

ADAMS BROADWELL JOSEPH & CARDOZO

A PROFESSIONAL CORPORATION

ATTORNEYS AT LAW

601 GATEWAY BOULEVARD, SUITE 1000
SOUTH SAN FRANCISCO, CA 94080-7037

TEL: (650) 589-1660
FAX: (650) 589-5062

lmiles@adamsbroadwell.com

SACRAMENTO OFFICE

520 CAPITOL MALL, SUITE 350
SACRAMENTO, CA 95814-4721

TEL: (916) 444-6201
FAX: (916) 444-6209

DANIEL L. CARDOZO
THOMAS A. ENSLOW
TANYA A. GULESSERIAN
JASON W. HOLDER
MARC D. JOSEPH
ELIZABETH KLEBANER
RACHAEL E. KOSS
LOULENA A. MILES
ROBYN C. PURCHIA

FELLOW
AARON G. EZROJ

OF COUNSEL
THOMAS R. ADAMS
ANN BROADWELL
GLORIA D. SMITH

July 29, 2010

DOCKET 08-AFC-13
DATE <u>JUL 29 2010</u>
RECD. <u>JUL 29 2010</u>

California Energy Commission
Attn: Docket Office, 08-AFC-13
1516 Ninth Street
Sacramento, CA 95814

Re: Calico Solar; Docket No. 08-AFC-13

Dear Docket Clerk:

Please process the enclosed REBUTTAL TESTIMONY OF VERNON BLEICH ON BEHALF OF CALIFORNIA UNIONS FOR RELIABLE ENERGY ON BIOLOGICAL RESOURCES FOR THE CALICO SOLAR PROJECT, conform the copy of the enclosed letter, and return the copy in the envelope provided.

Thank you.

Sincerely,

/s/

Loulena A. Miles

LAM:bh
Enclosures

2309-082a

STATE OF CALIFORNIA
California Energy Commission

In the Matter of:

The Application for Certification
for the **CALICO SOLAR PROJECT**
(formerly SES Solar One)

Docket No. 08-AFC-13

REBUTTAL TESTIMONY OF VERNON BLEICH
ON BEHALF OF CALIFORNIA UNIONS FOR RELIABLE ENERGY
ON BIOLOGICAL RESOURCES
FOR THE CALICO SOLAR PROJECT

July 29, 2010

Loulena A. Miles
Tanya A. Gulesserian
Adams Broadwell Joseph & Cardozo
601 Gateway Boulevard, Suite 1000
South San Francisco, CA 94080
(650) 589-1660 Voice
(650) 589-5062 Facsimile
lmiles@adamsbroadwell.com
tgulesserian@adamsbroadwell.com

Attorneys for the CALIFORNIA
UNIONS FOR RELIABLE ENERGY

I. Introduction

The Supplemental Staff Assessment for the Calico Solar Project (SSA) recognizes the potential for the project to eliminate habitat for bighorn sheep.¹ The footprint of the Project has been reduced by approximately 25%, and has been moved southward toward Interstate Highway 40, with the result that a smaller proportion of the south-facing slopes of the Cady Mountains will be impacted.² The SSA also indicates that the Applicant will provide access to concerned parties for the purposes of servicing an *existing* artificial water development that is currently heavily used by bighorn sheep in the southwestern portion of the Cady Mountains.³ Regardless, nearly 1,100 acres of habitat currently available to bighorn sheep for foraging will be permanently lost, and an additional 400 acres of spring foraging habitat will incur secondary impacts associated with noise impacts along the northern boundary of the Project.⁴ These losses, when coupled with other sources of disturbance (SunCatcher noise, avoidance of manmade structures and activity and surrounding habitat; increased disturbance from public traffic on a new northern boundary road; and the introduction or spread of non-native, invasive plants)⁵ to which sheep may be sensitive, are significant, and have the potential to negatively impact the population of bighorn sheep inhabiting the Cady Mountains.

Recognition of the potential for the Project to impact bighorn sheep habitat, and the resultant decrease in the size of the footprint of the Project are positive departures from the Staff Assessment, which largely failed to consider impacts to bighorn sheep. However, the conclusion that the Project "[i]s not expected to result in a significant loss of habitat" is wholly inappropriate.⁶ The SSA also recognizes that the Project has the potential to "[a]ct as a barrier to movement for sheep using the south side of the Cady Mountains or their foothills to traverse to [what are described in the SSA as] winter ranges in the Bristol Mountains"⁷ but Staff unfortunately has indicated that "[t]he proposed project is not expected to pose serious restrictions to movements for bighorn sheep."⁸ This is perplexing, because the Project site is located in an area identified as an essential biological connectivity area between the Bristol and Ord Mountains (Spencer et al. 2010).^{9 10}

¹ Calico Solar Plant Supplemental Staff Assessment (SSA) page C.2-5.

² SSA page C.2-100.

³ SSA page C.2-232.

⁴ SSA page C.2-5.

⁵ SSA page C.2-5.

⁶ SSA page C.2-93.

⁷ SSA page C.2-5.

⁸ SSA page C.2-93.

⁹ Spencer, W. D., P. Beier, K. Penrod, K. Winters, C. Paulman, H. Rustigian-Romsos, J. Strittholt, M. Parisi, and A. Pettler. 2010. California Essential Habitat Connectivity Project: A Strategy for Conserving a Connected California. Prepared for California Department of Transportation, California Department of Fish and Game, and Federal Highways Administration.

¹⁰ SSA page C.2-16.

The Cady Mountains, which are inhabited by a population of at least 300 bighorn sheep,¹¹ represents the westernmost subpopulation of bighorn sheep in the Central Mojave Metapopulation and, because of its size, has a greater potential to produce emigrants than most other subpopulations that comprise the Central Mojave Metapopulation, and is the closest large population to the Newberry Mountains and Ord Mountains, which lie southwest of the Project site, albeit on the south side of Interstate Highway 40 (and which should not be considered a total barrier to movement, based on observations elsewhere).^{12 13} Moreover, the SSA fails to note the potential for the Project to impact the probability of animals immigrating into the Cady Mountains from the Newberry or Ord Mountains. Emigration, immigration, and gene flow are necessary components of metapopulation function, and likely occur at low rates within metapopulations of bighorn sheep;¹⁴ thus, Staff has erred (in the absence of information to the contrary) in concluding that the Project will not have a significant impact on bighorn sheep and that the Project does not pose serious restrictions to movement by bighorn sheep.¹⁵ This conclusion is especially onerous given that the Project is proposed within an area identified as an essential biological connectivity area between the Bristol and Ord Mountains.¹⁶

My testimony addresses three issues germane to this Project. First, I address the failure of the SSA to mitigation for the combined direct and indirect loss of nearly 3 square miles of bighorn sheep habitat. Secondly, I address the failure of the SSA to require mitigation for impacts of the Project to connectivity among bighorn sheep subpopulations comprising the Central Mojave Metapopulation. My third concern addresses the inappropriateness of what Staff has proposed as mitigation to offset impacts of project construction on bighorn sheep.

II. The SSA fails to mitigate for the loss of 1,500 acres of bighorn sheep habitat

Bighorn sheep are large, vagile mammals that occur largely in disjunct subpopulations that are distributed across the landscape and that comprise metapopulations.^{17 18 19 20} The majority of the area occupied by bighorn sheep is not

¹¹ SSA page C.2-93

¹² Torres, S., G. Mulcahy, B. Gonzales, A. Pauli, and N. Andrew. 2000. Human induced migration and homing behavior of a desert bighorn ram in the Whipple mountains, California: or, Herman, the trailer park ram. *Desert Bighorn Council Transactions* 44:13.

¹³ Telephone Conversation with Mr. Randy Botta, California Department of Fish and Game, regarding bighorn sheep use of habitat adjacent to Interstate Highway 8, 24 March 2010.

¹⁴ Schwartz, O. A., V. C. Bleich, and S. A. Holl. 1986. Genetics and the conservation of mountain sheep *Ovis canadensis nelsoni*. *Biological Conservation* 37:179-190.

¹⁵ SSA, page C-2.94.

¹⁶ Spencer, W. D., P. Beier, K. Penrod, K. Winters, C. Paulman, H. Rustigian-Romsos, J. Strittholt, M. Parisi, and A. Pettler. 2010. California Essential Habitat Connectivity Project: A Strategy for Conserving a Connected California. Prepared for California Department of Transportation, California Department of Fish and Game, and Federal Highways Administration.

¹⁷ Schwartz, O. A., V. C. Bleich, and S. A. Holl. 1986. Genetics and the conservation of mountain sheep *Ovis canadensis nelsoni*. *Biological Conservation* 37:179-190.

¹⁸ Bleich, V. C., J. D. Wehausen, and S. A. Holl. 1990. Desert-dwelling mountain sheep: conservation implications of a naturally fragmented distribution. *Conservation Biology* 4:383-390.

utilized on a permanent basis; instead, use of specific areas varies with environmental conditions, season, temperature, and other factors that affect resource availability and, ultimately, population performance.²¹ Although bighorn sheep occur over large areas, all areas utilized by bighorn sheep are necessary for their continued existence.²² The presence of bighorn sheep sign and remains adjacent to the Project site²³ provide compelling evidence that the site has been utilized by bighorn sheep in the past and that use would occur in the future in the absence of Project implementation. The SSA acknowledges that, "[i]t is likely that bighorn sheep use portions of the site for foraging and possibly inter-mountain movement to some degree."²⁴ Thus, the conclusion that the destruction of nearly 1,100 acres, and associated indirect impacts to another 400 acres, of bighorn sheep habitat (which total nearly 3 square miles in area) "[i]s not expected to result in a significant loss of habitat"²⁵ is not defensible.

It is inconceivable that the applicant is not being required to mitigate for the loss of nearly 3 square miles of habitat that clearly is of importance to bighorn sheep for foraging, at least on a seasonal basis. Such mitigation would best take one of two, or a combination of two, options, but first would require a detailed investigation of bighorn sheep in the Cady Mountains using radiotelemetry, which would provide data necessary to develop a habitat selection model that would be used to determine the most efficacious form of mitigation.

III. The SSA fails to mitigate for impacts to potential movements by bighorn sheep

As a result of the telemetry investigation, the Applicant would be able to make an informed decision regarding the type of mitigation to be implemented. Overall, the long-term objective should be one of enhancing the likelihood of persistence of bighorn sheep in the Cady Mountains, and maximizing the probability of maintaining connectivity between the Cady Mountains, and other ranges that comprise the Central Mojave Metapopulation. Epps et al. (2010) emphasized the importance of "[m]aintaining connectivity and the potential for recolonization by avoiding disruption of natural dispersal routes..." and further recommended bridging anthropogenic barriers to help ensure connectivity among subpopulations of bighorn sheep.²⁶ Consistent with this recommendation, the bridging of anthropogenic barriers was suggested by the Western

¹⁹ Bleich, V. C., J. D. Wehausen, R. R. Ramey II, and J. L. Rechel. 1996. Metapopulation theory and mountain sheep: implications for conservation. Pages 353-373 in D. R. McCullough (editor). *Metapopulations and wildlife conservation*. Island Press, Covelo, California.

²⁰ Epps, C. W., J. D. Wehausen, V. C. Bleich, S. G. Torres, and J. S. Brashares. 2007. Optimizing dispersal and corridor models using landscape genetics. *Journal of Applied Ecology* 44:714-724.

²¹ Wehausen, J. D. 2005. Nutrient predictability, birthing seasons, and lamb recruitment for desert bighorn sheep. Pages 37-50 in J. Goerriksen and J. M. Andre, editors. *Sweeney Granite Mountains Desert Research Center 1978-2003. A Quarter Century of Research and Teaching*. University of California Natural Reserve System, Riverside, California, USA.

²² Wilson, L. O. xx

²³ SSA, page C.2-93.

²⁴ SSA, page C.2-94.

²⁵ SSA, page C.2-94.

²⁶ Epps, C. W., J. D. Wehausen, P. J. Palsboll, and D. R. McCullough. 2010. Using genetic tools to track desert bighorn sheep colonizations. *Journal of Wildlife Management* 74:522-531.

Watersheds Project as one form of mitigation, but was summarily rejected. Unfortunately, and without evidence to the contrary, Staff clearly concluded "[t]hat land bridges are not necessary to mitigate the project's impacts to biological connectivity, including impacts to bighorn sheep connectivity."²⁷ Nevertheless, Staff has repeatedly acknowledged the potential for the Project to impact connectivity.²⁸

IV. Some proposed mitigation may be more harmful than helpful to bighorn sheep

Mitigation stipulated in BIO-23 is intended to offset the potential for disturbance of bighorn sheep during the construction phase of Project implementation.²⁹ As stipulated in BIO-23, construction activities are expected to cease whenever bighorn sheep are observed within 500 feet of any construction activity, and construction would be halted until bighorn sheep no longer are within 500 feet of that activity. Although this is a well-intentioned stipulation, it is my professional opinion that the uncertainty associated with the cessation and resumption of construction activities would, in reality, be of greater concern to bighorn sheep than would continuation of those activities. Bighorn sheep are highly adaptable creatures, and co-exist with *predictable* sources of disturbance in numerous situations that include ongoing mining activity,^{30 31 32 33} recreational pursuits,³⁴ interstate freeways,^{35 36} and urbanized areas.³⁷

A requirement that bighorn sheep repeatedly be exposed to the cessation and commencement of construction activities, as a function of the distance to those construction activities, is irresponsible considering the level of uncertainty associated with decisions to cease or begin construction. Bighorn sheep can habituate to disturbance if the disturbance is predictable in that it occurs in the same locations, is consistent, and is not perceived as threatening.^{38 39 40 41} Indeed, it is the lack of predictability of some

²⁷ SSA, page C.2-161.

²⁸ SSA, pages C.2-98, C.2-99, C.2-130.

²⁹ SSA, page C.2-331 – C.2-332

³⁰ Bleich, V. C., J. H. Davis, J. P. Marshal, S. G. Torres, and B. G. Gonzales. 2009. Mining activity and habitat use by mountain sheep (*Ovis canadensis*). *European Journal of Wildlife Research* 55:183-191.

³¹ Divine, D. D., and C. L. Douglas. 1996. Bighorn sheep monitoring program for the Eagle Mountain landfill project: phase one report. Cooperative National Park Studies Unit, National Biological Service, University of Nevada, Las Vegas, USA.

³² Jansen, B. D., P. R. Krausman, J. R. Heffelfinger, and J. C. deVos. 2006. Bighorn sheep selection of landscape features in an active copper mine. *Wildlife Society Bulletin* 34:1121-1126.

³³ Oehler M. W., Sr., V. C. Bleich, R. T. Bowyer, and M. C. Nicholson. 2005. Mountain sheep and mining: implications for conservation and management. *California Fish and Game* 91:149-178.

³⁴ Papouchis, C. M., F. J. Singer, and W. B. Sloan. 2001. Responses of desert bighorn sheep to increased human recreation. *Journal of Wildlife Management* 65:573-582.

³⁵ Telephone Conversation with Mr. Randy Botta, California Department of Fish and Game, regarding bighorn sheep use of habitat adjacent to Interstate Highway 8, 24 March 2010.

³⁶ Annual observations of Dr. Vernon Bleich with respect to bighorn sheep use of habitat adjacent to Interstate Highway 40 in the Marble Mountains, San Bernardino County, 1978 – 2006.

³⁷ Rubin, E. S., W. M. Boyce, C. J. Stermer, and S. G. Torres. 2002. Bighorn sheep habitat use and selection near an urban environment. *Biological Conservation* 104:251-263.

³⁸ Geist, V. 1975. On the management of mountain sheep: theoretical considerations. Pages 77-105 in J. B. Trefethen (editor). *The wild sheep in modern North America*. The Winchester Press, New York.

disturbance factor (which can be described as unexpected disturbance) that would be most detrimental to bighorn sheep.⁴² Repeated cessation and resumption of construction activities as a response to bighorn sheep approaching a construction site is a prime example of unexpected disturbance, and likely would be manifested in altered behavioral patterns, including the repeated disruption of foraging activities.⁴³

It is my professional opinion that bighorn sheep in the Cady Mountains will incur fewer intrusions upon their behavior if construction activities proceed in a predictable manner (i.e., they are ongoing constantly) that bighorn sheep can expect to occur, rather than in a manner that makes it impossible for a sheep to decide to approach or stay away from an ongoing activity. Thus, BIO-23 offers nothing in terms of mitigation for the loss of nearly 3 square miles of habitat and the potential disruption of connectivity but, instead, exacerbates that already unfortunate situation.

³⁹ Graham, H. 1980. The impact of modern man. Pages 288-309 *in* G. Monson and L. Sumner (editors). *The desert bighorn: its life history, ecology, and management*. University of Arizona Press, Tucson.

⁴⁰ Wehausen, J. D., L. L. Hicks, D. P. Garber, and J. Elder. 1977. Bighorn sheep management in the Sierra Nevada. *Transactions of the Desert Bighorn Council* 21:30-32.

⁴¹ Papouchis, C. M., F. J. Singer, and W. B. Sloan. 2001. Responses of desert bighorn sheep to increased human recreation. *Journal of Wildlife Management* 65:573–582.

⁴² Geist, V. 1975. On the management of mountain sheep: theoretical considerations. Pages 77-105 *in* J. B. Trefethen (editor). *The wild sheep in modern North America*. The Winchester Press, New York.

⁴³ Oehler M. W., Sr., V. C. Bleich, R. T. Bowyer, and M. C. Nicholson. 2005. Mountain sheep and mining: implications for conservation and management. *California Fish and Game* 91:149–178.

DECLARATION OF VERON C. BLEICH
CALICO SOLAR PROJECT
08-AFC-13

I, Vernon C. Bleich, declare as follows:

1. I recently retired from the California Department of Fish and Game, where I worked extensively and primarily with large mammals in the arid ecosystems that characterize eastern and southeastern California. As a private citizen, I currently offer expertise with respect to natural resource conservation issues.
2. I hold an M.A. degree in biology, and a Ph.D. in wildlife biology. My relevant professional qualifications and experience are set forth in the attached *curriculum vitae* and the attached testimony, and are incorporated herein by reference.
3. I prepared the testimony attached hereto and incorporated herein by reference as it relates to the Supplemental Staff Assessment prepared for the project known as the Calico Solar Project.
4. It is my professional opinion that the attached testimony is true and accurate.
5. I am personally familiar with the facts and conclusions described within the attached testimony and if called as a witness, I could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: July 29, 2010.

Signed 

At: BISHOP, CA

Calico Solar – 08-AFC-13
DECLARATION OF SERVICE

I, Bonnie Heeley, declare that on July 29, 2010, I served and filed copies of the attached Rebuttal Testimony of Vernon Bleich on Behalf of California Unions for Reliable Energy on Biological Resources for the Calico Solar Project dated July 29, 2010. The original document, filed with the Docket Unit, is accompanied by a copy of the most recent Proof of Service list, located on the web page for this project at www.energy.ca.gov/sitingcases/calicosolar/CalicoSolar_POS.pdf. The document has been sent to both the other parties in this proceeding as shown on the Proof of Service list and to the Commission's Docket Unit electronically to all email addresses on the Proof of Service list; and by depositing in the U.S. mail at South San Francisco, CA, with first-class postage thereon fully prepaid and addressed as provided on the Proof of Service list to those addresses NOT marked "email preferred."

AND

By sending an original paper copy and one electronic copy, mailed and emailed respectively to:

CALIFORNIA ENERGY COMMISSION

Attn: Docket No. 08-AFC-13
1516 Ninth Street, MS 4
Sacramento, CA 95814-5512
docket@energy.state.us.ca.

I declare under penalty of perjury that the foregoing is true and correct. Executed at South San Francisco, CA, on July 29, 2010

_____/s/_____
Bonnie Heeley

CALIFORNIA ENERGY COMMISSION
Attn: Docket No. 08AFC13
1516 Ninth Street, MS-4
Sacramento, CA 95184
docket@energy.state.ca.us

Felicia Bellows
Vice President, Development
Tessera Solar
4800 North Scottsdale Road
Suite 5500
Scottsdale, AZ 85251
Felicia.bellows@tesseractosolar.com

Gloria D. Smith, Sr. Atty.
Sierra Club
85 Second Street, 2nd Flr.
San Francisco, CA 94105
Gloria.smith@sierraclub.org

Angela Leiba
AFC Project Manager
URS Corporation
1615 Murray Canyon Rd., #1000
San Diego, CA 92108
Angela_Leiba@URSCorp.com

Allan J. Thompson
Attorney at Law
21 C Orinda Way #314
Orinda, CA 94563
allanori@comcast.net

Jim Stobaugh
BLM-Nevada State Office
PO Box 12000
Reno, NV 89520
Jim_stobaugh@blm.gov

Rich Rotte, Project Mgr.
Bureau of Land Management
Barstow Field Office
2601 Barstow Road
Barstow, CA 92311
Richard_Rotte@blm.gov

Anthony Eggert
Commissioner & Presiding Member
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814
aeggert@energy.state.ca.us

Jeffrey D. Byron
Commissioner & Associate Member
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814
jbyron@energy.state.ca.us

Paul Kramer
Hearing Officer
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814
pkramer@energy.state.ca.us

Caryn Holmes
Staff Counsel
California Energy Commission
1516 Ninth Street MS-14
Sacramento, CA 95814
cholmes@energy.state.ca.us

Christopher Meyer
Project Manager
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814
cmeyer@energy.state.ca.us

Ella Foley Gannon, Partner
Bingham McCutchen, LLP
Three Embarcadero Center
San Francisco, CA 94111
Ella.gannon@bingham.com

Loulena Miles
Adams Broadwell Joseph & Cardozo
601 Gateway Boulevard, Suite 1000
South San Francisco, CA 94080
lmiles@adamsbroadwell.com

Becky Jones
California Department of Fish &
Game
36431 41st Street East
Palmdale, CA 93552
dfgpalm@adelphia.net

Basin & Range Watch
Laura Cunningham
Kevin Emmerich
PO Box 70
Beatty, NV 89003
atmoictoadranch@netzero.net

Patrick C. Jackson
E-MAIL PREFERRED
ochsjack@earthlink.net

California ISO
e-recipient@caiso.com

Defenders of Wildlife
Joshua Basofin
EMAIL PREFERRED
jbasonfin@defenders.org

Kristy Chew, Adviser to
Commissioner Byron
EMAIL PREFERRED
kchew@energy.state.ca.us

Society for the Conservation of
Bighorn Sheep
Bob Burke & Gary Thomas
PO Box 1407
Yermo, CA 92398
Cameracoordinator@
sheepsociety.com

Steve Adams, Co-Staff Counsel
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814
sadams@energy.state.ca.us

Jennifer Jennings
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814
publicadviser@energy.state.ca.us

County of San Bernardino
Ruth E. Stringer, Co. Counsel
Bart W. Brizzee, Dpty. Co.Co.
385 N. Arrowhead Ave., 4th Flr.
San Bernardino, CA 92415-0140
bbrizzee@cc.sbcounty.gov

Newberry Community Service District
Wayne W. Weierbach
PO box 206
Newberry Springs, CA 92365
newberryCSD@gmail.com

Lorraine White, Adviser to
Commissioner Eggert
EMAIL PREFERRED
lwhite@energy.state.ca.us