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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 REBUTTAL TESTIMONY

July 17th, 2014

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We would like to submit this rebuttal testimony to TN# 202482, Ex.1134 - *Biological Resources Supplemental Opening Testimony Wally P. Erickson and Dr. Ken Levenstein Avian Impacts*. We would also like to add Laura Cunningham as an expert witness. The resume of Kevin Emmerich has been submitted in the Basin and Range Watch opening testimony

We would like to respond to the following items in applicant's opening testimony:

On Page 3: *"Some Parties have argued that the Committee should require years of data from ISEGS in order to be able to evaluate the potential impacts associated with highly concentrated solar flux for the PSEGS. However, the data on avian mortality from the various technologies and particularly the data from ongoing monitoring efforts at ISEGS, which began collecting data over a year ago, do not support such a contention".*

Response: It is our understanding that systematic surveys are still being tested as to methods that would be approved by the agencies, and the Technical Advisory Committee (TAC) is still discussing survey methods. There is not yet a complete list of survey results for the whole year and no surveys have yet taken place for the fall season.

The May, 2014 TAC Report for Ivanpah states that the USGS has not completed their survey. From the report:

"TAC Request: USGS performed a study on the site and the TAC noted that the equipment being tested may add to the understanding of the source of light flashes observed in the flux field. The TAC members agreed it was important to allow USGS to complete their tests and discussion of imagery techniques was tabled until the USGS tests the applicability of equipment and provides a summary of their results.

SP reported that the USGS employees were on the site and in the middle of their Spring 2014 study Period.

USGS will be back on the site in Fall 2014"

On Page 5- *"After the effects of climate change and habitat loss, studies to date have indicated the highest mortality of birds due to anthropogenic causes comes from predation by domestic and feral cats (Loss et al. 2013) followed closely behind by collisions with windows (e.g., from houses, office towers, commercial structures; Klem 2009)."*

One of the ways BrightSource intends to mitigate or offset flux kills for songbirds is by spaying and neutering feral cats. Feral cat populations are not likely to be large in the Chuckwalla Valley due to predators like coyotes, so this mitigation would have to take place elsewhere. Specifically, this mitigation would not be meaningful in areas outside of the Colorado River section of the Pacific Flyway.

Compensatory mitigation of spaying and neutering feral domestic cats in urbanized settings would not compensate for the deaths of songbirds at the Palen site. The species of birds would be very different. Cats prey mostly on common urban species that are often introduced from Europe such as house sparrows. The Palen site would have native desert species such as loggerhead shrikes, black-throated sparrows, verdins, and blue-gray gnatcatchers. Destruction of desert bird habitat and solar flux mortality in a wild desert valley will not be mitigated by controlling cat populations in urban areas, urban fringes and small communities. These

areas are quite different than un-fragmented desert ecosystems. BrightSource has not provided a list of songbird species that would be saved with this mitigation.

Furthermore, it seems to be a value judgment on the part of the applicant to suggest that this mitigation would somehow provide ecological compensation for the damage inflicted by their proposed project. To simply say the solar flux kills and injuries would not be as significant if feral cats are sterilized avoids the actual challenge of finding a mitigation that works – which the applicant has failed to find.

On Page 6: *“This curtailment approach has been considered feasible in some cases at wind energy facilities because the turbines can be controlled individually, and the turbine rotors or blades can be slowed to*

decrease risk to birds in less than a minute or so. The technology at a concentrated solar facility cannot be changed in such short order, so a similar curtailment application like the one at Ocotillo and other wind energy projects is not possible for this facility. As described in the Exhibit 1137, Biological Resources Supplemental Opening Testimony of Gustavo Buhacoff, it would take up to 30 minutes to discontinue production of highly concentrated solar flux by moving the heliostats from focusing on the receiver to the stow position.”

As we have mentioned in our opening brief, curtailment mitigation should be considered not as an immediate approach to shutting down the flux. We are in agreement that this would take too long to be effective. We have requested curtailment that would last a couple of weeks or even months during spring and fall migration. While this would take some planning a consideration based of specific species, it possibly would be the only effective mitigation measure that would prevent avian kills and injuries from the solar flux.

Resume of Laura Cunningham:

Laura Cunningham

Education

Bachelor of Science,
Paleontology, University of
California at Berkeley, 1990

Graduate Certificate, Natural
Science Illustration, Science
Communication Program,
University of California at Santa
Cruz, 1991

Special Training

Desert Tortoise Council
workshop on environmental
compliance on construction
projects, 1999

Conservation biology seminar,
University of Texas at Austin,
2000

Analysis and comments on
environmental review
documents at the NEPA and
CEQA level for various
renewable energy projects in
California and Nevada, 2008 -
2011

Professional Memberships

Wildlife Society

Wildlife Biologist

Worked as a Wildlife Biologist from 1992 and continuing for various agencies including California Department of Fish and Game, United States Geological Survey – Biological Resources Division, Bureau of Land Management, for academic research projects, and as a private contractor carrying out environmental monitoring for projects in the Mojave Desert of California. Conducted presence/absence surveys for desert tortoise. Conducted clearance surveys for desert tortoise. Conducted radiotelemetry monitoring of desert tortoise. Handled nests and eggs of desert tortoise. Conducted inventory and monitoring of reptiles and amphibians in Death Valley National Park. As project manager designed and implemented pitfall trap surveys, visual encounter surveys, and habitat sampling for Panamint alligator lizard. Conducted breeding surveys and population density surveys for foothill yellow-legged frog, mountain yellow-legged frog, red-legged frog, Yosemite toad, Black toad, and Amargosa toad. Conducted breeding bird surveys for Least Bell's vireo, inland Snowy plovers, and general breeding bird transects in the Great Basin. Conducted small mammal trapping transects in the Mojave Desert. Conducted monitoring activities for desert tortoise on fiber optic cable and building construction in the Mojave Desert.

Construction Monitoring

Hyundai/Kia California Proving Ground—3/2004 – 5/2004 and 10/2004, Kern County, California

Performed pre-construction clearance surveys for desert tortoise and monitored construction activities for road construction, building construction, fence construction. Construction equipment included scrapers, graders, dozers, and water trucks. Monitored and documented the avoidance of resources, including Joshua trees, breeding birds, raptors, and burrowing owls.

Nellis Air Range— 5/2004 to 6/2004, Clark County, Nevada

Performed monitoring for desert tortoise around construction for new buildings and roads. Construction equipment included graders, dozers, and cranes.

IXC Fiber Optic Longhaul Project, North State Resources, Inc. — 10/1997, Palmdale, Los Angeles County to Victorville, San Bernardino County, California

Performed construction monitoring for desert tortoise along road-side and desert fiber optic line. Equipment included dozers, trenchers, graders.

Nesting Bird Surveys

Hyundai/Kia California Proving Ground—3/2004 – 5/2004 and 10/2004, Kern County, California

Implemented project compliance for nesting birds on a large construction site, surveying for nesting birds, setting up nest buffers, and monitoring for activity. Species include LeConte's thrasher, Cactus wren, Black-throated sparrow, Sage sparrow, Mourning dove, and Red-tailed hawk.

Nellis Air Range—5/2004 to 6/2004, Clark County, Nevada

Nesting bird compliance work in a construction site, with species including Black-throated sparrow, LeConte's thrasher, Horned lark, Say's phoebe, Western meadowlark.

Species

Burrowing Owl

Hyundai/Kia California Proving Ground—3/2004 – 5/2004 and 10/2004, Kern County, California

Visual observation of birds and sign.

University of California at Riverside study on desert tortoise and grazing, 4/2000 and 9/2000, Ivanpah Valley, San Bernardino County, California

Visual observation of birds and sign.

Flat-tailed horned lizard surveys for Bureau of Land Management, 5/1996, Imperial County, California

Visual observation of birds and sign, transect counts in East Mesa and West Mesa.

Bats

California Department of Fish and Game, 3/1992 – 11/1992 and 6/1993 – 12/1996, Bishop, Inyo County, California
Cave and mine shaft surveys for bat presence. Pallid bat.

US Geological Survey – BRD, 3/1994 – 10/1994 and 3/1995 – 10/1995, Yosemite National Park, Tuolumne, Mariposa, and Madera Counties, and Sequoia-Kings Canyon National Park, Tulare and Fresno Counties, California
Surveys for Spotted bat and Western mastiff bat.

Desert Tortoise

Hyundai/Kia California Proving Ground—3/2004 – 5/2004 and 10/2004, Kern County, California

Clearance surveys, visual observations of tortoises and sign, construction monitoring.

Nellis Air Range—5/2004 to 6/2004, Clark County, Nevada

Handling, egg and nest handling, construction monitoring, observation of tortoises and sign.

Blythe Detention Basin, 4/2000, Riverside County, California

Presence/absence surveys and observation of sign.

IXC Fiber Optic Longhaul Project, North State Resources, Inc. — 10/1997, Palmdale, Los Angeles County to Victorville, San Bernardino County, California

Construction monitoring and observation of sign.

University of California at Riverside study on desert tortoise and grazing, 4/2000 and 9/2000, Ivanpah Valley, San Bernardino County, California

Handling, radiotelemetry of tortoises, visual observation of tortoises and sign.

Riparian Birds

Least Bell's vireo survey, 5/2006, Surprise Canyon, Inyo County, California

Presence survey for Bureau of Land Management using US Fish and Wildlife Service protocol for detecting Least Bell's vireo.

Kern River Preserve, 5/1999, Kern County, California

Tour of Southwestern willow flycatcher breeding habitat, behavior, and nesting with preserve manager.

Desert Kit Fox

Hyundai/Kia California Proving Ground—3/2004 – 5/2004 and 10/2004, Kern County, California

Visual observation of foxes and sign.

Nellis Air Range—5/2004 to 6/2004, Clark County, Nevada

Visual observation of foxes and sign.

IXC Fiber Optic Longhaul Project, North State Resources, Inc. — 10/1997, Palmdale, Los Angeles County to Victorville, San Bernardino County, California

Visual observation of foxes and sign.

Golden Eagle

IXC Fiber Optic Longhaul Project, North State Resources, Inc. — 10/1997, Palmdale, Los Angeles County to Victorville, San Bernardino County, California

Visual observation of eagles.

Breeding bird surveys for Great Basin Bird Observatory, 6/2005, Nye and Mineral Counties, California

Line transects, auditory surveys, visual encounter surveys, nest surveys.

Swainson's hawk

IXC Fiber Optic Longhaul Project, North State Resources, Inc. — 10/1997, Palmdale, Los Angeles County to Victorville, San Bernardino County, California

Visual observation.

Small Mammals

Small mammal inventory, 6/1985, Granite Mountains, University of California, San Bernardino County, California

Live trapping transects in Mojave Desert scrub and montane habitats. Rodent species diversity survey.

Inventory and Monitoring Program, USGS-BRD, 4/2002 – 10/2002 and 4/2002 – 9/2003, Death Valley National Park, Inyo County, California

Pitfall trapping for shrew species diversity.

Desert Woodrat

USGS-BRD Species at Risk Program for Panamint alligator lizard, 1/2001 to 3/2004, Inyo and Mono Counties, California

Survey of woodrat sign, nests, and habitat.

Mohave Ground Squirrel

Rand Mountains tortoise translocation site monitoring on Hyundai/Kia California Proving Ground Project, 5/2004, Kern County, California

Visual observation.

Botanical

USGS-BRD Species at Risk Program for Panamint alligator lizard, 1/2001 to 3/2004, Inyo and Mono Counties, California

Plant species identification, vegetation typing, and vegetation community measurements.

California Department of Fish and Game, 3/1992 – 11/1992 and 6/1993 – 12/1996, Bishop, Inyo County, California
Plant species identification for habitat measurements in wetlands.

Fish

California Department of Fish and Game, 3/1992 – 11/1992 and 6/1993 – 12/1996, Bishop, Inyo County, California
Population density surveys for Owens pupfish, Owens tui chub, Owens sucker, Speckled dace. Habitat restoration of wetlands for native fish. Stream habitat surveys and measurements for trout in Long Valley, Inyo County. Surveys and habitat restoration for Lahontan cutthroat trout and Paiute cutthroat trout.

California Department of Fish and Game, 6/1993 – 7/1996, Ventura and Riverside Counties, California
Stream habitat surveys and fish surveys for Steelhead trout in southern California streams.

The Nature Conservancy preserves, 7/2008 – 9/2008, Nye County, Nevada
Oasis Valley speckled dace surveys and habitat restoration.

Frogs

The Nature Conservancy preserves, 2/2008 – 6/2008, Nye County, Nevada
Adult night counts of Amargosa toad, larval and egg counts, habitat restoration of breeding pools.

US Geological Survey – BRD, 3/1994 – 10/1994 and 3/1995 – 10/1995, Yosemite National Park, Tuolumne, Mariposa, and Madera Counties, and Sequoia-Kings Canyon National Park, Tulare and Fresno Counties, and Central Valley and Foothill habitats from Shasta County to Tulare County, California
Declining Amphibian Program work carrying out visual encounter surveys, night surveys, patch surveys, measuring habitat characters, collecting blood for hormone studies, for Foothill yellow-legged frog, Mountain yellow-legged frog, Red-legged frog, and Yosemite toad.

Inventory and Monitoring Program, USGS-BRD, 4/2002 – 10/2002 and 4/2002 – 9/2003, Death Valley National Park, Inyo County, California

Visual encounter surveys, night surveys, patch surveys to inventory amphibian species diversity.

California Department of Fish and Game, 3/1992 – 11/1992 and 6/1993 – 12/1996, Bishop, Inyo County, California
Visual encounter surveys, patch surveys for Black toad and Mountain yellow-legged frog.

Pond Turtle

US Geological Survey – BRD, 3/1994 – 10/1994 and 3/1995 – 10/1995, Yosemite National Park, Tuolumne, Mariposa, and Madera Counties, and Sequoia-Kings Canyon National Park, Tulare and Fresno Counties, and Central Valley and Foothill habitats from Shasta County to Tulare County, California
Visual Encounter Surveys for Western pond turtle.

Snakes and Newt

Inventory and Monitoring Program, USGS-BRD, 4/2002 – 10/2002 and 4/2002 – 9/2003, Death Valley National Park, Inyo County, California

Pitfall trapping, Visual Encounter Surveys, Night Surveys for snake species diversity.

US Geological Survey – BRD, 3/1994 – 10/1994 and 3/1995 – 10/1995, Yosemite National Park, Tuolumne, Mariposa, and Madera Counties, and Sequoia-Kings Canyon National Park, Tulare and Fresno Counties, and Central Valley and Foothill habitats from Shasta County to Tulare County, California

Stream surveys for garter snakes, Visual Encounter Surveys for snakes.

Submitted July 17th, 2014

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