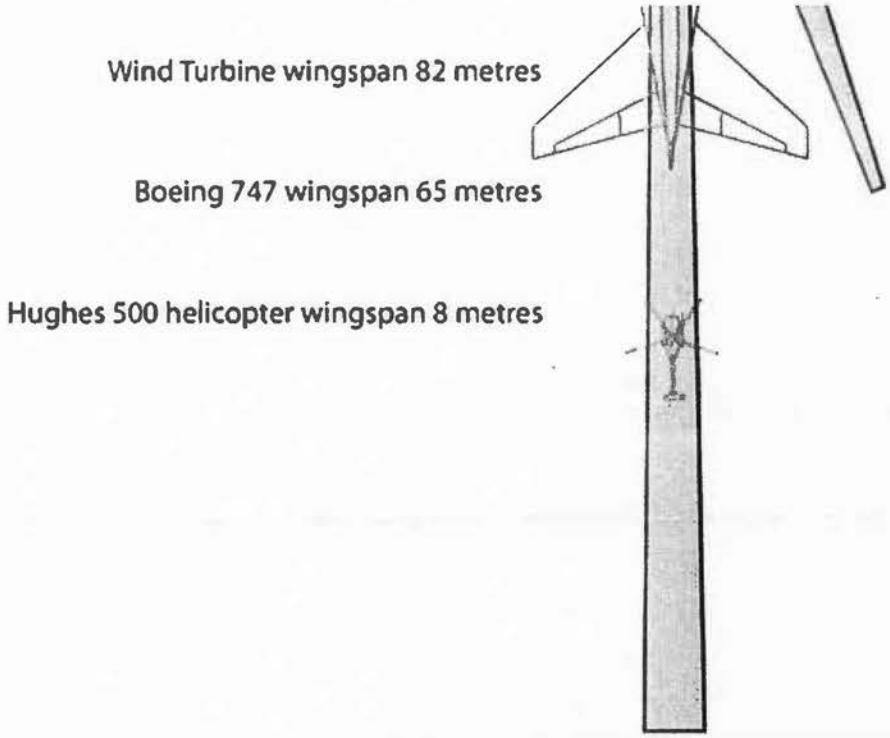
Link to NATS document

From this document it can be seen that the combination of "heavy" to "light" results in a requiremen

Below is a scale comparison diagram showing the size of a wind turbine against a Boei helicopter.

Hughes 500 helicopter Boeing 747





Even if we assume that the magnitude of the blade-tip vortices of wind turbines are less than that of take a cautious approach when developers propose these obstacles next to airfields.
The CAA has confirmed that no trials have yet been conducted to measure the effect of wind turbine However, the CAA's guidance for obstacles is that "no obstacles greater that 150 feet should be withi The developer at Stoke Goldington wants to place 400ft turbines within 1000m of a helipad. That is CAA's obstacle guidelines in half and takes no account of turbine wake effects.

B-1

Wind Farms Run Into Turbulence with the FAA

Posted on January 25, 2010 by

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With the current emphasis on "renewable energy" and sustainability, along with a healthy dose of federal funding, many companies have been developing plans for wind farms to help move this nation from the grip of over-reliance on petroleum products for its energy needs. While barriers to their construction are not new, with wind turbine companies fending off Endangered Species Act lawsuit (endangered bats running into blades) and other environmental issues, the FAA recently raised an additional issue: obstruction to aviation.

On Wednesday, January 6, 2010, the FAA found that 15 of Gamesa's proposed 30 wind turbines for Shaeffer Mountain in Somerset County, Pennsylvania, exceed "obstruction standards and/or would have an adverse physical or electromagnetic interference effect" on the airspace above the ridge or nearby airports and flight routes. Two days later, on Friday, January 8, 2010, the FAA ruled that one of the two wind turbines proposed for the Dartmouth, Massachusetts owned land is a hazard to air traffic and must be lowered.

The FAA may have learned its lesson, since back in April, 2008, it was told to go back to the drawing board with its "Does Not Exceed" determinations for a proposed wind farm above a proposed airport just south of Las Vegas in Ivanpah, Nevada. *Clark County v. FAA*. There, the court determined that the FAA's findings flew in the data that the 400 ft towers would penetrate the FAA's 40:1 slope and that 83 turbines would appear as a "fleet of jumbo jets" to the air traffic controllers.

It may be prudent, then, to review the process established by the FAA for determining if an object will be considered to be an "obstruction."

Notification

Part 77 of the Federal Aviation Regulations (14 C.F.R., Part 77) establishes standards and notification requirements for objects affecting navigable airspace. This notification serves as the basis for:

- Evaluating the effect of the construction or alteration on operating procedures
- Determining the potential hazardous effect of the proposed construction on air navigation
- Identifying mitigating measures to enhance safe air navigation
- Charting of new objects.

Notification allows the FAA to identify potential aeronautical hazards in advance thus preventing or minimizing the adverse impacts to the safe and efficient use of navigable airspace.

Contents of Notification

After more than two years of meetings with military leaders, the wind farm developers thought they had reached a compromise: protect the radar capabilities by simply turning the turbines off during test flights.

They didn't expect that U.S. House Minority Whip Steny H. Hoyer (D-Md.) and a coalition of Southern Maryland lawmakers would circumvent the process, worried that the military was not doing enough to protect its "Pax River" assets.

In the final days of the recently concluded Maryland General Assembly session, lawmakers voted to delay all wind projects of a certain height within 46 miles of the base until June 2015 — effectively killing plans for the Great Bay Wind Center.

Now Maryland Gov. Martin O'Malley (D) must decide whether to veto the legislation, as environmental groups are demanding, or allow it to become law. Activists warn that the

Maryland politics

O'Malley's band booked for free concert Saturday night on Maryland's Eastern Shore

Md. comptroller to collect signatures in bid to push back school starting date

O'Malley talks up minimum wage hike, downplays dispute over immigration

measure could scare away wind developers and taint O'Malley's reputation as a dedicated environmentalist as he contemplates a run for the White House.

"You've shown national-caliber leadership in getting policies in place," Sierra Club executive director Michael Brune wrote in an April 11 letter, "but without construction of actual projects, Maryland residents won't get the benefits they deserve."

A veto likely would anger Hoyer, whom the governor considers a friend and important political ally, as well as the progressive state lawmakers who have pushed through nearly all of O'Malley's legislative priorities.

"I would be very disappointed," said Sen. Thomas M. Middleton (D-Charles), chairman of the influential state Senate Finance Committee. "It was a strong vote. The legislature spoke."

By 2022, Maryland wants 20 percent of its energy to come from renewable sources, a goal that would be most easily accomplished by increasing the number of renewable energy sources within the state.

The goal caught the attention of Texas-based Pioneer Green Energy four years ago, and the company developed a plan to spend $200 million to construct at least 25 turbines in Somerset County. The location is close to high-voltage power lines that can upload energy from the turbines. It receives strong winds off the bay and has acres of agriculture and chicken farms whose owners would be eager to make extra cash by hosting a 600-foot-tall turbine.

In early 2012, Pax River base official Vice Adm. David Architzel met with O'Malley and his energy adviser to explain the base's concern about the turbines. Two Southern Maryland lawmakers attended the meeting, Middleton and Del. John L. Bohanan Jr. (D-St. Mary's).

Soon after, the General Assembly passed legislation that requires additional approvals for wind farms within 46 miles of the base.

The law did not deter the Great Bay Wind Center, which eked its way through the approval process. Bohanan and the other lawmakers said that Pax River officials were pressured by national leaders to work with the developers and find a solution.

Driving the federal pressure was a 2001 executive order to expedite energy projects; a provision in the 2011 Defense Authorization Act that allows energy developers to more easily work with the Defense Department; and an Obama administration goal, issued in December, to double renewable energy by 2020.

"These military bases take their orders from the commander in chief — that's the president," Middleton said. "And there's an executive order for a renewable energy effort."

Pax River has steadily grown in recent years, even as military installments elsewhere contracted or closed. The base employs 22,000 people and pumps $7.5 billion into the state economy each year. Local lawmakers say they do not want anything to threaten that growth — and they believe that a swarm of turbines would scare away private contractors and foreign governments who pay to use the base's radar. Other bases likely would seize on that weakness, critics of the wind farm project say.

"Those kinds of cracks in the armor are what other communities look for," said Bohanan, who in addition to his elected job in the State House works on Hoyer's congressional staff. "Once you lose those capabilities, you never get them back."

Pax River hired MIT researchers to assess the potential effect of a wind farm on the base's radar. Their report said the "system will be significantly impacted," and recommended that the base build a "radar fence" or relocate its antenna, among other things.

The wind farm developers suggested a different solution: they would turn off the turbines

during test flights, up to 1,500 hours — about 62 days — a year. The developers and the base drafted a tentative agreement.

"Then Congressman Hoyer put a hold on it," said Adam Cohen, a co-founder of Pioneer Green Energy. "We feel like there's a very small group here that's hijacked the process."

Hoyer spokeswoman Mariel Saez said the congressman heard from constituents who work at the base and feared losing their jobs. Late last year, Hoyer asked the Navy to hold off on signing the agreement. "It is Congressman Hoyer's responsibility to protect jobs and ensure Pax River can maintain its current capabilities," Saez said.

Bohanan led the Southern Maryland delegation in introducing the legislation to delay any turbine construction near Pax River until a year from June.

Lt. Greg D. Raelson, a Navy spokesman, said although "representatives from Pioneer Green have stated they have an agreement with the

Department of the Navy, the agreement still requires revisions and has not been approved."

Another Navy official, who spoke on condition of anonymity because he was not authorized to comment publicly on the issue, said the base had always considered the tentative agreement to be a short-term solution, not a permanent one.

In the long term, the base would need a different accommodation, such as changing the radar algorithm to cancel out the force of the turbines, this official said. MIT was asked to do another study and detail more options. That study is due next year.

The delay means Pioneer Green Energy, which has spent $4 million on the project so far, would need to redo studies required for the permit process, and would likely lose its spot in line to contribute energy to the grid. The company could also miss a deadline to qualify for federal tax credits.

"It kills our project," Cohen said. "And it would send a chilling message to everyone in the wind

world that Maryland is not a place to do business."

Members of the O'Malley administration were surprised by the legislation, said Abigail Ross Hopper, the director of the quasi-governmental Maryland Energy Administration. She said the law would forbid most turbines in a 5,300-square-mile swath of the state that touches a dozen counties.

"While we recognize the tremendous economic value of Patuxent River Naval Air Station," Hopper said in written testimony to lawmakers, "we must also be mindful of the potential economic benefit of wind energy projects on the Eastern Shore."

The issue pitted Southern Maryland lawmakers against those from the Eastern Shore, a rarity for two groups that are usually united in standing up for the state's more rural, socially conservative areas. Several lawmakers said they did not understand the need for the legislation, and they asked why Navy officials never testified in hearings about it.

Sen. James N. Mathias Jr. (D-Worcester), who represents Somerset County, said the

legislature may have overreacted, escalating "rumor to real concern." He said the 500 jobs promised by the wind-farm developers would be transformative for Somerset, where the unemployment rate is more than 10 percent. More than 20 percent of people live in poverty in a state where the median income is nearly $73,000.

"We had an opportunity for jobs, economic development, renewable energy, and all of that was dashed," Mathias said.

O'Malley's spokeswoman said last week that the governor "continues to review the legislation."

Jenna Johnson writes about Maryland politics, including the General Assembly, the administration of Gov. Martin O'Malley and the 2014 election.

B-3

HAVELOCK NEWS

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COMMENTS

Craven board opposes wind energy complex near military bases

By Sue Book

Published: Monday, October 8, 2012 at 09:46 AM.

The Craven County Board of Commissioners unanimously adopted a resolution opposing coastal wind energy projects in low-level military flight training areas.

Commissioners considered and slightly modified a resolution already passed by Wayne County Board of Commissioners.

Craven County Manager Jack Veit said the Wayne commissioners, the Allies for Cherry Point's Tomorrow lobby group, county legal counsel, Coastal Carolina Regional Airport and others had brought the potential conflict of wind energy projects and flights to his attention.

One of the changes to the resolution specifically lists potential adverse affects to Cherry Point some wind projects located in the wrong place could cause.

Craven Commissioners Scott Dacey said the placement of some wind turbines has the potential to adversely affect the nearly 10,000 military personnel stationed at Cherry Point and around 5,000

civilians working on the base and at the Fleet Readiness Center East aircraft repair and maintenance facility.

The resolution speaks particularly to a 49 turbine wind project planned for Eastern North Carolina that calls for 505-foot high turbines that could interfere with training flights at the Dare County Bombing Range used by Seymour Johnson Air Force Base F-15E air crews. It also serves as the only F-15 Strike Eagle training route in the nation.

"Incompatible land uses in areas used by the military limits the time that training ranges are available and the types of training conducted," the resolution maintains.

1 2

C-1

7-21-10

Wind Turbines and EMS Helicopters in Wisconsin

I have had multiple conversations with Neil Wienk, Director of Mayo One, Mayo Clinic, Rochester, MN, over the past year. We discussed multiple choppers coming in on both sides of the highway in the Dexter wind farm area, and because the area is extremely windy, servicing that wind farm area is extremely hazardous. Neil Wienk said, "It frightens me to death." In the evening, they will not fly in close to the wind farm towers due to low visibility and the ability to judge things correctly.

Now the helicopters need to stay on the perimeters of the wind farms. Under no circumstances will the emergency helicopters fly into the wind farms—day or evening. During the need for multiple medical helicopters coming from other EMS service suppliers such as in Iowa and South Dakota, more fatal accidents are likely to happen. People living within the wind farms will have their emergency helicopter services either taken away from them or delayed. Mr. Slavik reiterated that most likely medical helicopters would not land anywhere in the county where these turbines are located. **My question to you: Will emergency services be interrupted or denied?**

I am attaching the document entitled, "H is for Help!" This document was written by retired EMS pilot Ray Slavik, and was submitted to the Calument County (WI) Ad Hoc Committee on November 5, 2007. Mr. Slavik had flown for 20 years prior to his retirement.

In this document, Mr. Slavik mentions that a,"half mile is needed for safe clearance to safely turn the helicopter around. Other factors such as bad weather conditions may require an even larger area." "If the patient needs to be transported by ground to a location free of turbines or to the Calumet Medical Center instead of direct pick up from the accident scene, valuable time is lost and that is what the EMS helicopter program is all about."

Steve Groth

14601 County 50 Boulevard

Goodhue, MN 55027

H is for HELP!

Wind Turbines and EMS helicopters in Wisconsin

This interview with retired EMS pilot Ray Slavik, was submitted to the Calumet County Ad Hoc Committee researching proposed ordinances governing the placement of wind turbines in the county. The interview provides important insight into controlling an aircraft in the vicinity of utility-scale turbines.

Ray Slavik is a retired EMS Pilot who has flown for 20 Years as a pilot before retirement.

He is currently working as instructor for new helicopter pilots, checks pilot flight capabilities for insurance companies and completes pilot certification. He has also has a fixed wing pilots rating for both private and commercial aircraft.

He was employed as an EMS pilot in Buffalo New York for about 2 years, than transferred to work as a relief pilot through out WI.

Ray worked for Theda Clark Hospital as an EMS pilot for over 16 years making numerous EMS flights into and out of Calumet County before retirement. He has also served as a pilot for the search and rescue helicopter service in Green Bay and the surrounding counties.

We opened our conversation with Ray asking, "Why is this information important to you and who has asked to get this information?"

I explained to Ray that I am a Co-Chairman for the Township of Chilton's WES advisory committee and also a member of the Calumet County Ad Hoc committee appointed to help the county review and come up with information and recommendations on proposed Ordnances and any changes that may need to be made. I have been appointed by the Chairman of the Calumet County Board and also Chairman of the Ad Hoc committee to research the EMS flight information.

Do you feel that an EMS pilot would be able to land near a Large Wind Turbine if they shut them off?

Don't kid yourself, they will most likely not land anywhere in the County where these turbines are located, I have arrived at many accident scenes before the sheriffs dept. We (helicopter and crew) are often ¾ of the way to an accident

scene before the sheriff's Department or other people in authority arrive on the scene. The 1st responders often make the first call and we are on the way. Time is the important issue and that is the reason for the EMS flights. The sooner we arrive for transport the better the chance of saving that life. Remember the reason we are there is to be able to transport the patient to the nearest Trauma Center as quickly as possible. If the patient needs to be transported by ground to a location free of Turbines or to the Calumet Medical Center instead of direct pick up from the accident scene valuable time is lost and that is what the EMS helicopter program is all about.

What are the EMS flight regulations for maximum altitude when flying into Calumet County because of all of the current air traffic?

EMS ceiling for Flight: they may go as high as 10,000 ft above that oxygen is needed, which is not carried on board. Current part 135 of the FAA regulations require ½ mile of ground visibility and a 300 foot ceiling. However the operation specifications for each flight program is usually higher than FAA minimums. If the visibility or ceiling falls below the operational specifications for that flight program the pilot cannot legally accept the flight.

A pilot would need a minimum of 500 feet above a known object to fly safely over it. So if an object is 500 feet tall an EMS helicopter would need to be 1,000 feet off the ground to fly over it. This would limit flights to days when there is a cloud ceiling of 1,000 feet or greater. The FAA regulations allow for flight with a ceiling of 300 feet, this would greatly limit the available days for Flights into and out of the Chilton Hospital.

Pilots are more comfortable flying over areas that they know obstruction heights day and night, however they are limited by their operation specifications on how low they can fly. Other factors depend on the type of weather such as low cloud ceiling verse rain, sleet or snow.

When flying VFR (Visual Flight Rules) in a helicopter it is important to have visual clues at all times. The books say that if you lose control of the helicopter because of clouds or visibility you would have about 20 seconds to gain control and fly by the instruments.

The flight weather reports are only good for 5 nautical mile radius of the airport which is giving out that information. As a pilot you don't know what may be out further in your route. You may leave knowing you have good flight data but the weather may change and push you closer and closer to the ground as you are flying.

I have often left my home base when the weather is ok but had to spend 3 to 5 hours on the ground waiting for a baby with health problems to be born so I can transport them to a neonatal center. Do you want to be the one who has to tell

the parents why their child is going to die? Because you can't fly into an area anymore to safely pick them up.

What type of effect would this turbulence have on a helicopter?

Being that the lift is provided by the large overhead rotor, the tail rotor counteracts the torque of the main rotor which keep the aircraft flying straight Any interference with the tail rotor system could cause the aircraft to yaw left or right or even spin. Since it would be most affected by turbulence from the side of the aircraft, your corridor must be wide enough so that any turbulence side would not have any adverse affect on the tail rotor. If the turbulence did affect it, your aircraft would start to spin in rotation with the large overhead rotor causing a major loss of flight control. Turbulence will also affect the main rotor. It is this large rotor that provides the lift, but it does not do this by rotating on a level plan. The rotors flap as they rotate around the center or hub. It is this flapping that causes the lift that allows the helicopter to fly. If turbulence interferes with this it would cause the helicopter to lose it's lift and it's ability to remain in the air.

Enough turbulence will cause you to lose control of the aircraft.

What distance is needed to make a safe normal speed turn?

That would depend on several factors, on a clear day with very little wind a 30 degree bank turn may require only ¼ to ½ mile to make. But when you are affected by low visibility from a low cloud ceiling or it is night time you would be required to make a more gentle turn to keep from losing altitude and your visible horizon location. This would require that a maximum 20 degree banked turn be made. This turn would require at least a ½ mile of safe clearance to safely turn the aircraft around. Other factors such as bad weather conditions may require an even larger area.

If you get disorientated due to low visibility, low ceiling height and/or turbulence and you lose the horizon you have 20 seconds to get your craft under control or it will crash.

What other problems would these turbines present to an EMS pilot?

I have often used the (Night Sun light) on my helicopter to locate an obstacle or tower to be able to fly in close to make a safe landing or have safe passage around it. The problem with the Wind Turbine is the turbulence would not allow you to fly in close enough to use the (Night Sun light) to properly navigate and protect your own life, as well as those you are responsible for aboard your aircraft.

What about the way that the warning lights are designed on the Wind Turbines?

I have studied how these are placed in the FAA manuals and have a great concern about how these lights are place. They are placed at the top of the tower on the generator housing and than a blade can extend 100 to 200 feet beyond this without any lighting showing their maximum height. It would be impossible to make a safe passage through an area where there could be 50 or 100 of these Wind Turbines. So it could become a no fly zone for on the scene EMS helicopter services. This would limit EMS helicopter transports through such an area. This same problem would happen if a low cloud ceiling height did not provide enough safe clearance over the rotor tips. I would say this would require at least 500 to 600 feet of clearance above the rotor tips...

What would be your perspective on this issue?

I would compare this to my experience of many on site EMS helicopter transports from rural car accidents scenes.

Often when you have an uncontrolled intersection in the country and there are a series of accidents there, you will then turn around and put up a stop sign to solve the problem. I have been unable to find any data that supports the fact that these Turbines would not cause any problems, so think about putting up that stop sign before the accident happens.

Look at protecting what you currently have as far as the EMS services are concerned.

With the information that you have been provided with on the current size and type of wind turbine, what would you consider to be a safe travel corridor width needed to allow for the EMS helicopter service to safely fly to and from Calumet Memorial Hospital?

One Nautical Mile would be to narrow. It would not allow for safe flight path even down the middle because of the influence of turbulence created by the Wind Turbines on either side. Even without the influence that air turbulence would have on the aircraft. You must provide room for safe travel, as well as to allow for a safe normal speed turn to be made. I would say that a clear flight path corridor should be a minimum of 1 ½ nautical miles, with 2 miles being the preferred distance.

With your experience as an EMS Helicopter pilot for almost 20 years in Calumet County, where would be the best area to establish a clear flight path for EMS Helicopter service to and from Calumet Memorial Medical Center?

Since most of your flights are coming from and then returning to Theda Clark Hospital in Neenah you should look at establishing this path around the North

end of Lake Winnebago to the hospital in Chilton. Since a large portion of your county could be removed from the accident scene pickup. You should also look at establishing alternate sites where the patient can be ground transported to and then airlifted to the Trauma Center at Theda Clark hospital or Milwaukee. These Sites would require that a safe flight corridor either extending from the one at Calumet Hospital or others be set aside.

What about establishing a safe flight path from Chilton to the South county line to provide for EMS transportation to Milwaukee, such as Froedert Hospital or St Mary's Burn Center as is currently done?

Since the flight would be longer the pilot would need much better flying conditions and than what is needed on a flight to and from Theda Clark the need for a safe corridor is reduced. If anything you could establish this safe flight path to New Holstein and the pilots could use it if needed. This could also provide for a safe flight path to be used when establishing alternate EMS pickup sites. Than patients could be ground transported there and picked up by EMS helicopter for transport.

Why does it seem that the whole EMS helicopter program has had a gag order and no information is now available to us to make a safe and knowledgeable decision on the safe flight corridor issue?

The problem is these hospitals make a lot of money from these flights and the pilots and crews are contracted from outside service providers. The hospitals do not want to lose any revenue, so they will not say anything. The company that provides the pilots and crews will not say anything, because they do not want the hospital to look for another EMS provider. This leaves everyone including the pilots who have to do the flying with a gag order or they could lose their job.

My experience with flying as an EMS pilot is: If you as a pilot had a problem with flight or landing zones, the hospital will turn a deaf ear to you and will be angry about any complaints because you are paid to fly. The money comes in when you fly your aircraft.

Respectfully submitted,

Ray Slavik Daniel Hedrich
EMS Helicopter pilot retired Calumet County Ad Hoc Committee

DH/RS

November 5, 2007 by Ray Slavik and Daniel Hedrich

FLIGHT FOR LIFE

camts

Important Information from *FLIGHT FOR LIFE* about Windmill Farms

Windmill Farms present Additional Hazards to Air Medical Transport Systems:

- These windmills stand approximately 400 feet high with a wingspan of 270 feet.
- Visibility of them at night or with gray skies is limited.
- They can create vortices equal to the turbulence created by a 747 aircraft
- The windmill farms are generally grouped into defined "clusters." Only wind mills along the circumference of each cluster are identified with obstruction lights!
- Due to safety considerations, ***FLIGHT FOR LIFE*** will not land within these clusters because of the risks posed to air medical transport.
- ***FLIGHT FOR LIFE*** will work with your department to determine a safe landing zone perimeter surrounding each windmill farm cluster within your service's response area.

We would be happy to discuss our operations relating to a windmill farm cluster specific to your department's service area. Please call our ***FLIGHT FOR LIFE*** - Fond du Lac Base office at (920) 924-0062 and we will arrange a time to meet with you.

Air transportation provided by Air Methods

C-2

PHONE CONVERSATION TRANSCRIPT

May 28, 2010

Between Denny Ness, Pilot (Zumbrota, MN)

and

Neil Wienk, Aviation Site Manager, Mayo One (Mayo Clinic, Rochester, MN)

Submitted by Denny Ness
Zumbrota, MN
507-9511-0410 (cell)
dennyness@yahoo.com

The following is a transcript of a phone conversation between Neil Wienk, Aviation Site Manager for Mayo One (Mayo Clinic, Rochester, MN) and Denny Ness (Zumbrota, MN) on May 28, 2010. Mr. Ness's questions are in bold. Mr. Wienk's responses are in italics.

==========

NEIL WIENK: Good afternoon. This is Neil. Can I help you?

DENNY NESS: HI, Neil. This is Denny from Zumbrota. HI, we are doing some research on some wind farm projects up here and one of the references was how close you can land to a wind farm with Mayo One.

NEIL WIENK: Basically, what we have done with this, how we have come to our decision-making process when it comes to this, um...the wind farms themselves are basically the off-product of creating the electricity with the blades turning is a vortices, and we don't know what that vortices are and nobody will give us the information of what that vortices are. So through the safety side of help here, we will not land inside a wind farm. So, if there is a row of them—3 or 4 of these things—we will not land inside of them. Now, the next thing is, is that it is up to the pilot's discretion as to how close we land to them, given the east side, west side, north or south side depending on which way the wind is coming from. If the wind is out of the north, we can land real close to the north side, because the wind itself is going to take the vortices and move them south. Again, we aren't going to be able to land as close to the south side as we can from the north. And, again, if we get a south wind, we are going to be able to land closer on the south side and won't be able to land close to the north side. Again, that is up to pilot discretion and that is going to be based a lot on how strong the winds are and that sort of thing. And that is where we are at with it. We just won't land within the guts, or the footprint, of the wind farm itself. Okay?

DENNY NESS: So, if there were many, many acres of wind farm and somebody lived down a gravel road that went right down the middle of that, you couldn't land in there?

NEIL WIENK: As it sits now, our policy says NO. Mainly because it's an unknown, we don't know what it is. We are not going to take an 8 million dollar helicopter and make a test run out of it. So, it is just that. I am sure the figures are there; they just won't publicize them, can't get them from anybody. So, until the information comes out, it could be that it's nominal. The next thing is how strong is/are the vortices with a 10 mph wind versus a 30 mph wind. It's going to be stronger with the 30 than the 10, but what is it? And until we get all that, it's for our safety, that's what we agreed upon. Working with the other EMS industry, such as North Memorial (out of the Cities), they are doing the same thing. They won't land within the guts of the footprint.

DENNY NESS: I have just a few quick questions.

NEIL WIENK: Sure.

DENNY NESS: In good situations when you can land on the close side of the wind turbine, how close is that under perfect conditions?

NEIL WIENK: You're trying to pinpoint something I can't answer, because it's pilot discretion again. The wind, how close is it to a row of trees or a farm building, it's all going to come back to the pilot discretion when he gets there. You can't put this hard and fast. The only thing we can say hard and fast is that we will not land inside the footprint of them. I would like to answer yes or no, and make it as black and white as I can, but this is as close as I can.

DENNY NESS: Just one more completely general question quick before I let you go. Do you see these wind farms becoming a problem as a safety issue, in the future?

NEIL WIENK: Um, I'll explain one answer that I have horrible concerns about. Since I have been in this position here, which is the Aviation Site Manager, and I worked for Omni Flight out of Dallas, Texas, before I worked for Mayo, since I have acquired the Site Manager position here at Mayo, we have had one catastrophe a year where multiple helicopters have gone to one scene. We have had one in Wisconsin and one over in South Dakota. You are going to get multiple—7, 9, or 10—helicopters going to a scene. The helicopters that negotiate these wind farms on a daily basis know what they are, where they are, and how to navigate around them. But, if we get into a bad deal where we start pulling things out of Iowa or Wisconsin, they don't. My biggest concern I-90 down here by Dexter, we have them on both sides. They are up on the east side and are starting to put them on the west. The winds blow horribly down there, whether it's winter or summer or whatever. They flip a semi over down there, and cars pile up and now all of a sudden helicopters have to start coming in to help us out. We are currently working with the wind generator farms to come up with the best practices policy so we can get them shut down. That is going through legal; there are some attorneys involved. The tough part with this is the part that we have to shut them down in less than 60 seconds.

DENNY NESS: Wow!

NEIL WIENK: They hit the switch, the breaks go off, and it stops. Getting them stopped isn't hard, but getting to the right people to get the switch is. And we are working on that. Did I answer that right?

DENNY NESS: You have been very helpful. Thanks for taking the time on this issue. Thank you.

NEIL WIENK: If you have any more questions, don't be afraid to call.

DENNY NESS: Sounds good. Thanks.

Appendix E-2

August 20, 2014 Meeting in Lucerne Valley

- Summary of Oral Comments
- Speaker Registration Cards
- Comment Transcript

Appendix E-2. Summary of Oral Comments Received at Scoping Meetings

Name & Organization	Comments
Scoping Meeting, August 20, 2014 (3:30 pm to 5:30 pm) – Lucerne Valley, CA	
Carlos De La Peza	• Concerned about the health risks of 220 kV and 500kV facilities located close to homes and the potential negative impact on property values. • Feels previous studies done on similar projects did not accurately analyze or estimate the impact on various species like desert tortoises. At the Ivanpah Plant facility, there has been larger than expected numbers of impacted tortoises and bird fatalities.
Cyndie Granados	• Asked if Mr. Barnsdale knew the legal amount of time that a planned outage can keep power off? Spoke about the negative impact of ongoing planned power outages, noise from construction and impact on wildlife when fencing is put up after construction has begun. • Opposed to the project. The project does not need to be here it can be somewhere else.
Peter Stehlik	• Wants to know if the power is going to Los Angeles? Project should be placed closer to where it will be used such as City of Lancaster, which is closer to Los Angeles. • Analysis should consider AV Clearview as an alternative to the project. • Wants to be able to provide comments to decision makers.
Bill Lembright	• Negative impacts to property values and up to 50 percent for those properties adjacent to the towers and substations. • The project will also have negative impacts on our viewsheds from ugly and unnecessary structures. Also, indicated that Hwy 247 is being considered a CA Scenic Highway and feels that Coolwater Lugo would be detrimental to that proposal. • Asked to have the AV Clearview project considered as an alternative. • Feels existing lines should be upgraded and the focus should be on securing existing grids from electromagnetic attack, speed up Net Zero energy requirements and look at alternatives like natural gas, nuclear power and private Point-of-Use solar. • Construction of the project would open the floodgates for industrial solar and wind projects and turn the desert into a wasteland. If project enables North Peak Wind project it would limit the ability of firefighters to use aerial firefighting methods. All of the related projects would bring about the potential destruction and dislocation of wildlife native to the area.
John Miller	• Asked that three main issues be considered. The first is the impact on public safety specifically relative to the impact on geological or unstable soil resulting from the project. The second is location of the project relative to fault lines. Cited that the USGS has documented proof that the location for the substation lies within ½ mile of a known thrust line. The third is the proposed route of the power lines, specifically is the use of the North Peak Wind Field which crossed several additional fault lines. Cited the North Frontal Thrust System with 3 earthquakes of magnitude 3.2 in the past month. • Concerned with only one road into and out of Milpas Higlands that there is significant chance of danger from natural disaster and potential downed power lines. • Asked for consideration of the site on the west of Rabbit Dry Lake for the project; SCE owns 1/3 of the property and it has adjacent power lines.
Ed McCarville	• Resides on a cut-off road w/ no electricity by choice. Relying on a generator and solar. • Asking for alternatives to be considered.
Karen Smith	• The economic recession of 2008 caused the value of our property to decrease and now this project will further decrease our property value. • The potential for windmills/wind farm will have an impact on the aesthetic environment and may have health effects. She noted that the Holistic Horse had an article about the impact of wind farms on horses.

Appendix E-2. Summary of Oral Comments Received at Scoping Meetings

Name & Organization	Comments
Diane Reeder	• Concerned that the residents or human beings are not considered key players when considering the impact of the project and asked what percentage of residents and property owners in the area would be necessary to have their concerns addressed. • Concerned with the environmental impact on the land they own, their property value and the aesthetic beauty of the area. • Residents pay a fee to CalFire for service. The project would pose a risk to fire-fighting efforts.
Mary Ann Norris	• Real estate broker who owns 160 acres. Transmission line crosses property; SCE sent a letter wanting permission to do work on my property. Isn't this premature? • Concerned about impact on wildlife and property. Hosts weddings on property and is concerned about impact on business if additional power lines are placed through existing area.
Linda Gommel	• Very concerned that this project is just the beginning with many more to follow. Believes that the impact on the Mojave Desert will be irreparable.
Patricia Sullivan	• What benefit or advantage will this project provide as a resident of Lucerne Valley?
Lorrie Steely, Mojave Community Conservation Collaborative	• The "green energy push" will bring dozens of projects to the area that are waiting for the transmission line to be built. MC3 will not allow this to happen. • We want long-term sustainable planning; you can't just rape the desert and expect it to recover. The DRECP identifies the desert as a Development Focus Area. MC3 will vigorously oppose Department of the Interior amendment to the California Desert Conservation Plan. • We are footing the bill for a huge overpriced project to ruin the environment, our resources, and our rural culture. Consider the benefits of the AV Clearview project that the community of Lancaster wants for its economic stimulus. Also consider rooftop solar, solar PV projects located as shade structures in parking lots, and ground-mounted PV at waste water treatment plants, on remote brownfields, landfields and remediated sites.
Waldo Stakes	• Believes the project will turn the desert into a giant power plant to feed Los Angeles and will result in wind projects all over the desert. The wind turbines restrict airplanes and often burst into flames which will impact homes in the area. • Aerial fire-fighting efforts will be impacted from new no fly zone areas created by the large wind turbines.
Marcelino Sanchez	• Believes the current transmission lines do not enhance the property they surround. • Wants to know if the Water quality will be impacted?
Wayne Snively	• Believes the tax payers in the residing area of the project do not benefit in a meaningful way while SCE and others benefit from the power, as well as, large tax breaks. • Questions whether the project is economically feasible.
Bryon Bacom	• Property is located in the project area and he objects to any kV lines being placed on or near his property. He is also against the wind farms in his backyard that may result from the project.
Deirdre Smore	• The meeting should be rescheduled so that questions can be answered. Requested the street routes that would be impacted, tower height and where towers would be installed. • Believes the negative impact on the natural habitat and wildlife will be irreversible. Cannot see any benefit to the area from the project. • SCE should put solar panels on every residence in the desert to gather power.
Robin McCartney	• Lives in Lucerne Valley and believes her family has developed health issues from living under towers on their property. • Now lives next to a solar plant with on-going exposure to dust from the plant. • These types of projects create irreparable harm to the residents' health and the environment.

Appendix E-2. Summary of Oral Comments Received at Scoping Meetings

Name & Organization	Comments
Irene Atteberry	• The project will change what residents enjoy most about the area. • The project will increase the loss of property value, have a negative impact on wildlife, a negative impact on water quality and the ability of firefighters to fight fires effectively.
John Miller	• Analysis should include the potential contamination of groundwater from substations. • Is the project tied in any way to the wind farms in the area? • Why is a 160-acre substation needed when the Desert View Substation only needs 200-megawatts, but is slated for 500 MWs? SCE should use property they own 7 miles away near Rabbit Lake.

Speaker Registration Card

(Please Print Clearly) **Coolwater-Lugo Transmission Project EIR/EIS**

Name: De La Peza, Carlos

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Address: 15340 Casino Dr.

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Phone: cell (626) 848-4942

Email: a216hcp@yahoo.com

✓(1)

Speaker Registration Card

(Please Print Clearly) **Coolwater-Lugo Transmission Project EIR/EIS**

Name: Cyndie Granados

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City, State, and Zip: Lucerne Valley, CA 92356

Phone: 760 248-1915

Email: 0

✓(2)

Speaker Registration Card

(Please Print Clearly) **Coolwater-Lugo Transmission Project EIR/EIS**

Name: Peter Stehlik

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Phone: (760) 248-7176

Email:

√(3)

Speaker Registration Card

(Please Print Clearly) **Coolwater-Lugo Transmission Project EIR/EIS**

Name: Bill Lembright

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√(4)

Speaker Registration Card

(Please Print Clearly) **Coolwater-Lugo Transmission Project EIR/EIS**

Name: JOHN MILLER

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Speaker Registration Card

(Please Print Clearly) **Coolwater-Lugo Transmission Project EIR/EIS**

Name: Ed McCARLVILLE

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Phone:

Email:

✓(6)

Speaker Registration Card

(Please Print Clearly) **Coolwater-Lugo Transmission Project EIR/EIS**

Name: Karen Smith

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✓ (7)

Speaker Registration Card

(Please Print Clearly) **Coolwater-Lugo Transmission Project EIR/EIS**

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Email:

✓ (8)

Speaker Registration Card

(Please Print Clearly) **Coolwater-Lugo Transmission Project EIR/EIS**

Name: Mary Ann Norris

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√(9)

Speaker Registration Card

(Please Print Clearly) **Coolwater-Lugo Transmission Project EIR/EIS**

Name: Linda Gommel

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√(10)

Speaker Registration Card

(Please Print Clearly) **Coolwater-Lugo Transmission Project EIR/EIS**

Name: PATRICIA SULLIVAN

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(Please Print Clearly) **Coolwater-Lugo Transmission Project EIR/EIS**

Name: LORRIE L STEELY

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Speaker Registration Card

(Please Print Clearly) **Coolwater-Lugo Transmission Project EIR/EIS**

Name: Wacoo Stakes

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✓ (13)

Speaker Registration Card

(Please Print Clearly) **Coolwater-Lugo Transmission Project EIR/EIS**

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Email: —

✓ (14)

Speaker Registration Card

(Please Print Clearly) **Coolwater-Lugo Transmission Project EIR/EIS**

Name: WAYNE L SNIVELY - PE

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Phone: 760 ~~[illegible]~~ 257-9149

Email:

√(15)

Speaker Registration Card

(Please Print Clearly) **Coolwater-Lugo Transmission Project EIR/EIS**

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City, State, and Zip: Livermore Valley CA 94551

Phone: 7602486109

Email:

√(16)

Speaker Registration Card

(Please Print Clearly) **Coolwater-Lugo Transmission Project EIR/EIS**

Name: DEIDRE SHORE

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City, State, and Zip: L.V. 92356

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✓(17)

Speaker Registration Card

(Please Print Clearly) **Coolwater-Lugo Transmission Project EIR/EIS**

Name: Robin McCartney

Affiliation (if any):

Address:

City, State, and Zip:

Phone:

Email:

✓(18)

Speaker Registration Card

(Please Print Clearly) **Coolwater-Lugo Transmission Project EIR/EIS**

Name: IRENE ATTEBERRY

Affiliation (if any): _____

Address: _____

City, State, and Zip: _____

Phone: _____

Email: _____

√(19)

Speaker Registration Card

(Please Print Clearly) **Coolwater-Lugo Transmission Project EIR/EIS**

Name: JOHN MILLER (2X COMMENTOR)

Affiliation (if any): _____

Address: 8822 BUENA VISTA RD

City, State, and Zip: _____

Phone: _____

Email: _____

√(20)

AUGUST 20, 2014 (Late Afternoon)

Lucerne Valley, CA

Oral Speaker Comments

Transcript # 1914938

COOLWATER-LUGO TRANSMISSION PROJECT EIR/EIS
PUBLIC SCOPING MEETING

RE: PUBLIC SCOPING MEETING:
August 20, 2014.

CERTIFIED TRANSCRIPT

TRANSCRIPT OF PROCEEDINGS
Lucerne Valley, California
Wednesday, August 20, 2014

Reported By:
ADRIANA PATRON,
CSR No. 13834
Job No. 1914938
PAGES 1 - 93

MR. LUDWIG: The substation itself would be --

UNIDENTIFIED SPEAKER: How about giving us a giving us a distance where the path is.

UNIDENTIFIED SPEAKER: It's one mile west of Milpass Road. One borders on Bowen Ranch Road, the other one borders on Tussing Ranch Road. It doesn't matter where it is, you'll be able to see it from anywhere.

MR. LUDWIG: They both would be north of Tussing Ranch Road. The main site is about a mile west of Milpass Road. And the western border would be Laguna Seca Drive. The alternative site is -- the eastern edge would be Bellview Avenue and the western edge would be -- I can't read it. Jupiter? I can't read it. It looks like j-u-p something. It looks like Jupiter Road. And the northern boundary of both -- the proposed site would be Rens Street. That's for the two substations.

MR. BRITT: Okay. Go ahead, Carlos.

MR. DE LA PEZA: My name is Carlos De La Peza. You spell it capital D, like David, e; capital L-a; capital P-e-z-a.

I live in the Hacienda Heights, Whittier area, and I drove all the way over here to have you oppose this project. I'm a property owner.

As you know most people, especially property

owners, do not want to live anywhere near the 220-kV facilities due to property values, health, appearance, plus many other reasons. They're causing a lot of problems in the environment. It would ruin the desert as we know it.

This project involves 220-kVs, which has been objected by many people. And now you're introducing a 500-kV facilities, which makes it even worse. The health complications are questionable. I don't know if you made any studies about what complications you might have as far as health-wise. And this is a lot bigger project than most.

In real estate, location, location, location is the key to value. Your property value will come down, if it hasn't done that already. And in the future, when everybody's properties appreciated at a normal rate, yours will remain a lot lower. Do not let anybody tell you different.

San Bernardino County has gotten its share of energy projects. Let other counties help with the program. From what I understand, Lancaster area reps indicate they want the project. Why not do it there?

If this project goes in, there will be many, many other projects that will want to tie in and this will be a humongous project. I'm asking for you to

please review the material that you people are reviewing because right now, I can tell you that the Ivanpah Plant, they made studies and studies, and when they started working, they find out a lot more turtles had to be relocated and a lot of them didn't survive.

Also right now, they're burning birds at a rate of 77 per day. And right now, there's no excuse because they haven't reviewed the papers. So I'm asking you to please, no matter whether you do it here or do it someplace, the studies have not been well done.

So please I'm asking you to oppose this project. If you want to move it someplace else, please do so. Thank you very much.

MR. BRITT: Thank you. Cyndie.

Again, if you could please, as I call your names, queue yourself up because we do have 16 speakers. At three minutes apiece, this is going to take a while. It would be very helpful if you could just go stand behind the person speaking, and then I'll call three more as the speakers finish.

MS. GRANADOS: My name is Cyndie Granados, G-r-a-n-a-d-o-s, as in Sam.

I live up above off Camp Rock Road, right up above where they put in the large solar farm. And I have a question for Andrew: On Thursday, I called the

Public Utility Commission in San Francisco because we had a planned outage for Friday, this last Friday, from 9:00 p.m. until 9:00 a.m. Saturday morning. What is the legal amount of time that they can have the utilities turned off? That was what I was trying to find out.

MR. BARNSDALE: I have no idea.

MS. GRANADOS: Okay. They said they had no idea either. They said that the only thing they regulate is if a utility company sends us out notices five to seven days in advance, which they did.

They transferred me to Rosemead, and I spoke to a Rafael Molina, and he stated he had no idea. And then he did some further checking for me and called me back. He said it's however long that they deem that the project needs working on. So it could be 12 hours. It could be 24 hours.

MR. BARNSDALE: That's probably right. They're probably things you need to take down to get done, and they probably measure these things in annual statistics for number of hours and outages within an area for a year. That's probably how those things are kept in terms of performance standards.

But for any given block or any given circuit, it all depends on -- you know, if someone runs into a pole, pole goes down, takes three other poles with it, no

one really knows how long that will take to get up. It's a certain amount of time, and it stays off until then.

The utilities make money by providing electricity, not by having darkness. They're pretty incentivized to get that stuff back in as fast as they can. They can't really bill you for energy while you're off. So that's one of the issues.

MS. GRANADAS: Okay. They had us out all day Wednesday, also and a few days previous to that. The first time was in June. It was 104 degrees outside. I asked why this wasn't planned better. Why couldn't they do this in the spring or the fall or hopefully the winter. No, that wouldn't be good either because I'm all electric. I'd be freezing.

For me and my neighbors, it's a done deal. But I'm opposing this project because all of these other people that live in these areas are going to have to go through this, and I would imagine this is going to take some time to do.

And there's going to be power outages continuously; inconvenience for people. I have some friends that live up on 18th. He has a heart condition and he has diabetes. They have to go up to Big Bear every time there's an outage to escape the heat. You know, it's not right what they're imposing on the public.

We didn't ask for this. We don't want it. I certainly don't want this. I've lived in this valley for 12 years. It took me 10 years to get used to it. Now that I fell in love with it, you want to destroy it for me.

You know, it's insanity. Put it somewhere where people don't live. You know, you make any calls to any of these agencies, you get the runaround. It's the same story. Everybody's programmed. They know what to say, and they don't care. They do not care what we go through, how we feel, what we want, what we don't want. The bottom line is they don't care.

And you know, it's a sad situation. I mean, I had an officer out because the noise level was so extreme for about four months. They'd start about 5:30 or 6:00 in the morning. And I didn't know they were sending an officer out, but one came out. He told me, "Well, I sympathize with you, but there's nothing that can be done. It's a construction site." I said, "Okay."

Then after that, it just continued. It escalated. They had rock crushers out there at 5:30, 6:00 in the morning. I mean, this is what you guys have to look forward to if this transmission line goes past your house or anywhere close. These are the things that are going to happen.

They didn't even put up the chain-link fence until a few weeks ago. How many turtles were crushed? How many animals went in there and were killed? This is just not right. I definitely -- I do not want this, and I'm asking you to listen to everybody. And you know, please, please, consider our feelings and you know, it doesn't have to be here. It can be somewhere else. That's all I have to say.

MR. BRITT: Thank you very much.

So after Peter, the next three will be Bill Lembright, John Miller, and Ed McCarville. If you can queue yourself up and please try to keep your comments to three minutes. I will wave at you if you get close to three minutes so you can try to wrap up. Okay. Thank you.

MR. STEHLIK: S-t-e-h-l-i-k, Peter is the first name.

I'm obviously misinformed or illinformed on a lot of this. I just found out about this project. I don't have as much information as most people do on this project. In fact, most of what I have to talk about today is questions that I need to ask. I understand this is going to L.A.; is that correct? The power from this is going to L.A.? You don't know that? You don't know where it's going?

MR. BARNSDALE: Sir, the answer to the question is that the line is going to Lugo. The power will go to where the least resistance is. That's the truth. That's physics.

MR. STEHLIK: Least resistance from the public?

MR. BARNSDALE: It's probably electrical. The power is probably going to load centers. Load centers are in L.A., San Diego, those places. How it gets there, exactly where it goes from Lugo to get to there, it can go through any number of paths. Is it going to L.A.? Probably, yeah. Those guys use a lot of power.

MR. STEHLIK: Wouldn't it be less expensive to put it closer to where the power is going to be used? Lancaster, I understand, has a place for this, and they actually want it there. It's a little closer to L.A. than here. But there are a lot of places even closer than that. I don't understand why it's going out here rather than closer. It would be more cost effective to put it near where the power is going to be used.

Also, I was wondering who owns all the land. Is this public land or private land? It crosses a lot of different colors on there. There's orange and blue and white. What is the white?

MR. BARNSDALE: It's private land, State land, all of it.

MR. STEHLIK: Okay. As far as the private land, the owners of the land will get a fair price for what they have?

MR. BARNSDALE: They'll negotiate.

MR. STEHLIK: Okay. Is the Lancaster site being considered at all?

MR. BARNSDALE: I don't know what you mean by the Lancaster site.

MR. STEHLIK: The City of Lancaster, it's my understanding that they have a site that they feel this will fit in and the actually want it.

MR. BARNSDALE: So I think you're probably referring to a proposal that is called AV Clearview? That's probably what we're talking about. Yes, that route proposal is going to be considered.

If you can give us your comments, rather than a list of questions because we have a lot of other people to get to.

MR. STEHLIK: The problem is I have so little information, I can't really formulate any comments. It's all questions.

MR. BARNSDALE: Then you have to review -- you've got to do that.

MR. STEHLIK: See the problem is, I'm not the one who came here uninformed, you guys are because you're

not giving me the information I need to formulate my questions.

MR. BARNSDALE: I understand.

We had a great meeting last night of 149 people who read just about everything they could find on this. It was quite amazing. I told the people last night that in 20 years of doing this, I've never run into a better informed group.

They read the PA, which is very rare to have community members read a PA. It's the size of a phone book and the plot is thin. The characters are lousy. The theme is pretty much the same. So you know -- right. They came with that, and they could generate a lot of good input for us. That's what we're looking for. I think you can give us input too, but it can't really happen in the form of questions.

MR. STEHLIK: I can give you a lot of comments. They're going to be basically the same that everybody else makes.

This is not a good place for this. There's people that live out here. There's a lot of beauty out here in this desert. And maybe it's not appreciated by certain people, but this desert is a beautiful place and this would ruin the look of it. That's my concern.

I live out here. I moved out here to get away

from this stuff. That's why I'm here. I don't want to see this stuff coming through here. That's all. Those are my only comments right now. I will have some later. You guys are just staff members; right? When are the decision-makers going to be here? These are the people I want to talk to.

MR. BRITT: We explained the process earlier on the slides. The decision-making process was part of that explanation that we showed.

MR. STEHLIK: Are they going to be here to answer questions?

MS. SYMONS: I'm one of the decision-makers, and I'm here. I was at yesterday's meeting. I'm at this meeting, and I'll be at the other meetings.

MR. BARNSDALE: We have another decision maker called Judge Irene Moosen. She'll be here, and she'll swear you in and take testimony from you when she's here if that's what you want.

But you need to keep your eye on the newspapers. You need to keep looking into groups of people who are working on e-mail. You need to keep in touch with us so you can know when she schedules that. You have to reach out, and then we'll reach out to you.

MR. BRITT: Bill. And then he'll be followed by John Miller and Ed McCarville.

MR. LEMBRIGHT: Bill Embruing, L-e-m-b-r-i-g-h-t.

Negative impacts on our property values up to 50 percent to those properties adjacent to those towers and their substations. Then, it negatively impacts our viewshed. This pristine desert is one of the most important reasons humans and animals love the desert. It's criminal to destroy it with such ugly and unnecessary structures.

Upgrade existing lines if necessary but don't add 26 miles of new lines. Consider the less controversial AV Clearview transmission project as a viable alternative, please. It avoids the pristine Stoddard and Lucerne Valley region and it avoids so many residential neighbors. I doubt any of you deciders would approve of this in your neighborhoods.

Highway 247 is actively being considered as a California scenic highway. Coolwater-Lugo line are not compatible the scenic state highway. The construction of Coolwater-Lugo would open the floodgates of industrial solar and wind projects, which would turn our now beautiful desert home into a wasteland, like West Palm Springs, Kramer Junction, Ivanpah, Tehachapi, and ultimate paths.

This would also bring about the destruction and

dislocation of big horn sheep, tortoises, golden eagles, bald eagles, bats, ravens, turkey buzzard and us human desert rats. Lucerne Valley has a six-square mile wasteland naturally shielded from view by desert vegetation to house solar farms that help satisfy the energy needs of California. Why doesn't the CPUC and BLM recognize that and working with us to develop this valuable resource which will greatly reduce negative environmental impact?

And, yes, BLM and the State are aware of these. They've met with us, and we've given them a tour of this area. This area is already traversed by two SCE transmission lines that can be upgraded if necessary. The Coolwater-Lugo and the other projects, which would come onboard should it be built, would destroy our tourism and our appeal as an OHB paradise.

Please urge the CPUC to focus on far more urgent issues like securing existing power transmission grids from electromagnetic attack, speed up Net Zero energy requirements for new construction already in the works in California. In '20-something we're supposed to have -- any new construction, I gather, has to have a Net Zero power use just to be permitted.

Use nuclear power and cheap abundant gas for clean energy and move it closer to where the energy is

needed. You can do that with nuclear and with natural gas. Also facilitate private and Point-of-Use solar. A lot of us out here, and everybody in L.A., should want to -- and in L.A. I would think more and more would have to do Point-of-View solar to do their part.

All of this will greatly reduce the necessity of the building massive solar and wind farms along with massive transmission lines, all of which destroy the environment out here. If Coolwater-Lugo enables North Peak Wind, aerial firefighting will be much less possible also. That's the 26-square-mile project up here on our San Bernardino mountains with 500-foot -- 71 500-foot towers. And the firefighters said, no, that will really hamper them. And that's been the path of two massive forest fires in the last ten years.

Thank you.

MR. MILLER: Good afternoon. My name is John Miller, just like the beer.

I live in the area, and I work as a land appraiser. And, actually, I'm the one who did the study on the value impact associated with the high-tension power lines that would be going through Milpass Highlands.

In the -- about a year ago we did this same exercise. And in the proposed environmental assessment

dated August 28th, 2013, they answered a series of questions. I'm not sure if Aspen was involved in that one as well, but I'm hoping that you guys can better address some of these issues.

There's three main issues that I think need to be considered, if you guys don't mind. The first is the impact on public safety. In their environmental impact assessment, the question was asked specifically, is it located in an area -- let's see. Is it located on geological unit or soil that's unstable or that could become unstable as a result of this project? And the answer to that is, yes; specifically with Desert View Substation.

It's also -- the other question was asked about fault lines, and they said there's no fault lines through there. I'm going to tell you that is provably false. Mojave Water agency has documented it. USGS has documented it. As a matter of fact, those -- both of those proposed locations for the substation lie within a half mile of a known thrust fault.

When Edison was here, we asked them if they had done any geologic studies. They flat out lied to us and said, "Oh, yeah. We have." I can tell you, I'm a land appraiser. I've done a lot of work with my career. I know what a geologic study looks like. There have been

no geologic studies done. That is a concern.

Also, the proposed route of those power lines, if they go and they seize the North Peak Wind Field, they're going to cross several additional fault lines. That fault zone is -- let's see. I don't want to be wrong. I'm sorry. I'll look up the name of it so you guys have it. I have it here.

It is the North Frontal Thrust System of the San Bernardino mountains. In the last month, we've had three earthquakes greater than 3.2 magnitude on that fault system. That fault system is active, folks. More importantly, Milpass Highlands lies north and east of where these power lines are going to go. The predominant winds come from the southwest and blow towards the northeast. In the two substantial fires we've have, both of those fires have blown through that area.

That's the second issue. When the question was raised in the previous environmental impact report as to the danger posed by wildfire, they said it was not significant. That is provably false. There's only one road in and one road out of Milpass Highlands. That road is in terrible shape, and should, God forbid, those power lines come down -- which we all know power lines do come down -- on a windy day, you can easily have a 40, 50-mile-an-hour blow through that community and put life

in danger. Whoever approves that project would have to sleep with that thought after those people have lost their lives.

Finally, Southern California Edison has stated these are the two best locations. However, I'm going to tell you -- if you flip back to that map, you'll be able to see Southern California Edison actually owns a third piece of property that they could very easily do this project on. It's on the west side of Rabbit Dry Lake. They already own -- it's adjacent to their power lines.

They would not have to run additional power lines up and through Milpass. It would not stop the project from going forward. In fact, it will possibly cost less to do that. They've not considered that, and I would like for you to consider that location. I believe that that is a feasible location for this project.

So I have other comments, but I'll save them.

Thank you.

MR. BRITT: Thank you. Ed McCarville.

While he's coming up, the next three will be Karen Smith, Diane Reeder, and Mary Norris.

MR. McCARVILLE: Good afternoon. I live out off the cut-off road. I find it that God has a sense of humor. We don't have any electricity out there. We're off the grid. I bought my place out there 11 years ago

just for that purpose.

Now, where the humor comes in, they're going to run hundreds of thousands of volts of electricity through this valley. I get to get up every morning when I start my generator or throw the switch on my solar system and look at this mess of power lines. He does have a sense of humor.

The proposed route goes I don't know how many miles out of its way where it can simply follow 247 down. Nobody lives near the highway there. This route that they take, people live all along it. I don't need it. I don't understand it. No consideration for the people whatsoever.

I think there's some kind of alternative thought in mind for putting this power line there. Our values are already depressed because we have no power. To put this through is going to depress our property values even more. I don't get it. I don't understand it. So I'll give you some written comments later.

Thank you.

MR. BRITT: Thank you. Karen.

MS. SMITH: My name is Karen Smith, and I've lived here in Lucerne Valley for about 10 years. I'm winging it completely. I wish I would have written some index cards.

We sat here and we watched you tick off, "We're going to do this, this, this, this, and this," like you took the pages out of some textbook somewhere. And then when you're done with what you're going to do, you're going to put it on the desk of a man who's already decided that he's going to have 70 percent renewable energy.

And a lot of us here -- I don't know about all -- but I for one don't believe that wind energy and what you guys are planning is the answer. And when we -- in 2008, we lost two-thirds of the value of our property. And when you put those windmills up and the Lugo Project in, we're going to lose another 50 percent of the third that's left.

My husband worked 60 years of his life for us not have to worry about where our next meal is going to come from. And I don't understand how come you guys have to put these -- all of this that's going on over where human beings live. Beautiful homes. Milpass has gorgeous homes. My home is beautiful. It's taken me 10 years to set it up for my dream of having horses. I think we're being robbed.

My neighbor has the same story. Where you're planning on ending up, those windmills are going to be on my -- I have one more thing to say. I read an article in

Holistic Horse about a wind farm, and it had a horse ranch right in the middle of about seven windmills. And all of the baby horses became crippled, every one of them. And they brought in horses from other ranchers to make sure it wasn't that gene pool, and all of those baby horses became crippled. So what's it going to do to us?

That's it.

MR. BARNSDALE: Ma'am, can I just -- thank you very much for your comments.

I just wanted to ask what happened in 2008 to cause the property --

MS. SMITH: The economy in America. It's nothing magical. It just happened to all of us.

MS. REEDER: Hello. My name is Diane Reeder.

We purchased 10 acres up on High Road about 30 years ago. It was our dream to live up there. When we purchased that property, we were the only ones up there. We drove up High Road two and a half miles up, and my husband said, "This is where we're going to go." The hills behind us -- the whole mountain range is just pristine.

You talk about environmental impact. Has anybody -- you talk about the key players. The key players of the BLM, the PUC. Are we key players, any of us in here? Are we key players? The taxpayer, the

hard-working individuals who love the environment. You talk about the animals and the turtles and the birds. All those are going to be affected. Human beings are affected with what we consider the beautiful pristine valley of the desert.

I was born and raised in the city, Southern California. This is a travesty, an absolute travesty. You're not considering human beings here, I don't feel. And it's all about the bottom line, the buck. Our buck. Our buck is 19 acres.

We have one of the largest homes in Lucerne Valley, and, trust me, it's not because we have money. My husband and I built that house with our own hands, and we did that partly because we were responsible. We didn't want to have the government pay for our retirement. That's our retirement up there, our 4,000-square-foot home.

You talk about environmental impact. Doesn't the visual impact, the hearing, anything have to do -- that's an environmental impact. It's ugly. You go down the pass -- I don't know where your corridors are exactly. I know everybody has input here, but that's an ugly corridor. Why not just go ahead and put ugly on top of ugly on that pass?

Another comment or question I'd like to say is,

what percentage is considered with these good people and all the other meetings? The public. What percentage is considered of us? Our input? Do we have any percentage involved here?

MR. LUDWIG: It's not divided into a percent. We take everything into account.

MS. REEDER: You don't know. This is the third meeting I've been to and the same questions are asked. "We don't really know the names of the roads that are being impacted."

And another thing I'd like to mention, all this Highland area, we're getting fees, an extra $150 for CAL FIRE. What the hell for if they can't even -- we've had several fires. I've had fire engines on my property in the 30 years we've lived there park right in front because it's such an impacted area for fire. And we've had air -- and now that's not going to happen with 500 feet. They can't fly over.

You're talking about real live human beings who put their lives and souls into this beautiful valley here. Anyway, I think that's all I'm going to say. You talk about environmental impact on the tortoises and the birds. We love our animals. I have a nature preserve up where I live. What's the impact on the human beings?

Thank you.

MR. BRITT: Thank you. Mary, you're next. While Mary is coming up, the next three will be Linda Donald, Patricia Sullivan, and Lorrie Steely.

MS. NORRIS: My name is Mary Ann Norris. I've lived here since 1973, and like this previous lady, my whole life is in my property.

The transmission lines go through my property now. I received a letter from Edison wanting my permission for their -- to do work on my property. I haven't signed it. I don't know what they want to do, whether they're increasing the voltage or if they're making the towers bigger. They're bad enough as they are.

I have 160 acres, and I'm up against the mountains. I have quail, bobcats, coyotes. You name it, they all live there. I love it. I feed them. I enjoy them. I have weddings at my place. Some people here have been married out there.

I don't want them in there making higher transmission lines wiping out my livestock and my critters that live there and interrupting the guests that come out to enjoy the quiet. And that's why they come, because it is quiet. It's peaceful. They like nature. I don't particularly like rattlesnakes, but I even have a big -- that ate one in front of me, and I have that

videotaped, and it was quite an experience.

I just think that this whole thing is awful. I'm a real estate broker. I've sold property out here to a lot of the people that are in this room and for them. People come here for the peace and quiet and to get away from the city and the turmoil and enjoy the nature that we have.

All this stuff that you want to do is just going to ruin us. And I hope you'll really, seriously consider the impact that it has on the people that live here, and we love it here. So for all it's worth, I would like more explanation as to why Edison is already sending out permission slips to enter the property to do their work? I don't know what they want to do. The letter doesn't say, but it was delivered to me UPS. And isn't it a little premature if it's not even approved yet? I think you need to check these things out.

MR. BRITT: Thank you.

MS. GOMMEL: I'm Linda Gommel, G-o-m-m-e-l.

Sorry for the hostility. I think part of this is -- I hope you see the big picture here. The Mojave Desert is no ordinary desert. It's reputed to be one of the most beautiful deserts in the world. This area of the Mojave Desert is one of the most heavily populated of the whole Mojave Desert. And we're talking about the

whole backside of the mountains; Johnson Valley, Apple Valley.

This is gorgeous desert. You guys from Sacramento don't get it. You just don't get it. You cubicle guys look on a map, see what they think is empty desert and then want to have their way with it to suit a political agenda to push green energy down our throats.

The objection to the Coolwater-Lugo line is in the context of that green energy -- that whole green energy push. And when that is done, this whole Lucerne Valley is going to be covered with dozens of projects just waiting for there to be that transmission line. We will not let that happen. We will not let that happen.

Part of the hostility is because we feel that there's a tsunami coming and it's going to happen no matter what and we'll be law breakers if we resist. We just had a meeting Saturday, Katrina knows. We lost a big chunk of our desert to the marine base with some shenanigans in Washington, DC. And our congressman, who we did speak to many times, was with us and tried to get it done right. And he was defeated by the bureaucrats and by these shenanigans.

That could happen again. We will not let that happen to the best of our ability. This is a beautiful desert, as you heard us all say. We don't want it to

spoil. Go somewhere else, please.

MR. BRITT: Patricia.

MS. SULLIVAN: Patricia Sullivan, S-u-l-l-i-v-a-n. I lived in Lucerne Valley for 15 years. I was a weekender many years before that. I would like to know what kind of advantage is this going to be for me. What is my gain for these power lines to go in? What is it going to do for me? We've heard all the negative things, but I want to hear some positive things. What is this actually going to do for me?

That's all I have to say.

MR. BRITT: Thank you. Lorrie.

After Lorrie, the next three will be Waldo Sakes, Marcelino Sanchez, and Wayne Snively.

MS. STEELY: Hello. My name is Lorrie Steely. I'm a member of the Mojave Community Conservation Collaborative.

I'd like to answer your question. The PEA states, "As part of the renewable energy transmission initiative, the Barstow, Inyokern, Kramer Lucerne Valley and Owens Valley areas, significant portions of which are under BLM management and jurisdiction, have been identified to be rich solar and wind resource areas in the state of California.

"In addition, the DRECP, Desert Renewable

Energy Conservation Plan" -- conservation. They use that word. It's supposed to make you feel better -- "has also identified large amounts of renewable generation potential in the Mojave Desert area. Existing generation in these areas, together with most of the identified future generation potential in the competitive renewable energy field shows significant portions of the generation potential in the DRECP development focus areas." They call that DFA. That's us. "It would ultimately flow into Kramer Junction, California, and would need to be exported south to the Lugo substation located in Hesperia to serve customer demand in the L.A. Basin." So there's your answer.

Our group is called the Mojave Community Conservation Collaborative. Community, because we care. We're here. We're invested. We spent our livelihood buying our homes, raising our children, having our animals. This is our neighborhood. We're not just something on a map. This is our yard. These are our homes.

Conservation, we need to have some intelligent long-term sustainable planning. You can't just rape this desert and expect it to recover. This kind of environment doesn't recover. Hundreds and hundreds of years it will be permanently impacted.

And collaborative, because all of us are here together. We have to collaborate because we're not going to let this happen in our desert. We will vigorously oppose any Department of the Interior Amendment of the California Desert Conservation Plan vigorously.

I'd like to talk to you about growth inducing impact and cumulative effects of the Coolwater-Lugo Transmission Project in combination of other past, present and reasonably foreseeable future projects in the area as a result of this project. It's already identified. We know it's coming.

I understand that you're combining the EIR/EIS to conserve resources. Well, I've got an idea. Katrina, let's just say no. Let's conserve resources. Be our voice. Turn this project down.

There are alternatives to this project. I know you know what they are. It's the AV Clearview Project. It's been significantly considered by the CPUC. So to allude that you didn't know who -- what the project name was, is -- well, quite frankly, I won't elaborate.

It's been well acknowledged publicly, and within the CPUC's proceedings, CISO -- that's California Independent Systems Operators -- had they not suspended this transmission planning process until after its approval of the Coolwater-Lugo Project and they had

approved the AV Clearview Project, there would have been no need for the Coolwater-Lugo Project.

We ask again, where is the transparency in this project? Why are we footing the bill for a huge overpriced project to ruin our environment, our resources, and our rural culture. Please consider all benefits of the AV Clearview Project that the community of Lancaster wants for its economic stimulus. We don't want it. Lancaster does. This should be common sense.

Now, there was a recent August 5 CEC workshop. I was really glad to see some of this stuff in there. The Environmental Scoring Methodology for Renewable Energy Projects, created by Roger Johnson, rates the best alternative rooftop solar PV, solar PV projects located as shade structures in parking lots, ground-mounted PV at waste water treatment plants, on remote brownfields, remote DG on brownfields, landfields, and remediated sites.

That's the best solution from this gentleman who is the Siting, Transmission and Environmental Protection Division director for the CEC. I was happy to see that.

There's also another report, California Energy Commission Draft staff report with estimated cost of renewable energy and fossil generation in California. It

tells us that, "Steadily increasing wheeling access charges that the California Independent System Operators expect to put in place over the next decade representing a growing significant cost to renewable developers who find their best renewable resources in locations that are distant from demand." That's just not smart. I don't have an engineering degree, and I can tell you that's not smart.

"The decline of technology costs associated with solar PV is expected to continue as manufacturers refine production processes and find low-cost solutions to problems." We need to put the TG on the built environment. Put it where they're going to use it. Don't transmit it miles and miles and miles, losing energy all across the way.

One last thing. We made one of the 80 most beautiful places in the world. There's not a single wind tunnel.

Thank you, gentlemen, for the opportunity for us to speak. I realize you're taking time out of your busy schedule, and we do appreciate it. Some of the reason for the hostility is we haven't had the opportunity to really engage Southern California Edison. They've been very condescending. They've come and told us where it's going to be and how it's going to be. And

we haven't had the opportunity to have our say. We don't mean to take our hostility out on you. We really appreciate your time.

MR. BRITT: Thank you very much.

Waldo. And then he'll be followed by Marcelino Sanchez and Wayne Snively.

MR. SAKES: Hello. I really love Lucerne. Here's the thing, okay? Everybody's asking, "Well, why are they putting this thing here? Why here?" This is why. Did you know that dinosaurs eat carrots? This is a Southern California Edison carrot. This project here, the Coolwater-Lugo -- the project -- the idea is to be able to distribute high amounts of electricity. From where, Waldo? From 1,000 turbines that run across these mountains. 71 in the first phase, 14 phases, put in by other countries. Bureau of Land Management, land given to other countries so they can make a profit, putting up products made by other countries. I don't know what happened to America. I really don't. I look at you guys, and I'm like, what's wrong with you? Really. What's wrong with you?

The point is this: There's a million reasons why that stuff doesn't need to be here. The first thing is, Aspen Corporation -- and I'm looking at you, Jon. You're second in command of Aspen. You're just not a

guy; you're the guy. Well, the guy, who hires you? Could that be Southern California Edison? Who would that be? That would be you; right? And aren't you involved in Southern California Edison?

MR. BARNSDALE: Not at all.

MR. SAKES: Do any of you guys have stock in Southern California Edison?

MR. BARNSDALE: Not at all.

MR. SAKES: I will find out. Guarantee you, I will find out. I'll find out if you have two pieces, two shares. I'll find out, and when I do, I'm going to hang you guys. I swear I will.

Here's the deal. The dinosaur that eats the carrot -- the carrot is the Coolwater-Lugo Project, okay? The dinosaur is 14 phases of 450-foot tall 2-megawatt turbines. They'll wind them out from Hesperia to all the way to -- I don't know where the hell they'll go.

I'm from Chicago. We don't all wear Rolexes. I'm sorry, but we know what time it is. It's bullshit o'clock around here. And I'm mad. And you've got two more meetings to deal with me.

Right now I'm going to show you what the problem is. The biggest problem isn't just that we're losing our land property. It's bigger than that. It's that all you guys could lose your homes. I have a pile

of my business cards here. I am what you call a rocket scientist. I work for the government sometimes and stuff I couldn't even tell you about. It has to deal with national security sometimes. So if you're going to send anybody out to bump me off, kiss the first two guys good-bye.

I got my business cards here. And I want you guys to take one. When these things start a fire and they will start a fire and you lose your homes, I'm going to start a tort suit. I'm going to clean up everything. Me, my group. There's more people than me. We'll get to the bottom of everything.

This terrible drawing I have here is why these giant turbines are going to be here. Here you have your mountain range. Air comes in from the sea. It's accelerated over the mountain in what they call the Venturi effect. It's accelerated. The air is compressed and accelerated. The wind turbines, if they put them at the top of the mountains, they're going to turn at a constant high-speed rate.

It's going to be cool because they're going to make a lot of power. These guys will sell the power, not to us, but the guys who it's administrated to will be Coolwater-Lugo. So that carrot -- that little carrot they're going to put in here is what's going to feed all

these dinosaurs. That's what they need it for. We've already met our mandates here. We don't have to have new stuff.

What you guys are doing, SCE, is using us to turn our beautiful desert into a giant power plant to feed Los Angeles. Really, man. Be straight up. That's what it's about.

Here's the problem. You got these giant turbines at the top of the mountain. Right now, when you have a wildfire -- how many people have been in wildfires here? What's it like? It's your worst nightmare; right? It comes down faster than a forest because a forest has the trees that have to ignite, but this is the grass. It carries it. With the speed of the wind, it's on your house. Who can save you? The airplanes. The guys from Menifee. Those guys saved my house. That was about ten years ago. You guys remember that one. 70,000 acres, people lost their homes. Nobody died that time.

But here's the weird thing. These wind turbines develop what they call wind tip vortices. They're bigger than a 747. When they're combined, they look like this. This is a field in a fog now. I gave you guys, yesterday, a 120-page report. Did you guys read it? Okay.

Anyway, you have this group of turbines. See

how it gets bigger as time goes by? And all these things intersect. In this area, you cannot fly an airplane. Because what happens is, you get in the wash, the pilot can easily lose control. That means that when these wind turbines go on top of these mountains, these airplanes that saved your house won't be there anymore. That will be a no-fly zone, not only for airplane, but for Medevac helicopters and all that stuff.

Here's the thing. I think one of you guys said I was wrong about this. You're wrong, and I'll tell you why you're wrong. I have a 62-page report here in that 120-page thing I gave you from two Ph.D.s from Kansas State University. I guess you guys are smarter than those Ph.D.s, but not according to them. What they believe is that within three and a half to four miles, you can't fly an airplane downwind of a huge turbine.

You think you've seen big turbines? You have not seen them. Those ones you see out here, those are little boys. These guys are twice that size. These are 45 stories tall. You know that giant rocket they put guys on the moon with in 1969? That is like a 36-story building. That's 100 feet smaller than these turbines. And there's going to be 71 of them just to the start.

Wait, there's more. Sometimes --

MR. BARNSDALE: You're going to have to pull

this in a little bit. You've had three minutes. We'll give you a last minute to --

MR. SAKES: Okay. These are new people --

MR. BARNSDALE: Well, this isn't a new --

(Speaking simultaneously.)

MR. SAKES: You've been running the show so far. You guys get hours to say what you want. I get three minutes. Give me another minute. One minute. I don't want to hurt your feelings or anything.

So here's the key. The key is sometimes they just burst into flames. For what reason? No reason. They get overworked. You grab your phone. You look up photographs on wind turbines on fire, you'll find thousands of them. I talked to a wind farmer. He told me about 1 in 20 to 1 in 18 will burst into fire for no reason because they're overworked.

Imagine a house -- a unit as big as your house, 30 stories up and it bursts into fire and it throws junk all over. That's what you have to look forward to. Take a good look at that. Now, what happens is now that wind is going to blow it down the mountain to your house. There will be no airplanes that can fly to save you. You have to unite here. We have to stop this. This is real, and it's bad.

One more little thing before I go. I want to

know why -- that judge that you have that's going to look into things, what was her name?

MR. BARNSDALE: Her name is Irene Moosen.

MR. SAKES: Is she a federal judge?

MR. BARNSDALE: No, she's California state.

MR. SAKES: But not this county?

MR. BARNSDALE: The State of California.

MR. SAKES: But not this county?

MR. BARNSDALE: That would be Superior Court. It's a different court.

MR. SAKES: No. My wife works for the court system.

MR. BARNSDALE: It's not this county.

MR. SAKES: Okay. You can get as snotty with me as you want, okay? If you want to get snotty with me outside, I'll take a good talk with you anytime.

The key is, you guys are being crooked. This is a dog and pony show. Aspen is hired by these guys. This is a big show to get you guys to go along with the Coolwater-Lugo Project. Coolwater-Lugo is nothing. It's the carrot that feeds the dinosaur. Once this carrot is in, you'll find these turbines going up from other countries. Wake up, everybody. Get with it.

Do you guys want another copy of my report?

MR. BARNSDALE: We have one copy.

Thank you very much for your comments. Thanks for pointing at us. Thanks for saying we don't know anything about the desert. All those things.

We need comments on the Coolwater-Lugo Transmission Project, to which no wind turbines are being hooked up. Zero.

Let's get back to the Coolwater-Lugo Transmission Project and the next commenter, please.

MR. SANCHEZ: Hello. My name is Marcelino Sanchez. I've lived in Lucerne for about five years now. Ann Mary is my neighbor. Her grandchildren, great-grandchildren come over to my house. It's just -- it's just a beautiful place to live. There's just -- it's just incredibly beautiful.

And, you know, when I heard, in terms of Edison coming and when you live where we live, there's electrical lines right in front of my home, right in front of Ann's home. And Edison has done nothing to beautify the area. My family, because I live so close to the electrical lines, they don't want to come visit me because, you know, it's hazardous to your health.

But I really love it here. My son is doing incredibly well in the school district. You know, we're looking for more students in the district. When you're talking about bringing in something that can jeopardize

our water -- if either of you have scientific evidence that it's not going to impact our water, okay, it's not going to create another Hinkley like Barstow, why do you need permits if this is not even going to impact it?

My thinking is that you're all hired hands for big lawyers, for big investment groups. And you guys are going to look at are we small enough that you can crush us. We don't want you here. I'm opposed to it.

MR. BRITT: Thank you. Wayne, you're the next speaker.

Then after Wayne, the next three will be Byron Bacom, Deirdre Smore, and Robin McCartney.

MR. SNIVELY: My name is Wayne Snively, and I journeyed up here from Newberry Springs to be part of this group and speak on their behalf. This is my second visit here. I was here, I believe, last April to another consulting group -- or I should say insulting group.

So I do understand the process that is happening with this new group. I wish they had taken time to review all the other consulting groups so they could save money on it. I was very concerned about when we had the Pisgah Project that was supposedly subsided by who -- I don't know who -- but from the National Toll Roads in Ireland. And when they ran out of subsidy money, another group took over and had another subsidy

project.

I've been through three projects that were subsidized that had nothing to do with Southern California Edison delivering energy to my house in a more effective -- cost-effective way. In my opinion this project is a -- we're going to be paying for it by our own electrical bills now to subsidize marginal people taking advantage of us and put solar farms, wind farms somewhere in our vicinity so they can get a big tax break and make money and we pay the bill. I don't like paying the bill to these subsidies or to Southern California Edison.

So anyway, I really object to -- especially the private owners that have to bear under the cost of these lines without any type of consideration or numeration for having them fly over their property and degrading it. I really do question at this time whether this project is am economically feasible project.

Thank you.

MR. BRITT: Byron. Followed by Deirdre, followed by Robin.

MR. BACOM: My name is Byron Bacom. I moved out here 10 years ago about 10 miles due north of here on 247, right on Brucite Street.

I'm looking at your map, here. If you look at

the map, I live just above Number 3. On both sides of this black line here is all private property. Okay?

How are you going to run a line over the top of that property? Tell me.

MR. BARNSDALE: Generally that involves an easement that Edison negotiates with you.

MR. BACOM: How are you going to go over the top? All that's private property there. People have houses there. I live right across the street.

I don't want a kV line over there. That's detrimental to your health. Then I saw in the newspaper two or three weeks ago a wind farm in my backyard, 20 or 30 of them. Why?

I don't want a wind farm in my backyard. We moved out here because the sunrise was gorgeous, and the sunset over Granite Mountain was beautiful. Now you guys are going to screw that up. I don't want that.

Do you think you can convey that to Edison and tell them to shove their project up their -- well, where the sun don't shine?

MR. BRITT: Deirdre?

MS. SMORE: My name is Deirdre Smore, D-e-i-r-d-r-e. I'm also known as Deedee Smore.

I have quite a few questions. Probably my biggest question is, could we reschedule this meeting

with you guys where you can come back with answers to your questions? Because we've had a lot of questions and we would really, truly like answers, like the actual street routes, what is actually going to go in and where they're going to go in, the height.

And also my other question would be, you said earlier you don't want to go through the forest. Is that because of its beauty and you can go through the desert because you don't see beauty here?

I lived in North Carolina for a year. We lived in the desert for 32 years. Yes, it does have a different kind of beauty. There are trees and grass and things like that. But when you're not used to the desert and you don't know the desert, you're not going to see there's beauty in the desert. There's plants here. There's flowers here in the spring you can't see anywhere else. They're unique.

And this community is going to get devastated by the electrical SEE grabbing, if you will, of land from one end of the desert to the other end of the desert. The desert is not going to benefit, and the people in the desert are not going to benefit.

The other thing you keep saying which -- I know people have said this a couple of times, but you keep saying things like the turtles, the BLM environmental

impact on the animals. What about the impact on the individuals; the owners that take care of the property that they also house and take care of a lot of wild animals there? There's people that feed the turtles and help them in the winters. When they're stuck and they find them on the road, they take care of them. There's people that feed the birds and feed the rabbits, and hopefully not the snakes. I know some people do.

I just think that we have a lot to offer in this location. And if you look at places like -- look at Tehachapi. Look what happened up there. That was a beautiful high desert, and now all you see is wind tunnels and people moving out. And why? It didn't benefit Tehachapi, did it? This isn't going to benefit us.

We have the solar panels here. Like they said earlier, solar panels can go on people's houses. And if Edison really wanted to help people with power and save power, they could put solar panels on every single house in the desert and help people. And people would be willing to gather power, and they could reduce their power usage here and that can be transmitted.

There's a lot of different ways they can help the people, but to just arbitrarily say, "We're doing this," and not have the answers to the questions that

people are asking, I think we need to have another meeting if you wouldn't mind where you could answer all these questions.

Thank you.

MR. BRITT: Thank you.

Robin is the next speaker. And then the last card I have is Irene Atteberry. So if anyone would like to speak, you need to turn it in or bring it in so I can call your name.

MS. McCARTNEY: My name is Robin McCartney, R-o-b-i-n, M-c-C-a-r-t-n-e-y.

First thing, Andrew, please look at me. What happened here just a little while ago, I'm disappointed in you. I kept seeing you smirk, and it really hurt me. It's hurting these people when you do that. Please don't do that. Don't insult us. I don't mean to say that. Please don't do that. That really bothers me.

I'm from Lucerne Valley. I moved here. My grandparents lived here. I lived in Victorville for a while. I had to sign a paper for Edison. I lived under a stupid -- I call them ladies. They look like ladies because they're shaped like ladies.

Okay. I lived there. My husband and I started to have health problems. Nobody knows about those health problems you can have. Cancer is one of them. You don't

let people know about that.

Two, I live now next to a solar plant, which I fought for five years and then it got took over by somebody else. And mind you, this solar plant said the same thing, "Oh, no. We're not doing anything from L.A." You're saying the same thing. I'm sorry but you are.

Two, I go, okay. You have to listen to us because, one, I have to face that stupid solar plant every day, the dust. I have to face -- the beauty, that's gone now from me. My grandparents came out here for that reason. I came out here for that reason.

You don't see it. You're higher up there. You don't get to see the beauty we see. Come on, guys. Listen to us, please. All these people out here, they're fighting for the same thing. We're somebody special, too.

I don't make the money you do. That's the other thing. My electric bill went up. These people in L.A., I push my electricity down. I've lost some of my trees because of it because my water system is under electricity. I have my own well, and I have to pay for this.

And that's another thing. These people that are going to have wells up there, I have friends up there. You're going to destroy their road. You're going

to destroy their view. Not only that, you're going to hurt them. Then their children, if they want to live up there.

Come on, guys. It's beautiful up there. It's beautiful looking down there. I've got a view you wouldn't believe. But, now, it's destroyed because of solar plants. I'm not here to hurt you, per se, to say, "Each one of you." I don't want to hurt you. I just want you to listen to me. All these people are here for a reason.

I don't want to get sick anymore. Those ladies, they can go. I call them ladies, but they're ugly ladies. I have more beauty into that. I want you to see what we're listening to, what we're trying to convey to you. You guys, not you, per se, but the SEE or whatever you want to call it, is making the money off of this. We aren't. We're not making any money off of this.

Our land's making the money. It's getting uglier. All these projects that are coming in, I will fight to the end to help. But, Andrew, please, when you go to these meetings, please don't make these smirks because that -- that smirk right there bothered me more.

MR. BARNSDALE: I really apologize about that. But it's just when the comments become attacks and they

become blame and they become about wind farms that aren't even connecting to this project, then that's what happens.

MS. McCARTNEY: What this gentleman was saying to you is true.

MR. BARNSDALE: It may well be true about wind farms.

MS. McCARTNEY: I've seen fires out here.

One more thing. Those fires, I have asthma. I get very ill from it. But also these electrical lines, they made me very, very sick when I lived in Victorville. I moved away from there. Then I come here, here we go again. Please, please listen.

MR. BARNSDALE: I appreciate your comments and we're listening very carefully. You have to remember all the folks that came down here to show this presentation tonight are human beings who come from homes. We have families. We have kids. We live near electric lines. We have cancer. Okay?

We come down here, not from Sacramento. I'm actually from San Francisco. I don't know if that makes it better or worse. I'm sorry about that. I'm sorry you don't like us. I'm sorry you don't want us here.

We came down here to do that, to talk to you so we could engage you guys from the very beginning of the

process. This is the very beginning. We want to get your input. We can hear very clearly what is bothering you. You have a beautiful desert environment here.

I spend a lot of my time in Baja. I know the desert. I know what happens when you mess up the desert. It takes hundreds of years to fix it. Did you know that about me? No. Okay. So you just need to step back a little bit and understand we're dealing with the process with each other. We're going to be back here with the draft EIR that I think will answer a lot of the questions you have about specific heights, towers, and those sorts of things. We'll have meetings just like this. You'll have a draft EIR to look at.

But these are very good people on this team I've got. These are good people, faithful people of integrity. We think you guys are that, too. That's why we come down here to do this. It's important to us. What you have to say is important to us.

Thank you very much for your comment.

MS. McCARTNEY: The last thing I have to say is we've gone through this before, at least I have. Much of us have with the solar plant. They said they'd listen to us, too. They didn't. It's there.

Thank you.

MR. BRITT: So Irene Atteberry. And then I got

a new card from John Miller and that's the last one.

MS. ATTEBERRY: Hello. My name is Irene Atteberry, A-t-t-e-b-e-r-r-y.

I'm not a very good public speaker, but I've lived in this desert since 1977. I'm a horse lover, a horse rider. I like BLM. I like the trails.

And I've seen what's going on, and I oppose of it because like everything else, you're going to change what we love. You're going to change what we need. And the animals, the housing, the property values, the water situation, the fires.

Milpass, you can't get out of that area. I oppose the wind especially; the wind generators. I really oppose them. As for the existing power line, it's there. It's always been there since I can remember, but I don't want it to change. I don't like the desert to change because it will never go back to being the natural desert.

So I do oppose what's going on and thank you.

MR. BRITT: Thank you.

John Miller, and he's my last speaker.

MR. MILLER: It's still spelled like the beer.

Just real, real quick. I have one comment. And actually I just want to get a clarification on something that I just heard. The last comment when it

comes to water quality, if you can please take another look at the water quality because the original environmental impact statement that was produced last year said there would be no impact on the water.

I'm going to tell you that one of the number one sources of groundwater contamination are the substations. There's plenty of documentation to show it and prove it. The problem is in that area, all of the residents get their water from those substations. You can look at what's happening at Hinkley with from PG&E. I'm sure you're super familiar with that.

Once that stuff enters the groundwater basin, it spreads and the plume will ultimately end up taking out more than just the folks in Milpass Highlands, just the Juniper Riviera Water District. It will ultimately spread out across the basin.

But I do have one -- I just want to confirm what I heard because I think it's pretty significant. So when you're saying, and you would know, is that that wind farm will not connect to these power lines. Under any circumstances, the wind farms will not?

So when they come here for their meeting, we're going to be able to tell them that, "Hey, California Public Utilities Commission says you can't connect to that power station"? I want to get clarification.

MR. BARNSDALE: What I'm saying is the purpose of this line is not to connect wind farms. It's to relieve congestion in Kramer. So that's the main thing. And the solar companies that are filling up Kramer right now are already in place.

So as far as the other wind farms that are in North Point or North Peak, those don't connect into this line. They're not associated with this.

MR. MILLER: So I guess my question on that is, why develop a 160-acre substation that is, according to Edison when they were here a couple weeks ago, and that they asked. They actually have a different opinion. They said, yeah, in fact they were aware of the whole situation. But also that substation is overcapacity by 300.

MR. BARNSDALE: Which one?

MR. MILLER: The Desert View Substation. It only actually needs 200-megawatts. And it's slated for 500-megawatts. That's a substantial difference. It just so happens that North Peak is going to be around 300-megawatts. It's a coincidence. That's why I just wanted to get clarification.

MR. BARNSDALE: I'm not saying there won't be lots of wind proposed or in the future proposed. There's going to be, I'm sure. I'm also not saying that a lot of

those won't fail. A lot of those probably will.

It's just a question of whether the wind farms you're aware of right now are trying to connect. They're not. They're contracting another line.

And as far as the substation science, we have questions about that too. That just seems huge to me. So I'm trying to figure out why do you need 160 acres? That's definitely one of the questions we're asking.

MR. MILLER: And why that location when they can simply go seven miles north and take land they already have? It would require a whole lot less acquisition. It would be a whole lot less costly. And I'll add it in my comments, but your statements --

MR. BARNSDALE: The portion near Rabbit Lake?

MR. MILLER: Yeah. I'll give you a copy of that. It would facilitate Southern California Edison. When you go down your list of all the things you're trying to accomplish with this, it would do it all.

MR. BARNSDALE: You're going to send that to us, aren't you?

MR. MILLER: Yeah, I'll give it to you right now.

MS. McCARTNEY: Quick question. I live up there where the power station is up there where the solar plant is. That's not going to connect to you guys at

all?

MR. BARNSDALE: Which solar station is that?

MS. McCARTNEY: Jokingly, they call it Robin's Plant, Solar Plant. It isn't. It used to be the -- Hydrocourt and Marathon. It goes up into there, into that -- they said that Edison is paying for -- how do I say it? The solar plant is paying for Edison to upgrade all this stuff.

Now, if you're going from there, where is it going from there? Is it going to connect to all this?

MR. BARNSDALE: I'm not sure that the plant you're talking about is the one I'm talking about, but what I am saying is that Coolwater-Lugo line is designed to relieve congestion at Kramer that's being caused by another solar plant. It's huge.

MS. McCARTNEY: I just want to know is they all have to connect somehow. They tell me it goes all through one thing to L.A.

Am I right?

MR. BARNSDALE: Well, eventually, all these lines do connect somewhere and it goes to L.A. The Coolwater-Lugo line isn't going to have folks just throwing up caps to get onto it because they can't do that. That's not the way it's designed.

MR. BRITT: All right. I want to thank again

everyone for taking their time out of their busy schedules and being very patient and respectful.

We do appreciate your comments. And if you have not signed in, please come up and give me your name. Otherwise, thank you very much.

(TIME NOTED: 5:45 p.m.)

Appendix E-3

August 20, 2014 Meeting in Hesperia

- Summary of Oral Comments
- Speaker Registration Cards
- Comment Transcript

Appendix E-3. Summary of Oral Comments Received at Scoping Meetings

Name & Organization	Comments
Scoping Meeting, August 20, 2014 (7:00 pm to 9:00 pm) – Hesperia, CA	
Ken More	• Questioned the actual starting time frame of the project. Indicated his land is now deemed worthless because Edison might take it.
Al Vogler	• Transmission towers bring noise and EMF, and they are subject to earthquakes, flooding, and lightning strikes and fires. • Requests that transmission be placed underground as it is more cost effective and safer from terrorism in the long run. Lugo has been noted on maps as being a potential site for destruction by our enemies if our country was invaded. • Believes that rate and tax payers should have a voice in the decision-making process about the type and location of new projects.
Jim Bass	• The project will give the green light to a flood of other energy projects. If only about transmission lines then could make you put them underground, but not affluent enough like Chino Hills who made Edison put the lines underground. The project will change the whole "complex" of Victor Valley from desert paradise to concrete. • Opposed to the project based on the potential negative impact on the fragile desert environment. Believes the beauty of the area will be compromised and lost forever.
Ernie Mora	• Concerned about the impact of corona noise and EMF on residents health from the proposed larger 500-kV lines and towers. • Believes SCE has abused their easements by proposing to add much larger transmission towers and lines to an existing easement. • Should consider other alternatives such as moving the line to a zero population area or moving the lines underground. • Indicated that decreased property values will cause a decreased tax base for the City.
Pat Banttari	• Concerned with the health effects from the transmission lines from noise and EMF. US National Council on Radiation Protection and University of Bristol studies show that power lines have been linked to health problems such as infant death syndrome, tinnitus, childhood leukemia, seizures and other problems. The only protection from these problems is distance away from individuals, plants and wildlife. • Opposes additional power lines as it will affect property values and the city's tax base.
Gail Kaschebufski	• Property is located close to the proposed Desert View Station and on a proposed alternate route for a 500-kV line. Concerned with the potential effects of EMF and Corona noise. • Concerned with having new roads that people can use to dump trash and engage in disruptive behavior. • Wants the agencies to consider the AV Clearview project as a potential alternative as the city wants it and this area does not. • Believes SCE acted deceitfully when gathering information about the area without providing property owners information about what they were actually doing.
George Stone	• Very concerned that the BLM indicated to him that the 15,000 form letters and petitions in opposition to this project would not be considered because they were too general. Wants those letters and petitions included. • Study needs to consider property values, public health, and EMF. When was it ok to destroy undisturbed land for green energy?
John Smith	• Believes that it is unfair for rural areas to bear the burden of the self-imposed problems of over development in other areas. He believes the purpose of the project is to correct a bottleneck in the power transmission to the LA area.

Appendix E-3. Summary of Oral Comments Received at Scoping Meetings

Name & Organization	Comments
Arto Nuutinen Riviera County Water District	• Spoke in opposition to the project on behalf of the Riviera County Water District. • Concern over the possibility of ground water contamination due to project site location near earthquake fault lines. • Concern over doubling the height of the power lines preventing fire-fighting aircraft from protecting homes and lives. • Concern over the adverse effect on scenic vistas and the potential for a new source of night glare. • Requesting CPUC to have a 3rd party engineering firm substantiate any conclusions regarding liquefaction, faults, and the type of soil in the project area.
Lorrie Steely, Mojave Community Conservation Collaborative	• Asks that CPUC and BLM to recognize and address the additional renewable energy generation projects that will result from the CLTP and the potential environmental impacts from those projects. Water is quality and quantity needs to be considered for the other projects that will result from CLTP. Some of these projects require significant amounts of water. • Will this project connect to the South of the West of Devers project? SCE claims that the project will serve the build out of Apple Valley, but that is not true. • The project area has significant cultural resources. With a group of archeologists, we identified four unidentified sites. • Encourage long-term planning and sustainability so as not to destroy the desert ecosystem. The project area includes migratory corridors, eagles, mountain lions, and people. We also have flora and fauna. We have Joshua trees that are hundreds of years old. There's a 10,000 year old creosote rings in Lucerne Valley. • There is a viable cost effective alternative to CLTP, it is the Clearview project. • Asked the CPUC to change the 300 foot noticing rule to a 25-mile rule because in the desert the vistas and views go as far as 50 miles. In urban areas 300 feet may be ok, but not here. SCE has not received big attendance because their notification has been minimal. • Wants community values to be considered including giving the community an opportunity to create economic vitality and to preserve the quality of life.
Waldo Stakes	• Believes the project is only meeting LA's needs of energy consumption as well as encourages other projects to come to the area. The CLTP will turn the desert into a power station to feed LA. These (wind) projects will result in the loss of 275,000 birds a year, bring additional roads, destroy wildlife, and will impede emergency response (restricts airplane flights).
Denise Stakes	• Expressed concern over why a CPUC judge was already involved in this project. • Requested that the agencies have a fireman evaluate whether or not there will be easy access points from the analysis of fire officials in the event of a fire. The concern is with the new towers as well as the projects anticipated as a result of the project.
John Miller	• Mitigation for property values is a concern. Conducted a survey of real estate brokers and agents and identified a reduction in property values of 10 to 25 percent when there are high tension wires nearby. • Indicated that the taller power lines create an issue where the FHA will not back loans for properties in a fall zone. Taller towers require a larger fall zone, therefore, he Is concerned that the existing easement today with taller towers would not allow property owners to develop their property. Homeowners will need to be compensated. Mitigation should address these concerns if additional land is acquired from property owners. • Assessment should include burying the transmission lines like was done in Chino Hills. • Significant paleontological resources (petroglyphs) would need to be addressed and mitigation measures appropriately taken. • The potential for fire is significant in the project area. Tejon Pass is a one-way in one-way out road. The power lines will be on the southwest side of this road. The winds blow south towards the northeast, which will cause the fire to move quickly.

Appendix E-3. Summary of Oral Comments Received at Scoping Meetings

Name & Organization	Comments
Sue Hammer	• Current maps provided are done very poorly; they do not show anything. The maps do not show the street names, which is confusing. • The location of the substation is a concern because it will be placed in the middle of the Lucerne Valley community. If SCE is allowed to build a substation it will bring more projects to the area, and these projects will be here for 30 years or more. The desert will never recover. More projects will bring more lights that will be visible miles away. • Concern with BLM allowing use of public land for development of energy projects. Fast-tracking permits for solar companies and giving them money to develop these projects is a concern.
Steve Addor	• Can hear noise from the 500 kV towers and is concerned about the ongoing impact from 220 to 500kV towers on health and welfare of property owners and individuals. • If the lines have to go in the current route then they should be placed underground. Not fair to the property owners who accepted what was there to now ask them to accept larger towers.
Lorrie Steely	• Asked people to get engaged and educated. Referred to the SPARC forum that the County of San Bernardino was hosting and the Desert Renewable Energy Conservation Plan (DRECP) that will be coming out in September. The DRECP references designated focus areas, which is the project area. Also referenced the MC3 website (MojaveC3.org).
John Smith	• Commented on the loss of beauty if the project is developed in the scenic rural setting
Jim Bass	• Mentioned the tapestry project (Las Flores Ranch) in Summit Valley where a developer plans to build 20,000 homes. It is also in an area that is the last western region for western pond turtles. • Asked if this project is in any way connected to Coolwater Lugo since the homes will need energy.

Speaker Registration Card

(Please Print Clearly) **Coolwater-Lugo Transmission Project EIR/EIS**

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Email:

✓ (1)

Speaker Registration Card

(Please Print Clearly) **Coolwater-Lugo Transmission Project EIR/EIS**

Name: AL VOGLER

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✓ (2)

Speaker Registration Card

(Please Print Clearly) **Coolwater-Lugo Transmission Project EIR/EIS**

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✓ (18) + ✓ (3)

Speaker Registration Card

(Please Print Clearly) **Coolwater-Lugo Transmission Project EIR/EIS**

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Speaker Registration Card

(Please Print Clearly) **Coolwater-Lugo Transmission Project EIR/EIS**

Name: PAT BANITARI

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Phone:

Email:

✓(5)

Speaker Registration Card

(Please Print Clearly) **Coolwater-Lugo Transmission Project EIR/EIS**

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Speaker Registration Card

(Please Print Clearly) **Coolwater-Lugo Transmission Project EIR/EIS**

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√(7)

Speaker Registration Card

(Please Print Clearly) **Coolwater-Lugo Transmission Project EIR/EIS**

Name: JOHN SMITH (SPOKE TWICE)
(8) + (17)

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Phone:

Email:

*SPOKE TWICE √(8)(17)

Speaker Registration Card

(Please Print Clearly) **Coolwater-Lugo Transmission Project EIR/EIS**

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Speaker Registration Card

(Please Print Clearly) **Coolwater-Lugo Transmission Project EIR/EIS**

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Speaker Registration Card

(Please Print Clearly) **Coolwater-Lugo Transmission Project EIR/EIS**

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*TWO SPEAKERS √(11)(12)

Speaker Registration Card

(Please Print Clearly) **Coolwater-Lugo Transmission Project EIR/EIS**

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√(13)

Speaker Registration Card

(Please Print Clearly) **Coolwater-Lugo Transmission Project EIR/EIS**

Name: Sue Hammer

Affiliation (if any): _____

Address: LV, Ca

City, State, and Zip: LV

Phone: _____

Email: L

✓(14)

Speaker Registration Card

(Please Print Clearly) **Coolwater-Lugo Transmission Project EIR/EIS**

Name: Steve Addor

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✓(15)

Speaker Registration Card

(Please Print Clearly) **Coolwater-Lugo Transmission Project EIR/EIS**

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✓(16)

AUGUST 20, 2014 (Evening)

Hesperia, CA

Oral Speaker Comments

Transcript # 1914940

CERTIFIED TRANSCRIPT

SCE'S PROPOSED
COOLWATER-LUGO TRANSMISSION PROJECT

CPUC/BLM SCOPING MEETING
FOR PREPARATION OF A DRAFT EIR/EIS

August 20, 2014

Hesperia, California

Reported by:

VALERIE D. GRANILLO

CSR NO. 11469

Job No. 1914940

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not in Hesperia. It's in the county, Oak Hills, county unincorporated community of Oak Hills entirely.

KEN MORE: I didn't know I only had three minutes, so I'll get right to it. Can you tell me what this --

MR. BRITT: Could you just state your name for the record.

KEN MORE: My name's Ken More.

When did this project actually start? I've been to every meeting, every public meeting. But when did it start?

MR. DAVIDSON: Well, we're starting our process right now this month.

KEN MORE: Would you mind -- when did it start? I've been going to hearings now for years.

MR. BARNSDALE: So the application was filed last August. That's when the application was filed. So it's kind of interesting. The point of when it started, probably Edison probably started thinking in and going through this quite some time before that. The Cal ISO is been considering it in their transmission plan for some time. So it depends on what your definition of "start" is.

MR. MORE: What I'm driving at is I've been

coming to every meeting. I have a piece of land that was originally affected. And when the first hearing started, which I believe were maybe eight years ago, my land was deemed worthless because Edison might take it. And I guess I'll get right to the point. There's another development going on in Summit Valley. A city's being built there. Are you aware of that? Okay. It would be nice probably to get some feedback from those people because they were interested in my land. But the fact that you people are doing a project, they're not interested anymore. I haven't been able to sell my land, period, because of this project. And I had a lot of other things, but apparently you can't answer any of my questions. So thanks.

AL VOGLER: Good evening, meeting coordinators. I'm Al Vogler, Hesperia resident since 1972 and property owner in Lucerne and Johnson Valleys. I started attending meetings on Coolwater Lugo in 2012. Since that time, after making a request for project information, what I received was vague and not on point. A few weeks ago I suggested that SCE needs to make a new approach in conducting business regarding additional electrical lines and planning new capacity. Electrical towers have been used at least since the 1930s in the Victor Valley. At

that time a few hundred people lived here, and now it is closer to 300,000 and growing. Then there was little concern regarding the towers. Today there is quite a bit.

Towers have an invitation to problems. They have an attractive nuisance. They can be noisy. They are dangerous. Questions remain regarding electromagnetic radiation. They are subject to earthquake, flooding and lightning strikes and fires. I've witnessed those. And they represent national defense hazards.

In the 1950s the Department of Defense distributed a map depicting Lugo as a site for destruction by our enemies if our country was ever invaded. No more or new capacity should be directed at Lugo. Instead a new route should be taken. Safety is even more important considering the destruction terrorists have already done in the USA. The Twin Towers are an example. Southern California Edison should not build more towers or heighten existing ones. The new technology should be underground electrical transmission cables. Those cables may cost more money, but in the long run may cost less and would be an investment in our future and increase safety overall.

Rate and taxpayers pay for the SCE improvements and should therefore have a say-so in the type of improvement, not simply where the new capacity might be located. Southern California Edison is requesting a

certificate of public convenience a necessity for Coolwater Lugo transmission. Rates for that project should not be set and approvals not be made until a redesigned utilizing the underground cables and a route away from Lugo has been planned. The consideration here should not be a rush to construction to satisfy Abengoa and other developers but to make a proper and safe design and routing which is far more important than the more trivial immediate needs.

Years ago SCE planted the Johnson Valley Peaker plant. Routes were designed and rights-of-way acquired. SCE abandoned the project and should not now be given another opportunity in an area that is exploding in terms of population and residential building.

Thank you very much.

JIM BASS: Good evening, gentlemen. My name is Jim Bass. I don't have any prepared statements, so I'll just let her rip. I'm a long-term resident of this area, probably the last 40 years born and raised over the hill in Highland. I moved up here to escape the urban sprawl and I moved up here for the lifestyle. Now, the upgrade of these transmission lines is just but one small part of the picture. If it is approved and the lines are upgraded, that green lights a whole flood of energy

production projects throughout the Victor Valley including huge wind turbines all along the San Bernardino mountains in some of the most fragile -- through some of the most fragile transitional desert coastal scrub there is. There's incredibly -- I mean, the big wind turbines, that's right along a bird migration route. I live out at Deep Creek taking care of the Arroyo toads there. And the whole area is just -- what it amounts to is if they can't build all these energy projects, there's no need to upgrade these electrical systems. If on the other hand they get the go-ahead to upgrade these electrical systems, it is cart blanche to turn the character of the Victor Valley from a rural desert paradise into basically a concrete energy ghetto. And I will move. I will move to Arizona or back to the real desert. I didn't move -- I haven't lived up here -- I love this area. But already it's, as the gentleman before me said, that it's grown enough. And we all -- everyone who lives up here and loves it up here, we come up here for the beautiful views. And, you know, if it was just about the transmission lines, we could make you put them underground. Like if we were affluent enough as say Chino Hills, Chino Hills made Edison pull all the lines underground. If it was just about that, we'd just make you put them underground. It's not about that. It's changing the whole complex of the

Victor Valley from a desert paradise into just concrete. What Victor Valley will be known for is not a beautiful desert rural lifestyle. It will be known as an energy production center. And most of these energy projects are just through incredibly fragile habitat.

So I'm opposed to the lines because of what they will bring. Thank you very much.

ERNIE MORA: My name is Ernie Mora. At the risk of sounding redundant, I wasn't planning on speaking in public. Anyhow, my concern -- our concern, my wife, my neighbors, myself -- are the health impacts. The towers that are now, we knew they were there when we moved to Hesperia. We lived in Hesperia Oak Hills area not too far from the Lugo station. The problem that we see is by increasing these towers to these 500kV volts, kV lines, it's going to be a huge noise increase. It's going to be -- they're taller towers. It's going to have a huge impact on why we moved there. Right now we see the towers. We don't always hear the towers. Sometimes if they're in high capacity usage, we'll hear, but very little. The new ones as we researched --

MR. BARNSDALE: Are you talking about buzzing, the clicking, the crackling? We call it the Corona noise.

ERNIE MORA: What do you call it?

MR. BARNSDALE: We call it the Corona noise.

ERNIE MORA: Corona noise. Well, that noise is going to increase a lot. I can't give you percentage. I'm sure you guys probably know the percentage much more than I do. Anyhow, also it is the impact it's going to have on the value of our homes. You know, people don't like to move by ours. It's the first thing, if they ever come on the property when our property's going to be affected, the first thing they're going to hear is that Corona noise, as you put it, they'll say that's all I hear all day long, all night long. A lot of people in our community are retired. They're home all the time. They'll have to constantly hear it.

MR. BARNSDALE: Do you hear that now too?

THE WITNESS: No, we don't hear it that often right now. Sometimes, like I was saying, when there's high peak use, you'll hear it. When I'm out -- we're out in the yard, because we have -- we're on two, three acre, five-acre lots. Some people are on ten. They're -- you know, it's something you don't always hear. We can hear clicking absolutely. But it's not a constant noise. As I'm told, by what I've read, the Corona noise will go up so much. It will impact us dramatically.

Also, the electromagnetic field, I'm told, the increases -- that EMF increases a lot. I don't know,

again, the percentages, but I'm sure at the next meeting I'll have some of these numbers myself.

We keep referring to these easements as already existing easements. We realize that Edison has easements going through there. But easements, you know, they're not something that should be abused. We accepted that the power lines are there. People who moved in after the power lines were put in, we knew that those were there. Nobody said, "Hey, but we're going to put this huge loud Corona noise in a few years, and this is what you're going to have to live with for the rest of your life at this location." That's -- to me and to a lot of my neighbors, that's an abuse of the easement. It's not designed -- when there's an alternative, when they can go down to the lower valley go through some zero population area and not go through a populated area, that makes absolutely more sense. Or putting it underground, if that's a plausible solution so it's not there where we have to see it. That's one of the other things that my neighbors and I also discuss.

Again, going back to the when you're weighing the alternatives in your reports that you're going to submit, when there's an unreasonable -- when there's an reasonable impact on the homeowners and the people that live in that area versus a reasonable alternative, I think we should

always go with the reasonable alternative. Because Edison, I understand they want to increase the grid power and they want to -- there's a dollar amount here. But it's also going to have -- by impacting the -- I'm trying to keep the time. Sorry. By impacting the home values, it also decreases tax base for the city for our area. You know, that's -- when it comes down to dollars and cents, that's what it comes down to.

I think I might have touched on it, but I'll try to -- you know. The children -- our children will have one day grandchildren or whatever. Those kids, our neighbors, they're going to play. Now, I'm not sure since you raised the issue, I think -- I wasn't aware if you're going to place two towers with one. Now I'm wondering if the new tower, if it would go in the same exact locations as two prior towers or are they going to start restructuring based on the length or whatever their needs are, the technical needs. So that's another issue now that I don't -- I'm not aware of. But anyhow, thank you. That's my comments for now.

PAT BANTTARI: My name is Pat Banttari. And when I moved into my home about 12 years ago, there was one row of cell towers. Now there's six rows going across and all the way down. The one closest to my home that I see right

outside my living room window is 500 kilovolts. And since they've done something to that -- I'm not sure what it is -- I've had ringing, screeching and humming in my ears, low frequency humming starting in November of last year and screeching. It's like a real orchestra going on in there. And I've had to do things to try to protect my home because I know -- I see these things outside of my living room window. And to me they're an abomination.

Now, I hate to say this, but I can trust the CPUC about as far as I can spit. Because I've had dealings with them on the smart meter, and they don't listen to Jack Squat to what the public has to say. In fact, Michael Peavy at one of the meetings told the people that we're there trying to stop the smart meters or at least stop the opt-out program, he literally told them very arrogantly to shut up. He gets his salary buck from us. So with the issue of the smart meter and the health effects of that, I don't trust him any farther than I can spit.

A report by the U.S. National Council on radiation protection said there's a very powerful body of evidence showing that even very low exposure to electromagnetic radiation has long-term effects on human health.

Another report by physicists at the British

University of Bristol shows that power lines attract particles of radon, a colorless gas that is irrefutably linked with cancers and also interrupting sleep patterns.

Property values are becoming more affected by these high power lines in neighborhoods. Up here on Maple Avenue where I live, near Maple Avenue, I live a quarter of a mile from there. There's a 500-kilovolt power line that I see between Mesquite and Ranchero. There's a park there, and children play soccer right there. And it's right adjacent to the 500 kilovolt power line. That has a major effect on these children's lives.

Property values are becoming more affected by these power lines in neighborhoods. As more and more pop up, homeowners are bringing in electromagnetic meters to see what the EMF issues are in the home that they may be buying. So when Mr. Vogler and some of these other gentlemen say their property values are being effective, that includes mine as well. And it includes everybody here that owns a home or property around these power lines.

The coverup of the dangers of electromagnetic frequencies on human, animal and plant health is the same as the tobacco industry, the cell phone industry and the smart meters, which had no environmental impact reports or UL approval. Power lines have been linked to sudden

infant death syndrome, tinnitus, which is the ringing in the ears, childhood leukemia, seizures and a whole lot more health issues, human health issues. And in all the things that I've heard here from all of you gentlemen, I heard nothing about human health. The only protection is distance. There is no way to block EMF as they can penetrate even lead shielding. Magnetic fields cannot be stopped at all, and they can go through a cast iron tub. As with smart meters, EMFs affect the blood brain barrier. They destroy the myelin sheath that protects our bodies, our health, and they destroy the hormone melatonin that's in our bodies. It's a very important health issues.

My concerns on human health, I live a quarter of a mile, 1800 feet from a 500k high voltage power lines. These were not there when I moved into my home 12 years ago. And like I said, my ears started ringing, screeching and humming. And I hear them at particular times of the early morning hours.

So I'd like to say that I really oppose any more high powered lines coming to our area. It affects our property values. It affects our tax base. Our High Desert is starting to look like a ghetto as it is because a lot of people are moving out. They're just not leaving. Houses are being boarded up. And I think that has a lot to do with the health issues that people are getting from

these high voltage power lines. I would hate to see any of these.

Thank you for your time.

GAIL KASCHEBUFSKI: Hi. I'm Gail Kaschebufski. Everything has pretty well been addressed what I wanted to say. I'm going to be really close to the proposed Desert View station. I'd like to show you if I could. Right here is my home. And I'm on a proposed alternate route for 500-kV.

Okay. So I was showing them. I'm going to be really close to the proposed Desert View substation and the alternate route. I think I'm getting a double whammy because it's going to be a 500k volt, and I was -- I'm worried about the EMFs for my family and the Corona ions and things. I've read up on all this. But also all the roads that are going to be brought in. We already have roads existing where Edison is. And the dumping is horrendous. We get dead animals. We get cars, boats, whole -- like people's homes with their just tons of dumping, and no one does anything about it. I live real remote, and I'm constantly getting in my vehicle and chasing people, getting their license plate numbers, and there's nothing being done about it. And I feel that if these power lines, these new alternate routes are just

going to create more roads, more dumping. People come out and shoot. I've had people right -- I have bullet holes in my home. I have five-year-old beautiful, big home, and I have bullet holes in it. They're shooting solid projectiles. And these roads -- they come out there and they think they're in the middle of nowhere, and they're shooting.

Also, you know, the habitat. You know, there's roadrunners. There's badgers. I've seen a bear. We have cougars, you know, rabbits, kangaroo rats, pack rats, lizards, snakes. I'm battling Mojave grains all the time. I'm wondering if that will disturb them, bring them more -- drive them more to our home -- my home.

Also, I felt Edison could have done a little better effort in informing all us residents on this project. About a year ago, Edison -- I didn't know at the time, but there were -- they had their environmental impact study, scientists out there. They'd be there in the mornings, about 10, 12 people. And they'd have their arms like this, and they were scouring the whole area, my whole neighborhood. And BLM was there. And I was riding my horse. I'm a land user. I ride horses. I hike it. I take my dogs for walks. I ride dirt bikes. You know, I'm up in the mountains, the grotto. I know where the petroglyphs, the waterfalls. And Edison, I felt -- I

would always ask them when I'd run into them or the BLM, "What are you doing out here?" No one would ever give me an answer. And we had to -- my neighborhood and friends, we just started research and digging in. And Edison said they sent us fliers and mailers to our homes. We never received them. And they told me, "Oh, we're just doing a study. You don't need to know what we're doing." I said -- well, at first I was so afraid. I thought they were looking for a dead body in my area, you know, body recovery. But I thought that they could have been honest and let me know what was going on. So I felt kind of deceived in that part by Southern California Edison and the BLM because multiple times I've asked them.

And the BLM also -- my husband's been up at the waterfall where the petroglyphs are, at the grotto, and a BLM ranger was there. My husband was there with an archeologist from the San Manuel Indian tribe to show them. And one of the rangers said, he's like, you know, "Do you know what's going on here with the Edison project and the windmills?" And she said, "Well, Katrina doesn't want us to talk about this to anybody. So I just -- you know. Why do they have to be so secretive about it? That's what -- you know. And I just want to know why they have to have an alternate route when they already have an existing route. I don't understand that. And the cost

and just the impact it's going to have in our area. And there's also -- at a meeting I've attended, there's an AV Clearview project. They want it. Why can't they consider that.

So thank you. Thank you for hearing me. Thank you for your time.

GEORGE STONE: Good evening. My name is George Stone, and I'm a resident that would be impacted by the CW project. At a recent meeting that was held at Barstow at the BLM district offices, I was advised that over 15,000 form letters and petitions would not be considered that oppose this project. We were told they would not be considered because -- or given any weight whatsoever because they were form letters and petitions. We were told that they were too general in their opposition. Interesting. I wondered if the BLM or the CPUC would like to state what specific statute it is that allows either one of your organizations to restrict a U.S. citizen's constitutional right to oppose a project and by the fact that it's just too general. It's opposition.

Are you aware of the fact that the first amendment of the constitution guarantees us the right to petition. That right is absolutely fundamental. It's the right of the people to petition the government for a

redress of grievances. An opposition is a grievance. It was first used to advocate a petition against slavery in 1830. So using your rules as they were explained to us, it would sound like slavery would have never gone away.

When we oppose something to stand in the way of it, it's to hinder it. It's to set it up as an opponent or an adversary. It's against in some relationship a demonstrative comparison or contrast and to be in an opposite or contrary position to that. A general opposition is enough.

When you look at the environmental impact that you folks are supposed to be looking at now, we have to identify what the environment is. What is the whole environment. Well, the environment is the aggregate of surroundings, things, conditions and influences. Well, for us, who are organisms as well, my environment consists of a financial environment, a recreational environment, my lifestyle environment, my view sheds, my health. Frankly, it's the entire universe in which I occupy. That is my environment.

So I would suggest that you do need to consider property values, the public's health, EMF, all of these components. And when I say that I am in opposition of this and that no matter what you would like to do or whatever Edison would like to do to mitigate my

opposition, it will not satisfy me. That's enough to show my opposition to this project. And I demand that you do, in fact, weigh the 15,000 signatures that have been delivered to the BLM in opposition of this project.

You know, it's interesting, I'm kind of wondering. I'm trying to figure out the logic. Because when was it green to destroy everything that was undisturbed land to create green energy? When was it okay to destroy all the species, the habitats, people's livelihoods, their nest eggs, their savings, their equity, everything else to be green? I don't think that's appropriate. And I hope that you'll agree with me.

You know, you were entrusted with our lands, all of our lands -- your land, our land, not Southern California Edison's lands. Southern California Edison as a corporation is not patriotic. It's not ethical. It's not moral. It's an inanimate legal creation of law for the specific purpose of making profit. Simple, it's the almighty dollar. It's nothing more. It doesn't care if we get sick. It doesn't care about our activities. It doesn't care if I lose the equity in my home, my nest egg, my way of life. It only cares about profit. Do you want examples? World Com, Enron, Goldman Sachs, Southern California Edison.

In closing, let me see if I can figure this out.

We're going to waste water on unnecessary construction because I don't believe the demand is there. They're using federal projections of 65,000 gigawatts they're going to need by 2040, 2045. That's not there. We're in the greatest drought that we've had on record. That's okay. We're going to destroy recreational areas and turn them into industrial zones. We're going to destroy all the rare species in their habitat to save them. It sort of to me sounds like the rancher who's going to shoot the cows because his dairy bill is too high. It doesn't make any sense. Maybe that's why everybody is here tonight. I believe -- raise your hand if you're opposed to this project. Raise your hand if you support this project and you want it.

We're a small group. But we're the majority that are speaking. We each represent the silent ones. You have nobody here speaking in support. I don't know if you did in Lucerne today, but I would bet you might not have. And I don't believe you did probably in Barstow. You need -- we are the democracy. We are what America stands for. Stand up with us and support us.

Thank you very much for your time.

JOHN SMITH: I am John Smith. And as I said last night, I'm as plain spoken as my name is, John Smith. And

I don't have too much more than what I said last night, but I think it needs to be said for quite a few people. And I did -- it's not an exact repeat. I did a little modification. First, I'd like to properly frame the premise of the need for Coolwater-Lugo transmission project Desert View substation and the seldom mentioned planned Jasper substation or switch north of Lucerne Valley.

The statement of need is and has been couched in electrical power shortage. True evaluation will show that the real issue is consumption, consumption in excess. And where? It is also the result of a lack of foresight and constraint. And where? The specifically documented and stated purpose of Coolwater-Lugo Desert View and Jasper substation and the transmission line, et cetera, and et cetera, et cetera is to correct a bottleneck in the power transmission to the L.A. basin. And where? It is the epitome of political cowardice that the lower density municipalities and even lower density rural communities be forced to bare the solution for the self-inflicted problems created by a century of unbridled overdevelopment in other regions.

On that basis, to agree to such a method of resolution is immoral. It is unethical. And it is socially unjust. How is it that you will ever be able to

resolve the environmental impact of social injustice? Personal observation: On my way to the BLM meeting in Barstow yesterday, I hit the rise just before it drops down into the Tanger mall area. And I am a very observant person, and I have an acute sense of spacial orientation. To my west, I noticed -- and it was noticeable at that time -- Kramer junction, the buildings that are there -- and you can see long distances out here. But in between there north of 58 there was a huge dust storm. And I knew immediately what it was. It was the wind blowing across disturbed earth. And that disturbed earth, that area is known as Abengoa. If I lived to the northeast of that location, it would have been like living in a Kansas dust storm. And if you don't think I know what one of those is like, that's because I haven't told you that that's where I'm from. Thank you.

ARTO NUUTINEN: Thank you. Good evening. Arto Nuutinen. For the benefit of the reporter, it's spelled A-r-t-o N-u-u-t-i-n-e-n. And it's been my privilege to be the legal counsel for the Riviera County Water District. And the water district's governing board and administer of staff have asked me to speak to you tonight regarding this project and just state its constituents' and district's opposition to the project as currently stated.

We share in the concerns stated here tonight regarding health, economic and aesthetic issues. And I've had the opportunity to inform Mr. Barnsdale by e-mail of our specific concerns regarding the placement of a proposed project one-fourth -- excuse me, one-quarter mile to a half mile from a known earthquake fault line to the risk of potential devastating groundwater contamination to a closed water basin community that relies solely on groundwater for its water needs. And third, the significant risk of wildfire, which arises from doubling the height of power lines to the community and preventing and impacting the ability of aircraft to come in and actually help defend the homes and the community and the property there. In fact, the fact that the power lines are of such a height that it is near an area that could to be exploited for the high winds. We're talking about the eon windmill project. That's an indication that there is, in fact, a serious concern regarding the speed. We're talking about 100 mile plus speeds of wind that are going to be going through that area that you're proposing to put the 500 mile -- excuse me, the 500-foot power lines on.

Specific areas of concern would be, looking from your preliminary environmental analysis on aesthetics, you've indicated that there is going to be significant impact to the existing visual character and quality of the

site. But there is an indication that you found that -- and I'm talking about you, the project proponent, having a substantial adverse effect on the scenic vista, I invite further analysis of that point. There is also a less than significant impact identified on creation of a new source of substantial light or glare which would adversely affect day or nighttime views in the area. Again, we disagree with that conclusion and we would invite additional analysis of that point.

I'd earlier spoken regarding the placement of the substation near a known earthquake fault. It says minimal impact in the preliminary environmental analysis notwithstanding this area is known to be near the north frontal thrust system of the San Bernardino mountains, and this information is readily available from the geological service. Look online, and I'd be happy to provide links for that information as well because I'm going to be elaborating further in written comments prior to the conclusion of this scoping comment period.

Indicating that there is going to be minimal groundwater contamination, there can be no groundwater contamination at all because this is what -- this community relies exclusively on groundwater. So identifying those impacts and mitigating them to a level of nothing is a minimum requirement for this project to be

able to go forward without opposition. We are aware that the land is subject to liquefaction, and we'd invite the CPUC to require the project proponent to demand that a third-party engineering firm substantiate any conclusions regarding the type of soil that the area is in. And again, if you have liquefaction and you're near an earthquake fault, the damage could be very, very devastating.

And let's see here. And as I had earlier discussed, the issue of risk of loss, injury or death resulting from wildlife fires, we already know that the area is known for high winds and that power line fires are typically fallen to the top 5 causes of fire per year referring to the Texas A&M Forest Service.

So with all that in mind, I'm going to try to stay within the three minutes by just concluding that, again, we do feel that the project as currently proposed is going to be causing a tremendous amount of damage and risk of health, economic, aesthetic problems. And on that basis, we oppose the project as currently set forth. And again, we encourage you to take the comments of the constituents and residents here very seriously.

Thank you very much.

LORRIE STEELY: Thank you. I am a resident of

the area in Mill Pass. I'm up on the top of Mill Pass. I've been a resident for 20 years.

MR. BRITT: Could you state your name again.

LORRIE STEELY: Lorrie Steely with the Mojave Communities Conservation Collaborative, MC cubed. And I've been a resident on the Mill Pass areas for -- I'm not a musician, so I'm not sure how to do this.

I've lived in that area for 20 plus years. And when we bought the property, we thought awesome. BLM, our neighbor. Nobody will ever impact our capacity to use our public land. What a great neighbor. And now it appears that that was short sided on my part. It is really important. We appreciate this opportunity that you've given us to speak. It's important not to ignore the public's right to be heard and to be participatory in this process.

Part of the frustration that I have felt with respect to the Southern California Edison Coolwater-Lugo transmission project and their process to date is that the public has not been sufficiently given the opportunity to by SCE. I think we've heard that in the past. I think it rings -- it resonates throughout our whole community. We have not been given a voice. We've not been able to speak and participate in the process.

SCE staff has been dismissive, dishonest and

downright condescending in their communication to the public. They say it's the law. This is the project. Here's the plan. But there's not been any real opportunity for the public to be heard and engage in the process. In their initial application to the CPUC, Southern California Edison claimed that the transmission project was to connect the Harper Lake Solar Project to the grid. That's the project that Jon talked about. It's Abengoa Mojave Solar Plant. How can our policy makers justify the construction of a billion dollar transmission project merely to support Abengoa Mojave Solar Plant's 250 megawatts solar generation. Well, they say it's 250. It's 500-kV lines. Where is the transparency in this process? Clearly, the CPUC and the BLM must recognize and address a potential flood of renewable energy generation projects that will be encouraged to build in our region in the event this project were to be approved and the significant environmental impacts those renewable energy projects would have. We have to have the CPUC and BLM consider those. Those projects will come as a result of this Coolwater-Lugo transmission. You have to consider those impacts.

SCE claims their project will accommodate future build out for Apple Valley. We all know that's just plain BS. I spoke to the director of planning from the town of

Apple Valley. Our current population is 70,000. In 2035 we're projected to be 120,000. This project should be able to support over 600,000 homes. So we can do math.

And is this project going to connect to south of Devers project? Do we know?

MR. BARNSDALE: I don't think so.

MR. DAVIDSON: I don't know.

THE WITNESS: So we have significant cultural resources in our area. Two weeks ago our group were with a group of 18 archeologists. And in one day's time, we identified four previously unidentified sites. We are doing our own independent cultural resources survey. We will do our own independent biological resources survey. We have migratory corridors. We have eagles. We have mountain lions. We have people. We cannot let SCE persuade us into believing that people and their homes and our rural communities are any less important than the need for the electricity in the urban areas down the hill. We are not saying no to renewable energy. We are saying no to monster-sized technology that will become obsolete and then remain looming over our desert because they built them and reproduce some energy even if they know they're not that efficient.

We are encouraging long-term planning and sustainability in mind so we do not destroy our precious

ecosystem that is our Mojave Desert. We ask that the generation be built where the load is based. Build it on the rooftops to distribute generation.

A final note I'd like to remind everyone there is a viable, more cost effective alternative to the Coolwater-Lugo transmission project. It is the AB Clear View project. It has been well acknowledged publicly. And within the CPUC's proceedings, the CAISO had not -- that if the CAISO had not suspended its transmission planning process until after its approval of Coolwater-Lugo transmission, convenient. So the California independent system operators suspended their annual transmission planning process until Southern California Edison's project was able to be approved. That's convenient.

If that hadn't happened, the Clear View project most likely would have been approved and there would have been no need for Coolwater-Lugo. We ask again where is the transparency in this process. Why are we footing the bill for a huge, overpriced project to ruin our environment, our natural resources and our rural culture.

I'd like to ask Andrew, the 300-foot rule, is that a CPUC rule? Notification 300 feet?

MR. BARNSDALE: I think it is.

LORRIE STEELY: I would suggest that we change

that to 25 miles. The vistas and the views in our desert, I can see 50 miles. In an urban environment, maybe 300 feet is somewhat reasonable, but not here, not where we live. 300 feet is ridiculous. That's why there's been no participation because SCE complied as minimally as they had to. There was minimal notification. People didn't know what was going on. We're begging you. Please help us. Please be our voice. Please.

We would like to add, to have priority and values for conservation, we'd like to ask that you protect our flora and fauna. We have Joshua trees that are hundreds of years old, creosote rings that have been documented to be thousands of years old. There's a 10,000-year-old creosote ring in Lucerne Valley, which is in very close proximity to where this project is. We ask that you protect our wildlife connectivity and its habitat. We would ask that you help us maintain our community identity, you help us protect community views and our treasures. We need buffers and separators to maintain distinct community identity and to protect compatible adjacent land uses. We need the connectivity to protect and enhance wildlife movement between the San Bernardino mountains and the national forest. This is a migratory transition area zone. There is -- we have eagles. We have cougars. We have mountain lions. We have bats. We

have hummingbirds. All of these species will be negatively impacted.

We'd like our community values to be considered and be given the opportunity to create economic vitality and develop compatibility with conservation to support the missions of the county, city and town to preserve our area's quality of life by preserving and protecting corridors and habitats, dark sky nights and community identity. We're concerned about water quality and quantity, not only the quality but also usage of these other projects that are looming on the horizon that are always underestimated and always overused.

There's a project in Lucerne Valley that's currently using -- I think maybe everybody remembers recently UCLA had a pretty significant water spill. There were probably 200 million gallons of water poured onto the ground, spilled onto the ground. The project in Lucerne Valley is approaching that number at this time. I think it was 20 million. It was 20 million. Because I was calculating. Someone that I know out there has been tracking the trucks and how much activity there is and how much construction water's been used. Currently they're at 18 million.

So when you envision all of that water that was going into the parking lots, cars filled to here, that's

20 million. We're at 18 million. That project's not done. That's 1 out of over 40 projects that are proposed. So please consider that.

WALDO STAKES: Hello, gentlemen. The first thing I want to do is I want to apologize earlier today. My actions were ungentlemanly. I apologize. Especially Andrew, I really do. Okay. I'm sorry, Jon. I just had a concern.

The problem I had was when I looked at your charter, one of the things that said you did for your clients was -- I guess the CPUC is your client -- is you develop -- this is from your chart. This is from your Web site. This is what you guys do. Okay. You are developing defensible responses to comments for your client. That means that people come here and they tell you, "Oh, I don't like this. I don't like that." And they figure, "I'm going to beat them in court." That's what your company does, and that's why, Jon, I had a problem with you. I'm sorry. I'm sure you're a great guy. I'm sure you make good money. I saw you had a nice car. Pretty cool.

But overall, I want to educate everybody here about the big picture. Okay. Can you hear me okay? The key is this, okay, the Coolwater-Lugo project, they're

building up all these towers and increasing all this ability to distribute electricity.

Okay. All right. The thing is, this is a carrot. This project is a carrot. Right now in the wings, there's processes being done right now where they're going to build these huge wind turbine projects. When I talk about these wind turbine projects, you've seen these ones out here. You think they're big now. They're nothing. These are 2 kilowatt -- am I right, kilowatt -- turbines. They're 450 feet tall. When the blades turn, they develop more wind turbulence that a 747 on landing.

First phase is 71 of those bad boys on these mountains here. There's 14 phases, that means there will be over 1,000 wind turbines. You think Palm Springs looks silly? You look across your mountains. That's all you'll see as far as the eye can see, thousands of these giant turbines with red lights on them and stuff. Just in the pass where there's half that many, they kill 275,000 birds a year. So if you're worried about species, that's a problem. Okay?

So what I'm saying here, this Coolwater-Lugo project is not about meeting current anything. It's about turning your desert into a power station to feed Los Angeles. That's really what it's about. And they can say, "No, it's not like that." They can say things like,

"Oh, we didn't know about that." They said -- we just heard that just a couple hours ago. I had to laugh. They know exactly what time it is. And this is why you have to fight this project with everything you got. This is the key that opens the door. Not only that, those companies that are going to put those wind turbines up, they're from other countries. They're not even from here. They're Germany and Spain. They're waiting -- they're going to get Bureau of Land Management -- that is your kid's property. These guys, this cat right here, is going to hand it over to them. "Yeah, it's yours. Go ahead." Somebody's getting paid. We always say somebody's getting paid, somebody getting -- everybody's happy. But I'm not happy. Okay. I'm not giving my kids this desert to look like garbage. This is not a power station. These deserts here are formed because you got basically a line of mountains, and the ocean air comes across and basically it's accelerated over the mountains. Sahara, Mojave, they're all the same. They're jewels. People that don't live here, they don't get it. This desert is just an incredible place to live, and we're so lucky to be here. So let's preserve it. Let's stop this project first.

And then I got a feeling that the turbine companies aren't going to have all these little meetings for us. They're not going to do that. Once this

project's in, they're just going to come in and rock like animals. And you're going to be shocked to see these huge things going up all over the place and all these roads being created and all this stuff being knocked down and nobody gives a good God damn. I'll bet you a million dollars on that.

The thing about Tehachapi, those turbines were there, and then the people moved closer. Palm Springs, those turbines were there. See, there's the thing about these turbines. They generate that turbulence. You can't fly an airplane there. So if your house is protected by aircraft for fire, you're done. If you need Medivac, you're done.

Okay. Now, people argue with me and say that's not true. Well, I just gave them -- you guys still have my report, right? I gave them a 120-page report. 62 pages of it came from two Ph.Ds at Kansas State University. You look it up. Everybody look it up. Basically they say you cannot fly an airplane within 3 and a half to 4 miles of a wind turbine station. And the ones they are going to put up here make them look like nothing. So you get ready for that because that's what we're talking about. We're not talking about a couple of power lines. We're talking about turning this desert into a power station to feed Los Angeles. The hell with Los

Angeles. Let them do their own thing. We moved here for our reasons. We moved here in our way. We're not Los Angeles.

I'm sorry, gentlemen. I do apologize. Thank you very much for your time.

DENISE STAKES: Denise Stakes. Hi, everyone. I'm Denise Stakes, and I'm a court reporter out in Joshua Tree just like Valerie's doing, but I'm in a courtroom. I sat down with my judge this morning and kind of told him the Reader's Digest version of everything that was going on. The one thing that we talked about this morning -- and Andrew, you can answer this, and I'm glad that you talked about it. And maybe we can talk after the meeting's over so you can explain it to me again. Why is there already a judge involved in this project? That's number one. How did a judge get involved without our involvement. That's number one.

Number two, exactly what is that judge going to make a decision on? Is she the one that says, yes, the electrical lines are going up, and therefore, like Waldo was saying, the wind turbines are going to go up. Is she the one that says, yes, this is going to happen. That's my second question. And we can talk after because I'd love to go over what the judge is exactly doing again.

Because it freaks me out that there's already a judge involved. And my judge said, "You need to look up that judge and see what's going on."

The last thing you touched upon that -- and the three of you guys can maybe answer this real quick. You were talking about how you've been doing all this environmental research and going out there, and you have archeologists and you have different people who are helping you environmentally and that kind of thing. Have you even thought about asking a fireman to help you, to consult with you on a fireman's point of view? I have no idea. Half the stuff Waldo talks about, it's like you have to have an IQ of 200 to understand what you're saying because all of your stuff is so over my head because it has to do with aerodynamics and stuff. I think a fireman needs to be on your panel so that the fireman can tell you, yes, we can fly over, no, we can't. Yes, we can get our trucks up here, no, we can't. Because I promise you every year there's going to be a fire. There's always fires. We're used to fires. We're also used to firemen saving our houses and firemen saving us. And if the firemen can't fly over our houses and people get killed, animals get killed, houses are burned down, someone's going to have to pay for all that. So I think it would be beneficial to talk to a fireman. And that's my question.

Have you talked to a fireman?

MR. BARNSDALE: No.

DENISE STAKES: The answer was no, just in case anybody cares. No fireman has been consulted. I just wanted to make sure everybody heard that.

MR. BARNSDALE: I'd say again we have not consulted a fireman yet.

DENISE STAKES: Maybe we'll talk after.

MR. BARNSDALE: A couple of things, we'll just try to answer some questions. It is interesting for some folks to figure out how a judge is involved in this. And the reason that a judge is involved is that every single thing we do goes in front of a judge. Everything. We're just a litigated agency. Public utilities commissions are like that all over the country. Usually they're called railroad commissions. That's how it usually starts. She will be here when she decides to hold a hearing, and then you can ask her that. I don't tell her what to do. I wouldn't do that with you either.

But so that's what it is. It's an administrative law judge. This is not criminal law, and it's not civil law. This is administrative law. So that's the reason we have litigative experience. You know, we find that it's a lot easier to get stuff out of the utilities when you have them on the stand under oath. And when the penalties for

telling us things that aren't true in that circumstance are very high. So that's why we have a judge involved. So everything we do has a judge, and all of my cases have a judge. So that's how that is, and it's administrative law.

Then the question on the fire issue, that's a very good point. We do have a very strong concern about wildfire issues, and that's one of our areas we're going to be looking at. Generally, we require real stringent fire plans. We consult with Cal Fire and with the fire departments and that sort of thing. So that is something we do a lot of.

I mean, they have fire plans that will be -- they will have to approve plans is actually the way it goes. We haven't talked to them yet because we are busy trying to put together talking to you. But yeah, there's no question about it. Cal Fire and the fire authorities in the county will be on our consultation list. They'll also get to weigh in on all of this. And then when -- if this project gets approved, it would have a wildfire management plan, and that wild fire management plan would be a requirement of the project approval. It's an absolute legal binding thing they got to do. And that plan, we would require them to get that approved by the fire authorities.

UNKNOWN SPEAKER: So what if it doesn't get approved?

MR. BARNSDALE: Then they're stuck. That's that.

UNKNOWN SPEAKER: Would you talk to Medivac, the guys that actually fly in here, and if they would fly in here? See, a lot of the states that had these kind of things -- we got to look at the big picture. Would you talk to -- would you talk to these guys to see if they'd actually fly in that area?

MR. BARNSDALE: That's a very good point. I think that's something we will do. This is a very interesting issue that's come up with the issue of turbulence and the ability to get in to do that kind of work, Medivac or water drops. That's huge. So yes. That's going to be on our big list of what I've got this guy working on. He's actually a really nice guy, and the car's got a lot of miles on it.

So those are very good questions, absolutely, and that's on our list of going through. That's one of the reasons we're struggling the way we can get this done as soon as we think we can because we got a lot of people to talk to, and it's just very unusual issues that come up on this kind of project. It's going to take as long as it takes, you know, yeah.

UNKNOWN SPEAKER: Is the effect of turbulence

something you guys are looking at now?

MR. BARNSDALE: Turbulence on flying?

UNKNOWN SPEAKER: You guys mentioned turbulence.

MR. BARNSDALE: Yeah. So I think the issue was that if -- I think the issue that's been brought up is if there's wind farms, there's going to be turbulence, and that prevents helicopters to come in and do rescues and stuff. So that's one issue.

There may also be -- I'm not sure -- some issue about the tower heights and concerns about the heights and whether people want to fly near them. So that's not really a turbulence issue as much as a navigation hazard. So we're also -- I mean, we're also going to talk to the airport here because they have also concerns about height and the approaches and stuff too. So they're also on our list. They've already contacted us and let us know that they have strong concerns about the flight patterns.

UNKNOWN SPEAKER: Are you going to talk with them?

MR. BARNSDALE: Oh, yeah, absolutely. We're talking to everybody.

MR. BRITT: We have more speakers, and it's after 9:00. I think in consideration of everyone's time, let's get through these speakers. These are my last three cards. If there is anyone else that would like to speak,

now is the time to fill this out and hand it off to Raul.

JOHN MILLER: All right. John Miller. Thank you for your time. I know I'm kind of limited. I'd spoke to you earlier today about some of the same issues that you've had addressed here by Waldo, but I do want to kind of touch base a little bit further, a little bit more on your mitigation steps.

When it comes to the mitigation in particular for the property values, I did the appraisal for this area to determine the impact associated with high tension power lines specifically in Hesperia. And I can tell you specifically in Hesperia, having interviewed over 12 real estate brokers and agents, there's a significant impact. The impact on average is from 10 to 25 percent. And it's mostly felt -- the majority of the impact is felt on what's known as days on market. So in other words, you go to sell your house. Your neighbor's house sells in 20 days, and your property sells in 250 days. That is more typical what happens when you build power lines and you put them next to houses. When it comes next to land, it's much more substantial, and the impact on value is about 50 percent. And that's across the board, and it's in the report that's done.

Second, when it comes to the power lines, there

is an additional concern when you put in taller power lines. Because I'm sure you guys are aware, FHA won't back a loan on a house that's in a fall zone. And when you make a power line taller, the fall zone increases. And so therefore, the existing easement that might exist today would not be sufficient to allow that homeowner to develop that property. And those homeowners will have to be compensated.

And I would strongly urge you if you do approve this project, that you make that part of the mitigation is that they acquire additional area. Because of the size, the height, no doubt they're probably -- there's probably going to be a little more distance between them, and that whip zone where if the power lines were to fall and the line was to start whipping around like a hose, that whip zone would be substantial. And so that's something else to consider even on a 10-acre property. A typical 10-acre property is 650 feet by 650 feet.

As far as the buried power lines go, obviously that wasn't the administrative law judge. You guys know down in Chino. That was actually the CPUC and actually the president of the CPUC that once the CPUC had actually approved this project, they actually -- the president of the CPUC went down there, saw the impact and immediately ordered those power lines buried. And so I would believe

that at some point that might be a similar situation. And so burying power lines is probably a good way to go.

Really quick, also when it comes to mitigation -- mitigating paleontological resources, the Desert Resource Conservation Plan is supposed to be addressing these. That is significant especially in this area. There's a lot of water, a lot of springs, a lot of paleontological, a lot of -- not species but petroglyph, a lot of petroglyphs.

So I don't know how you're going to offset that impact. I know how the California Energy is planning on doing it. They said it's like $5 million for the Palen Project so they can acquire land. I would strongly urge you to do the same with Edison considering they're going through a lot of land that's very paleontologically sensitive.

But just one last time, I just want to reiterate the fire danger there is substantial. So when you do your plan, just remember Tejon Pass is a one-way-in-one-way-out road. And the power lines will be on the southwest side of that, and the winds will blow from the south towards the northeast. It will trap those people. It will move at 60, 70 miles an hour, and people will die if that falls. So if they die, your approval will be responsible for their death.

SUE HAMMER: My name is Sue Hammer, and I am a Lucerne Valley resident. I live next door to power lines. I chose to live there, but I have a million dollar view, 360 degrees. And I moved there because of that view. If you were to enlarge the power lines, it would, you know, be bad for us. Nobody would want to live close to it. So my property values, instead of being down, would be zero. And that is my retirement home. That's where I chose for my retirement for my husband and I. We started early so we could enjoy.

But the funny thing is, is you call it Coolwater-Lugo. And your maps -- I want it on record that your maps are very bad. It doesn't show anything. It doesn't show the location. When Southern California Edison was here, their maps pretty much looked identical. Didn't show anything. You couldn't see the streets. So you confuse the residents of the location. And I want that on record. And I think it's deceitful on all of your parts to do that.

My next point is the home values. Through all of it is not going to be good for our community. And you call it the Coolwater-Lugo, and yet it sounds so far away when in reality it is actually almost between Apple Valley and Lucerne Valley. So when you talk to people about it,

they have no clue because they don't understand where that name come from. But to put it in the community of Lucerne Valley is inappropriate. And if you allow Southern California Edison to build their substation, we all know that all the other solar companies are going to start coming like little rats so they can hook up. And then we're really going to be in trouble. And there are going to be consequences, serious consequences. That's 30 years of a solar company every time they have one, 30 years. That land after 30 years is going to be destroyed.

And land management was supposed to manage our land appropriately, not give it away to companies to make money. And that is a shame. Our animals, our land, our views. Land management -- I saw a letter between land management, Fish & Game and all the people that are on the board of, what is it, the DRECP was complimenting our governor for allowing them to be part of that decision making of where the solar and all the energy stuff would be. And believe it or not, we think it's just a small thing. But it's going to be 245 million acres that they're going to use. That is sad. So basically 245 million acres for 30 years. That's going to be all land that is gone. And you can't put it in the middle of a community. Lucerne is not considered a city. They're a community. But right practically in the middle, a

substation, that's ridiculous.

But our views, you guys should come at night and look up at the stars here. They're gorgeous. And that view with all their lights and all their other things, all the other solar companies and their lights, their little substations, they built a school close to where I live in Adelanto. I can see the lights like you wouldn't believe. And it's supposed to be miles away from me. But I look at it at night and it's like, wow, it looks so close. But you have to understand that we live here. And if you allow Edison to do this, the rest of them will come like little rats, and it's going to be awful because they want to connect. So we have to take and consider that we have plenty of desert way, way out there for them to use and not inside our community.

It's fair -- it's unfair, and it's wrong, and I'm ashamed of land management, truly. I'm ashamed of our government because Brown put that in motion along with our federal government, and demanded that you guys do this. He's so anxious to have the renewal resources quickly, the committees that are supposed to, we thought were going to help, have turned out to be fast tracking permits for the solar companies, giving monies to the solar companies, grants, rebates, the loans that they're getting from the federal government for these projects. And yet what about

the people? What happened to "We the People of the United States"? It didn't say, "We the companies." And to me, I feel shamed that you guys would destroy our lands truly.

STEVE ADDOR: I live up there -- my name is Steve Addor. I live up there in the Deep Creek area. In fact, I'm as far up as you can get. There's BLM land on two sides of me. And I bought up there in about '89. Now, there's Power Line Road, which is to the south of me. And apparently that's where the 500-kw line or 500-kV lines are now existing, which is a possible alternative route if it doesn't go through Hesperia here on the 220 lines.

Those 500-kV lines on probably at least 10 percent of the time I can hear those things even though they're a mile, at least I would say, to the south of me. I can hear them. If it's a moist day or a foggy day, which isn't very often, the rumbling is just unreal. Recently I took a little Jeep ride up Power Line Road. And there's a couple of towers up there where those lines droop down through the whole valley of the canyon behind me. I was with a buddy. You can barely hear each other talk between each other when you're standing under those power lines. They're that noisy.

Now, my concern is when I bought the place, I realized those were there. I accepted it. Now they're

talking about changing these 220-kV lines that are coming through Hesperia, pulling those out, putting 500-kV through there. What's the noise going to be like through those?

Now, I own two houses in that area where they're talking about tearing those lines out and putting those 500 in there, which I guess is their immediate proposed route. Now, if they do that, what's that going to do to the land values of those people in there? Not just my homes, the other homes. Who wants -- if I'm hearing it a mile away where I'm at on the 500-kV, when they get those 500-kV lines running right through the residential area, you're going to hear those constantly.

Now, vision is one thing. You can close your eyes. I don't want to hear it, and I don't want to see it. But when you hear something 24 hours a day rumbling in your backyard, nobody wants to live there. Now, if they got to put them through there, maybe put them underground. I don't know what they can do. But the noise as you're going through a city, so to speak, or the town of Hesperia or whatever they call it, the city of Hesperia, to run it right through an established area. The people that bought those homes like I did a few years ago there, I was aware those lines are there. I'm listening. I'm saying, okay, I don't hear these rumbling.

They're lower voltage. I'm not hearing them. Now, I own the homes. They're going to up them to where the noise -- and then it's been kind of enlightening to me on this meeting tonight hearing about the wind things that they're talking about putting up. And I kind of have to wonder about that. Does Edison really need these now or are they putting these in so that they can -- everybody can profit by big business coming in here and putting all these windmills.

If you're going to run them through town through existing neighborhoods where people bought these houses, they accepted what was there, and then they're going to increase them? I mean, that's just not right to the property owners. Now, if they're out in the middle of the desert, I understand concerns of other things too. But if you don't like it, don't buy there. But once you buy there and then say, "Oh, we're changing things," that's just not right.

LORRIE STEELY: Okay. My name is Lori Steely. I just wanted to take advantage of several people here. Sue really hit it on the head. We need to get engaged. People need to get educated. There are a lot of things taking place right now. There's a SPARC forum. This is San Bernardino County's element to the general plan for

renewable energy. These forums are taking place next week. It's spelled S-P-A-R-C, SPARC. Google it on County of San Bernardino's Web site. There's also the Desert Renewable Energy Conservation Plan. That is going to be coming out probably the end of September. That's a huge plan. It encompasses the 245 million acres and six DFA, designated focus areas. Those designated focus areas, those are us. We are designated focus areas where they want to put all this renewable energy. You need to get engaged. You need to get educated. You need to speak up. Otherwise you're going to wake up and it's going to be in your backyard, everybody's backyard, our whole Mojave Desert. Not just yours and yours and yours and yours, everyone's backyard.

We have a Web site. It's called MojaveC3.org. You have contacts to all of your congressmen. You have contacts to the county supervisors. There's contacts to Feinstein. There's links for every one of these things I've told you about. Go to MojaveC3.org. You can find all this information. Thank you.

JOHN SMITH: You'll notice I don't have a notebook this time. John Smith again. A personal note. This morning out in Lucerne Valley a lady named Maryanne -- she had a little blue blouse on -- came and

spoke about her ranch up against the mountains. It's actually called the Sundowner Ranch. And she's a real estate broker, and that's her place of retirement.

Anyway, a personal note on that to you as far as the impact. I just gained a fabulous daughter-in-law because my youngest son just got married. And where did they get married? Sundowner Ranch. I couldn't help but notice spending a week out there because they're in their 30s and they pay for it themselves. It's wasn't fancy and expensive, but it was unique. First time I've ever been to a wedding where the groom and the best man rode in on horseback. Not something you can do at a local church, you know.

The whole venue had a tremendous impact on the people, the 400-plus people that came. It was laid back. The kids got to ride the horses and ponies. There was a popcorn machine. And my son is very creative. But you know, I did notice one of the first things was one of those towers that she mentioned that go across her property already. And I commented to my wife and other people it's too bad those towers are going to be in the pictures, as you really can't miss them. And so I have to say with her to add more there is ultimately damaging, and it would have changed the whole atmosphere to have -- rural atmosphere. But just it would have changed the

atmosphere to have any more of those types of, we'll say, unnatural additions to the environment, maybe even invasive as some people might say. All right. Thank you.

MR. BRITT: Thank you. Did you want to speak once more?

UNKNOWN SPEAKER: No, actually I want to ask a question. Are you guys aware that the winds that blow out like in Lucerne Valley sometimes are as high as 105 miles an hour winds that we have?

MR. BARNSDALE: Yeah.

UNKNOWN SPEAKER: We have micro bursts, little tornadoes that come through and rip off your roof and throw it 30 feet.

MR. BARNSDALE: Yep.

UNKNOWN SPEAKER: So you are aware of that?

MR. BARNSDALE: Yes.

MR. BRITT: I think the answer was yes.

MR. BARNSDALE: The answer is yes.

MR. BRITT: Yes.

JIM BASS: Jim Bass again. I only heard one person so far touch on this. The proposed tapestry project in Summit Valley, along the last remaining pristine stretch of the Mojave River where they are. A Texas company just bought the distressed property, and they plan on building 20,000 homes out there right over

the hill from basically the Lugo substation.

MR. BARNSDALE: What's the name of it?

JIM BASS: It's now called the tapestry project. It's Las Flores Ranch. They bought it. It's the last remaining wild population for western pond turtles, 20,000 homes. This was originally approved in 1990 by Hesperia's first city council, who the leader of was later kicked out of office for all kinds of charges, basically kickbacks and stuff from Orange County developers. And since then, you know, the population of Hesperia has grown tenfold. But anyway, this -- they're still trying to build these $20,000 homes. And going along with what a lot of people said about the way large corporations treat people and how they're only interested in profits, I wouldn't at all be surprised at some sort of collusion going on between Edison and probably the Texas development company wherein the building of these 20,000 homes might necessitate -- while we need the electricity for all these homes, they're going to have to widen the freeway all the way down to the Cajon, the 173, 138 and just their own power plants. That's their water source. My dad designed the Feather River project, Silverwood, Perris, Elsinore, all these lakes, these water works engineer. That's the water source from bringing water to all of Southern California. And they're going to build 20,000 homes right there.

Well, my concern is, I would really appreciate it if you guys would look into if there's any connection between building these 20,000 homes in the last pristine stretch of the Mojave with Edison and this Lugo substation. Because the way the banking system and large corporations treat people, as I say again, I wouldn't be at all surprised at some type of collusion going on there.

Thank you.

MR. BRITT: Thank you. All right. I want to thank everyone for taking time tonight to be here. It is getting late, so we thank you very much. Drive safe and we have one more meeting tomorrow.

Appendix E-4

August 21, 2014 Meeting in Apple Valley

- Summary of Oral Comments
- Speaker Registration Cards
- Comment Transcript

Appendix E-4. Summary of Oral Comments Received at Scoping Meetings

Name & Organization	Comments
Scoping Meeting, August 21, 2014 (6:00 pm to 8:00 pm) – Apple Valley, CA	
John Smith	• The purpose of proposed project along w/ Desert View and Jasper Substations is not to address an energy shortage but to address excess power consumption in the LA basin. The property owners and residents of the desert should not be penalized for this over consumption. • Agencies need to select an alternative that is strongly supported by the City of Lancaster called the AV Clearview project.
Ernie Mora	• Believes that this project is tied to the Mojave solar project as well as to provide more power to the Los Angeles basin. • When did the project start, notes that an assessment completed 2001 states that the project will up and running by 2018. • Mentions that a document he read identifies the project as supporting the BLM in meeting its goal of developing 10,000 MWs of renewable energy on public land by 2015. This is a lot of power and it is not going to be used in Apple Valley, Hesperia or Lucerne Valley. Also notes that the high desert has excess capacity of 75 MWs. • Reiterated points made at meeting in Hesperia about the negative impact of the project to the natural habitat, wildlife and humans as well as negatively impact property values.
Ken More	• Has received conflicting information from SCE about his property values and whether his property would be affected by the project. Was told that his property is on the alternate route through Summit Valley. He would like answers as to the impact on his property. • Asked if anyone knew about the new project in Summit Valley called "Tapestry". Indicated that the EIR noted 19,300 new homes were being built and the power line for the project will sit adjacent to his back yard.
Lorrie Steely, Mojave Community Conservation Collaborative	• Asked the audience to get engaged, perform good due diligence and make comments on the potential environmental impacts of the project. She asked the audience to get engaged and get educated about the project. • She reiterated the purpose of the EIR/EIS and asked that the audience consider the potential for growth-inducing and cumulative impacts. She also emphasized that they should let the agencies know that they do not want future renewable energy projects.
Brian Hammer	• Asked for confirmation that a no-project alternative would be considered in the EIR/EIS. • Indicated that the local residents bear the burden of this project with none of the gain. • The project would negatively impact residents, wildlife and the environment, as well as, drive down property values.
Cheryl Hemmeninger	• Asked if SCE had filed a rate increase application with the CPUC and asked if residents were supposed to pay to cover the cost of the Desert View substation. • Provided photos of her residence to show if the project is developed that her property would sit between the substation on one side and a "windmill" on the other side. • Concerned about threat from fire and the inability of aerial fire-fighting efforts due to no fly zones in the project location. • Concerned about the negative impact on the wildlife population in the area.
Marion Ely	• Concerned about the impact to bird species such as the Oregon junco that migrate to the project area along with other bird species such as the Arger bird which come into areas damaged by fires. • The project area is crisscrossed with active faults and the project area includes lots of mineral resources. The area also includes lost mines. • Very concerned that the maps do not accurately portray the properties impacted by the project.

Appendix E-4. Summary of Oral Comments Received at Scoping Meetings

Name & Organization	Comments
Neville Slade	• Believes that the project is not to improve capacity, but to capture and transfer power from the Mojave solar project that is going live. SCE will also provide power to PG&E so that they can meet their renewable energy mandate. The project is not for the LA Basin but for PG&E. • Residents have already accepted a huge responsibility for "those people down there" through water transport, transport of goods and services, and recreation for 12 million people. Be fair and plan carefully. • Need to consider the AV " Clearwater" project. The City of Lancaster wants this project. • There are 40 renewable energy applications in process. Let's put these projects in the built environment where the energy does not need to be transferred.
Drew Sobeck	• Believes the project will set a precedent for other types of renewable energy projects which will turn the desert into a wasteland. • Very concerned about the stress placed on existing roads especially on Roundup Way and the need for alternatives due to the noise and congestion created from large construction vehicles.
Dinah Shumway	• The belief that human generated CO2 causes climate change is a nonissue. The project is being placed in the desert with the only intent to transmit power down to the Southern CA area. • Believes that this project is a clear case for environmental justice. All of the burden is placed on the desert communities. There are plenty of other areas for the project such as Riverside, San Diego, Ventura, and Santa Barbara. • Put the project in these locations to meet this renewable mandate if we have not met it yet; the mandate may not be met because solar rooftops are not part of the renewable mandate.
Rob Kasch	• Believes if the substation is developed that many other projects will follow. • Proposed transmission line will ruin the 50-mile view from his property. • Noted that subsidies are given to foreign companies to build the project in other countries then the project parts are shipped to the U.S. The energy is sold to SCE and the residents pay the cost of that energy, and all of the money goes to other countries. • Does not see any positive benefit to the residents in the area of the project.
George Stone	• Believes SCE was secretive about the plans for this project with their preliminary planning efforts by not disclosing what they were doing as they studied residential properties. • Believes the project poses a threat to health (from EMF), environment, property values and visual beauty of the area. Also, the county will lose revenues from visitors and the film industry. • Indicated that the notification placed by the SCE to the public was a small flyer found lying down on the desert floor far away from the 300 feet of affected people, and SCE never informed the community with a mailing about the application they submitted on the project. • SCE provided misinformation about the size of the Desert View Substation. The public was never told that the substation would be 160 acres, they were told 70, 66, and 10 acres. • Asked BLM to include the 15,000 signatures in opposition which were hand delivered to their office.
Patrick Davis	• Asked why solar panels could not be installed on some of the tall buildings in Los Angeles instead of building a project in the area. He also suggested burying the power lines.
Jack Betterley	• Has been in the area for many years and bought his property for the view and the isolation, to be away from town. The only reason they want to put the project in the desert is because the land is cheap. • Suggested that a better location for the Desert View Substation would be to build it on the huge dry lake bed in Lucerne. The residents do not want the substation were it is currently planned.
Bob Salinas	• Believes that residents have been misled. They bought the idea of not relying on coal and using gas and allowing solar power but now there are all these power plants in the desert that require transmission lines to take the power "down the hill." No one ever mentioned that transmission lines would be needed for all of these facilities.

Appendix E-4. Summary of Oral Comments Received at Scoping Meetings

Name & Organization	Comments
Jenny Wieder	• Believes that what is missing is a way to get renewable energy generated on rooftops, parking lots and warehouses and to have this power calculated in the renewable energy mandate. The evaluation should consider solar panels on rooftops throughout the area. It has not been considered adequately before. • There are microgrids; the military has one, and another possibility is cooperative solar energy production. These issues should be addressed. • There is a limit to the SCE rebate for solar panels. In this resident's instance, the number of panels necessary on their southern exposure was greater than what the SCE rebate allowed. While their energy capacity is not ideal, she still believes it to be a viable alternative which should be considered.
Gayle Flinchum	• Encouraged other residents to perform their own due diligence, get organized and work together if they do not want the CLTP to move forward. Don't give up.
Waldo Stakes	• CLTP will encourage the development of other projects such as "giant windmills," and the project will include very tall towers, some of the 500 kV towers will be 260 or 240 feet high. • Very opposed to the project, the belief that it is to provide energy for Los Angeles at the desert's expense and encouraged other attendees to unify and advocate against the project.
Dawna Barnes	• Is a local realtor and utilizes a private wind mill on property. Property's energy is sustainable. • Indicated that SCE walked onto property with no notice and would not answer any questions. • Indicated mailings do not reach the residents because many use PO Boxes since the USPS does not always extend service out that far. SCE sent mailings to physical addresses so residents did not receive them. • Believes the negative impact to the health, property values, habitat and wildlife is irrevocable. They do not want to see their way of life ruined.
Irene Atteberry	• Project will impact recreation use of the project area. Many people use the area for horseback riding, four-wheel drive vehicles, and bikes. The noise from the transmission towers affects horses and the towers will impact the beautiful desert. • Opposes the project because of the negative impact on property values, wildlife, livestock and the well-being of the residents.
Laurajean Reams	• Indicated that SCE will not place solar panels on her property because her energy use is so low it does fit SCE guidelines. • Solar panels on rooftops should be considered an alternative to the project. • The windmills that will result from the project will affect her health; she is opposed to the project.
Ben Christianson	• At a previous meeting, asked SCE about the Lugo Substation and where the power was going out from the substation, but felt they did not address his question. Power going into the substation needs to go out somewhere. • With all of the power going in the substation, he is concerned that the station and associated lines will require upgrades to increase the carrying capacity on the other side of the station. • His property is close to the project area and the noise from current lines is bothersome when outside. Feels that noise level will only increase and possibly heard from inside his house if the project is developed.
Pat Silva	• Objects to the project and wants the desert in the area to remain as it is with no further development.

Speaker Registration Card

(Please Print Clearly) **Coolwater-Lugo Transmission Project EIR/EIS**

Name: JOHN SMITH

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✓(23)

AUGUST 21, 2014 (Evening)

Apple Valley, CA

Oral Speaker Comments

Transcript # 1914941

CERTIFIED TRANSCRIPT

SCE'S PROPOSED
COOLWATER-LUGO TRANSMISSION PROJECT EIR/EIS

CPUC/BLM SCOPING MEETING
FOR PREPARATION OF A DRAFT EIR/EIS

AUGUST 21, 2014

APPLE VALLEY, CALIFORNIA

Reported By:
ASHLEY KEENE
CSR No. 13840
Job No. 1914941

Pages 1-104

mispronouncing your name, but you can correct me when you come up. Okay?

So the first three speakers I have are John Smith, Earni Mora, and Ken More. If you could just queue up over here. When we get to the last speaker, I will call another three names, and you can just line up over here, and that will make it very efficient. Okay?

SPEAKER 17, FEMALE: Is it possible for you to hand out written comment forms?SCE'S PROPOSEDMR. BRITT: We have those handouts in the front and Raul can walk around with some extras if you didn't pick one up. Okay?

Go ahead, John.

MR. SMITH: My name is John Smith, and I am going to be as plain spoken as that name. First, I want to properly frame the premise of the needs of the Coolwater-Lugo Transmission project. This should answer some of your questions. And it's requisite Desert View Substation and including but the seldom mention of Jasper Substation west of Highway 247 just north of Lucerne Valley. The justification of the need and needs to be directed towards resolution of electrical energy shortage. Fact is, the true evaluation will show that the issue must be addressed to power consumption in excess. And where? You've already asked. The consumption problems are really a result of shortage of

four site constraint and political will. Specifically stated in SCE's own documentation, the purpose of Coolwater-Lugo Desert View and Jasper Substation is to correct a bottleneck in the power transmission task of the Los Angeles basin. Where? Regardless of whether the specific scoping of the scoping of the Coolwater-Lugo project includes the matter of the following renewable energy project the EPA, BLM, CPUC, governor, congress of the state of California, and President of the United States -- strike that.

-- cannot honestly disconnect that the Coolwater-Lugo is the key to the gate -- that the Desert View Substation is the key to the gate. Let me see if I have this straight. We the low density populated of the even-lowered-density rule communities of the High Desert are asked -- ask to consent to bearing a resolution of a self-inflicted consumption problem, systematic to a century of unraveling urban development of the coastal basin, as we say, "Down the hill." I'll bring that to the moment. If I receive a citation for violating a current water-consumption mandate, would any of these folks up here be willing to point any person out here responsible for my fine? I think not. Perhaps, simply stated, that is the root of what your commission is to ascertain, if the transfer responsibility of the

irresponsibility -- or of the irresponsible to the responsible, no mater what the reason, that's unethical and socially unjust. To simply deny -- the just and honorable recommendation for you to convey to government and committee is clear and simple. To simply deny the Coolwater-Lugo project and select an alternative and strongly supported of the City of Lancaster Project called the AV Clear View Project. However, that doesn't solve the real problem. The real problem is trying to pass the problems of down the hill through our committee for resolution. This recommendation should be none other than going to your -- the people over you and telling them the proper solutions is to have the people that are using the energy in their area solve their own problems. Thank you.

MR. BRITT: Thank you. Earni.

MR. MORA: I'm coming.

MR. BRITT: Okay. If you could just que up, that would really help us expedite this. I have a lot of speaker cards. Thank you. And after Earni is Ken More and then Lorrie Steele.

MR. MORA: My name is Earni Mora, M-o-r-a. Hi, there. I was at the Hesperia last night. My wife and I are not too far from the Lugo station. Yesterday when we went was our first meeting. We did not -- we weren't

real prepared for it.

SPEAKER 18, FEMALE: Pull down the mic.

MR. MORA: Is that better? I'm not a public speaker so --

All right. I'm going to make this quick. Yesterday, just like everyone else, the comments were being made here about where this power is going and what the purpose is. I did some research last night and this morning and today while I had a chance. Well, they were talking about how Edison applied for this application back in 2013. They absolutely did. I have about eight handouts exactly what I have in my hand. Initially, Edison did what is called a purposed environmental assessment; it's a 457 page -- I took some of the highlights of it. Initially, it was done on August 20th, 2013, and amended again on April 25th, 2014. Purpose -- and I'll read you some of these highlights. As part of this renewable energy transmission initiative, this started -- it's going to effect -- its project land management has jurisdiction over identified rich solar and wind resources areas in the State of California. Here, the renewable energy potential in the Mojave Desert, and that's the DRECP, which stands for the Desert Renewable Energy Conservation Plan. It talks about how that development focuses on areas that will ultimately

flow from the Kramer Substation and Kramer junction and would then be supported to serve the customer demands in the Los Angeles basin. What we all feel and what we suspect is exactly true. This is Edison's proposal. And the subpart of that -- and I have it here on page AS3 in the subscript -- talks about how this provides for the whole Mojave Solar Project. The purpose of that being to create solar farms, and I didn't know today, looking -- I didn't understand how the solar farms worked. When you have these high capacity wires, when you put them in stations -- for example, if this beam here was the new station, this gentleman over here would start his solar power farm on that side, connect into it, sell it -- they have meters between it -- sell it to Edison -- Edison to increase -- the new power voltage would increase the lines they would carry. I would have another one on this side, for example. And right down the center going to the gentleman against that wall, everybody could start their own -- any company that wanted do it, whether you're a foreign company or a domestic company, it doesn't matter. That's how the process starts. I had to look it up because I didn't know. Second point here. And I only have four points; I don't want to keep all your time. The second point was, where is the initiator? We were trying to figure out last night when this

started. This started back in 2001, and it's in subnotes of this assessment -- Edison assessment by executive order of 13212. And that's a copy of that if you want to pass it around, and that handout -- it's right here, was signed on May 18th, 2001, by George W. Bush. May 18th, 2001, I printed a copy of it. It's one page; it's pretty short. Point number three, this is where I begin. The top ratio period for this particular project that affects all of us, that is supposed to be up and running by 2018. Going through this process now, up and running -- that means fully functioning, construction starting, moving along. My fourth point -- and excuse me if I'm not doing good; I'm not a public speaker.

SPEAKER 19, FEMALE: You're doing great.

MR. MORA: My fourth point was these particular projects, Bureau Land Management -- we're trying to figure out when the Bureau of Land Management knew about this. I'm not talking about this gentleman here, or speaking for him, or accusing him of anything, but it started way back in 2004 because one of the purposes that's proposed in their settlement -- they're numbered. Number five says, "to assist the Bureau of Land Management in meeting the federal renewable energy mandate to develop 10,000 megawatts of renewable energy on public land by 2015." And that's a lot of power.

Okay. And that power is not for us. As far as a bet, when they talk about how we don't have enough capacity in Apple Valley or Hesperia or Lucerne Valley or wherever it is. On the final page here, on AS5, in that handout, it talks about surplus of 75 megawatts for the year of 2014.

SPEAKER 20, MALE: At this time?

MR. MORA: At this time. Okay. So when that happens -- when it talks about here in front of us -- it talks about how they subtract the access from Kramer's system kicks over to the other system, they transfer it back and forth. We have an excess capacity here. They want the new lines so they can carry -- the reason for the increase into the 500 kilovolt watt line is because that excess of 75 that we have here for us, up in the High Desert, well, that will carry the potential air created from the solar farms. I couldn't find any of that here. The only thing I could find was the Tehachapi and Palm Springs; so I couldn't find any of that here specifically in the High Desert. So I can't comment on that. But solar farm is the one that was created to -- they need that capacity to be able to send it down the hill.

I believe that's it. That's the end of my point.

Oh, as far as the environmental impact, just

again to reiterate what I said yesterday, I'll start with the impact on the animals. It will have an impact on birds. We have some California Convoys that fly around here, which is which -- are going to really love 150-foot towers. Also children -- it's terrible how you're going to put up a 100-foot tower out there when you can't even get to the Lugo station. It looks like it's barricaded. You can't get anywhere near it, but you can get to a 150-foot tower that carries 500 kilovolts. Also, your home values are going to grenade. Okay. We're close to it. We have an easement, and again, just to reiterate, it's an abuse of the easement because nowhere did we find to say, "Hey, we want to 500 kilovolt watt wires running through our house. Anyhow, I believe that's it. Thank you.

MR. BRITT: Thank you. All right. So Ken will be followed by Lorrie Steele, Brian Hammer, and Cheryl Hemmeninger.

MR. MORE: Hello, my name is Ken More. I'm not related to Earni Mora, but it's similar. In fact, I'm kind of confused here. Last night, I went to the Hesperia meeting. I came to ask you guys questions, and after about 30 seconds, I got absolutely no answers. So I did my homework. But Mr. Mora actually answered one of my first questions. I asked you how long this project

has been going, and he indicated 2004. That was my research also. And since 2004, I've had a piece of property in Summit Valley that I have what I call carpet baggers, Edison people that told me my property was worthless because you or Edison might do this project. I don't think it's fair that for ten years I've been told that my property is worthless. I've gone to all these meetings, sat down with an agent from Edison once. Then the next time they told me my property wasn't affected; the next time they said it was. As I speak, I have stakes on my property that say Craig Pad Corner Access Easement, and I have little red and orange flags all over my property. I used to call that trust passing. No one contacted me, and I have no idea if it's regarding this project or what.

Anyway, my first question last night has been answered by Mr. Mora, not you guys. My second one was, if you knew anything about the new city in Summit Valley --

SPEAKER 21, FEMALE: Can you speak in the microphone?

MR. MORE: Yeah, I wanted to take it off.

MR. BRITT: You can take it off if you want.

MR. MORE: It's taped. I'll try here. I've been going to EIR meetings for a project that you knew nothing

about also last night, and after about 30 seconds, I went and sat down because I felt very -- totally snowballed. So I want my time tonight. The project is called tapastry. I have a copy of the EIR for it if you'd like it, but I'd like it back and not get it lost like the petition from Barstow. I'm going to speak from the hip here. It's 19,300 homes that are going to have this power line right in my backyard. I'm supposed to be the north end of it. If my voice is shaking, it's because my blood is boiling here. I don't know why someone would propose that with this project going right on the north end of it, but that's an answer to my second question. I wrote down the rest of this here. I had energy specialists call me and tell me they would take my property off my hands and trade me property by your substations out here. For the fee, they would give me a solar farm that I could hook up to a substation. This happened more than once; this has been going on for ten years. I've covered all the meetings that I've gone to, and I'm trying to be proactive on this. At this time, I'm told that I'm riding the alternate route through Summit Valley. I'm not going to take all of your time, but all these years of indecision, I've been unable to sell my land or do anything with my land. I pay more in taxes than I paid for the property. I understand that

Mr. Smith and a lot of other people run cattle in that area for a long time, and some of our other friends out here in the desert were running cattle when the Mojave Preserve was made. When I went to those meetings, I was told that the Mojave Preserve was made for my children and my children's children. I didn't know it was for solar plants and wind generators. I just wanted to say, I'm not just a landowner, I'm a resident of Apple Valley. I join all of the residents here in this High Desert in opposition to this project that resulted in generated project throughout the project and the Mojave Reserve, that I just mentioned was supposed to be for my children and my children's children, but lower property values will come from this, as I observe right now. I'd like some answer on my own property. I've developed a few properties in my 50 years -- nonetheless 50 years, and it seems -- it doesn't seem, it's a fact -- when I want power, it's underground. When Edison wants power it's overhead. I call that hypocrisy. And last, in closing, I just want to say stay tuned, folks. Coming to your town soon, 600-foot wind turbines and 550-foot transmission towers.

MR. BRITT: Thank you. Lorrie, followed by Brian Hammer and Cheryl Hemmeninger.

MS. STEELE: Can I have this mic? I want to

kind of talk to the audience really. My name is Lorrie Steele. I'm with the Mojave Community Conservation collaborative. I'm really here to talk to the public, because -- can you take that slide back and show people what we're here to talk about, the one that gives the list. Because the program we are on, channel two, the program of the environmental impact with the Coolwater-Lugo Transmission Project. That's what these men can make a difference with. They can't help you with energy. That's something you have to do your own homework with. This stuff has been coming down the pipe for a long time now. The important points to make here tonight are what matter with this project; that's why they're here. Renewable energy has been coming since 2008. Executive order of the document of -- DOI, Department of Interior. They're under pressure. They're supposed to be making a green environment. So that's what their orders are. Their marching orders are to expedite, to accommodate existing plans and conservation plans. Push, push, push, push to get renewable energy in the region. So I know for a fact that's not what they want, that's what they have to deal with now buzz of the decrease from on high. All these people here -- these projects have been coming down the pipeline for five years, at least. So to come up here -- Earni, you did a

really good job, but people do your homework. Don't come up here and tell people what this project is because it's out there. Do your homework. I've got pages and pages of websites. Look it up; don't come here and waist time. These guys are talking about environmental issues. Please, take your public comments and make them worthwhile. Now, this is Southern California Edison. It's stuck in the desert, the middle of nowhere. But, you know -- I mean, it's our responsibility as the public to be engaged. Now everybody is so busy looking at their cell phones, their ipod's, and their mp3's. I'm driving down the road. I see four people in a car. Nobody is speaking to each other; everybody is in a bubble. Well, sorry, but I'm going to burst your bubble. Wake up, folks. Get engaged, get educated. You have to step up and pay attention. So focus on the reason of the meeting today, environmental impact, not bitching about the future. They are not going to solve that problem. The EIR/EIS process is to analyze the potential for growth-inducing impacts, cumulative effects in combination with other past, present, and foreseeable future projects. That's future renewable energy projects. So tell them that we don't want future renewable energy projects. That's the impacts that they have to pay attention to. So do your homework. I'm no

engineer; I've only been engaged for six months, and I know as much as these guys. Actually, I know more at this point from the answers they give, but they didn't come here to get grilled. They came to get your information. So don't waist your time speaking complaining. Tell them what you don't like and what they can do to fix it.

MR. BRITT: Thank you. Okay. The next speaker is Brian, followed by Cheryl Hemmeninger..

MR. HAMMER: Good evening. My name is Brian Hammer. I did have a question that I wanted answered during the earlier period, and maybe you guys can answer at this point. Is a no-project alternative under consideration within the EIR/EIS? I think we'd all like to hear that.

MR. BARNSDALE: Absolutely. Absolutely, yeah. By the law, yeah.

MR. HAMMER: That means, you know, denied completely, no project. Okay.

If the proposed project is constructed, my family will be directly impacted with the relation of some of these facilities. I would like to speak tonight about a threatened and endangered species. What's threatened? Our family's way of life, our property values, our desert views, our solitude, and our nighttime skies. These

would all be negatively impacted if this project goes forward. We, as a society of California, collectively pay for this project through our utility bills. The local citizens bill would bear all of the impacts and receive none of the benefits. We are fine right here right now and for the foreseeable future. The benefits are to benefit people outside this region. There are available impact alternatives as you've heard, and I don't need to relist them, that would not only impact our communities here. I urge the decisions makers, when they read this material, to use these alternatives and abandon the Coolwater-Lugo project, and please remember the impacted residents here are species too.

MR. BRITT: Thank you for your comment. Cheryl will be followed by Marion Ely, Neviue Slade, and Drew Sobek.

MS. HEMMENINGER: My name is Cheryl Hemmeninger. I have two parts, actually. The first part is, Edison already has a rate increase application with the California Public Utilities Commission; is that correct? I hear that there is a phase one and a phase two. If you don't know about it, I do have a -- my Edison bill here that mentions phase two. So we are supposed to pay 977 million dollars in rate increases to cover the Substation. That's the first thing. The second thing

is, I'd like to share with you pictures of my home. Okay? On the back it shows which side is facing north, south, and west -- east, I should say. In 2005, we purchased two and a half acres at the 4,000 foot level off Milpass and built a beautiful home. We have a 50 to 100 mile view all around us. If the Desert View Substation is allowed, my house will sit between the substation at the bottom and a 1,000-foot elevation windmill for 500 feet. Not only am I concerned about the $500,000 that I have invested in my house that will be worth zero because who will buy my house with the windmills 1,000 feet above it? Okay. I'm concerned about the mountain lion that was just seen last month by my property; and the coyotes; the rabbits; the desert tortoises; the owls; the bald egales; the hawks; the bobcats, which I have on my property; and yes, even the Mojave green rattlesnakes. If the Desert View Substation or the windmills are allowed, who will put out the fires when we have one? And we will. The airplanes and the helicopters can't drop water. I understand that the windmills can still be put on existing lines that are already there without those substations, but we don't want that either. I will hold Edison, the BOM, each and every one of you, and the judge responsible if my house burns down and those helicopters are not able to drop

water on my house if there was a fire.

MR. BRITT: Thank you for your comment.

MR. BARNSDALE: Cheryl, thank you very much for your comment, but if you leave these with me, they become a public record.

MS. HEMMENINGER: That's fine.

MR. BARNSDALE: For privacy issues, are you sure?

MS. HEMMENINGER: Oh, well, then I better not. I just wanted to show why we moved there and wanted you to see why we moved there.

MR. BARNSDALE: Absolutely. We just don't want to have those up --

MS. HEMMENINGER: Okay.

MR. BRITT: All right. Marion followed by Neviue and Drew.

MR. ELY: Interesting she mention fire. Hello. I live in a project there on the south --

MR. BRITT: Could you please state your name for the record? Thank you.

MR. ELY: Marion Ely, E-l-y.

SPEAKER 21, FEMALE: Speak up.

MR. ELY: Okay. It's interesting on prior problems because there's 850 people in this lot, and the BLM never notified anybody and the situation of such that

with the proposed thing that we have a real problem. One of the things that is very interesting is this project has foreign problems. There are a couple of birds that are really nice, and one of them is called the Oregon Junco. That is the state flower of Oregon. These come down from Oregon and Washington and Canada and the arctic. These critters -- or these birds were yet killed. I think of all the entities involved with that would like to have a word said about that. And the birds are -- there are some things that people don't know, and there are places where the birds come every year. They start next month coming south, and leads all the way up to the Arctic, and they are very accurate for determining the, "Hey, it's going to be a cold winter, a warm winter, and so on and so forth." And the other birds, the Arger birds especially, they are important in the fire thing because it eat the seeds that the bad flower -- well, they're not flowers. They're weeds and so forth. So that's a problem. I find it kind of funny, but the area is crisscrossed with faults and they're active and every time you hear about an earthquake on Big Bear and so on and so forth, these things are right in the middle of them. And the phase of the mountains, they have the same thing, and they are minerals in there, like any other area in the areas, and everybody talks about small

minor -- well, a lot of these are micro -- minor, and they have had problems. I was told a couple of days ago that those properties cannot be sampled or anything else without the owners okay, and to do otherwise is a felony. So there is a legal situation there. There is a lot of other things there, and there are lost mines and so forth, and the -- I have dealt with projects short of the moon, and this particular -- the way they have it here is the worst one I have ever seen. It is ripped with all kinds of problems. I don't think a lot of people are involved with it or aware of it, but they are not going to be settled easily. The one thing that is missing and is expressed with the people here and myself is that, where is my place? The maps are worthless other than just a gross thing. Everybody wants to know how it's going to be affected, but there's no method for something smaller than a line, and you're going to have to do that -- you have to format because that's when things will be interesting to see. Because when they make this, then people will know really what the problem is going to be, and it's not going to be fun. And for that, I'll retire here.

MR. BRITT: Thank you. Nevlue followed by Drew.

MR. SLADE: I'm back again. Nice to see you guys.

MR. BRITT: Could you state your name?

MR. SLADE: I'm sorry. Nevlue Slade. I have a couple of comments to make. First, it's just wonderful to have you all here tonight supporting a lot of this need to get good information and good education out there. Some of you might know that I'm a local educator that focuses in this area. Couple things I want to talk about for that is we need to have a voice. And you know the endangered species -- and we are about the environment here, but if you notice, on that list it also talks about recreation, transport, and noise, which are human issues. The endangered species we're talking about here is the desert rat; that's us. I'm obviously not exactly from here, but we're the people that care about this place, and you can see by the turnout and the turnouts we've had at others, I think it would quite surprise the folks that we're really not buried down in our hole like other desert rats are at this time of year, hiding. We're out there. We are making a very strong stand, and we want this to be fair. So looking at this, the first question I think you should ask is, what's the purpose of this project? I know that's where I actually think we're very fortunate that this is a CPUC hearing because CPUC is focused on mostly doing the right things by us, the American citizens, but, specifically rate

payers. This is an extremely expensive project. 700 million I think it is; correct? Probably when we talk about and everybody has omitted, probably a billion dollars when it's built out. You have to understand that Southern California Edison today is a transmission company. They're model -- just like another company, we're capitalistic America; we're not going to knock Southern California Edison. It's to transmit power. So think about this, that the stated purpose -- and I'm sorry, but it's not going to improve capacity, but it's for the renewable energy project. The stated purpose right now is to transfer power from the Mojave solar that's coming alive. Guess who signed the power purchase agreement to purchase that power. Who do you think is purchasing this power from this huge terminal solar project?

SPEAKER 22, FEMALE: PG&E.

MR. SLADE: PG&E. Thank you very much. So many people have been in contact with them in San Francisco are saying, "Why will our rates -- our transmission rates continue to multiply?" In what my research has shown is the up to 10 4 decrease in the last ten years in transmission cuts. Now, remember Southern California Edison, like a good cabalistic corporation, is in the business of doing what?

SPEAKER 23, MALE: Transmitting power.

MR. SLADE: Transmitting power. Thank you. You're a very good class, by the way.

So it's not even for L.A., it's for PG&E to fill their renewable energy mandate, the highest in the world, 33 percent, is what California is asking for. Okay. So this is the purpose. This purpose isn't about us, it really is chasing a business model. And we need to make sure the CPUC -- I'm very confident, actually, it's all over that because it has to make sense. Why did this tower -- just look at this tower. It loses a tremendous amount of power for every mile that is transmitted. It makes money when it's transmitted for Southern California Edison. So it travels 45 miles east to Kramer, and it comes all the way around to this main valley, and then about another 35 miles west, when there's multiple lines that really go directly down the 15. And there's a private community based one from the City of Lancaster called AV Clearwater that had their application denied, which goes directly. And that community is asking for that. They are transmitting through youth programs, and not over the top of a bunch of us desert rats who love our rural lifestyle. Okay. So let's talk about purpose. Please, guys, you know, one of the things I want to mention is transparent planning. Let's all get on the

same page. I teach sustainability, I teach about green. We are -- this isn't about -- not in my backyard. We already provide recreation for 12 million people that we already provide the water transport, the transport of goods and services, the people who live here and work in the district. We already have accepted a huge responsibility to take care of those people down there that are just kind of sitting, quite frankly, on their asses, waiting for things to come to their door. We have accepted a huge responsibility for them already, and we're just saying let's be fair about this and let's plan carefully. So like I mentioned in Barstow, this project is completely unsustainable, so it is not green --

Thank you. I'll go less than 30 minutes today -- it's unsustainable. It's green, and we've been told quite frankly, people have been very good in their outreach, and they're the greenest of green. Well, they are all green, but it has to be done properly and in the right place, then they are. But if it's done this way, it's completely unsustainable, so please go on Mojave --

SPEAKER 24: Mc.org

MR. SLADE: -- mc.org, and look up the information. If you look at the economic liability and sustainability, no jobs. You can throw that out the window. Few low-power paid jobs. Socially, it destroys

our lifestyle, and we're a very special community. We raise our children here. And also, we depend on the 80 percent that's public land. BLM, forest service, various types of agents manages them. And so some of this is going on the land that we as rate payers own. Also, a social effect is when they put something on BLM or some of our public environment service. It's an absolute disaster. Not because the impact of Coolwater-Lugo. That's not necessarily a big deal, except we're pretty sure we have no understanding of why they chose the transmission method that they chose, especially at the meetings that I went to when they did have a true public input the very first time -- about three years. They were clearly told to take a completely different route than the one they took, either A or B nor C completed it goes up the back of Milpass, and it's already disturbed by fire. They completely ignored that, and we asked where were those comments; we could never fine them. So let's talk solutions. Let's talk renewable energy, and this is the big one. When we talk about the big one being the big earthquake, no, for us, this -- this is for people who want to live here and stay living here for our community, this is the big one. Because if they don't put that renewable energy where it's going to be used, it will be put here. There are at least 40 industrial scale

applications in the hopper right now, and the moment the Desert View substation comes around, which, by the way, is massive. It's not about decreasing capacity, it's about focussing on this area that has the best renewable energy resources in the world. We have the highest civilization industry in the United States. Okay. And this I guess is something we have to live with, but let's put it in the built environment. Let's put them in warehouses or parking lots where it doesn't have to be transferred. Okay. Location, lets look through this environmental process. Look carefully at this -- Mojave Desert is considered the most calm desert in the world, and I'm not from here, so I think I can talk. Let's not put it -- let's not disturb anymore habitat. It's really taking a hammering from all sorts of uses that I mentioned. Apple Valley City has really got off of it. I command them highly because they said maybe there's possibly two parts, but they at least said, "Let's put it in the dry lake beds." Lucerne Valley has dedicated publicly -- economic development association said you do not see our dry lake beds, but that's not close to the substations, and it doesn't work with the business model. So let's also use wise, integrated long-term transparent planning, so that we all can get together. One of the things that is happening -- and I'm ending with this, you

guys will be happy to hear -- is that this is a divide and conquer thing because we have multiple planning things going on here. We've got this Southern California Edison and CPUC, fortunately this position to help us out as a community, to make sense of it. But then we have the DRECP, Desert Renewability Energy Conservation Plan, which is a kind of a very unusual name for a renewable energy plan. Then there there's the BLAM, and forest service, and the county, and the big development going out in Summit Valley that local cities, and the natural resource management agencies which, by the way, have been swamped by this. Bureau Land Management is doing an admirable job, in my opinion, of trying to sift through this stuff. Let's give them the support that they need. Let's not immediately throw them under the bus because they have been swamped by hundreds of these massive applications of 400 pages long. Okay. So let's be transparent about it. Let's come together as a voice, and yes, I'm not sure if we're going to get that much done through this process, but what people need to know is that we are going to stand, and we will not have our desert taken over by putting in badly placed, unneeded renewable energy facilities. Thank you very much.

MR. BRITT: Thank you. I have Drew, who will be followed by Dinan Shomway, Rob Kasch, and George Stone.

MR. BARNSDALE: Also, thank you very much, but please don't state your home address. We are going to have to delete that, just the address.

THE REPORTER: Okay.

MR. BRITT: And please try to keep it to three minutes. I mean, honestly, we have a very long list of speakers, and we just want to be cautious of everyone's time. All right. Thank you.

MR. SOBEK: Yes. My name is Drew Sobek. I live on Roundup Way, about half a mile west of Central.

Gentlemen, thank you very much. Nevlue, who could say it any better than that. He put so much together there. I am also one of the people who have spoken on behalf of the environment, the impact, the creditors, the desert wild life, you know, it's always said a lot. What really rings a bell too is a number of speakers brought up the fact that we are wide open. Once this thing is established -- I didn't know this -- next comes any kind of person who wants to set up a windmill, solar things, the list goes on and on and on. We're going to become a wasteland up here of power networks with all those bastards down below, excuse my French. Not fair. Anyways, my specific issue before I really found out some of the bigger things -- I live up on Roundup Way. About six years ago, we had an issue about

heavy trucks coming up there all the time. We were a much easier, more quieter route they could take. My neighbor, Bill Dupe, was a super attendant of a school or was -- I don't know what he is -- went and got all the community members from Roundup, got a rep from the county up there to the deputies house, we talked about it, Bill and I went down to San Bernardino and spoke and told them to give them an alternative plan, and they did something. Now, we have a relatively quiet Roundup. Well, this substation -- praise God that other people can stop it if this goes up, it's going to be hell. It's going to be hell. They might just -- I don't even know what routes they're going to have to build it. I can imagine cement trucks and big huge generators and all this other crap coming up our street and everything else down Central. At least, you know, if it's going to happen, I hope they can find Bear Valley some alternative, and not the impact of what we always done. We already got the county to help us with this road. Remember Roundup Way, but better than that, I hope this whole thing dissolves so we keep Roundup Way quiet. Thank you very much.

MR. BRITT: Thank you. Dinan followed by Rob and George.

MS. SHOMWAY: Dinan Shomway. Okay. I'm here as a geologist and as a local citizen. I would like to

remind everybody to start -- Nevlue and I have our differences about this, but we have to remember why are we in this pickle. I mean we're here because of a nonissue. And the nonissue is the belief that human generated C02 is causing climate change. And so to do that, all of these renewable energy projects are coming our way, all the way up into our desert and this transmission line is strictly -- only -- it's only purpose is to transmit non -- so called renewable energy to the -- down below. And this not -- I'm not saying anything original; it's already been said. So I look at this as a project without a reason to have a project. This strictly serves renewables. And as a geologist -- and I'm sure I'm a proponent of a lot projects and many people in here would agree I'm in the mining industry. Everything comes from mining, no exceptions, even those renewables. All these renewables -- wind, solar, every part of the power around comes from mine resources, mine renewable resources. These are not renewable. You have to mine this stuff to get there. So this also is requiring mitigation. Well, politations especially know about this because private lands provide revenue for our county. We're the largest county in the U.S. We're the largest mining county down in the U.S. We're the largest opening space county in the U.S., except for counties in

Alaska, of course. Nevertheless, to mitigate this in any reasonable way, what does a proponent have to do? It has to go out and buy private land which they either need to approve public agencies or, worse, to a conservation agency, and what do they do immediately? Yes, it's for habitat, but they close it off to the public. So once again, we have public land that's being taken from the public. We're paying for it because they are all subsidized. We're paying higher prices, and we don't even really get to use our land. So I look at this project as a clear case of environmental justice here. Environmental justice was made for urban, inner-city areas. Areas where poor people lived beside, industrial areas, polluted areas, especially before we had from 1970. Well, I was a victim of environmental justice. I made a point, and an earlier speaker made a point perfectly. All of the burdens are placed on us. It's going down below. There is plenty other areas of land in that amount of counties, Riverside, Orange, San Bernardino, San Diego, Ventura, Santa Barbara, you can put there and meet this renewable mandate if we haven't met it already because they don't count rooftop solar in our mandates. So the CPUC should be doing that. I'm done.

MR. BRITT: Thank you. Rob followed by George.

MR. KASCH: Hi, I'm Rob Kasch. I'm a 30-year resident here, but the bottom line is the substation to us. If we get the substation, we're going to get all of the other renewable sources. If we get those renewable substation or just, say one for right now, but this wind project -- I know we can't really talk about it because it's not supposed to happen, but the testers are up there. They're in our foothills, they're close to our homes, and they're big ugly eyesights, and actually there is no use for them. It takes 40 acres of wind equivalent to seven acres of solar a wheel, and you can't see solar like you can a windmill from miles away. So if we opened this up, and we get that substation -- either one -- which is in our backyard, the line they're going to jump which they have the alternate route is going to go right in front of our house, which has got, I believe, a 50-mile view where we don't see anything, but that's going to be our yard. I know that's going to be our problem because they got to do what they got to do. They're going to put it somewhere -- I know if it goes away from our problem, it's going to go to somebody else's problem, but there are places in California that's in the desert that these solar panels can be run that nobody will see, and that will be fine. But right now, it's going to kill our property value, our views, our

view shed. It's going to take out the natural habitat that's in our backyard, and most of us are in probably the foothills where it's going to affect the most. And we all have animals and stuff in our areas, and we love them. I know we have a house that they are going to have to grade and ruin some of the property for, and I know we have to take some of that into consideration also, but we love it and we live there. We know that if open that up and when they get these other solar projects, all that's going on. The problem is that all the solar projects have been subsidized by the American government to pay these foreign counties to build their stuff. We're not getting any suboxidation out of it. They build it in Spain, Italy, China, and Iran. They bring it here. They make all the money, then they sell their energy to Edison and sell it to us. We pay Edison, we pay them, and the money goes to their country. So it's not helping us at all. Thank you.

MR. BRITT: Thank you. George will be followed by Patrick Dasis, Jack, and Bob Salinas.

MR. STONE: First, I'd like to say there's a set of keys here.

Hi, I'm George Stone. I would be an impacted landowner, property owner, and resident if Coolwater-Lugo is allowed to move forward. We'd like to talk about the

environmental resource studies that you folks will do and how it will impact us. Couple of the points that I'd like to look at on the front end. I've listened quite well tonight, and you folks have stated that the scoping component of this is the first phase of really your evaluation of this application. But really, the planning by Southern California Edison was the first phase of this project. My question would be, where were we during the planning of this project? Or better yet, where were you? And -- oh, that's right. It was a supersecret project back then. Because how I discovered about it was because my wife was frightened on numerous different days by strangers walking in patterns behind our backyard. When we approached them, they wouldn't talk to us because it was supersecret back then. So they made their plans. They did their background without any community input by the same community that is now going to be impacted and damaged. Let me repeat that, we will feel damages. We will lose property values which is a definable damage. We will lose view shed; that is a definable damage. This county will lose revenue from both visitors and the filming industry. Those are damages. Now, we talk about mitigation. Mitigation is just a very fancy word -- you know, it's kind of like rightsizing when you fire people. So mitigation really is we'll pay someone off. We'll

write a check because we caused some "whoopses," and now we'll just -- it still works for our business; so we'll just write a check. Well, mitigation won't give me my view back. It won't give me my health back if I develop cancer from the EMF. It wont give us a buyer for our property when that large power line is literally right behind my home. These are issues which are very secrete to us. Now, one of the things is you haven't been here to this museum before, but if you take just a moment and look at that giant picture behind you and all the pictures behind the room, one thing you won't see are power lines, and what I'd like to have is a county and environment we live in where we don't have to remember it with on old tintype photo because it's been completely destroyed for a for-profit, nonpatriotic, nonethical, nonmoral corporation. One of the other things which was interesting is I love the picture you have. Let me grab something real quick if I may. This picture right here. And I don't know how many of you folks have seen this tonight, but I have a lovely one just like it. How many -- raise your hands if you've seen this picture. Raise your hands if you've seen the sign.

SPEAKER 23, FEMALE: Isn't that funny? There's no people. There's no -- public notice.

MR. STONE: I want you to know I have a picture I

took just like this. Except in my picture, they actually posted a sign laying down on the desert. So the intent is to notify the public of an upcoming project. The law says you should fall within 300 feet of affected people. The intent of the law was to inform; the practice of Edison was to hide. One of the other concerns -- if we look at that same piece of misinformation -- was Edison never informed my community. They showed postcards that they said on their website that said they had, but in fact, we were able to prove and actually have an Edison employee admit that our community never received any mailings. You said that in some of the background research they have to do, that it's required as part of their application. Several of the notifications that they didn't do them, but they still accepted the application. Additionally, they have misinformed, misled, misconstrued, misdirected -- I call it lying, but they have missed a lot of things. One of those is we had five different individuals interact with Edison and ask the size of the Desert View Substation. We received five different answers at the same meeting from the -- from the Southern California representatives. That is misdirection and should not be allowed by CPUC or the BLM from an applicant. We were never told 160 acres. We were told acres, 70 acres, 66 acres, 10 acres. It ended

up, as we all know, build-out is approximately 72 acres total; size of property 160 acres. They told us, "EMF, it won't hurt you, it's fine." It's absolutely fine. Except the balance of the acreage is necessary for -- remember that word mitigation? Well, that mitigates all the EMF. That makes it go all away. That's actually to keep us safe so we don't get cancer and glow tonight. But again, it shows that, realistically, we're not being told the truth. So when you see everybody gets a bit hostile, it's because we've been lied to, we've been misinformed, we've been treated like second-class citizens, and we're not. Now, one question I did ask last night is -- I primarily directed this at BLM -- is, we have delivered you approximate 15,000 signatures. We want them to weigh. We want them to weigh with the same weight as everything else. 800 of the signatures, for the record tonight, we do know that you have record of that box of petitions.

MR. BARNSDALE: I have the box.

MR. STONE: Okay. As long as you do that, put it on the record, we want you to just weigh those appropriately, and that will satisfy our position from that standpoint. My last two items, very quickly, are one, I appreciate you folks have a consultant that's from the industry that understands the industry and can

present these programs. My concern is conflict of interest. As in the environment, a lot of your customers are from the energy industry. You are currently employed and contracted by the county for the spark project or the spark workshops as well, and my concern is the first time I learned about your organization was on a wind meter up above our homes which suggest you may have done work for Eon as well. So that's exactly how we got it. We got it off a plate on a censor up ahead of -- actually, we have the pictures; so we want that to be made aware of. And the final thing is, is that I support the AV Clearview Project. I believe everybody in this room does. If you support Clearwater-Lugo, raise your hand.

SPEAKER 24, FEMALE: No way.

MR. STONE: We've asked that before as you're well aware of. We've asked at other BLM meetings when there were approximately 250 folks, and we haven't seen anybody raise their hand.

SPEAKER 25, FEMALE: Not one.

MR. STONE: It's important you realize this is not a majority; it's a super majority. It's actually a royal flush. So thank you very much.

MR. BRITT: Thank you. Patrick followed by Jack and followed by Tom.

MR. DAVIS: My name is Patrick Davis. I've been

a resident in the High Desert for over 25 years. I live off Highway 18 by Joshua and there's a couple solar plants over there, which - one, I didn't even really realize until last week. But not my space. They aren't bothering me, which is great. But to transport this all the way down to L.A. Come on, we put men on the moon; can't we put some solar on some of these tall buildings? Apple Valley School District has solar over their parking lot. Can't they do that in L.A. I mean, come on, the electricity you guys are using down there, and don't blame us. EMF, I live in houses built in 1960 by Southern California Edison; it's all electric, and they send little pamphlets in my mail saying "EMF, dangerous, beware." And personally I know two people that have died related to EMF living under tall power lines. Why aren't they burying these power lines?

SPEAKER 26, MALE: Money.

MR. DAVIS: Money. Thank you. That's all I have to say.

MR. BRITT: Thank you. Jack followed by Bob.

MR. BETTERLEY: My name is Jack Betterley, B-e-t-t-e-r-l-e-y. Are you gentlemen from this area? Do you live here, any of you? I came in late; so I didn't get an introduction. Well, all these people live here; right? My family has been here since mid-1800's. They

started in Big Bear, Lake Arrowhead, and we've raised cattle here all my life in this desert. And every place they've been at, over the years, for some reason -- Lake Arrowhead. My great granddad had a sawmill at the bottom of Lake Arrowhead. A sawmill was one of the original sawmills in the mountainous area. In the years that came by, L.A. needs more water. So what did they do? They went to Lake Arrowhead, and they chased him out. Big Bear got in the the cattle business. They needed a bigger lake. So they kept adding to the Big Bear Lake and making the lake higher and higher so there's more water for L.A., and every time we're down to this desert, and when you used to look around this desert like these photographs, even though that's a little outdated, that's before my time. Okay. Although, my wife doesn't think so. Before Lugo was built, there was hardly anyone here. And again, they're all talking about that Lugo station; there was nothing around in that area in Lugo. Hesperia was a town of about 12,000, maybe 10,000 people. There was nothing. And there was no projection image that, "Boy, town, one of these days, is going to be huge and all the people from Orange County, L.A., San Bernardino are going to move up here because property values were inexpensive." Some of these people took advantage of that, and so they built Lugo. So when you go out there,

and it's a town built up to Lugo, and -- again, that's not Lugo's problem, that's not -- I mean, if you bought property out there, and the station was already there, you knew it was there. I have friends that live there; they're dealing with that. In the meantime, it's similar, the same thing not more than a mile of 15 acres on Valley View, and I don't want to look at it. I bought that land a long time ago before there was anything. Just like the gentleman said before, for view, for the isolation, to be away from town, but town is moving that way too. I think it's something that the only reason that they use our desert is because it's cheap, they don't need to spend as much money. You can put that plant in the dry lake of Lucerne. Just like if you take a model role from Apple Valley, they utilize it, like turn solar farms, they have a waste-water management put in there, they have a beautiful park. The town is doing a marvelous job at utilizing land that no one is going to live there, and you can't live there because of the type of land that it is. You have a huge, dry lake just east of here that that substation could just as easily be in the middle of that dry lake, although it might cost more money to hook into it and move your lines around, but I think these people would be a lot more happier if it was out there than sitting in their backyard. So I would recommend

that you gentlemen go back and tell whoever it is that we don't want it in our backyard again. You're just wracking again the desert taking advantage of what we lost. And I agree with BLM because they stole a lot of land around here from us. We still have our fields behind us here. Used to be public, open land for channel, riding, pleasure, anything you want to use it. You can't use it today. BLM has shut down a lot of it because of one reason or another. Don't let that happen here in Milpass and the Valley View area, please.

MR. BRITT: Thank you. Next is Bob Salinas followed by Jenny Wieder, Gayle Flinchum and Waldo Stakes.

MR. SALINAS: My name is Bob Salinas, and I don't know much, you know, I just enjoy the desert, like the views, and I can't say much that hasn't already been said, you know. The plant's going down the hill, the stations, you know. I can't help to think that I've been fleeced, you know. I get a little excited with wool over my eyes here in California or Southern California. You know, let's put this power plant up, solar up. Outstanding. You're not burning coal, using gas. So I guess what I'm saying is Edison put the cart in front of horse. Now we have all these power, you know, solar plants. So we have to run lines and stuff down to get to

where it wants to go down the hill. We have to put these towers up and, "Hey, I don't remember anybody mentioning anything like that." You know, and I can't help to think just reading where those line are going. A lot of areas -- it says the lines are going in adjacent new right-of-way and that some of the towers and stuff in the old right-of-way or easement -- excuse me -- have been taken down. I guess that's all right, but that little 10-acre power plant gets blown away about 160 power plants the more towers in the already existing right-of-way, without getting approval or notice. You know, to me -- I don't know the word. To me, it's sneaky, I guess. I don't know much, but that's not right. If you guys lived here, you would know that. Thank you.

MR. BRITT: Thank you. Jenny, followed by Gayle, followed by Waldo.

MS. WIEDER: Good evening. My name is Jenny Wieder. I live in Apple Valley. Basically, what has been missing, as far that I can see, is the county and work by Edison on how they're going to get renewable energy that is generated on rooftops like mine and in parking lots and maybe on warehouses or wherever. How is that going to be in calculation of renewable energy that we need? It hasn't appeared. This project -- in fact,

on one of the handouts tonight, it says that electric transmission -- it's on the electrician transmission hand out, it says that all this electricity from the desert going along these transmission lines into the home, that's not the case on my roof, and in some other people's places here, the electricity comes into the home maybe at night, but during daytime, it goes out. And our roof, for instance, doesn't produce the capacity that it could, being a south-facing roof, and the reason for that is because the rebate that Edison entices people with only uses up to what I used last year when I put them in. And so, if I wanted to put more solar and generate more solar energy on my roof, I would have lost out on the rebate. That was a decision that I had to make at the time. There are a lot of roofs out here that aren't being used, and I'd like to see this project address that. I don't see a project that has done that before. There are micro grids in use now. The military uses microgrids. This hasn't been looked at here. A lot of people in the room might not even know what a microgrid is. And corporative solar energy production, that hasn't been addressed. All we have here is a transmission line for bottleneck, which isn't really a bottleneck. Can we deal with that bottleneck in some other way by putting the solar and encouraging more solar, instead of stifling

it on homeowners rooftops and on the rooftop where it's going to be used? That's my main point for that. I would like to really see that addressed in the document. Thank you.

MR. BRITT: Thank you. Gayle followed by Waldo.

MS. FLINCHUM: Thank you, Mr. Britt, for making me sound Italian. You said Flincoie. It's Gayle Flinchum. Anyways, I did like that. It sounds good. I am here today -- everybody kind of takes the wind out of your sales, especially when they're good speakers like our environmental teacher and Ms. Steele and John Lewis, people who do their homework. The advice that she gives about doing homework is excellent advice, because otherwise, you really are wasting your time. It's good to get stuff out. I come just from a worker bee who goes home, and I want to punch out and come up to Apple Valley and relax. And I don't want to be an activist, and I hate speaking in front of people. I have done it a lot of times. It gets a little bit easier. What I want to tell you guys is that you guys need to have hope that things can be changed, that it can be planned smartly, that you can win. You just have to make sure that everybody uses what little expertise or big expertise you might have because you -- alone you can't do it. I live on Deep -- Deepcreek Road here in Apple Valley, and the

Apple Valley counsel doesn't like us Deepcreek people, but when plans start coming in your area that are really horrible -- and the property value is my main thing. We don't want to lose it because it's been a bad time anyway. The environment, of course, the critters, the birds, everything I like -- I'm a tree hugger, even though I have no trees on my property except a couple Joshua. But what I was going to tell you, as far as Deepcreek, when we organized with the few people that live in that area, and everybody drug their feet. We hate it. We don't talk to our neighbors. We don't even see our neighbors because we're so spread out in that row. But you guys can -- you guys can be heard. Don't give up and do talk to people, even if you talk to one. We shut down and Lewis companies more than once since 2001 and back in 2010. The Lewis companies that built Victoria Gardens wants to do development, and I know it has nothing to do with the energy project too, but it's a large project. It's a large company. I'm scared to death of that, but when you get together with your group and you organize and you -- like I said, everybody use your strengths and bring what you can and just stick together. You will be heard. I'm proof of that. I'm sure the Apple Valley counsel -- I always try to be friendly and kill them with kindness because they aren't

our enemies, but we shut down Lewis projects of homes twice. They're trying again in Deepcreak. Hit us up, because they want to build houses as soon as the prices go back up, and they don't fit in the area. They want to change the building. They don't want to go with the general plans of our area, and we're going to fight them again. Besides that, it was a mansion project. It was a high-density, multi-story old-age home that got accused of not liking old people. My 84-year-old grandma lives with me. I love old people. I'll take care of them, but it didn't fit in the Deepcreek area. If people were smarter and got together even better, I think we could have a real nice country area that was like Norco. Norco is one of the few places where everybody can have horses still, and it's accepted. We live in agriculture -- I don't know that all of you guys do, but where we are, it could be that way if people would get together a little bit better. We also shut down a solar project that was on the scale of a college. It was going to go across the street of my neighbor's property. He thought it would be really neat to make money on a 35-foot high terminal in the neighborhood. I mean, they have horses and animals -- I mean, everybody has animals out there. We have dogs; we're not really farmee. I mean, it was ridiculous; so we shut him down. He didn't have his

ducks lined up; so he's out of the way. He's never going to do that. There was a soccer complex. We have 55-mile-an-hour speed limit on Deepcreek, and people don't go 55. They go more like 80, and there were little kids that were coming to play soccer, and he goes well, "I'm going to build a soccer complex on the same spot where the solar project was supposed to go." It doesn't fit in there; it wasn't smart; it would be dangerous. It got shut down. There are two high-density projects that company went in Deepcreek, one on either side. Those got shut down, the people went away. It doesn't fit. So if it really isn't smart, it isn't just you guys being angry and wanting to be a thorn in everybody's saddle. If it really doesn't make sense, just stick to it and stick together. And like Lorrie said, "Do your homework," because you guys can move mountains, or you can move windmills off of that property. I firmly believe that; so don't give up. That's all I have. Thank you.

MR. BRITT: Thank you. Waldo will be followed by Dawna Barnes, Ireene Atteberry, and Ben Christianson.

MR. STAKES: Hi, everybody. I'm sorry, but I'm a little angry all the time. I can't help it. It's just I've had enough. You know what I mean? You guys feel like that? You've had enough. You think that SC was a little less than generous with us? Okay. Okay.

SPEAKER 27, FEMALE: I can't hear you.

MR. STAKES: I said, do you feel that Southern California Edison was a little less than generous a little bit? Okay. Okay. That's the business way. It's called laying the groundwork. They go to the newspaper. They go to your city counsel. City counsel loves the Coolwater-Lugo idea. Oh, you didn't know that? Okay. Well, yeah, they do. Well, here's the thing: The problem I have with it is that -- you know, I've been beating these guys up for days now, and they're ready to pull knives out and stab me. Okay. But honestly, the problem that I have with people just handing me the BS by the truckload is this: Jon, your company Aspen -- I love that name. It's just like skiing; it's really cool, green, so green I can't believe it, but here's the one thing, in your charter, this is what it says you do: You're basically developing defensive responses to comments. Okay. That's what their company does. What their company does is, you get up here, you complain, and they make a bunch of notes. They go, "How many clowns in court to get this thing through." Let's be realistic. That's what it is. Am I wrong? Tell me I'm wrong. I would love to hear you say that. They never say that. You should've said, "Yeah, you're wrong." Just for the heck of it, I'm going to give you some ideas of scale.

Okay. The reason why Coolwater-Lugo has got to go down -- and the main thing I want you to do is envision it not being here. It's important. So envision it not being here. What you believe is what will happen. If you say, "We got to sign this, we got to do this, and blah, blah, blah," we're gonna see giant windmills in a couple of months, and I'm not talking about a couple of them. Okay. The application is in for 14 phases. First phase is 71 wind lines. Okay. The reason why nobody wants to move power lines in that station, because that's the station that is carrying the juice down to the L.A. Okay. And the farther it is, every one of those power -- it's a little off. I did a little study; I'm into this stuff. The 500 kilovolt towers are almost 260, 240 feet, depending on where they're at. They aren't 100 and something. The little guys are, but these are much bigger. You know the ones. You go down past the 15, you know, down to the 10, you see that big line that comes across? Those are those guys. Okay. These wind turbines, I know, we really can't talk about it because nobody knows. You're like, "I don't know, I don't know," because that process hasn't begun here. My first question is, when they do decide to do that, will we have this same process for wind turbulence, or will other companies from countries just come in and do it? What

will happen? You don't know. . See, that doesn't help, man, your CPUC. You should be going like that, and Jon be saying, "We'll look into it," but they don't. So that's why I got a problem with you guys. When I talk about laying the groundwork, that's what they do. These companies came in. You -- again 200 people here in town, and nobody cares. That's okay because we have it figured out; right? Are we are tired of it? Okay. Well, heres the thing: In order to beat this stuff, you're going to have to unify. You guys are going to have to get ahold of MCQ and all these groups, you're going to have make your own meetings. We're going to have to raise money. You're going to sue these guys in court. That's the only way you're going to beat them. And you're gonna have to get the nice judge if that's possible. If that judge is coming from San Francisco, somebody figure that out for me. Okay. Anyway, I'm from Chicago. Everything smells bad to me, everybody is a gold digger, everybody is a liar, and I like California, but it's starting to smell a little weird here. Okay. The key is how I feel about that. I'm sorry, guys, if you had a couple other answers, I would probably be out there kissing you. Here's the scale of one of the things. When Coolwater-Lugo goes in, the whole purpose of it is the key, the key to the whole pattern. Okay. That's why

it's important. When it goes in, it will be switching stations, all these new projects. Projects you don't know of yet. But they're there. 71 wind turbines. 71 450-foot tall wind turbines, two megawatt. They take about six acres to shift one of those bad boys around. They cost three million dollars each. Whoever is going to put them in is going to invest is $280 million in phase one. There's 14 phases. So they're going to run as far as we can see. All that power is going to come to Coolwater-Lugo; isn't that great. This isn't something we want them to do. We got to say, "No, it's not going to happen." So we have to believe it, we have to stick together and unify against. I'm really passionate about this; this totally pisses me off. I'm into capitalism. I love the fact that SCE is a big corporation. They're just so damn sneaky. They make me sick. Now, here's my problem with a wind turbine, besides the fact that some people say somebody was living by a wind turbine and got sick. Nobody ever knows why. It's ozone. Ozone is a toxic gas. You ever see lightening strike something, then you smell that weird kind of stale smell? That's ozone. Ozone will kill you. Now, here's the thing: You know those turbines turn. You know what they look like; right? Down in Victorville, those are two-thirds the size of the ones they'll be putting up here, just to get

a scale of how big they are. I can see those things from my house; I can see the lights on them. I'm sure all of you guys can. The key is, as these things turn, it's at a high RPM. Every time there's an electrical arc, it acts like a catalyst; it creates ozone. Because it's 300 feet in the air, it's heavy so it falls down. Okay. So you have to breathe it. All this stuff about, "Yeah, you need electric cars." Electric cars make ozone. It doesn't make a big difference because there's like 100,000 in the state. But when there's 300 million of it, you guys will be chocking on ozone. Remember what happened to the ozone layer up there, remember that? Well, what happened? Okay. We're getting suckered with this global warming stuff. We need renewable energy. We need to tell everybody on those mountains, "Take out how many acres -- how many?" You guys know, BLM guys know. Okay. We're going to put these giant things that last about -- oh, I forgot. I left this out. Every 18 to 20 of them likes to burst up into flames every now and then. No questions right now.

SPEAKER 1, MALE: I was just going to say, we appreciate your passion, but you're getting off-point. I don't work for these guys, I'm an Apple Valley citizen. My concern is how it's going to affect our property values, the scenery. Those are the things you need to

talk about. When he talks about windmills, he's getting off-point.

MR. STAKES: Coolwater-Lugo is the key to the windmills.

MR. BRITT: Okay. We want to hear your comment. You have three minutes, and so if you could just, you know. We're here for four days, and we want to hear, so make your comments. You know what I mean.

MR. STAKES: My comment is we really want you guys to look into this stuff. I want it stopped. I don't think it's fair, but who cares about that. You guys are worried about your property values, check your next bill; okay? Okay. Come on now, but I'm done. I'm tired of it. And you guys need to be tired of it. Once you're tired of it, we need to react. If you guys want to stay home and let MCQ handle it, we're done. We're going to need you guys for court support. We're going to need you guys for money. We're going to have to sue these cats. It's the only way to do it. We've done it before they lost in Joshua Tree and did the same junk over there. I'm finding out how they did that and going to redo it. We thank you.

MR. BRITT: Thank you. Dawna followed by Ireene, followed by Ben.

MS. BARNES: My name is Dawna Barnes. I am a

real estate broker. So I'm very familiar with the idea of property values and what can happen with them adversely, when this type of project can happen. I also live in the area. I also have my own windmill, which I know that's probably not as poplar as solar, but it's an individual windmill for my house. So I am sustainable. We live in very windy area up in Bowen Ranch, and we make all of our own power. We never owe anything to Edison at the end of the year because we make all of our own power. This is what we need is people with solar, most of my neighbors have solar on their roofs. They don't have windmills. We have several windmills. Tons of houses in our neighborhood have solar. We are very active outdoor people. We're very active, hiking, horseback riding. We go up in the bad country. We've seen the wind testers that are back there, that are across. Our family has been out -- my husband's great uncle owns the original slashex Ranch out just north of Lucerne Valley. You see what Edison has done. They were all over my backyard with no permission. I have ten acres. I go out there, like, "Who are you?" "Oh, well, we can't tell you." "What do you mean can't tell me? You're on my land. You can't tell me why you're on my land?" "Well, here's my card." This is Edison. So we call Edison. "Well, we told you all about this." "Oh, no, you didn't." And we

are the neighborhood -- I live by George Stone. We are the neighborhood that they admitted -- I won't say the name of the person, but that person admitted to us that they knew we did not get mailed out to our physical addresses, that we had P.O. boxes because the post office won't go too far out. At the time we were on dirt roads, and they went ahead and did our mailouts to the physical address even though they knew none of us would get that. They admitted that to, not just me, but to several people. And that was at the Edison meeting that we had over here after the fact that they weren't even going to have it for us, but they had it after the finding out by us because I got together with George and a few other people in our neighborhood and said, "What's going on? They're all over my land marking on the land. They said they're going to put a power line right across the back of my property." My daughter, who bought land to be able to move out by us, they're going to put a major power line right behind her two and a half acres. She has three small children. She said, "I'm not going to move there." So as a resident, it's very disturbing. As a real estate broker, I can tell you good luck selling your house if you live by, you know -- poor George, they're going to go right behind his land. He has a gorgeous home. How's he going to sell it? I've got a really nice

home, two acres. They're going to put the power lines that are just going to miss my land. "Oh, It won't affect you; it'll miss your home by that much." And who's going to want to buy my nice house and look at that big thing sitting up there? What about the bald eagles that come around my house? I have a big hawk that comes and sits in our backyard. The owls, what about that, you know, with the big power lines? You've got bobcats, you've got cougars that come down in that area. What about that? What about back in the hills when they're constructing all of this? We go back in those hills all the time. They're going to have to put big pads back there. That's not going to take a pickup truck. You're going to have massive dirt and equipment back there that's going to take out the environmental and so much stuff. So I just, as a professional, think it's a bad idea for everyone for their way of life, you know. I really think Edison thought we were just -- thought we were just a bunch of bunkins, you know, that there was nobody to take up this fight and do anything with it. "They're High Desert people, no big deal." Well, we're not just the High Desert people. We love it out here. It's the reason a lot of us have been here 20 years, some a lot longer than that. We don't want to see our way of life ruined. Okay. So thank you.

MR. BRITT: Thank you. Ireene is next.

MS. ATTEBERRY: My name is Ireene Atteberry. At one point, I did live out in Lucerne Valley, but I now live up in the Marinas off of Roundup. I have been here since '77, and I have seen the changes. I have seen kit fox. I have seen turtles, rattlesnakes, wild cats, coyotes, hawks, you name it, the owls. I don't want them to go. I want them to stay because, as it is now, there's hardly enough of them. As for the reservation, they had their spot; they used Johnson Valley. That has been taken away from them, by the government, just recently found out. As for our recreation -- I'm a horse lover. I've had horses ever since I've been out here. I know these trails. I can't get on them anymore because BLM has closed them. And when I do, we have to take fences down and make sure we put them back up. Now, as for the other recreations, I know people ride quads, four-wheel drives, bikes, I'm not liking them, but they do use it too. Where are they going to go now? Where are they going to go? Where am I going to go? How am I going to enjoy this beautiful desert? Have any of you ever lived by a Lugo Substation? Do you know what it's like? Have you ever been under a power line and hear the thudding and your horse is just going nuts? Do you know what it's like? Have you ever been up near a wind

turbine with your horse? Do you know what it's like? No, it's not fun. You don't know what your horse is going to do. Have you ever come out here on a moonlit and see the beauty of this desert, especially after a little rain and the clouds. Have you ever done that? Picture them in San Francisco, how gorgeous it is. Make sure they know that we are -- already are losing our Joshua's because of environmental impact. I oppose and will always oppose this project.

MR. BRITT: Thank you. Ben.

MS. REAMS: Ben said I could go up before him. I just had surgery and --

MR. BRITT: Are you Laurrajean?

MS. REAMS: Yes.

MR. BRITT: Okay. I just wanted to make sure I have your name.

MS. REAMS: I need to go home; I'm getting light-headed.

MR. BRITT: No problem. If you could state your name for the record.

MS. REAMS: My name is Laurrajean Reams, and I live here in Apple Valley. There's just two things I would like to mention. I heard you mention alternatives, and I would like to state that Edison won't put solar panels on my roof because I am so conservative with my

energy that I don't fit their guidelines. My bill is only $50 a month, and then in the summer it gets up to, like, 130 because I am so conservative with my energy. They won't put panels on my roof so that I can give them energy. How is that not an alternative? And I know that we're not supposed to be talking about those windmills, but where they are going to put them is less than two miles from my house, and I have a medical condition that predisposes me to everything those windmills cause, everything. The insomnia, the headaches, and with all of that -- with all those issues, takes my medical condition, which is epilepsy, and puts it out of remission. I have pills to control it, but if I don't get sleep I have seizures. If I have have a headache I have seizures. That noise that comes from those windmills -- that comes from that will cause me to have seizures. I'm useless. I can't drive. I can't live any more. What good is it? And then, I can't sell my house. So I am opposed to this extremely. Thank you.

MR. BRITT: Thank you. Okay. Ben is my last speaker card that I have, so if anyone else would want to speak, it's going to now to fill it out and drop it off. Thank you.

MR. CHRISTIANSON: Hello, my name is Ben Christianson. I'm an Oaklow resident, Oak Hills

resident. I live about three quarters of a mile west of Lugo, and at one of the meetings we were talking about the Edison people and their talking about how this power is going to feed into the Lugo Substation, and I said, "Okay. Where is this power going out, though?" And they were telling me that nothing extra was going to go out of Lugo, you know you have all this power going in but nothing going out. And as an electrical engineer, I just couldn't quite figure that one out. What is Edison's plan for the power lines on the west side of Lugo there? Because you have power coming in, it's got to go somewhere. Are they going to upgrade those lines or are we not supposed to talk about that? What is Edison's idea there? That is going to directly impact me. Because if they are going to do the same idea they have on this side of the valley, tearing down lines and rebuilding bigger, larger systems to take the power down the hill, that's right past my house. You know, now where I'm at, I'm not close enough to the lines that I hear anything from them really, but if you dramatically increase the size of them, the height of them, you're going to dramatically increase the noise and all the visual and the buzz and stuff, you know. When I'm away from my house, I can hear it. Once I get off my property and get halfway to the lines, I hear it. But as it

increases -- if they are going to increase power to those lines, is it now going to be a situation from where I'm hearing it within my house? I'd like to know that today. Edison has flatly denied that they are going to do anything to increase the caring capacity on my side, which, with all the power going in that they're talking about, how can they not increase carrying capacity on the other side? So I'd really like some answers here. Edison just doesn't want to admit to anything. So I'd appreciate your help in getting answers and getting straight answers from them. I feel like they are been very disingenuous with the answers they have given us. I feel that is rather unfair to the local resident, you know. They say they're not going to do anything, but where is this power going to go? How are they going to get it there? And they are saying, "No, we have nothing going there, we have it all covered, you know. There is going to be no changes." Thank you for your time.

MR. BRITT: Thank you. Okay. One more speaker card named Pat, and anyone else? If you could state your name.

MS. SILVA: Okay. My name is Pat Silva. I moved here from the San Francisco Bay area nine years ago. I went from green to brown, and I love the brown. Please leave it alone.

MR. BRITT: All right. Anyone else.

SPEAKER 28, FEMALE: I have a question maybe you can answer. I understand that Brown and our president has issued these energy building times, because they want to have a lot -- but my question is, they're giving -- our federal government is giving loans to these solar companies and Southern California Edison, federal loans. Then they're getting state grants. Then they're getting things from the counties that they're coming into monies and grants. So we're actually paying as taxpayers and the federal government -- and the government is loaning them some money instead of fishing our roads and doing other things which they should be doing. Then our state is giving them grants and probably loans. So again we're paying our state taxes to fit the bill when Southern California Edison. And then we have to pay Southern California Edison for our higher rates. Then our property values are also lower -- or would be lower, so how does the people win when we keep footing the bill? They don't have to pay for that. If you guys look at the monies and the grants and the loans that they are getting, it's ridiculous. I mean, just one place can get 1.2 million. It's like -- but we're paying for that. That's our tax money that they're getting to destroy it, our environment. I don't get that. It's like we're

getting skewered many times.

SPEAKER 29, FEMALE: And it doesn't feel good.

SPEAKER 28, FEMALE: No, it doesn't. So what about us? How can you guys say, "Well, that's okay." I want to know that. In your report, do you guys include how the taxpayers have to keep paying and paying and paying for these people to do this? Is that included in any way? It's environmental because it's a problem that we're fitting the bill through federal loan grants --

MR. BARNSDALE: So I get to, based on the statutes, and it doesn't have anything in there about those kind of real issues. They're very good issues, and there are places in venues run --

SPEAKER 28, FEMALE: And where is that?

MR. BARNSDALE: Well, you can bring those issues back to the judge here when she comes down. So I think if I put in a formal letter to the judge center to do with basic tax policy and renewable policy and how to fund that, you know, on a blind basis --

SPEAKER 28, FEMALE: Right.

MR. BARNSDALE: -- and it's hard to find someone to answer that question there, you know. Just there's no one who controls all that over power. We don't concentrate it. Thank you very much for coming. Yes, sir.

SPEAKER 30, MALE: I just have a quick question. Environmental impact report, will that include the effect of the electromagnetic field onto wildlife and the plant life?

MR. BARNSDALE: It will include an analysis and discussion, commenting on electromagnetic frequencies, yes.

SPEAKER 30, MALE: Just on the wildlife, you know, because when we go to the Edison meeting, and they tell us that electromagnetic -- they use a hairdryer as a demonstration. There's a little bit of a difference. Does anybody care about the animals?

MR. BARNSDALE: I'm not sure of the effects, effects different to wild life issues and so you know --

SPEAKER 30 MALE: I don't know if they put it the father away they are, but these birds land up there, eagles land up there. There's animals living there all the time. How is that going to affect it? Is it just going to wipe down everything?

MR. BARNSDALE: We haven't seen that so far. Actually, we find that actually raptors and birds love to sit on powers lines. They hunt off of them. The only problem I have is trying to keep sage grass alive when we put in towers because the raptors will feed or hunt from the towers. So you'll find that ground species like

quail and these kinds of things will be seriously affected.

SPEAKER 31, MALE: Well, they may like it, but we don't know if --

MR. BARNSDALE: We don't know how they feel about it actually, but we know they can move if they feel uncomfortable. So yeah, we will definitely have sections in EIS/EIR. Yeah, definitely.

SPEAKER 31, MALE: Thank you, sir.

MR. BARNSDALE: Yes, sir.

SPEAKER 32, MALE: I have one question to ask, gentlemen. Have any of you been through a dust storm? I take it you haven't. I've been through dust storms where you can't see your hand in front of your face. It peels the paint right off of cars. We have wind up here in the Mariana's that reach as much as 70, 80-mile an hour. If they're up here doing all of this grading and building all of these roads and digging all of these holes, they're going to be creating dust, and that dust is going to go, I mean, all over this Valley.

MR. BARNSDALE: That's one of our great concerns.

SPEAKER 32, MALE: And gentlemen, I don't want to die from poisonous dust.

MR. BARNSDALE: I understand, yeah.

SPEAKER 33, FEMALE: Can I add to that?

MR. BARNSDALE: Sure, ma'am.

SPEAKER 33, FEMALE: One year in Lucerne Valley, the winds went through that area over a hundred miles.

SPEAKER 34, FEMALE: I used to have a barn, and it blew it down.

SPEAKER 33, FEMALE: Yeah, I mean, it was horrible. So I know what he's talking about when it comes to winds.

MR. BARNSDALE: Yeah. Okay. Thank you. I know it's late and some of you might want to get home. Anyone else like to speak or say something?

SPEAKER 35, FEMALE: In our neighborhood, just south of my home. I'm off of Ocotillo, then you have Bowen Ranch. There's some roads my neighbor, when he built his home which is a good half a mile away from him, fill out an impact report because of a special Mojave ground spill, different than the regular ground just to build a home. Any family in all of this area, you don't even put grass or anything like that, of course wouldn't want to out there; it's so pretty. But then we're going to put big towers because they could have all kinds of ground, but the alternative route, which is actually an additional route. We were told that by Edison not really an alternative route by a couple shaking time that

weren't Edison people told us this additional route. Instead of avoiding where people live, they're purposely going right through our neighborhood. What about the Mojave ground there? I guess that doesn't matter if you have enough money, and you could just put big towers up. Money talks, sadly. Big money talks real well.

MR. BARNSDALE: Thank you very much for coming. We really appreciate it. Thank you for your input. Goodnight.