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STATE OF CALIFORNIA
Energy Resources Conservation
and Development Commission

In the Matter of:

APPLICATION FOR CERTIFICATION) DOCKET NO. 09-AFC-7C
FOR THE PALEN SOLAR ELECTRIC)
GENERATING SYSTEM)
_____)

BASIN AND RANGE WATCH OPENING TESTIMONY OF KEVIN EMMERICH

June 23rd, 2014

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Basin and Range Watch is concerned that the obvious visual resource impacts that would be caused by the Palen Solar Power Project will also present a risk to public safety.

Basin and Range Watch has visited the public lands adjacent to the Ivanpah Solar Electric Generating System to take photos of visual “flash-glare” (reflections from heliostats) events from the heliostats on March, 2014, May, 2014 and June, 2014. Basin and Range Watch also has photo documentation of the visual flash from the heliostats from a jet about 20,000 feet above the project site.

On March 10th, 2014, the Las Vegas McCarrin International Airport and the Clark County Department of Aviation (CCDOA) raised concerns to the Bureau of Land Management, the California Energy Commission and BrightSource Energy about “blinding” glare coming off of the Ivanpah Solar Electric Generating System (ISEGS).

The Aviation Safety Reporting System forwarded to CCDOA the ASRS Alert regarding pilot complaints about glint and glare from the ISEGS facility.

The 2 reports raise immediate safety concerns. The pilots are quoted as saying in the first report:

“During the initial climb after a VFR departure from EVU (Boulder City airport) via GPS to the DAG VOR on an approximately heading of 225 the Co-pilot and I were distracted and momentarily blinded by the sun reflecting off of mirrors at the solar power plant facility located near the CANV border near the town of Primm. This solar power plant which I believe is still under construction consists of three massive circular arrays of thousands of mirrors oriented inward toward a central tower. As soon as we cleared the mountains southwest of EVU from 6,000 to 12,000 FT MSL still climbing there were three very bright reflections (one from each solar array) of the sun into the pilots and copilots eyes. The reflection from the northernmost array was the brightest and the largest and grew in size as we flew closer to the facility.

The flight path of our aircraft passed overhead of this facility. At its brightest neither the pilot nor co-pilot could look in that direction due to the intense brightness. From the pilot’s seat of my aircraft the brightness was like looking into the sun and it filled about 1/3 of the co-pilots front windshield. In my opinion the reflection from these mirrors was a hazard to flight because for a brief time I could not scan the sky in that direction to look for other aircraft.”

The synopsis of the event states: *“A flight crew experienced a very bright, intense light from three solar complexes which interfered with their ability to scan for traffic while climbing westbound between 6,000 and 12,000 feet along J60/V12 southwest of NATEE Intersection.”*

The second report states: *“There is a solar farm south of Las Vegas which is in Sector 6 and Sector 37’s airspace. Daily, during the late morning and early afternoon hours we get complaints from pilots of aircraft flying from the northeast to the southwest about the brightness of this solar farm. They usually ask us what it is because they don’t know. On this particular morning, an air carrier complained about the brightness and reiterated that it was “nearly blinding.” I reported this to Management and was told that they were going to do nothing about it. They then suggested that I tell the pilot to report it through the safety reporting system that they have and to report it myself. I have no idea what can be done about this situation, but being a passenger on an aircraft that flew*

through this airspace and saw it for myself, I would say that something needs to be done. It is extremely bright and distracting.”

The synopsis of the event states: *ZLA Controller relayed concerns expressed by flight crews overflying a solar farm south of LAS. Flight crews have noted the facility causes nearly blinding reflection.*

The report is linked here: http://docketpublic.energy.ca.gov/PublicDocuments/07-AFC-05C/TN201847_20140310T145948_ISEGS_Pilot_Visual_Complaint.pdf

On March 25th, 2014, the owners of ISEGS, NRG, responded by saying that the flash events occurred in August of 2013, during project construction and before the project was calibrated.

The response can be viewed here: http://docketpublic.energy.ca.gov/PublicDocuments/07-AFC-05C/TN201915_20140325T103225_Ivanpah_Solar_Electric_Generating_System_response_to_Clark_Coun.pdf

As recently as May 16th, 2014, Laura Cunningham of Basin and Range Watch took a commercial flight on Allegiant Air and took a photo of very bright constant glare from the tower and heliostats on Unit 3 of the ISEGS facility. The photo was taken from about 20,000 feet at a location over Lake Mead, just north of Boulder City, Nevada as the plane was ascending and heading east. The glare was the brightest light in the landscape and nothing in the metropolitan area of Las Vegas approached it in brightness. We will be submitting this as an exhibit.

In March 2014, May, 2014 and June, 2014, Basin and Range Watch made site visits to adjacent public lands to the ISEGS facility. We found from these visits that we experienced a very bright “flash” from one or more heliostats on an average of once every 30 minutes or less. We made these visits to the Coliseum Mine Road and above the project, the public access roads northeast of Unit three, the Yates Well Road and Highway 15. Some of the flashes were so bright, they could not be looked at for very long. We will be submitting some of the photos of these flash events as exhibits.

After our first visit, we called the ISEGS Compliance Project Manager to inquire about the severity of these flash events. We were told that once ISEGS is fully calibrated, that is not “supposed” to happen. But we were also told that the receiver towers cannot have all of the heat focused on them all day, especially during start up or else it would be damaged. That would suggest that the heliostats will be aimed towards a variety of different locations at different times of day. We also observed about one in ten heliostats on Unit Three in a horizontal position in both April and May of this year. If all of the heliostats cannot be focused on the tower each day, than it would be obvious that glare events will occur throughout the region. The ISEGS project officially went on line in February of 2014. For all intents and purposes, it is supposed to be calibrated by this time.

At this point, we have not seen the petitioner or NRG come up with an operation schedule that would at least warn pilots or other visitors to the region when and where these events may occur. This of course would relate to time of day, time of year and the operational requirements of the solar facilities. We have also not heard the petitioner for the Palen Solar Project offer to present their schedule of operation to pilots, hikers or other backcountry recreation users. Nor have we heard any meaningful discussion about curtailment of the facility during high recreation use days to offset potential dangerous glare events. It appears that the ISEGS facility was approved before the issue was fully addresses and we are worried that this will be yet another

unmitigable impact from the Palen Solar Project that will severely impact the visual landscape of the region and compromise the safety of the public.

Resume of Kevin Emmerich
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EDUCATION:

Utah State University, Logan, Utah 1981-1982

University of Utah, Salt Lake City, Utah 1983-1985

Major: Physical Geography

WORK EXPERIENCE:

Park Ranger, Natural Bridges National Monument

Duties:

Visitor interpretation and information and emergency response, trail and road patrols, resource monitoring projects-wildlife and plants. Survey and monitoring of archeology sites, park entrance fee collection. 1985,1987 to 1988.

Park Ranger, Grand Canyon National Park

Duties:

Visitor interpretation and information and emergency response, park entrance fee collection, assistance in backcountry management. 1988, to 1990.

Park Ranger, Bandelier National Monument

Duties:

Visitor interpretation and information, park entrance fee collection.
Backcountry trail patrol. Archeology site surveys. 1989-1990

Park Ranger, Great Basin National Park

Duties:

Visitor interpretation and information, park entrance fee collection. 1990,1991

Park Ranger, Death Valley National Park

Duties:

Visitor interpretation and information, park entrance fee collection, environmental education outreach, museum display, emergency response, resources monitoring projects on wildlife including bighorn sheep, desert tortoise, western toads, Panamint alligator lizards and Mojave fringe-toed lizards.

Served on backcountry and wilderness committees, evaluated management plans, and NEPA documents development projects. Visual resources were always a part of the evaluation. 1991 to 2002.

Recreation Technician,
Bureau of Land Management
San Juan Resource Area
Duties:

Checked permits and equipment of people taking raft, kayak and canoe trips down the San Juan " River in Southern Utah. River Patrols. Reviewed visual impact analysis. 1986

Recreation Technician,
Bureau of Land Management
Grand Resource Area

Duties:

Checked permits and equipment of people taking raft, kayak and canoe trips down the Colorado River in Westwater Canyon in Southern Utah. River Patrols. Reviewed visual impact analysis.

1987

VOLUNTEER EXPERIENCE

Park Volunteer
Arches National Park
Duties:

Visitor interpretation and information. 1987

Sunset Crater National Monument
Duties:

Visitor interpretation and information. 1985

OTHER:

Field Biologist for Chuckwalla Study in Death Valley National Park and region. Visual encounter surveys for repeat counts to estimate population trends over multi-year period, for the

Timbisha Shoshone Tribe. Concerns about declines noted by the Tribe triggered a long-term study on Chuckwalla feeding behavior, habitat, breeding areas, Traditional Ecological Knowledge, and potential threats. 2007-2009.

Volunteer in Desert tortoise study with Hal Avery, PhD, in southern Ivanpah Valley.

Radiotelemetry of tortoises, habitat surveys for tortoise forage and interaction with cattle, rainfall

measurement, X-ray of tortoises for egg counts. Spring and Fall 1999 and 2000. 400 hours

Field Biologist Assistant on Surveys for Tortoise on Blythe reservoir project.

Initial surveys for tortoise and sensitive species in Riverside County, California, for Edward LaRue. April 2000.

Volunteer Biology Survey: Desert Tortoise Natural Area.

50 hours, Spring, 1997

Field Biologist, Mojave fringe-toed lizard survey on OHV recreation areas. Work under David Morafka, PhD, for BLM study on affects of off-road recreation on lizard density, distribution, and population at Dumont Dunes and Razor Dunes. Area-constrained surveys and habitat characterization. Presence-absence surveys on other habitats in region. 2002.

Contributions to Morafka, David J. 2002. 1000 meter transect analyses of frequencies of Mojave fringed- toed lizards at ORV BLM sites at El Mirage Dry Lake, Razor Road, and Dumont Dunes, San Bernardino County, California, Summary Report for 2002 and recommendations for 2003. Prepared for Anteon Corporation.

Field Biologist, Mojave fringe-toed lizard surveys and genetic sampling. Work under David Morafka, PhD, at El Mirage Dry Lake, Coyote Holes, Silver Lake, Razor Dunes, Dumont Dunes, Ibex Dunes. 2001-2002. Contributions to Murphy, Robert W., Tanya L. Trepanier, and David J. Morafka. 2006. Conservation genetics, evolution, biogeography and distinct population Segments.

Basin and Range Watch: Since 2009, I have been a cofounder and activist for a grassroots volunteer conservation group called Basin and Range Watch. Our main focus has been to monitor and get involved with poorly sited large energy projects that are impacting our region.

Submitted June 23rd, 2014

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A handwritten signature in blue ink, appearing to read "Pauling A.", written on a light blue background.A handwritten signature in blue ink, appearing to read "Kevin Smith", written on a light yellow background.