Transcript

Solar Energy Development Programmatic EIS Scoping Meeting held in Las Vegas NV, June 18, 2008

This Acrobat PDF file contains the transcript of the above referenced Solar Energy Development Programmatic EIS public scoping meeting. If you are interested in reading the scoping comments provided by a specific person or organization at this meeting, you may use Acrobat's search tool to locate the commenter's name/organization within the transcript.

UNITED STATES DEPARTMENT OF ENERGY AND
BUREAU OF LAND MANAGEMENT

+ + + + +

SOLAR ENERGY DEVELOPMENT
PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT
(PEIS)
PUBLIC SCOPING MEETING

+ + + + +

WEDNESDAY
JUNE 18, 2008

6:30 P.M.

+ + + + +

CLARION HOTEL AND SUITES
325 E. FLAMINGO ROAD
477 NW PHOENIX DRIVE
LAS VEGAS, NEVADA 89169

DOUG DAHLE
National Renewable Energy Lab. (NREL)

JOHN GASPER
Argonne National Laboratories

HEIDI HARTMANN
Argonne National Laboratories

MARY JO RUGWELL
Bureau of Land Management

LINDA RESSEGUE
Bureau of Land Management

FRANK WILKINS
Department of Energy

TABLE OF CONTENTS

P-R-O-C-E-E-D-I-N-G-S

(6:30 p.m.)

MS. HARTMANN: Thank you all for coming. I'd like to welcome you to this public scoping meeting for the Department of Energy and Bureau of Land Management's Programmatic Environmental Impact Statement for Solar Energy Development.

We -- I'm going to be your facilitator tonight. My name is Heidi Hartmann and I work with Argonne National Laboratories. We are conducting the EIS for Department of Energy and Bureau of Land Management.

And right now, I'd like to introduce you to Mary Jo Rugwell. She's going to be making a few opening comments for us. Mary Jo is the Field Manager for BLM here in Las Vegas.

MS. RUGWELL: Okay. Thank you so much. We wanted to let you know that we appreciate your time this evening. I am Mary

Jo Rugwell. I am the new Field Manager for the Bureau of Land Management here in Las Vegas.

When we transition to three-tier, I will become the District Manager for the Southern Nevada District Office, which will have the Las Vegas Field Office, the Pahrump Field Office, and the Red Rock and Sloan Field Offices under its jurisdiction. We have some of the BLM employees from Las Vegas here.

The pending applications are with the Las Vegas Field Office and there are some with the Tonopah Field Office, which is under the Battle Mountain District.

The Manager in Tonopah is Tom Seeley and, again, I'm the Manager in Las Vegas, so that just kind of gives you some contact points if you have questions later.

Again, we do appreciate your time this evening. We know how busy everyone is, but it's important to give the public an opportunity to express their concerns about

this programmatic EIS process.

So, with that, we'll turn it over to -- Linda, are you going first or -- we'll send it back to the facilitator.

MS. HARTMANN: Next we have Frank Tex Wilkins. He's Team Leader for Department of Energy's Solar Energy Technologies Program.

MR. WILKINS: Hi. I can give you a little bit of a snapshot of why DOE is interested in this programmatic environmental impact statement, and it sort of all starts with the goals at the Department of Energy.

One is that we are to add energy supply from a diverse -- a wide variety of sources, renewable energy being primary among those.

The other is that while we're doing that, we want to improve the environmental impact of the -- those technologies so we'll reduce the problems with global warming, habitat, various other things.

And we in the solar programs think

that solar energy fits the bill on both sides. For sure, it's renewable technology and it doesn't emit greenhouse gases in the process of producing the power.

The resources that we had to work with this year essentially was about $170 million. And as you can see from the slide there, most of the money, virtually 90 percent of it, goes towards research and development, and that's basically what R&D -- what DOE is all about. We provide money to some national laboratories -- NREL, the National Renewable Energy Laboratory, and Sandia, for example. We provide money to industry through competitive solicitations and as well as to some universities.

So the research and development is essentially to reduce the cost of the technology and to improve its reliability.

But we also have another area called Market Transformation, where we deal with a variety of entities, including the

Bureau of Land Management, various cities called the Solar American Cities, and the idea here is to reduce the non-technical barriers to the deployment of solar energy, and you can see that's about $18 million, and the work that we're doing through this PEIS is part of that, although it's a relatively small part of that 18.

Okay. The two basic solar technologies that we deal with are photovoltaics, which is probably what most people are most familiar with. You'll see it mostly on roofs of houses or businesses. It provides the power for satellites, and you'll see it along the road powering off phones.

But you can also put these things together getting the modules into larger systems, and they can be used to generate a lot of power for utilities.

The other technology is concentrating solar power. Here, these systems -- and you'll get a more detailed idea

of what these are in a little bit -- but these systems tend to be much larger and produce power at a scale that is most fitting for utilities, so they're in tens or hundreds of megawatts.

By the way, I guess just to give you another flavor, of that 170 million, about 140 of it goes toward photovoltaics and about 30 million of it goes towards CSP.

Okay. Why are we interested in this programmatic environmental impact statement, working particularly with Bureau of Land Management? Well, these systems tend to be large. Each one that we're dealing with is going to produce power for tens of thousands of homes and it requires two things. One is that we want the most intense solar resources can find, and it turns out the solar intensity of the six states that we're going to be dealing with, and that includes California, Nevada, Arizona, Colorado, New Mexico, and Utah, the solar resources in those six states

is the best in this country and it is among the best in the world. And when you consider the fact that there is a fairly large number of people living in these six states and it's growing pretty rapidly, it's a great confluence of the resource and the availability of producing power for a lot of people.

But the other thing is that these systems require a fair amount of land, at least five acres per each megawatt. So if you have a 250-megawatt project, you're talking about something that could be two square miles or larger.

So that sort of brings us to why DOE has teamed up with the Bureau of Land Management because, in those six states, the Bureau of Land Management manages approximately 119 million acres of federal land. So that's a good combination from our point of view.

Okay. What do we expect to come

out of this? Well, the first thing and the most important thing from our point of view is identification of the land that meets a lot of criteria, both technical and environmental. Now, those of us at DOE -- and I'm an engineer -- we tend to be more along the technical aspect of things because, again, mostly what we do is R&D, so we know what the needs of the technology are from a technical point of view and mostly that means you want to have the best solar resource and land that's relatively flat, somewhere between perfectly flat and maybe up to five degrees, but the flatter, the better. And there are some other criteria, but those are the two main ones.

And then there's the environmental and, again, from a technical point of view, we don't get into a whole lot of the environmental aspects of the thing, but the Bureau of Land Management does so, therefore, again a good combination of us with them in that they're going to let us know, okay, what

land has to be set aside for the environmental purposes, whether it's for habitat or cultural or historic or whatever reasons.

We also want to establish a -- sort of a policy that we would use for any project that we would provide any kind of resources for. And what we're expecting is to come out with something that shows here are the best practices for building the thing and the best practices for developing it so that it has a minimal impact on the environment.

We also expect that this programmatic environmental impact statement is going to help the developers in that they will be able to sort of tier off what we're doing, and just that means that what we learn here, they won't have to learn again when they have to do an environmental impact statement on a particular piece of land for a particular project. So it will be some savings to them in the process when they develop a project.

And then, finally, I guess what we

hope to get is a more accurate idea of how much the potential of solar energy is to help this country go forward from a variety of points of view -- from how much power it might be able to provide, how many jobs it might be able to create, and then its impact on reducing the environmental impacts of global climate change.

Jobs are important. Power is important. And as we go further and further down the line, more and more of us are worried about the effects on global climate change and certainly those of us in the Solar Program think that solar energy can play a role in that.

So that's all I have.

MS. HARTMANN: Next, we have Linda Resseguie. Linda is from the Washington Office of BLM and she is the Project Manager for this PEIS.

MS. RESSEGUIE: I'd like to also extend my thanks for you participating in this

meeting tonight. I think it's a really important issue, one with lots of sides to it and the public scoping meetings are critical to finding out how you think we should proceed with this project.

The Bureau of Land Management is part of the Department of Interior and we do manage 258 million surface acres. The slide shows the distribution of those acres across the United States, mostly in the western United States and also in Alaska.

About, as Tex said, 119 million of those acres, or 46 percent, are located in a six-state study area, and if you look at the map, much of Nevada is BLM-managed public lands.

The BLM's multiple-use mission is to sustain the health and productivity of the public lands for the use and enjoyment of present and future generations. The Bureau accomplishes this by managing such activities as outdoor recreation, livestock-raising,

mineral development, and energy production, and by conserving natural, historic, and cultural resources on the public lands.

Solar energy is one of many energy resources now being developed or considered for public lands. To ensure the best balance of the uses and resource protections for America's public lands, the BLM undertakes extensive land use planning through a collaborative approach with local, state, and tribal governments, the public, and stakeholder groups. The result is a set of land use plans that provide the framework to guide BLM's decisions for every action and approved use on our public lands.

But many of BLM's existing land use plans do not specifically address solar development. Why is BLM involved? Well, there are two reasons on the slide. First is Executive Order 13212, which was issued in 2001. That directs agencies, federal agencies, to expedite energy-related actions

and also in 2005, under the Energy Policy Act, there is a provision that sets a goal for the Department of the Interior to approve 10,000 megawatts of non-hydropower renewable energy on the public lands by 2015.

So we are working toward that goal.

As I mentioned, BLM has to manage public lands for a variety of resource uses. That does include energy production. The federal energy mix right now managed by BLM includes oil and gas, helium, coal, geothermal, wind, biomass, and soon utility-scale solar. BLM has previously estimated that as much as two thirds of the public lands have high potential or may have high potential for concentrated solar power energy production.

Utility-scale solar energy products on public lands are authorized by BLM as rights of way under the Federal Land Policy and Management Act, and all activities, including rights of way, proposed for public

lands must be consistent with the terms, conditions, and decisions in an approved land use plan. Before BLM can approve the Solar Energy Development Project, BLM must assess the direct, indirect, and cumulative impacts of such development and must consider other resources, the values of those resources, sensitive areas, and public concerns, and that's all completed through a NEPA process.

To date, the BLM has received more than 130 applications for solar energy projects, mainly in Southern California but also here in Nevada and in Arizona. And although this meeting is not about specific projects, you will have the opportunity to comment on those projects as they are processed.

Solar applications which have already been filed with BLM will continue to be processed under our current policy on a case-by-case basis through a site-specific NEPA process. These pending applications will

move forward on a parallel track with the programmatic environmental impact statement, but new applications are no longer being accepted by BLM until the programmatic is completed.

What are BLM's programmatic goals? Under our current Solar Energy Development Policy, applications are processed on a first come/first serve basis, each with its own site-specific NEPA, but BLM believes that by looking programmatically at the issues associated with solar energy development, we will be able to develop a more comprehensive, consistent, and efficient program approach to address solar energy proposals on public lands.

The programmatic EIS will identify public lands that are best suited to solar energy development, will identify mitigation strategies and best management practices to guide future solar energy development, and we are also looking at the possibility of

identifying additional transmission corridors specifically for the purpose of facilitating solar energy development.

Now, some of you may have been involved in a programmatic EIS that's going on right now for -- it's called the West-Wide Corridor Project, and that also looked at transmission needs, but it didn't specifically focus on solar. And so as we go through this process of identifying the best plans for solar energy development, we don't want to miss an opportunity if there is one to identify places where corridors may not have been noticed, may not have been identified through the West-Wide process.

We think that the programmatic will be key to advancing an understanding about the impacts of solar energy development and how best to deal with those impacts and that the resulting decisions will better foster and support the nation's need for environmentally sound solar energy development.

We expect to amend land use plans in the six-state area to adopt the decisions that are made as a result of the programmatic EIS and these meetings are an important part of the BLM planning process that is needed to amend land use plans as well as the NEPA process.

In our Federal Register notice of May 29th, we included proposed planning criteria and we are also asking for your comments tonight and through the public scoping process on those criteria.

Thank you.

MS. HARTMANN: There is a -- the National Renewable Energy Laboratory in Denver supports DOE and BLM. And for this PEIS, they are supporting that in several ways. One is to provide background information about the various solar technologies that are currently being developed or exist already, and another is to identify the solar resource potential of BLM lands in the six-state area or that's the

intensity of the sunlight in each area, and the third is to model market penetration potential for solar energy over the next 20 years.

And we have Doug Dahle of NREL here to tell us more about those things.

MR. DAHLE: Thank you, Heidi, and a pleasure to be here. Thanks for taking your time out of your evenings. I'd like to cover three basic things. As Heidi mentioned, basically briefly introduce you to the actual solar technologies that are going to be focused on. What we're talking about is primarily utility-scale solar development. This is not rooftop PV on homes. This is large-scale ten-megawatt or bigger. It would be fed into high-transmission lines and service -- typically, utility companies, whether it's industrial, rural, electric, or otherwise.

The other thing we're going to show you is basically the geographical information-

based solar resources that actually match up with the BLM lands, the map that you saw earlier that Linda showed you.

And then also a couple of slides on basically sort of the federal policies that have a huge impact on the actual successful deployment of these renewable technologies.

Basically, I hope you had a chance to take a look at the posters. They're a little bigger pictures of these things. But, basically, the solar technologies are kind of grouped into two major categories, the first being dispatchable, and what that means is they -- there's thermal storage or other mechanisms by which you can dispatch the power after, if you will, the sun goes down, thermal storage being the biggest factor.

Those are the parabolic trough. Up in the upper left is the parabolic trough. It's basically a parabola-shaped mirror with a linear focusing tube that heats this high thermal fluid, runs into a heat transfer --

heat transfer to water, flashes it into steam, and run a conventional steam turbine generator, so it's a thermoelectric system.

The one down in the lower right is a very similar different technology, linear focused again, and basically this is where the actual tube -- it's mostly steam rather than a high temperature fluid -- the tube actually doesn't move and the mirrors focus light on that tube to heat the fluid inside, primarily water, and convert it to steam and run it through a turbine generator.

The other one that is in the area of the dispatch bowl is that third one, which is called the power tower. I don't know if anybody's ever driven I-40 near Daggett and you see it actually off the freeway, one of the very first high utility-scale developments in this country for solar power. Basically, this is molten salt typically at the top of a high tower and they have hundreds of heliostats, two-axis mirrors, that track the

sun and focus -- point focus on that tower and heat that molten salt and then, again, transfer it into -- flash it into steam for running a turbine generator.

The other storage -- the solar without storage or non-dispatchable basically are in the middle -- up in the top -- second row on the top is what's called concentrating photovoltaics, and we'll talk about that further.

Produces direct electricities, not a thermal to electric process, converts sunlight to electricity. The second one on the fourth one there is called a dish sterling engine. It's point focusing on a -- the front end of a, basically an engine. It's a sterling engine, high temperature, converts it into -- uses -- heats a fluid to actually drive a piston, if you will, and run a generator. It's sort of thermoelectric but, again, it's not dispatchable.

And the last, it's a flat plate PV

that you saw on Tex's slide, sort of the conventional stuff that you've probably seen in a lot of applications.

Basically, the concentrating solar power, the dispatchable power, are basically these two as well as that linear -- it's called the compact linear Fresno reflector. But basically the one thing I would say about the parabolic trough, there is about 350 megawatts commercially producing power, some of them as long -- almost 15 years now. The first ones were built in 1983 and 1984, so this is considered generally a commercially-available technology.

The central receiver or the power tower, they have built a few of them. There's a bunch of them in Europe coming online now. It's kind of pre-commercial, but we expect to see this show up in the next few years here in this country where it's most appropriate.

The key thing about this, going back to the dispatchable issue, is in

particularly the power tower, the molten salt that's used to convert it into -- to use to convert water into steam can be stored, and this -- one -- the very first solar one in Daggett had a period that it actually produced 24-hour power to Southern California Edison over a seven-day period until the clouds had accumulated such that it actually was not able to achieve it. But the essence of these things are typically able to deliver power 70 percent of the hours of every year. So the dispatchability -- and when you think about a utility company -- you'll see this in the next slide -- it's really relevant to have dispatchable power.

Basically, what I'm showing here is just sort of an example -- the red line is basically what a utility system power code looks like. Southern California Edison, for example, has their peak at 7:00 in the morning, typically, and 7:00, 7:30 at night. That isn't necessarily coincident with the

solar resource. More so in the summer, certainly, but not in the winter.

And the idea here is with that dispatchability is you can actually not store it -- thermal storage -- molten salt being the biggest technology or -- basically have two tanks, heat up this molten salt, and then dispatch it and flash steam and run the turbine generators after the sun has actually gone down. So this is a huge benefit to utilities to be able to actually get power from solar systems after the sun has set. Big factor in terms of being able to reduce the loads.

The other thing that -- this -- the value to particularly Southern -- the Southwest is you have peak powers typically when the sun's out, high air conditioning loads in the summer. These can also be used as peaking plants instead of bringing on gas turbine generators.

Next slide. This is the category

of non-dispatchable. Basically, the dish sterling is -- we talked about it. It's basically a point-focusing technology. It's not really commercial at this point. There are a number of them that have been tested for years at Sandia, our partner laboratory that's doing the R&D. They are just about ready to hit the streets in terms of commercial applications and they have some power purchase agreements currently with Southern California Edison and San Diego Gas & Electric to be delivering power from this technology in -- by 2011, I believe.

Next slide. The other one in terms of concentrating solar power is using photovoltaics. There's three different approaches to it. One is reflective, where you take a parabolic dish and you focus it on a PV cell -- photovoltaic, solar to electric. The interesting thing about this, that all three of these have the capability of, if you will, producing what's the equivalent of 500

suns. The essence of this approach is that same photovoltaic cell that's got all this high-intensity solar generates the same amount of power as if you had 500 cells on a flat plane.

It's amazing that it works. And the same thing -- the other way to do it is called refractive, and it's very similar to the lenses you might see on a fluorescent. You see the little sort of diamond shape. That's a refractive effect.

Here, it's very close to the cell but basically it takes the direct sun, direct normal sun, and focuses it on these panels, the same thing -- produces a 500 sun equivalent; i.e., you use less silicon or thin-film cells to produce the same amount of power.

And the last one in terms of the concentrated PV is what we called reflective in an optical rod. Same thing -- produces the 500-sun equivalent, the essence of it being

the amount of power you get out of the cells, you have to get the same amount of power, you'd have to use 500 times the surface of solar cells.

Next slide basically shows you what's the solar resource. You'll notice this actually kind of matches Linda's slide, but what this is now the layer of solar resource. This is direct normal solar insulation is what's used to operate all the systems we just talked about. It's the direct normal. It's basically hitting, if you will, 90 degrees and on a parabolic it all focuses on one point, that tube that's heated.

Next slide. This is the conventional photovoltaics you may have seen, probably not nearly as big. The first one -- this is flat plate solar photovoltaics. The first one on the left is the biggest in the United States. It's on the Nellis Air Force Base, very close to here, 14.2 megawatts. They happen to be single-axis trackers, so

they rotate through the day, trying to focus on the sun.

And then the other one we showed here, again going back to that original thought that we were talking about utility scale, this is an example of one that was built in Portugal. It's 11 megawatts. And, interesting enough, it's nice to see that the impact on the vegetation is not very significant for the photovoltaic systems.

This is basically the solar resource that's supplied to the photovoltaics, not the concentrating solar power. It's called global solar radiation. It includes that direct normal part of the sun, but it also includes all the scatter through the atmosphere. Any direction basically is what the global refers to. It's a little lower intensity, but this is used to calculate what the production would be of a photovoltaic system.

Next slide, basically I'm going to

get into a couple of slides talking about the federal policies and how that may impact the deployment of solar renewable technologies.

This is reflective of the impact on the cost of energy from the solar investment tax credit that's been in place for several years, expected to expire in December of this year.

One of the -- let's go to the next slide. One of the models that we're going to be using with Argonne, BLM, and DOE is a very sophisticated linear model that looks at hundreds of variables, 350 regions of transmission systems. It also -- you know, it integrates possible systems that are in place right now, capacity in terms of being able to deliver to load centers, things like that, and the outcome of this was to make a projection without that solar investment tax credit, which is a 30 percent investment tax credit to the private developer, if that goes away at the end of this year, the projection is maybe

we might get six gigawatts or 6,000 megawatts of power from solar technologies.

If that solar -- next slide -- if that solar investment tax credit is extended, the last proposal we saw that was shot down was an eight-year extension with sort of a sliding percentage of investment tax credit. We think with this modeling -- we've done it over and over and over -- that we're probably looking into 35 to 40 gigawatts or 35,000 or 40,000 megawatts from solar technologies, so it's a very significant factor in terms of a federal policy that can help in the market penetration in this technology.

And that's all I have.

MS. HARTMANN: I'm just going to take a few minutes of time to give you an idea of what's included in an environmental impact statement and specifically what we'll be including in this EIS for Solar Energy Development.

Environmental impact statements are

mandated under the National Environmental Policy Act, and what they do is they look at impacts of a proposed action on the environment, on socioeconomic conditions. It's not up here but on cultural conditions. And we have specific analyses for also air quality, water quality, hazardous materials, any waste management that would be associated with a project, and what kinds of impacts in those areas you would see.

The agency or agencies that are conducting the EIS will give a clear statement of their purpose and need, and Linda and Tex already outlined for you what that will be for their agencies.

We look at mitigations for identified adverse impacts. We try to identify if there are mitigation measures that could eliminate the adverse impacts or that could minimize them to an acceptable degree.

If there are -- it is mandated that alternatives to the proposed action be looked

at in every EIS. And then a very important part, and part of the reason you're all here today, is that you take public input and you hear the public's concerns and ideas about the proposed action for every EIS.

This EIS has been determined to be a major federal action, which is -- the action being looked at is the development of a program that would be agency-wide for each of these and also policies and, as was said earlier, we're hoping for -- the agencies are hoping for a consistent set of management practices to come out of this that will be applied to every -- to future site-specific assessments.

This assessment will be programmatic. It's a broad agency action. And so they're not considering specific projects in this assessment.

The generic impacts we talk about is what a programmatic looks like. In this instance, land disturbance, maybe a range of

water uses for various technologies that are out there or are under development.

Okay. The next slide, please. We are in the scoping phase. Scoping for an EIS starts when a notice of intent to prepare an EIS is published in the Federal Register. In this case, it was published May 29th and the scoping -- during the scoping period, we're looking for public input on what the proposed action is, the alternatives that are being looked at, and those are included in the -- a more detailed description is in the Federal Register notice of intent, but I'll be going over that in a second, too.

And if you have -- if the public or individuals or organizations have knowledge or data that they want to submit to the agencies during this time or ideas about mitigation measures, the BLM and DOE would welcome anyone to submit those.

Here we are on the alternatives. I'm going to -- the no-action alternative is a

required part of any environmental impact statement, but first I'm going to talk about what the proposed action is and then it's easier to understand what the no-action alternative is.

For this project, the proposed action is to develop agency-specific programs to facilitate utility-scale solar energy development on BLM lands or also for projects that are supported by the DOE. That might not -- might be on project lands or tribal or state lands also.

As we've mentioned a few times, we'd like to identify potential mitigation strategies and best management practices, and then BLM intends to use the PEIS to amend their land use plans, identifying lands that are good for solar energy developments and lands that wouldn't be appropriate for those developments.

The no-action alternative, by contrast -- in contrast will be not developing

agency-specific programs and policies and so the agencies would evaluate individual projects case by case, which the agencies believe at this point would not be as effective at facilitating solar energy development.

For the BLM, there is a limited development alternative where they're proposing to look at projects that have already been submitted -- the applications have been submitted and they already are at the stage where they have a completed plan of development, and that alternative would say that would be all the development that would occur and look at the impacts of just those projects.

Well, many of you are here just to learn about the project, and some of you are here to submit comments on the project. But I think we're going to take a few minutes now to -- before we hear the comments from the audience -- to let you ask questions of the

staff members here. Just -- at this point, just on the information we've presented so far, if you need clarification on anything. And after that, we'll talk about the process for submitting your comments.

I did want to tell you a few things about asking questions. These microphones are very sensitive. You have to hold it right in front of you, which I hope I've been doing all right. And we'd like you to keep your comments and questions focused on the programmatic. We aren't really taking questions on specific projects at this point.

Is there anyone who has -- also, one more thing. We do have a court reporter here. This whole session is being transcribed and the transcript will be posted on our website, which I'll give you the URL for in a little bit.

Any questions? Could you please tell us your name and then go ahead with your question.

MR. WHITE: My name is James White, and the question I have and I hope it's related is what is BLM's intention for projects that already have permits? I've heard a couple different rumors -- excuse me -- not permits, but applications. So I've heard a couple rumors about what's going to happen there but it's not clear as to whether they'll ultimately be evaluated against the programmatic EIS. I'll leave it at that.

MS. RESSEGUIE: I think I can respond to that question. Our intention is to continue to process the existing applications on a case-by-case basis under our current policy. And we anticipate that applications that -- where developers have a pretty good idea of what they're going to do and have explained it to BLM in their plan of development, that we'll soon start issuing notices of intent to initiate environmental impact statements on specific projects. I think right now we only have one that actually

has had a notice of intent issued. But we are going forward with that project and for -- I'm sorry -- we're going forward with all the existing applications. As soon as they're ready for a notice, then we'll start that process.

And we anticipate that some of the projects, maybe many of the projects, will be through the process before the final PEIS is issued and the record of decision which brings the decisions forward and incorporates them into our actual land use plans and into practices.

So if we issue a right-of-way application to a company before that, then the terms and conditions under which we issue that right-of-way application would still apply. If the PEIS is completed first and we get to the point where we've adopted Bureau of Land Management practices, then those would also apply to the existing applications. But those applications will go forward on their

basically own timetable and at some point the two might converge, depending on whether the PEIS gets done first or the site-specific NEPA and the right-of-way grant is issued first.

MR. BECHTEL: My name is Dennis Bechtel. Curious. The PEIS, will it be considering transmission corridors in addition to the projects themselves?

MS. RESSEGUIE: I thought I had that exact answer to your question, but now that I'm considering it a little bit, what you're saying is the transmission associated with a specific project, the -- all we are looking at in the PEIS is the need to designate additional corridors to areas with high solar resource potential on BLM lands, areas that are best suited to develop. That's what we're going to focus on in the PEIS, looking at whether we need to designate additional corridors for transmission purposes that may have been missed in the Westwide Corridor Project.

MR. BENJAMIN: What, if any, coordination is being done with the Western Governors Association Initiative on Renewable Energy Zones that's attempting to identify zones for geothermal wind and solar which may also include transmission? I think it just was kicked off a couple of weeks ago.

MR. WILKINS: We --

MR. BENJAMIN: Do you need my name? Charles Benjamin, Director of the Nevada Office of Western Resource Advocates.

MR. WILKINS: Great question because the Western Governors Association Renewable Energy Zone Initiative is very similar to what we're going to be doing, so coordination is going to be required also with the Renewable Energy Transmission Initiative, RETI, which is going on in California.

So some of us, including my colleague -- he's sitting by the computer up here -- has been involved with a number of the conversations with RETI, has gone to the

Western Governors Association meetings, essentially kicking off their process, and indeed we at the DOE are paying for part of that WGA process. So we expect to be very coordinated with all these other activities.

MR. BENJAMIN: If I could ask a follow-up question. As you may or may not be aware, the State of Nevada has also got a process underway that the Governor Gibbons has launched called the Renewable Transmission -- Renewable Transmission Energy -- it's RETAC -- I can't remember what it stands for -- which also is attempting to identify renewable energy zones specifically in Nevada and potential transmission corridors, as well as barriers of all sorts.

And I was wondering what kind of, if any, coordination is happening with regard to that effort.

MR. WILKINS: I wasn't aware of it, but it sounds like we need to be talking. If you could provide any information to us so

that we can find out who to call, I would do that.

MR. BENJAMIN: Just look under the State of Nevada website under Governor Gibbons and they've got the full report, including maps, right there.

MR. LAUSTEN: Mark Lausten with the Department of Energy. I believe the Arizona process is being tied in with Western Governors effort and -- I'm sorry -- Nevada's effort also. All the states of the Western Governors Association, many of them have done similar studies already and much of that information is being tied in with the Western Governors Renewable Energy Initiative.

MS. BURKETT: Hi. Good evening. I'm Cheryl Burkett. The gentleman on the end, in your presentation, you -- several of the last two slides showed with and without incentive tax credits. Is that information available on the Internet? Are these slides available on the Internet?

MR. DAHLE: All of the presentations you've seen tonight are on the website.

MS. BURKETT: Okay. Thank you.

MR. SPANOS: Chris Spanos. The 130 applications, does that total 10,000 megawatts or is there a need for additional applications at a later date to meet that criteria?

MS. RESSEGUIE: First of all, on the 10,000 -- the answer is yes. Actually, it far exceeds it. If you go with the developers' estimate of the megawatts that would be produced in those projects, I think we added them up and it's something like 70 billion watts of power.

But one thing to remember about the 10,000 megawatts is it's from a combination of renewable energy sources. So as long as it's non-hydropower, so geothermal, wind, in solar, even biomass projects would all contribute to that goal. So it's out there but it doesn't need to be all solar, just one point.

MR. WHITE: Hi. James White again. Wanted to also just get some clarification to make sure I understand. For the interim period while the PEIS is being developed, is BLM not accepting additional lease applications, right-of-way applications, or are you simply not processing --

MS. RESSEGUIE: Not accepting.

MR. WHITE: Okay. So just -- they bounce right back?

MS. RESSEGUIE: Exactly.

MR. WHITE: Okay. Thanks.

MS. RESSEGUIE: Sure.

MR. SPANOS: Would that be reopened, whether they can apply for more applications at a later date?

MS. RESSEGUIE: We intend to establish procedures as a result of the PEIS and after the PEIS -- is your question whether the decision to not accept applications could be reopened --

MR. SPANOS: At a later date. Yes.

MS. RESSEGUIE: -- at a later date? Certainly it could be revisited. It is a policy decision that was made and it could be revisited at a later date.

MS. FRAZIER: Hi. I'm Jody Frazier. Could someone please provide maybe a brief description of which technologies would require groundwater usage and how much.

MR. WILKINS: The photovoltaics, whether they're concentrating or flat plate, require some water for cleaning the mirrors every so often or the panels themselves. The sterling system requires no water except also for cleaning the mirrors. The parabolic troughs and power towers, the linear Fresnel system requires water for -- they generate steam for turbines and they require some water. It's a -- the question of how much water depends on whether they are what they call wet-cool or dry-cool, but cooling requires more water. But in certain areas in California, I think there's some restrictions

on the amount of water that new power plants can use, so I think a lot of the new plants will probably wind up being dry-cooled. But I think everybody's aware that water is an issue here in the desert.

UNIDENTIFIED SPEAKER: So just to put that in perspective, how -- as opposed to other forms of energy, how much water is used in a solar -- you know, in the various different solar, you know, types.

MR. WILKINS: If you were to compare, say, a trough plant that uses wet-cooling with a coal plant. They would probably be about -- very similar on the per-megawatt basis.

With dry-cooling, whether it's coal plant or a trough plant or a power, that amount of water would be reduced by maybe 90 percent.

MS. HARTMANN: All right. I'm going to go ahead and continue. I'm going to talk a little bit about the scoping process.

Right now, we're in the -- actually, just the public involvement process in general. During the scoping period that's from -- it was May 29th it started and it goes through July 15th -- the DOE and BLM are holding 11 public scoping meetings, just like this one, in the six-state area, so we're getting the message out there quite a bit.

You can submit your comments during this period. The draft EIS is scheduled to be done next spring, and when that's published, there's a comment period following where the public submits their comments and then all of the comments will be responded to and then the final EIS is scheduled for spring of 2010.

For the comments tonight -- can you -- go one slide forward please -- also wanted to let you know, this is the website that we've been talking about -- solareis.anl.gov -- that's a good resource. There's background information about a lot of the technologies there. There will be information about the

status of the PEIS, PEIS-related documents. There will be a scoping report. If you want to see reflected what happened here tonight, that report should be out about the end of August and it will be posted on the website. The draft EIS will be posted there and the final when it comes out.

You can also sign up -- you may have signed up when you registered. You may have given your e-mail address to get updates and notifications from the website. You can also go online and submit your e-mail there and you will get notification. So it's a very good resource.

Okay. For tonight for submitting scoping comments, if you want to make an oral comment tonight, that's great. If you want to submit a written comment, you can use the forms that were out at the registration table if you like. You can also just mail in a letter to the address that -- it's on the form, that you can use that.

For oral comments tonight -- oh, let's see. We're past that. We would like -- there's a few ground rules that we've set up for it. We're going to call people up in the order that -- the pre-registered people in the order that they registered, we'll call their names and come on up here and state your name and your affiliation, if you have one.

Let's see. Where are we here? Oh, that's all right. We're -- we want to hear everything everyone has to say, but we're going to start with a three-minute time limit on the comments. And then after everyone that had signed up has gone through, if you had -- and we ask for other people who maybe didn't realize they wanted to make a comment and have decided they want to now -- we'll give everyone a chance for that, and then if people who initially gave comments and weren't quite done at the three-minute point want to come back up and continue, you can do that, too. So we want to make sure we get everyone's

comments in.

Leave written comments with one of the staff members. We're all wearing name tags. And to signal you, I'm going to be sitting back at this desk here. And when you've reached the two-minute limit, I'll put up a yellow card just to let you know. And then when you're at three minutes, I'll put up a red card so -- to help you out.

So I'm just going to call the first few people -- oh, I'm sorry. I forgot an important point. We do have a cameraman from -- is it Channel 8? -- Channel 8 here and he may be filming. If you don't want your comment filmed, just let us know. Okay?

All right. I'm going to say who the first three speakers are and then you'll know that you're coming. First, we'll have Lee Otteni, if that's pronounced correctly, and then Eileen Christianson and Lee Wallach, so is Lee here, Lee Otteni?

(No response.)

All right. Let's see. How about Eileen Christianson?

(Pause.)

MS. EASTLEY: Can you hear me? There we go. Good evening. My name is Joni Eastley. I chair the Nye County Board of Commissioners. Nye County has been inundated with renewable energy developers interested in constructing facilities in our county. The interest has -- which is a good and a bad thing -- has grown to such a level that the BLM has imposed a two-year moratorium on the acceptance of new right-of-way applications for solar power productions.

While we as a county are really very excited at the prospect of so much new development, and we welcome the opportunity to be at the forefront of an emerging industry in the State of Nevada, we also recognize the need to be realistic as we proceed with implementation of the projects in our county.

Nye County has established a

practice of pursuing economic development opportunities in a way that promotes responsible stewardship of our natural resources. In keeping with this practice, we realize that the economic potential brought by these proposed renewable energy developments really must be balanced against the current and long-term needs of our communities and their available resources.

The most pressing of these needs, as you mentioned earlier, is water. The estimated water needs of the developers with current right-of-way applications already far exceeds the amount of available water in the areas the proposed projects are located. Limited resources and the need to maintain water availability for the growth of nearby communities that will naturally accompany these projects means that not all of the proposed projects will be possible nor will they even be desirable in Nye County.

It is our goal to work proactively

and responsibly with the organizations and stakeholders involved to encourage sustainable development of the area's resources. To that end, Nye County would like to participate in the planning process as a cooperating partner with the effecting agencies. We believe that maintaining an open, ongoing dialogue among all parties concerned is the very best way to ensure a positive outcome not only for the developers and the oversight agencies but for Nye County and the residents that we represent.

Thank you.

MS. HARTMANN: Lee Wallach here? Lee Wallach?

(No response.)

Okay. How about Sean Kiernan? No?

(No response.)

And Rachel Gold. You are Sean?

MR. KIERNAN: Good evening. My name is Sean Kiernan. I represent Ausra, which is a large-scale solar thermal energy

company based in Palo Alto, California.

Earlier this year, OSRA opened a state-of-the-art manufacturing facility here in Las Vegas which will produce reflectors and receivers for use in solar thermal projects throughout the Southwest, including our own projects.

We recently entered into a contract with Pacific Gas & Electric to build a 180-megawatt project in Central California, and we are also looking at other projects throughout the Southwest.

We'd like to thank you for holding this meeting and giving us an opportunity to provide comments. While we applaud BLM and the Department of Energy for their leadership in helping promote the development of solar energy on public lands, there are several aspects of the notice of intent that require revision if the programmatic EIS is going to be a useful document.

First, it is an inappropriate and

unnecessary to freeze all new right-of-way applications during the preparation of the programmatic EIS. Today, there are only two trough projects online, a 350-megawatt plant in Southern California and the 64-megawatt plant here in Nevada. Freezing new applications will significantly stunt the growth of the industry, potentially killing the industry before it is effectively gets off the ground. We recognize that BLM is short on resources. However, a full freeze on new right-of-way applications is simply not the answer.

Second, the programmatic EIS should consider solar energy and transmission development on federal lands other than those managed by BLM. Many lands administered by other agencies, such as Department of Defense and the Forest Service, may be suitable for solar energy development. A holistic approach is especially important for transmission siting.

The programmatic EIS should review other lands or at least set forth processes for doing so with other agencies.

Third, the programmatic EIS needs to provide clear criteria for efficiently processing future project-specific environmental reviews; in particular, an explanation of how future site-specific environmental views will be truncated due to the programmatic EIS is necessary.

Finally, we encourage the BLM to process the applications that were submitted prior to the issuance of the notice of intent. There has already been a policy in place since 2007 which provides the regulatory framework for processing these applications and, as mentioned, you've already set forth the notice of intent and commenced with the NEPA work for a project in California.

We sincerely appreciate BLM and DOE's efforts and look forward to working with the agencies as they move forward.

MS. HARTMANN: Thank you. Wow. Is Rachel Gold here?

MS. GOLD: Good evening. My name is Rachel Gold and I am here on behalf of Solar Millennium LLC. Solar Millennium is a solar thermal developer based in California but developing projects around the Southwest, including here in Nevada, and I made many of my comments on Monday evening at the first meeting. But I just wanted to emphasize a few things and echo some of the things that Sean said tonight, which we're very glad that BLM and DOE is going through this process, but we want to ensure that this process comes up with a final document that is useful and flexibly identifies where solar projects and transmission lines can and should be located.

We also want to ensure that the near-term investment of solar energy projects is not impacted, makes future site-specific environmental reviews more efficient and predictable, coordinates with state programs

and initiatives, and sets forth a clear process for dealing with new developments and changes. As an emerging industry, this is particularly important because none of us can anticipate how exactly the developments work will occur in the future.

We also feel that it is inappropriate to freeze all new right-of-way applications at this time as it will greatly impact our emerging industry.

And on that point, I would just like to point out that there's been a lot of talk about how many applications and how many acres those applications cover, and it needs to be recognized that not all of those projects will or can move forward, so that while it seems like a lot from the developer's standpoint, we know that there are many barriers for particular projects and many different kinds of companies out there making those applications.

Further, I'd just like to conclude

by saying that the -- we'd also like to ensure that BLM and DOE consider how other federal lands will be impacted by this PEIS and how that coordination will occur.

Thank you very much.

MS. HARTMANN: Next, we have Joni Eastley.

MS. EASTLEY: I just spoke.

MS. HARTMANN: Oh, I'm sorry. You were signed up twice. Sorry. John Hiatt. And after John, we'll have Terry Page, and then Dave Wechsler.

MR. HIATT: My name is John Hiatt and I'm representing Red Rock Audubon Society here. I've never met anybody who is opposed to the concept of solar energy, but then we get to the details of working it out. And what we're looking at here, with the applications that are presently onboard, and the ones that we can expect to come, is potentially the largest commitment, permanent, irreversible commitment of federal land in the

West ever. We're talking about a million acres plus which would be irreversibly altered if we just went ahead with all this.

And so I think that it's incredibly important we take a look at the whole picture of what we're trying to do with energy, on how we can most effectively use solar energy in the greater scheme of things and which lands are really appropriate for that because there's really no recovery from projects which grade off the land, cover with gravel, and then decide, you know, it doesn't work or it's not efficient.

So towards that end, I think that it's important for the Department of Energy to look at various technologies and give priority to those technologies which have the greatest energy output per unit area so that we don't have inefficient projects just because somebody favors one technology over another because that's what they know. We really need to be looking at the very best technologies.

I'd also note that Executive Order 13212 says not only are we supposed to look at production transmission but conservation of energy, and they really go together. If people are thinking that we can generate a lot of solar energy and we -- just extra energy we can do whatever we want with it, that's sort of like looking at low-calorie cookies and thinking we can eat as many as we want because they're low-calories. It doesn't work that way. We really need to look at conservation of energy concomitantly with this new energy source, solar.

So I would encourage the Department of Energy to really weigh in on their end of this to look at the big picture and emphasize what can be done overall to solve society's needs.

I would also hope that we can really take a good look at all those lands which are being proposed and evaluate all of the resources there, including cultural, which

in the State of Nevada are not necessarily well-defined or well-publicized. The State Historic Preservation Office doesn't publicize this information. It's not readily available.

And so somehow this needs to be brought into the decision-making process so we don't destroy our cultural sites, of which there are thousands and thousands in the State of Nevada.

So I'm looking forward to see what comes out of this draft EIS. I'm optimistic. But I also recognize that it's an incredibly difficult thing and I hope that we can come up with a document which protects our natural resources here as well as allows us to generate significant amounts of solar power.

Thank you.

MR. PAGE: Good evening. My name is Terry Page. I'm with Acciona Solar Power. We built and commissioned the 65-megawatt power plant in Boulder City a year ago. It's been up and running for 12 months. It works.

It works as expected. In fact, it's exceeded expectations.

We have concerns at Acciona about the freeze and the shunting effect it will have on new development. We're continually looking for the most opportunistic I guess is the right word and economically feasible sites. If you're going to rule out over the next two-year period us looking at any BLM sites, that's of concern.

We'll prepare some written comments and file them with you. And like others have said tonight that are developers, I believe all of us that are in this industry know that of all those applications that you have, there's only a small portion of those that are realistic and reasonable. Lots of speculation out there. And as that speculation starts to dry up, I believe freezing for a two-year period new applicants that have proven projects, proven technology, and the economic backing to go forward, shutting them out of

the process will have negative consequences on the 10,000-plus megawatts that you're trying to accomplish in the near-term.

And we'll provide those comments in more detail in writing, but that's our -- those are our verbal comments. Thank you.

MR. WECHSLER: Hi. I'm Dave Wechsler and I represent Arrow Development Corp. We're a private landowner here and in Southern California. And what I'd like to know is more of -- I'm here to network and to kind of find out if there is some sort of synergy between the developers of the technologies and the -- as well as the transmission situations that are available that are needed where you can integrate private lands and take the product from private lands on a research and development facility, even if it's not 5,000 acres -- if it's 200 acres, if it's a hundred acres -- find a way that you could use what's available and then even during this interim there may be

a possibility where you could find out that you don't have to have a completely flat slope. Maybe you can do it on a 30-degree slope with a certain technology. Because I think we all know that we need to do something and we need to do something smart that's going to work for all of us and work for our children.

MS. HARTMANN: I'm a little afraid to use the microphone at this point, but our next and last person who signed up is Charles Benjamin. And after Charles speaks, we'll open it up to anyone else who didn't sign up but may want to make a statement anyway.

MR. BENJAMIN: I'm a little cautious about approaching the microphone here. I don't have nearly the electric personality of those previous speakers.

My name is Charles Benjamin. I'm the Director of the Nevada Office of Western Resource Advocates located in Carson City, Nevada and I'm also a resident of Carson City,

Nevada. I am also the president of a coalition -- a not-for-profit coalition called Nevadans for Clean Affordable Reliable Energy. That includes Western Resource Advocates, the Natural Resources Defense Council, Sierra Club, Bristlecone Alliance, Citizen Alert, the Progressive Leadership Alliance of Nevada, the American Institute of Architects, the Nevada Conservation League, and the Southwest Energy Efficiency Project. NCARE intervenes in and speaks out at forums like this to advocate for energy efficiency and renewable energy.

Tonight, though, I'm only speaking on behalf of Western Resource Advocates and my colleagues at the Boulder office of WRA will be submitting more detailed comments by the deadline.

Just for the purpose of informing the audience who WRA is, we are a natural resource conservation not-for-profit. Our main office is in Boulder, Colorado, but we have offices in Nevada, Arizona, Wyoming, New

Mexico, and a couple of other states in the Inter-Mountain West. We focus strictly on land, water, and energy issues, sustainable practices in all those.

Meeting the West's energy needs will require new utility-scale renewable energy generation projects, including solar. Like any type of energy development, projects should be done responsibly. First, with an eye toward maximizing the benefits of efficiency measures, then with regard to minimizing impacts on public land and wildlife.

All energy development should be done smartly and responsibly. Clean energy should be fast -- clean energy should not be fast-tracked any more than coal-fired power plants. We want renewable energy projects to be carefully evaluated, planned adequately, sited carefully, and, when necessary, mitigated properly.

But we also want an even playing

field. We're in favor of the BLM taking its time to review solar projects to make sure they're done right. But the BLM should apply these same standards to evaluating the huge impacts of the three coal-fired power plants proposed in Nevada and the numerous coal-fired power plants in the very same states that you are looking at here for solar.

In other words, the BLM should evaluate the overall impacts of coal-fired power plants, not just on a case-by-case basis as you're doing now.

The benefits of clean energy development far outweigh those of coal. Without utility-scale, wind, solar, and geothermal, we simply won't be able to meet future energy demands or reduce emissions of CO_2 and other types of pollution necessary to void the most serious impacts of climate change.

Without new utility-scale renewable projects, we won't be able to prevent new

sources of global warming pollution from coming online.

That's the end of my comments for this evening and, again, WRA will -- and possibly the other organizations in NCARE will be submitting more detailed comments by the deadline and we'll also be participating fully in this whole process. Thanks for what you're doing.

MS. HARTMANN: Did anyone else want to come up and make comments?

MR. GOEDHART: Got to watch out for this thing. It will bite back once in a while. For the record, Ed Goedhart. I'm the sitting State Representative for Assembly District 36. It covers a third of the State of Nevada. It covers Lincoln County, Nye, Esmerelda, Mineral, and part of Churchill. The reason why there's so few people out there is because you folks have about 98.1 percent ownership. So for the record, I'd like to say I live in the federally-occupied territory of

Nye County.

I want to say that I work with nature, too. I'm almost public enemy number one when it comes to a large part of the folks out there. I actually still am in the meat, the milk and beef business and still grow alfalfa, so -- but at the end of the day, we all realize we still need to drink milk and eat beef.

And I'm here to say that I'm a hundred percent for this renewable energy, particularly when it comes to solar. I believe if we can't make solar work in Nevada, then there is truly indeed something wrong with America. It really makes me sad. I harken back to the time when we had a President who said we're going to put a man on the moon in ten years and we did it in nine. I still think we as Americans sometimes get overburdened by bureaucracy and, in the name of political expediency, we place it with bureaucracy and we don't have to make a

decision. And we're losing our leadership in the world.

My constituents are asking me every single day, Ed, what are you doing to make sure we in America are going to preserve the environment, protect our national security, and still give us energy? And I think that in this whole discussion, we have to realize the urgency and the graveness of the situation in which we're facing, and I believe we can do both. I believe that we don't have to go overboard and have paralysis by over-analysis. We can still have smart, environmentally-friendly projects and we should get going and get started and start showing people around the world that we in America can still make something happen.

Thank you.

MS. HARTMANN: Anyone else?

(No response.)

Well, I want to encourage you to go on the website, to submit comments there that

you may not -- may think of later or mail them in to us. Thank you all for coming. We really appreciate your input. And keep up with the project. It will be going on for a while.

(Whereupon, the above-entitled matter adjourned at 7:50 p.m.)