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
tgulesserian@adamsbroadwell.com

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

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

SACRAMENTO OFFICE
520 CAPITOL MALL, SUITE 350
SACRAMENTO, CA 95814-4715
TEL: (916) 444-6201
FAX: (916) 444-6209

March 11, 2010

CALIFORNIA ENERGY COMMISSION
Attn: Docket No. 08-AFC-2
1516 Ninth Street, MS-4
Sacramento, CA 95814-5512

Re: Application for Certification, Beacon Solar Energy Project, 08-AFC-2

Dear Docket Clerk:

Enclosed are an original and one copy of PREHEARING CONFERENCE STATEMENT OF CALIFORNIA UNIONS FOR RELIABLE ENERGY. Please process the document and return a conformed copy in the envelope provided.

Thank you for your assistance with this matter.

Sincerely,

/s/

Tanya A. Gulesserian

TAG:bh
Enclosures

2162-077a

STATE OF CALIFORNIA
California Energy Commission

In the Matter of: The Application for Certification for the BEACON SOLAR ENERGY PROJECT	Docket No. 08-AFC-2

PREHEARING CONFERENCE STATEMENT OF CALIFORNIA UNIONS FOR RELIABLE ENERGY

March 11, 2010

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

Attorneys for the CALIFORNIA UNIONS FOR RELIABLE ENERGY

Pursuant to the February 26, 2010 Revised Notice of Prehearing Conference and Evidentiary Hearing, California Unions for Reliable Energy ("CURE") submits this prehearing conference statement. Each informational item requested by the Committee is discussed below.[1]

In sum, the Beacon Solar Energy Project ("BSEP" or "Project") has significant unresolved issues in the areas of biological resources, water resources, alternatives, hazardous materials and waste management, the Project does not have a power purchase agreement or interconnection agreement, and the U.S. Fish and Wildlife Service has not even begun an Environmental Impact Statement under the National Environmental Policy Act for its consideration of a Habitat Conservation Plan and Incidental Take Permit because the agency has not yet received complete information from the Applicant. Thus, the Project is not viable. Until these threshold issues are resolved, it would be unreasonable for the Applicant to expect the Commission, Staff, and other parties to expend valuable resources on evidentiary hearings for any of these topic areas.

The Commission has more than enough work to do on projects that have the potential to begin construction by the end of this year to qualify for support from the American Recovery and Reinvestment Act of 2009. It should not waste the time of Commissioners, Hearing Officers, Staff or other parties on projects that have no chance to access those funds.

[1] On March 11, 2010, the day this Statement is due, the Applicant filed a frivolous motion for an order precluding evidence on one of the critical issues in this case – the use of water for power plant cooling. CURE will respond to that motion in due course.

1. Topic Areas That Are Complete and Ready to Proceed to Evidentiary Hearing

Aside from Biological Resources, issues associated with Water Resources mitigation and Alternatives other than economic feasibility, Hazardous Waste and Waste Management, the other topic areas are ready to proceed to evidentiary hearings. Although CURE disagrees with Staff's assessment of the impacts and mitigation measures with respect to the other issue areas, it appears that these issues must be resolved through the evidentiary hearing process.

With respect to economic feasibility analyses of Water Resources mitigation and Alternatives, the FSA concludes that dry cooling is a feasible alternative and mitigation measure that can substantially lessen or avoid significant impacts from the Project. CURE agrees with Staff's conclusion. The FSA is clear that dry cooling is an economically feasible alternative and mitigation measure that would substantially avoid significant impacts from the Project using wet cooling from either groundwater or recycled water.

CURE understands that the Applicant does not agree, despite the fact that Staff's conclusion is based on data and models supplied by the Applicant to Staff. However, the Applicant provided ***no rebuttal*** to either Staff's October 22, 2009 testimony or CURE's November 12, 2009 testimony. Dry cooling will avoid the significant impacts from a recycled water pipeline and other aspects of the Project. In addition, when modestly priced measures are available to eliminate the consumption of water and conserve that water for other beneficial uses, the Committee should seriously consider those alternatives before saying they need not

be employed. Thus, CURE believes that the economic feasibility analyses of Water Resources and Alternatives are ready for evidentiary hearings.

2. Topic Areas That Are Not Complete and Not Ready to Proceed to Evidentiary Hearing

There are fundamental unresolved differences in the areas of Biological Resources, Water Resources and Alternatives other than economic feasibility, Hazardous Waste and Waste Management.

With respect to Biological Resources, there are many significant, unresolved issues. The analysis and mitigation of the Project's impacts to biological resources is contingent on several unresolved issues, including an adequate assessment of the environmental baseline. Despite the fact that ***no protocol surveys were conducted*** on the Project site for Mohave ground squirrel, a threatened species under the California Endangered Species Act, the Staff Assessment concluded solely on the opinion of one researcher that most of the Project site is not likely to be inhabited by the Mohave ground squirrel. As a result, the Staff Assessment does not provide adequate analysis of and mitigation for significant impacts to threatened Mohave ground squirrel and habitat.

The Staff Assessment's analysis of impacts to desert tortoise, a threatened species under the California and Federal Endangered Species Acts, is similarly inadequate. The Staff Assessment mischaracterizes the Project site as providing little or no habitat to support desert tortoise. As a result, the Staff Assessment does not provide adequate analysis of and mitigation for significant impacts to threatened desert tortoise and habitat.

The Staff Assessment also provides an inadequate analysis of impacts to burrowing owls, a species of special concern in California. Although non-protocol surveys were conducted, Staff's conclusion that the Project would result in the loss of foraging and breeding habitat for only two burrowing owls is inconsistent with the data collected on the Project's direct and indirect impact areas. Furthermore, mitigation for impacts to burrowing owls does not meet the California Burrowing Owl Consortium or California Department of Fish and Game guidelines and is inadequate.

In addition, the Project will result in major adverse significant impacts from the complete destruction of 16.0 acres of natural desert washes from the rerouting of 14.96 acres of Pine Tree Creek and an unnamed wash. These natural desert washes are Waters of the State and a major drainage for approximately 82 square miles of watershed, and up to 650 acres of floodplain associated with the creek. The Applicant proposes to re-create the creek and floodplain elsewhere. However, to date, ***no evidence*** has been submitted that the proposed re-created creek and floodplain will mitigate significant impacts to the resources associated with this natural desert wash system and ecosystem.

The Staff Assessment does not make a finding of consistency with the Federal Endangered Species Act, because it cannot. Due to the Project's potential to impact the State and Federally threatened desert tortoise, decisions about the Project's impacts and what is required to mitigate these impacts must be made by the U.S. Fish and Wildlife Service ("USFWS") through the consultation process

required under the Federal Endangered Species Act. In 2009, the Applicant submitted a Low-Effect Habitat Conservation Plan ("HCP") to the USFWS. The USFWS responded that the Project did not meet the criteria for a Low-Effect HCP. On June 17, 2009, the USFWS issued a Notice of Intent to undertake scoping for an environmental document to comply with the National Environmental Policy Act ("NEPA") for the agency's consideration of an HCP to take threatened desert tortoise under Section 10 of the Endangered Species Act.

The Section 10 consultation process is not complete, and is contingent on preparation of an Environmental Impact Statement ("EIS") under NEPA, which has not even begun. No documents related to the USFWS consultation process have been docketed since April 2009. Although the Staff Assessment attempts to analyze these impacts and formulate mitigation measures, this analysis may bear little resemblance to the ultimate determination of the USFWS. Hence, the Staff Assessment does not (and simply cannot at this point) provide an adequate basis for the Committee to make the findings required for certification of the Project (e.g., compliance with all laws and regulations, and adequate mitigation of impacts).

Another unresolved issue involves potentially significant impacts from the proposed recycled water supply projects. The Staff Assessment provides no analysis of potentially significant impacts from and mitigation measures for the California City water pipeline or the northern 17.6 mile segment of the 39.61-mile Rosamond water pipeline. For the remaining 23-mile segment of the Rosamond water pipeline, no protocol-surveys were conducted and the impact analyses and

mitigation, if any, do not provide an adequate basis for the Committee to make the findings required for certification of the Project (e.g., compliance with all laws and regulations, and adequate mitigation of impacts).

There are also many significant, unresolved issues related to Hazardous Materials and Waste Management. The Project may result in potentially significant impacts from spills of heat transfer fluid ("HTF"), Therminol VP-1, a hazardous material that poses acute and chronic health hazards. HTF spills at another solar power plant operated by the same applicant have been numerous and much larger than those analyzed in the Staff Assessment for BESP. For example, the Staff Assessment considers the need to annually treat an estimated 750 cubic yards of contaminated soil at the Project's Land Treatment Unit that would result from spilled HTF. However, HTF spills at similar facilities have been on the order of thousands of gallons.

HTF spills also involve different types of spills that were never described by the Project Applicant, may require additional Project facilities for cleanup and treatment, and involve different environmental and public health impacts that were not analyzed in the Staff Assessment. Specifically, HTF spills may result in potentially significant impacts and required mitigation from spills of free-standing HTF on top of the soil that involve clean-up in a "filtration facility" and potential vapor clouds that have not been described or analyzed, and for which there is no mitigation. Other unresolved issues include inadequate groundwater monitoring,

inadequate containment of spills from piping and inadequate provisions for emergency notification.

3. Topic Areas That Remain Disputed and Require Adjudication

CURE believes the following areas are still in dispute: Biological Resources, Water Resources, Alternatives, Hazardous Waste and Waste Management.

4. Witnesses, Topic Areas, Testimony

Each of CURE's proposed witnesses and a summary of their testimony is discussed below. A copy of their qualifications is attached as Exhibit A. CURE reserves the right to submit additional testimony at the evidentiary hearings.

A. Michael A. Bias (*Time estimate for direct testimony: 3 hours*)

Michael Bias, Ph.D. will testify on the topic area of Biological Resources. Dr. Bias will testify regarding significant impacts, required analyses and mitigation for the BSEP Project on desert tortoise, Mohave ground squirrel, burrowing owl, habitat, special status plant species, waterways, and other biological resources associated with the Project.

B. David I. Marcus (*Time estimate for direct testimony: 1 hour*)

David Marcus will testify on the topic areas of Water Resources and Alternatives. Mr. Marcus will testify regarding significant impacts and required mitigation for water use during construction and on feasible mitigation measures and alternatives for water use during operation.

C. Matthew F. Hagemann, P.G. (*Time estimate for direct testimony: 1 hour*)

Matthew Hagemann will testify on the topic areas of Hazardous Materials and Waste Management. Mr. Hagemann will testify regarding significant impacts, required analyses and mitigation for HTF spills, leaks, and Project facilities required to address HTF spills.

5. Topic Areas for Cross-Examination

CURE requires time to cross-examine each of the Applicant's and Staff's witnesses presenting testimony in the following areas: Biological Resources, Water Resources, Alternatives, Hazardous Waste and Waste Management.

CURE also reserves the right to cross-examine witnesses in any of the other topic areas at the evidentiary hearing.

6. List of Exhibits and Declarations

Exhibit No.	Date	Title	Subject	Sponsor
600	11/12/2009	Testimony of Scott Cashen On Biological Resources	Biological Resources	Scott Cashen[2]
601	11/11/2009	Declaration of Scott Cashen	Biological Resources	Scott Cashen
602	11/12/2009	Exhibit 1: Resume of Scott Cashen	Biological Resources	Scott Cashen
603	2003	Exhibit 2: California Department of Fish and Game. Mohave ground squirrel survey guidelines.	Biological Resources	Scott Cashen
604	1993	Exhibit 3: Gustafson JR, State of California, Department of Fish and Game. A status review of the Mohave ground squirrel.	Biological Resources	Scott Cashen

[2] Because hearings are scheduled when this witness is not available, Mike Bias is sponsoring Mr. Cashen's testimony and will be available for hearings. (See Exhibit 634.)

605	5/21/2008	Exhibit 4: Conference Call Agenda for May 21, 2008, BSEP CEC Proceeding 08-AFC-2.	Biological Resources	Scott Cashen
606	02/2008	Exhibit 5: AFC, Bio Tech Report: Figure 11	Biological Resources	Scott Cashen
607	1993	Exhibit 6: The California Burrowing Owl Consortium. Burrowing Owl Survey Protocol and Mitigation Guidelines	Biological Resources	Scott Cashen
608	1995	Exhibit 7: State of California, Department of Fish and Game. Staff Report on Burrowing Owl Mitigation	Biological Resources	Scott Cashen
609		Exhibit 8: AFC, Figure BR 78-1	Biological Resources	Scott Cashen
610	07/17/2009	Exhibit 9: Applicant's "Response to Select CURE Comments at CEC's Request"	Biological Resources	Scott Cashen
611	06/19/2008	Exhibit 10: Memorandum from the California Department of Fish and Game to California Energy Commission, Subject: Beacon Solar Energy Project Application for Certification	Biological Resources	Scott Cashen
612	11/12/2009	Testimony of Matt Hagemann on Soil Resources and Waste Management	Soil Resources and Waste Management	Matt Hagemann
613	11/12/2009	Declaration of Matt Hagemann	Soil Resources and Waste Management	Matt Hagemann
614	11/12/2009	Attachment 1: Resume of Matt Hagemann	Soil Resources and Waste Management	Matt Hagemann
615	1987-2008	Attachment 2: Spill Reports – SEGS III - VII	Soil Resources and Waste Management	Matt Hagemann
616	11/12/2009	Testimony of David Marcus on Transmission Engineering and Water Resources and Alternatives	Water Resources, Alternatives, and Transmission Engineering	David Marcus

617	11/10/2009	Declaration of David Marcus	Water Resources, Alternatives and Transmission Engineering	David Marcus
618	08/2009	Exhibit 1: Resume of David Marcus	Water Resources, Alternatives, and Transmission Engineering	David Marcus
619	2009	Exhibit 2: LADWP Barren Ridge Renewable Transmission Project	Transmission Engineering	David Marcus
620		Exhibit 3: Projection Engineering Statement of Qualifications	Transmission Engineering	David Marcus
621		Exhibit 4: NRG SCE Filing	Transmission Engineering	David Marcus
622	11/11/2009	Exhibit 5: CEC List of Siting Cases	Transmission Engineering	David Marcus
623	02/01/2008	Exhibit 6: WorleyParsons: FPLE – Beacon Solar Energy Project Dry Cooling Evaluation	Water Resources and Alternatives	David Marcus
624	06/2009	Exhibit 7: CPUC 33% Renewables Portfolio Standard Implementation Analysis Preliminary Results	Water Resources and Alternatives	David Marcus
625	3/8/10	Rebuttal Testimony of Matt Hagemann on Hazardous Materials and Waste Management	Hazardous Materials and Waste Management	Matt Hagemann
626	3/8/10	Declaration of Matt Hagemann	Hazardous Materials and Waste Management	Matt Hagemann
627	2/23/09	Attachment 1: Hazardous Materials Business Plan, February 23, 2009, Luz Solar Partners, III-VII.	Hazardous Materials and Waste Management	Matt Hagemann

628	5/16/09	Attachment 2: Material Safety Data Sheet for Therminol VP-1, May 16, 2009	Hazardous Materials and Waste Management	Matt Hagemann
629	11/1/05	Attachment 3: Letter from FPL Energy to RWQCB re: SEGS III HTF spill, October 21, 2005	Hazardous Materials and Waste Management	Matt Hagemann
630	10/25/05	Attachment 4: Notice of Violation, Issued by San Bernardino County Fire Department to FPL Energy	Hazardous Materials and Waste Management	Matt Hagemann
631	1/30/06 6/10/08	Attachment 5: Recyclable Materials Reports, FPL Energy to San Bernardino County Fire Department, 2004-2005 and 2006-2007	Hazardous Materials and Waste Management	Matt Hagemann
632	3/8/10	Rebuttal Testimony of Michael A. Bias on Biological Resources	Biological Resources	Michael A. Bias
633	3/8/10	Declaration of Michael A. Bias	Biological Resources	Michael A. Bias
634	3/8/10	Adopted Declaration	Biological Resources	Michael A. Bias
635	3/8/10	Exhibit 1: Resume of Michael A. Bias	Biological Resources	Michael A. Bias
636	10/22/09	BESP FSA Soil and Water Resources and Alternatives	Water Resources and Alternatives	David Marcus
637	10/22/09	BESP FSA Alternatives Confidential Appendix C [Confidential][3]	Alternatives	David Marcus

CURE reserves the right to supplement this exhibit list with additional documents, analyses and other information at any time up to and including the close of the evidentiary hearings.

[3] On March 9, 2010, CURE identified Exhibit 637 but did not serve the Exhibit due to the confidential nature of the document. Entering this document into the record and discussion of this exhibit may require special consideration in the hearings.

7. Proposals for Briefing Deadlines and Scheduling Matters

In accordance with the Committee's instructions, CURE proposes the following schedule for the remainder of this proceeding. Because the Project cannot proceed without a power purchase agreement, an interconnection agreement, a habitat conservation plan, and environmental review under NEPA, the proceeding need not be expedited to the detriment of adequate staff analysis and public review.

PROPOSED SCHEDULE

Event	Date
Evidentiary Hearings	March 22-25, 2010
U.S. Fish and Wildlife Service Notice of Availability of DEIS	TBD
U.S. Fish and Wildlife Service DEIS Comment Period Ends	TBD + 90 days
Revised Final Staff Assessment (FSA) Released	2 weeks after U.S. Fish and Wildlife Service DEIS Comment Period Ends
Parties File Testimony on Revised FSA	4 weeks after release of Revised FSA
Parties File Rebuttal Testimony on Revised FSA	6 weeks after release of Revised FSA
Evidentiary Hearing on Revised FSA	8 weeks after release of Revised FSA
Parties File Post-Hearing Briefs	4 weeks after Evidentiary Hearings on Revised FSA
PMPD Issued	6-8 weeks after Evidentiary Hearings close
Commission Hearing on PMPD	Near end of comment period on PMPD
Comments Due on PMPD	30 days after PMPD released
Federal Approval of HCP and Incidental Take Permit	TBD
Revised PMPD Issued Responding to Comments	45 days after PMPD released
Comments Due on Revised PMPD	15 days after Revised PMPD released
Final Commission Decision	After comment period closes on Revised PMPD

8. Proposed Modifications to the Proposed Conditions of Certification

CURE has reviewed the Proposed Conditions of Certification in the Staff Assessment for enforceability, ease of comprehension, and consistency with the evidence. However, during Staff workshops on the Staff Assessment, changes to the biological and water resources conditions were made and new language was drafted. These documents have been circulated to the parties, and CURE has reviewed them. CURE has determined that the Biological Resources, Water Resources and Alternatives Conditions are inadequate. CURE also has determined that the Hazardous Materials and Waste Management Conditions are inadequate.

With respect to Water Resources and Alternatives Conditions, CURE recommends that the Commission require the Project to use an air cooled condenser for power plant cooling. If the Commission requires the use of non-potable water for power plant cooling, CURE recommends that the Commission require the non-potable water supply to be in place prior to the start of on-site construction in order to be able to use non-potable water to meet part of the construction water requirements during the first five months of on-site construction, and all of the construction water requirements thereafter.

With respect to Hazardous Materials and Waste Management Conditions, CURE recommends that the Staff Assessment be revised to update the project description and analysis of potential impacts from spilled HTF. The supplemental documentation should consider the need for county, state or federal permits to ensure any proposed filtration facility or other Project components are in

compliance with all laws and regulations. CURE also recommends that revised conditions require specific and adequate mitigation for worst-case potential spills of HTF, include provisions for handling spilled free-standing HTF, and incorporate plans for an HTF filtration facility. Revised Conditions should also include measures for proper community notification and explicit procedures for emergency notification following HTF spills, including immediate notification to the National Response Center. CURE recommends that the Project incorporate double walled HTF piping, if feasible, or specific provisions for containment of potential spills from the piping. Finally, CURE recommends revised groundwater monitoring to ensure the detection of contaminants at a point of compliance along the north, south, east and west boundaries of the land treatment unit and the north, south and west boundaries of the evaporation ponds.

With respect to Biological Resources, CURE recommends that the Staff Assessment be revised with an adequate description of the baseline biological resources on the Project site, transmission line, potential water pipelines, and all other Project facilities. CURE recommends that the analyses of potential impacts to biological resources be revised, as well as the mitigation measures.

At a minimum, for the 429.5 acres of the Project site classified as desert scrub and the 60.3 acres of desert wash onsite, CURE recommends that Staff provide scientifically-robust analyses of and mitigation for significant impacts to threatened Mohave ground squirrel and habitat, threatened desert tortoise and habitat, and burrowing owl and habitat. Furthermore, because the Project will result in major

adverse significant impacts from the complete destruction of at least 16.0 acres of natural desert washes from rerouting Pine Tree Creek and an unnamed desert wash, CURE recommends that the Applicant and Staff provide a scientifically-robust analysis showing that the proposed re-created creek and floodplain will mitigate significant impacts to the resources associated with this natural desert wash system and ecosystem.

Because the Staff Assessment provides no analyses of potentially significant direct or indirect impacts from the California City water pipeline, or the northern 17.6 mile segment of the 39.61-mile Rosamond water pipeline, CURE recommends that Staff conduct and provide scientifically-robust analyses of and mitigation for any potential direct and indirect impacts to the threatened Mohave ground squirrel, threatened desert tortoise, and burrowing owl and their habitats from these portions of the Project. For the remaining 23-mile segment of the Rosamond water pipeline, CURE recommends that Staff and/or the Applicant conduct protocol-surveys and that Staff prepare revised analyses setting forth the existing resources and direct and indirect impacts to the threatened Mohave ground squirrel, threatened desert tortoise, and burrowing owl and their habitats. Following the establishment of the baseline and impact analysis, CURE recommends that Staff identify and provide scientifically-robust analyses of and mitigation for any potential direct and indirect impacts to these species from this portion of the Project.

With respect to special status plant species along the California City water pipeline, the northern 17.6 mile segment of the 39.61-mile Rosamond water pipeline, and the remaining 23-mile segment of the Rosamond water pipeline, CURE recommends that the Applicant and/or Staff conduct protocol-level surveys to establish the existing baseline and that Staff prepare revised analyses of direct and indirect impacts to and mitigation for rare plants.

Finally, CURE recommends that the supplemental documentation consider the USFWS' environmental review of the Applicant's proposed HCP, incorporate any mitigation required by USFWS, and determine compliance with the Federal Endangered Species Act.

Dated: March 11, 2010

Respectfully submitted,

_____/S/_____

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

STATE OF CALIFORNIA

Energy Resources Conservation and Development Commission

In the Matter of: The Application for Certification for the BEACON SOLAR ENERGY PROJECT	Docket No. 08-AFC-2

PROOF OF SERVICE

I, Bonnie Heeley, declare that on March 11, 2010 I served and filed copies of the attached **PREHEARING CONFERENCE STATEMENT OF CALIFORNIA UNIONS FOR RELIABLE ENERGY.** 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/beacon. 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 via email and by U.S. Mail with first-class postage thereon, fully prepaid and addressed as provided on the Proof of Service list to those addresses NOT marked "email preferred." An original paper copy and one electronic copy, mailed and emailed respectively, was sent to the Docket Office.

I declare under penalty of perjury that the foregoing is true and correct. Executed at South San Francisco, CA on March 11, 2010.

_____/S/_____
Bonnie Heeley

CALIFORNIA ENERGY COMMISSION
ATTN DOCKET NO. 08AFC2
1516 NINTH STREET MS4
SACRAMENTO, CA 95814-5512
docket@energy.state.ca.us

Kristy Chew
Adviser to Commissioner Byron
California Energy Commission
1516 Ninth Street MS4
Sacramento, CA 95814-5512
Kchew@energy.state.ca.us

SARA HEAD, VICE PRESIDENT
AECOM ENVIRONMENT
1220 AVENIDA ACASO
CAMARILLO, CA 93012
Sara.head@aecom.com

BILL PIETRUCHA, PROJECT MGR
JARED FOSTER, P.E., MECH. ENG.
WORLEY PARSONS
2330 E. BIDWELL ST SUITE 150
FOLSOM, CA 95630
Bill.pietrucha@worleyparsons.com
Jared.foster@worleyparsons.com

JANE LUCKHARDT
DOWNEY BRAND ATTORNEYS LLP
621 CAPITOL MALL 18TH FLR
SACRAMENTO, CA 95814
jluckhardt@downeybrand.com

KAREN DOUGLAS
CALIFORNIA ENERGY
COMMISSION
1516 NINTH STREET
SACRAMENTO, CA 95814-5512
kldougl@energy.state.ca.us

JEFFREY D. BYRON
CALIFORNIA ENERGY COMMISSION
1516 NINTH STREET
SACRAMENTO, CA 95814-5512
jbyron@energy.state.ca.us

KENNETH CELLI
CALIFORNIA ENERGY COMMISSION
1516 NINTH STREET
SACRAMENTO, CA 95814-5512
kcelli@energy.state.ca.us

ERIC K. SOLORIO
CALIFORNIA ENERGY
COMMISSION
1516 NINTH STREET
SACRAMENTO, CA 95814-5512
esolario@energy.state.ca.us

JARED BABULA
CALIFORNIA ENERGY COMMISSION
1516 NINTH STREET
SACRAMENTO, CA 95814-5512
jbabula@enery.state.ca.us

Jennifer Jennings
PUBLIC ADVISER'S OFFICE
CALIFORNIA ENERGY COMMISSION
1516 NINTH STREET
SACRAMENTO, CA 95814-5512
publicadviser@energy.state.ca.us

S. BUSA, K.STEIN, M.RUSSELL,
D.MCCLOUD, G.NARVAEZ
NEXTERA ENERGY RESOURCES LLC
700 UNIVERSE BLVD
JUNO BEACH, FL 33408
Scott.busa@nexteraenergy.com
Kenneth.stein@nexteraenergy.com
Meg.russell@nexteragenergy.com
Duane.mccloud@nexteraenergy.com
Guillermo.narvaez@nexteraenergy.com

DIANE FELLMAN
DIRECTOR WEST REGION
NEXTERA ENERGY RESOURCES
234 VAN NESS AVENUE
SAN FRANCISCO, CA 94102
Diane.fellman@nexteraenergy.com

California Unions for Reliable Energy
T.Gulesserian/M.Joseph
Adams Broadwell Joseph & Cardozo
601 Gateway Boulevard, Suite 1000
South San Francisco, CA 94080
Email only
tgulesserian@adamsbroadwell.com

California ISO
e-recipient.com
Email only

EXHIBIT A

BIAS C.V.

MICHAEL A. BIAS
Principal Ecologist

Ecosystem Restoration Sciences, Inc.
PO Box 177
Twin Bridges, MT 59754
406-925-2276

Michael Bias, Ph.D. serves as President and Principal Ecologist of Ecosystem Restoration Sciences, Inc. Dr. Bias is currently serving as the Executive Director for the Big Hole River Foundation, Inc., based out of Butte, Montana. Dr. Bias has extensive experience with State and Federal Threatened and Endangered species, waterfowl, and wetlands restoration. His professional expertise includes wildlife habitat and population ecology. He has published papers on spotted owl ecology, wetlands, and ecological restoration in The Journal of Wildlife Management, Journal of Raptor Research, Southwestern Naturalist, and Transactions of the Western Section of the Wildlife Society.

Education

Ph.D. Wildland Resource Science, May 1994. Dissertation title: Ecology of the salt marsh harvest mouse in San Pablo Bay.
Department of Forestry and Resource Science, University of California, Berkeley, CA.

M.S. Wildlife Management, May 1989. Thesis title: Habitat use by California spotted owls in the central Sierra Nevada.
Department of Wildlife, Humboldt State University, Arcata, CA.

B.S. Wildlife Science, May 1984, Unity College, Unity, ME.

Publications

Bias, M.A. and M.L. Morrison. 2006. Habitat selection of the salt marsh harvest mouse and sympatric rodent species. Journal of Wildlife Management 70(3):732-742.

Hulst, M.D., L.S. Hall, M.L. Morrison, and M.A. Bias. 2001. Assessing salt marsh harvest mouse movements during high tides, San Pablo Bay, California. Transactions of the Western Section of the Wildlife Society 37:88-89.

Bias, M.A. and M.L. Morrison. 1999. Movements and home range of salt marsh harvest mice. The Southwestern Naturalist 44(3): 348-353.

_____ and J.M. Payne. 1997. Agriculture and wildlife in California's Central Valley: mutually exclusive or win-win? p.47-57. in: J. Schaack and S.S. Anderson, eds. Water for Agriculture and Wildlife and the

Environment, Win-Win Opportunities. Proceedings from the 1996 USCID wetlands seminar. Bismarck, ND, June 27-29, 1996. U.S. Committee on Irrigation and Drainage. Denver, CO. 323pp.

_____and _____. 1996. Integrating wildlife habitat into agricultural enterprises. 3pp. in: Proceedings of the 48th Annual Conference of the California Weed Science Society. California Weed Science Society, Fremont, CA.

Payne, J.M., M.A. Bias, and R.G. Kempka. 1996. VALLEY CARE: Bringing conservation and agriculture together in California's Central Valley. p.79-88. in: W. Lockeretz, ed. 1996. Environmental Enhancement Through Agriculture: Proceedings of a Conference. Tufts University, Boston, MA. 143pp.

Bias, M.A., N.L. Breuner, and M.L. Morrison. 1992. House mice as indicators of marking effects on salt marsh harvest mice. Transactions of the Western Section of The Wildlife Society 28:34-37.

_____ and R.J. Gutierrez. 1992. Habitat associations of California spotted owls in the central Sierra Nevada. Journal of Wildlife Management 56:584-595.

Thrailkill, J. and M.A. Bias. 1989. Diets of breeding and nonbreeding California spotted owls. Journal of Raptor Research 23(2):39-41.

Grants

CALFED Bay-Delta Program, Ecological monitoring of the Tolay Creek and Cullinan Ranch tidal wetland restoration projects in the north San Francisco Bay, 2001, Grant funds $593,931.

North American Wetlands Conservation Act, Suisun Marsh: Lower Joice Island acquisition and Enhancement, California, 2000, Grant funds $660,000.

North American Wetlands Conservation Act, San Pablo Bay Tidal Wetlands Habitat Restoration Project, California, 1999, Grant funds $997,300.

CALFED Bay-Delta Program, Cullinan Ranch Tidal Marsh Restoration Project, 1998, Grant funds $368,500.

CALFED Bay-Delta Program, Tolay Creek Restoration Project, 1998, Grant funds $283,000.

Central Valley Project Improvement Act (b) (22), A proposal for Ducks Unlimited's Valley CARE Program to administer CVPIA (b) (22) funds in the Central Valley, 1998, Grant funds $682,970.

California Wildlife Conservation Board - Inland Wetlands Program, Suisun Marsh Waterfowl Production Enhancement Project, 1998, Grant funds $120,000.

North American Wetlands Conservation Act, Suisun Marsh: Enhancement and Restoration, 1997, Grant funds $999,940.

Central Valley Project Improvement Act (b) (22), A proposal for Ducks Unlimited's Valley CARE Program to administer CVPIA (b) (22) funds in the Central Valley, 1997, Grant funds $582,791.

North American Wetlands Conservation Act, Grasslands Ecological Area: Enhancement and Restoration, 1996, Grant funds $1,434,174.

National Fish and Wildlife Foundation, VALLEY CARE III: Wetlands and Farming, 1996, Grant funds $200,000.

Other Publications

Bias, M.A. 2008. Indigenous Big Hole grayling denied protection. Northwest Flyfishing. March/April 2008. 10(2): 30-31.

_____. 2001. Ecology and conservation of the salt marsh harvest mouse. Valley Habitats: A Technical Guidance Series for Private Land Managers in California's Central Valley. Ducks Unlimited, Sacramento, CA. 8pp.

_____. 1997. Ecology and conservation of the chinook salmon in the Central Valley. Valley Habitats: A Technical Guidance Series for Private Land Managers in California's Central Valley. Ducks Unlimited, Sacramento, CA. 12pp.

_____, M.A. Wolder, and P.E. Schmidt. 1997. Disturbance as a component of waterfowl habitat quality. Valley Habitats: A Technical Guidance Series for Private Land Managers in California's Central Valley. Ducks Unlimited, Sacramento, CA. 12pp.

Wrysiniski, J.E., J.D. Garr, and M.A. Bias. 1995. Rice straw decomposition and development of seasonal waterbird habitat on rice fields. Valley Habitats: A Technical Guidance Series for Private Land Managers in California's Central Valley. Ducks Unlimited, Sacramento, CA. 8pp.

Harrell, W.C., S.F. Burton, and M.A. Bias. 1995. Enhancing agricultural fields for waterfowl. Valley Habitats: A Technical Guidance Series for Private Land Managers in California's Central Valley. Ducks Unlimited, Sacramento, CA. 8pp.

Bias, M.A. 1995. Wildlife resources of the Central Valley, California: important wetland-associated mammals. Valley Habitats: A Technical Guidance Series for Private Land Managers in California's Central Valley. Ducks Unlimited, Sacramento, CA. 8pp.

Burton, S.F., M.A. Bias, and S.E. Staelgraeve. 1995. Livestock grazing for wetland and waterfowl management. Valley Habitats: A Technical Guidance Series for Private Land Managers in California's Central Valley. Ducks Unlimited, Sacramento, CA. 8pp.

Presentations

Anderson, M.L., K. Owens, and M.A. Bias. 2008. Rural stakeholders and Arctic grayling (*Thymallus arcticus*) management in the Big Hole River Watershed, Montana, USA. Oral presentation at the 5th World Fisheries Congress, held October 20-24, 2008 in Yokohama, Japan.

Bias, M.A. 2008. Perspectives on not listing the fluvial Arctic grayling. Ennis Fly Fishing Festival. Madison River Foundation. August 2008.

_____. 2008. Perspectives on not listing the fluvial Arctic grayling. Arctic Grayling Recovery Group, Annual Meeting. March 2008.

_____. 2007. The Big Hole River: can fly fishing, conservation, and agriculture coexist? Federation of Flyfishers 2007 International Fly Fishing Show & Conclave Livingston Montana, July 31 - August 4

_____., Woo, I., J. Y. Takekawa, S. Demers, and G. T. Downard . 2003. EFFECT OF TIDAL MARSH RESTORATION ON SALT MARSH HARVEST MICE: THE NEED FOR INDICES OF HABITAT QUALITY. Calfed Bay Delta Science Conference. January. Sacramento, CA.

Woo, I., J. Y. Takekawa, M.A. Bias, S. Demers, G. T. Downard, and F.A. Reid . 2003. TIDAL MARSH RESTORATION: TRANSITIONAL HABITATS AND AVIAN RESPONSE TO MUDFLAT FORMATION ON TOLAY CREEK, SAN PABLO BAY. Calfed Bay Delta Science Conference. January. Sacramento, CA.

Emerson, S.J., M.A. Bias, G.T. Downard, and J.Y. Takekawa. 2001. Biophysical Monitoring of a Tidal Salt Marsh Rehabilitation in the San Francisco Pablo Bay Estuary. Society of Wetland Scientists Annual Meeting. May. Chicago, IL.

Downard, G.T., J.Y. Takekawa, M.A. Bias, S.J.Emerson, and L. Vicencio. 2000. Biophysical Monitoring of Wetland Restoration and Rehabilitation Projects in San Pablo Bay. Calfed Bay Delta Science Conference. 3-5 October. Sacramento, CA.

Hulst, M., L.S. Hall, M.L. Morrison, and M.A. Bias. 2000. Salt marsh harvest mouse (*Reithrodontomys raviventris*) habitat use at San Pablo Bay, California. 2000 Annual Conference. The Wildlife Society Western Section. Riverside, CA. January.

Bias, M.A., R.E. Laird, J.Y. Takekawa, M. Eagan, M. Hulst, and L. Vicencio. 1999. Easier said than done: Lessons learned from a tidal restoration in San Pablo Bay. Society for Ecological Restoration. San Francisco, CA. September.

Bias, M.A. 1999. Habitat type conversion and the recovery of the salt marsh harvest mouse. The Wildlife Society - Western Section Annual Conference. Monterey, CA. 21-23 January 1999.

_____ and H. Andree. 1999. Evaluating newsletter and technical guidance publications using reader surveys. The Wildlife Society - Western Section Annual Conference. Monterey, CA. 21-23 January 1999.

Schmidt, P.E., J.D.Garr, J.H. Hobbs, and M.A. Bias. 1999. Monitoring of waterbirds on flooded post-harvest small grain fields in California's Central Valley. The Wildlife Society - Western Section Annual Conference. Monterey, CA. 21-23 January 1999.

Hobbs, J.H., and M.A. Bias. 1999. Monitoring waterbird response to restored and enhanced wetlands. The Wildlife Society - Western Section Annual Conference. Monterey, CA. 21-23 January 1999.

Reid, F.A., R.G. Kempka, M.A. Bias, J.E. Hill, S.M. Brouder, G. Wylie, and J.H. Day. 1997. Assessing the challenge for waterfowl habitat in the rice landscape of the Sacramento Valley. First North American Duck Symposium. Baton Rouge, LA. 12-16 February 1997.

Bias, M.A. and T. R. Underwood. 1996. Phragmites control in the Suisun Marsh. 1996 California Department of Fish and Game Pesticide Applicators Seminar. Fish Camp, CA. March 1996.

_____. 1996. Using agricultural land for wildlife habitat. 1996 California Department of Fish and Game Pesticide Applicators Seminar. Fish Camp, CA. March 1996.

_____ and J.M. Payne. 1996. Integrating wildlife habitat into agricultural enterprises. 48th Annual Conference of the California Weed Science Society. Sacramento, CA.

Payne, J.M., M.A. Bias, and R.G. Kempka. 1995. VALLEY CARE: Bringing conservation and agriculture together in California's Central Valley. Conference on Environmental Enhancement Through Agriculture. Tufts University, Boston, MA.

Bias, M.A. 1995. Effects of winter flooding on waterfowl harvest. California Department of Fish and Game - U.S. Fish and Wildlife Service Coordination Meeting. Sacramento, CA. May 1995.

_____ and J. Day. 1995. Wildlife use of flooded rice fields. Western Aquatic Plant Management Society, 14th Annual Meeting. March 1995.

_____. 1995. The effects of non-native vegetation on waterfowl. 1995 California Department of Fish and Game Pesticide Applicators Seminar. Modesto, CA. March 1995.

_____, W.C. Harrell, J.D. Garr, S.F. Burton, and J.M. Payne. 1995. Ducks Unlimited in the Central Valley: more than ducks. The Wildlife Society - Western Section Annual Conference. Rohnert Park, CA. February 1995.

_____. 1995. Ecology of the Sacramento-San Joaquin Delta. Twelfth Annual California Farm Conference. Sacramento, CA. February 1995.

_____ and J. Takekawa. 1995. Salt marsh harvest mouse on Mare Island. From Top Secret to Top Attraction: Conference on Mare Island's Natural and Cultural Attractions. Mare Island Naval Shipyard, Vallejo, CA. February 1995.

_____. 1995. How to avoid trouble: wetland habitats. Annual Conference of the California Farm Water Coalition, Sacramento, CA. January 1995.

_____ and M.L. Morrison. 1992. Movements of salt marsh harvest mice determined from radio telemetry. American Society of Mammalogists, Seventy-second Annual Meeting. Salt Lake City, UT. June 1992.

_____, N.L. Breuner, and M.L. Morrison. 1992. House mice as indicators of marking effects on salt marsh harvest mice. The Wildlife Society - Western Section Annual Conference. San Diego, CA. February 1992.

_____, M.L. Morrison, and S.D. Kovach. 1991. Ecology of the salt marsh harvest mouse on Mare Island, Vallejo, California. The Wildlife Society - Western Section Annual Conference. Sacramento, CA. February 1991.

_____. 1989. Call response behavior of the California spotted owl in the central Sierra Nevada. Cooper Ornithological Society, 59th Annual Meeting. Moscow, ID. June 1989.

_____ and R.J. Gutierrez. 1987. Population ecology of the California spotted owl in the central Sierra Nevada. 105th Stated Meeting of the American Ornithologists' Union. San Francisco, CA. August 1987.

Professional Experience

Executive Director. Started with the Big Hole River Foundation, Inc. out of Butte, Montana as Executive Director in March 2006. Responsible for project management and delivery, client and agency liaison, technical support, preparation of proposals and contracts, marketing, and preparation of reports.
Big Hole River Foundation, Inc. 03/06-present.

Principal Ecologist. Founded Ecosystem Restoration Sciences in May 2001. Responsible for project management and delivery, client and agency liaison, technical support, preparation of proposals and contracts, marketing, and preparation of environmental documents.
Ecosystem Restoration Sciences, Inc. 06/01-present.

Principal Ecologist. Founded the Center for Wildlands Ecology in January 2006. Responsible for research projects, management, preparation of proposals and contracts, and preparation of scientific reports and papers.
Center for Wildlands Ecology, Inc. 06/01-08/08.

Senior Restoration Ecologist. Responsible for project management, client and agency liaison, technical support, preparation of proposals and contracts, marketing, and preparation of environmental documents.
ECORP Consulting, Inc. 06/99-06/01.

Adjunct Professor. Serve on graduate committees and direct graduate students on wetland and wildlife ecology aspects of their research. Lecture on wetland and wildlife ecology.
Department of Biological Sciences, California State University, Sacramento. 09/98-present.

Regional Biologist II/Special Projects Coordinator. Under the newly expanded Valley/Bay CARE Program, became responsible for coordinating, managing, and delivering larger habitat development projects for Valley/Bay CARE, those in excess of $100,000 or involving multiple partners. Coordinated and directed the monitoring and evaluation efforts of habitat development projects in the Central Valley, Suisun Marsh, and San Francisco Bay area. Evaluations included biological review of proposals and projects, and development of protocols to evaluate ecosystem function response. Continued and expanded grant and report writing for the Valley/Bay CARE Program. Contributed to Valley/Bay CARE publications. Immediate supervisor to 1 Project Biologist and 3 temporary Biologists.

Ducks Unlimited, Inc. 08/98-06/99.

Regional Biologist II. Coordinated all aspects of Ducks Unlimited's Valley CARE Program. In 1996, the Program became integrated with Ducks Unlimited's traditional conservation program of wetland restoration and enhancement on public lands. During 1997, we intensified our efforts to include the San Francisco Bay area. Continued and expanded my role writing grants and reports for the Program. Responsible for developing, initiating, and delivering wetland enhancement and restoration projects throughout the Central Valley and Bay area. Responsible for producing "Valley Habitats," a technical guidance series for private land managers in California's Central Valley and our Valley CARE Newsletter. Immediate supervisor to 3 Project Biologists and up to 3 temporary Biologists.
Ducks Unlimited, Inc. 04/96-08/98.

Regional Biologist. Responsible for all field-related aspects of Valley CARE, Ducks Unlimited's private land program in California's Central Valley. Assist the Director of the Private Lands with administrative details of implementing Valley CARE, for example writing grants and reports. Responsible for developing, initiating, and delivering wetland enhancement and restoration projects throughout the Central Valley. Responsible for producing "Valley Habitats," a technical guidance series for private land managers in California's Central Valley. Responsible for familiarity with all water and fish related issues concerning Ducks Unlimited in California. Responsible for writing monthly articles for our Valley CARE newsletter. Immediate supervisor to 3 Project Biologists.
Ducks Unlimited, Inc. 03/94-04/96.

Project Leader. Ph.D. Dissertation work. Conducted a study to evaluate the effectiveness of wetland habitat improvement projects on the ecology of the salt marsh harvest mouse and other small mammals at Mare Island Naval Shipyard, Vallejo, California. Study primarily consisted of capture-recapture techniques to estimate demographic parameters and assess habitat use of salt marsh harvest mice. Extensive small mammal trapping, radio-telemetry, vegetation sampling, and data analysis skills were required. Research was funded by Mare Island Naval Shipyard. Supervised >10 persons. Responsible for quarterly and annual reports.
University of California, Berkeley, CA. 04/89-03/94.

Consulting Biologist. Conducted an Endangered Species survey to document presence of salt marsh harvest mice at Naval Security Group Activity, Skaggs Island, California.
Western Division Naval Facilities Engineering Command, San Bruno, CA. 08/90-09/90.

Graduate Student Instructor. Taught the discussion section of Wildlife Ecology (FRM170). Lectured on important topics covered in Lecture. Presented lectures when the professor was absent.
University of California, Berkeley, CA. 08/92-12/92.

Graduate Student Instructor. Taught two lab sections of North American Wildlife: Identification and Conservation (FRM171) each Fall semester. Lectured on identification and natural history of North American birds and mammals. Presented lectures when the professor was absent. Prepared and graded lab exams.
University of California, Berkeley, CA. 08/91-12/91, 08/92-12/92.

Consulting Biologist. Conducted an endangered species survey to obtain population estimates of the salt marsh harvest mice within three marshes at the mouth of San Rafael Canal, California.
BioSystems Analysis, Tiburon, CA. 08/90-09/90.

Wildlife Biologist. Located spotted owls using radio-telemetry techniques and entered location data into computers. Responsible for locating, capturing, banding, and attaching radio transmitters to northern spotted owls.
USDA - Forest Service, Redwood Science Laboratory, Arcata, CA. 10/88-4/89.

Wildlife Technician. Assisted a Ph.D. student from the University of California, Berkeley for one week on a vertebrate ecology study of oak woodlands. Conducted small mammal trapping and time-restraint searches for reptiles and amphibians.
University of California, Berkeley, Berkeley, CA. 9/88-9/88.

Project Leader. M.S. Thesis project. Designed and conducted a study of habitat use by California spotted owls in the central Sierra Nevada. Responsible for design of study, data collection and analysis, and publication of results. Job related skills included knowledge of vegetation sampling, multivariate analysis of data, and locating spotted owls, nests and young. Supervised 4 persons.
Research funded by the U.S. Forest Service, Pacific Southwest Forest and Range Experimental Station, Fresno, CA. 6/87-10/88.

Project Leader. Conducted a study to estimate specific demographic parameters of California spotted owls in the central Sierra Nevada. This study was conducted concurrently with the habitat study. Responsible for implementing the study design, data collection and analysis, and written reports and presentations. Job related skills included expertise in locating, capture and banding of spotted owls, livetrapping and handling of small mammals, and use of computer facilities for data analysis. Supervised 2 persons. *Research was funded by the California Department of Fish and Game, Sacramento, CA. 6/86-12/87.*

Instructor. Co-taught 4, 2-day intensive workshops on monitoring, survey, and capture techniques of spotted owls. Workshop participants were primarily federal and state agency personnel. Lectured on basic spotted owl ecology. Followed U.S. Forest Service spotted owl monitoring guidelines.
Natural Resources Institute, Humboldt State University, Arcata, CA. 4/86, 4/87.

Wildlife Technician. Worked at hunter check stations collecting white-tailed deer and black bear morphological data (sex, age, weight, antler measurements, and lactation). Was selected for the "search method" which required collecting data from hunting camps, meat cutters, and private residences. Responsible for state vehicles and property.
Maine Department of Inland Fisheries and Wildlife, Bangor, ME. 10/84-11/84.

Guide. Conducted tours through the Fort Peck hydroelectric facilities. Presented informative talks on all aspects of the hydroelectric facility and reservoir. Advised visitors on the rules of the recreation area.
U.S. Army Corps of Engineers, Ft. Peck, MT. 5/84-9/84.

Research Assistant. Collected vegetation data for a winter food habits and nutrition study of white-tailed deer. Determined winter food habits from plant epidermal cell identification in deer feces. Used the micro-Kjeldahl process for crude protein analysis of fecal material. Also was a teaching assistant for *Wildlife Techniques class (see below).*
Unity College, Unity, ME. 1/83-5/84.

Teaching Assistant. Prepared labs, field exercises, and tutored students in Wildlife Techniques class. Conducted and graded lab problem sets.
Unity College, Unity, ME. 9/82-12/82.

Hatchery Assistant. Prepared raceways for hatchery-reared landlocked salmon. Responsible for care and feeding of fish in hatchery and raceways. Assisted in stocking programs. Became familiar with relevant aspects of fish culture.
Casco Fish Hatchery, Casco, ME. 6/82-9/82.

Research Assistant. Collected white-tailed deer pellet groups for winter food habits and parasitic nematode analysis. Assisted with prescribed burns, collected pre- and post-burn soil samples.
Unity College, Unity, ME. 9/81-6/82.

Wildlife Technician. Sampled vegetation for a white-tailed deer wintering habitat study. Sampled vegetation along transect lines in two deer wintering areas. Used the collected data for my Senior Internship paper.
Maine Department of Inland Fisheries and Wildlife, Augusta, ME. 6/81-9/81.

Ecology Tutor. Was asked to tutor students in Ecology lab and lectures because of high academic achievement in this class during the previous semester. Corrected and graded lab problem sets.
Unity College, Unity, ME. 2/81-6/81.

Special Accomplishments

Referee for the Journal of Wildlife Management and The Wildlife Society Bulletin.
Inducted into the Choy Li Fut Kung Fu Federation, Jiang Men City, China, September 1998.
Black Sash, Eastern Ways Gung-Fu. December 1997.
Graduate: Dale Carnegie Course, October 1997.
Graduate: The Guide School, Clearwater House on Hat Creek, May 1997.
Completed U.S. Army Corps of Engineers Wetland Delineation Certification Training Program, September 1996.
Featured on the Discovery cable channel show "Invention" for my radio telemetry work on the salt marsh harvest mouse. First broadcast 11 November 1992.
Elvada Trautmann Estate Scholarship, 1986-1987.
Ida C. Koran Scholarship, academic achievement, 1983-1984.
Maine State Incentive Scholarship, 1983-1984.
President's Choice Scholarship, academic achievement, 1982-1983.
National Dean's List, 1981.

Volunteer And Other Work

Fly Fishing Guide. Self-employed as a fly fishing guide and outfitter. Guided clients in Montana and Idaho 1997-present.

Fly Fishing Guide/Instructor. Fly fishing guide for Hyde Outfitters, Idaho Falls, Idaho. Also, Entomology Instructor for Hyde Outfitters Guide School. May 2000 – September 2007.

Member. Acquisition and restoration committee, San Francisco Bay Joint Venture. 1998-2005.

Member. Implementation committee, San Francisco Bay Joint Venture. 1996-1998.

Member. Technical committee, Central Valley Habitat Joint Venture. 1996-1999.

Chairperson. Chair of the Agriculture and Wildlife Enhancement Committee (AWEC) for the Central Valley Habitat Joint Venture (CVHJV) for the North American Waterfowl Management Plan. 1996-1997.

Committee member. Worked on and assisted with several local Ducks Unlimited Chapter's fund-raising dinners. 1989-1995.

Volunteer. Assisted with various tasks at the Annual Meeting of the Cooper Ornithological Society, Sacramento, CA, 1993.

February 2010.

MARCUS C.V.

RESUME

DAVID I. MARCUS
P.O. Box 1287
Berkeley, CA 94701-1287

August 2009

Employment

Self-employed, March 1981 - Present

Consultant on energy and electricity issues. Clients have included Imperial Irrigation District, the cities of Albuquerque and Boulder, the Rural Electrification Administration (REA), BPA, EPA, the Attorney Generals of California and New Mexico, alternative energy and cogeneration developers, environmental groups, labor unions, other energy consultants, and the Navajo Nation. Projects have included economic analyses of utility resource options and power contracts, utility restructuring, utility bankruptcy, nuclear power plants, non-utility cogeneration plants, and offshore oil and hydroelectric projects. Experienced user of production cost models to evaluate utility economics. Very familiar with western U.S. grid (WSCC) electric resources and transmission systems and their operation and economics. Have also performed EIS reviews, need analyses of proposed coal, gas and hydro powerplants, transmission lines, and coal mines. Have presented expert testimony before FERC, the California Energy Commission, the Public Utility Commissions of California, New Mexico, and Colorado, the Interstate Commerce Commission, and the U.S. Congress.

Environmental Defense Fund (EDF), October 1983 - April 1985

Economic analyst, employed half time at EDF's Berkeley, CA office. Analyzed nuclear power plant economics and coal plant sulfur emissions in New York state, using ELFIN model. Wrote critique of Federal coal leasing proposals for New Mexico and analysis of southwest U.S. markets for proposed New Mexico coal-fired power plants.

California Energy Commission (CEC), January 1980 - February 1981

Advisor to Commissioner. Wrote "California Electricity Needs," Chapter 1 of Electricity Tomorrow, part of the CEC's 1980 Biennial Report. Testified before California PUC and coauthored CEC staff brief on alternatives to the proposed 2500 megawatt Allen-Warner Valley coal project.

CEC, October 1977 - December 1979

Worked for CEC's Policy and Program Evaluation Office. Analyzed supply-side alternatives to the proposed Sundesert nuclear power plant and the proposed Point Concepcion LNG terminal. Was the CEC's technical expert in PG&E et. al. vs. CEC lawsuit, in which the U.S. Supreme Court ultimately upheld the CEC's authority to regulate nuclear powerplant siting.

Energy and Resources Group, U.C. Berkeley, Summer 1976

Developed a computer program to estimate the number of fatalities in the first month after a major meltdown accident at a nuclear power plant.

Federal Energy Agency (FEA), April- May 1976

Consultant on North Slope Crude. Where To? How?, a study by FEA's San Francisco office on the disposition of Alaskan oil.

Angeles Chapter, Sierra Club, September 1974 - August 1975

Reviewed EIRs and EISs. Chaired EIR Subcommittee of the Conservation Committee of the Angeles Chapter, January - August 1975.

Bechtel Power Corporation (BPC), June 1973 - April 1974

Planning and Scheduling Engineer at BPC's Norwalk, California office. Worked on construction planning for the Vogtle nuclear power plant (in Georgia).

Education

Energy and Resources Group, U.C. Berkeley, 1975 - 1977

M.A. in Energy and Resources. Two year master's degree program, with course work ranging from economics to engineering, law to public policy. Master's thesis on the causes of the 1972-77 boom in the price of yellowcake (uranium ore). Fully supported by scholarship from National Science Foundation.

University of California, San Diego, 1969 - 1973

B.A. in Mathematics. Graduated with honors. Junior year abroad at Trinity College, Dublin, Ireland.

Professional Publications

"Rate Making for Sales of Power to Public Utilities," with Michael D. Yokell, in Public Utilities Fortnightly, August 2, 1984.

HAGEMANN C.V.

SWAPE Technical Consultation, Data Analysis and Litigation Support for the Environment

2503 Eastbluff Dr.
Suite 206
Newport Beach, California92660
Tel: (949) 887-9013
Fax: (949) 717-0069
Email: mhagemann@swape.com

Matthew F. Hagemann, P.G.

Geologic and Hydrogeologic Characterization
Investigation and Remediation Strategies
Regulatory Compliance
CEQA Review
Expert Witness

Education:

M.S. Degree, Geology, California State University Los Angeles, Los Angeles, CA, 1984.
B.A. Degree, Geology, Humboldt State University, Arcata, CA, 1982.

Professional Certification:

California Professional Geologist, License Number 8571.

Professional Experience:

Matt has 25 years of experience in environmental policy, assessment and remediation. He spent nine years with the U.S. EPA in the RCRA and Superfund programs and served as EPA's Senior Science Policy Advisor in the Western Regional Office where he identified emerging threats to groundwater from perchlorate and MTBE. While with EPA, Matt also served as a Senior Hydrogeologist in the oversight of the assessment of seven major military facilities undergoing base closure. He led numerous enforcement actions under provisions of the Resource Conservation and Recovery Act (RCRA) while also working with permit holders to improve hydrogeologic characterization and water quality monitoring.

Matt has worked closely with U.S. EPA legal counsel and the technical staff of several states in the application and enforcement of RCRA, Safe Drinking Water Act and Clean Water Act regulations. Matt has trained the technical staff in the States of California, Hawaii, Nevada, Arizona and the Territory of Guam in the conduct of investigations, groundwater fundamentals, and sampling techniques.

Positions Matt has held include:

- Founding Partner, Soil/Water/Air Protection Enterprise (SWAPE) (2003 – present);
- Senior Environmental Analyst, Komex H2O Science, Inc (2000 -- 2003);
- Executive Director, Orange Coast Watch (2001 – 2004);
- Senior Science Policy Advisor and Hydrogeologist, U.S. Environmental Protection Agency (1989–1998);
- Hydrogeologist, National Park Service, Water Resources Division (1998 – 2000);

- Adjunct Faculty Member, San Francisco State University, Department of Geosciences (1993 – 1998);
- Instructor, College of Marin, Department of Science (1990 – 1995);
- Geologist, U.S. Forest Service (1986 – 1998); and
- Geologist, Dames & Moore (1984 – 1986).

Senior Regulatory and Litigation Support Analyst:

With SWAPE, Matt's responsibilities have included:

- Manager of a project to evaluate numerous formerly used military sites in the western U.S.
- Lead analyst in the review of numerous environmental impact reports under CEQA that identify significant issues with regard to hazardous waste, water resources, water quality, air quality, greenhouse gas emissions and geologic hazards.
- Lead analyst in the review of environmental issues in applications before the California Energy Commission.
- Technical assistance and litigation support for vapor intrusion concerns.
- Manager of a comprehensive evaluation of potential sources of perchlorate contamination in Southern California drinking water wells.
- Manager and designated expert for litigation support under provisions of Proposition 65 in the review of releases of gasoline to sources drinking water at major refineries and hundreds of gas stations throughout California.
- Expert witness on MTBE litigation.
- Expert witness and litigation support on the impact of air toxins and hazards at a school.

With Komex H2O Science Inc., Matt's duties included the following:

- Senior author of a report on the extent of perchlorate contamination that was used in testimony by the former U.S. EPA Administrator and General Counsel.
- Senior researcher in the development of a comprehensive, electronically interactive chronology of MTBE use, research, and regulation.
- Senior researcher in the development of a comprehensive, electronically interactive chronology of perchlorate use, research, and regulation.
- Senior researcher in a study that estimates nationwide costs for MTBE remediation and drinking water treatment, results of which were published in newspapers nationwide and in testimony against provisions of an energy bill that would limit liability for oil companies.
- Research to support litigation to restore drinking water supplies that have been contaminated by MTBE in California and New York.
- Expert witness testimony in a case of oil production-related contamination in Mississippi.
- Lead author for a multi-volume remedial investigation report for an operating school in Los Angeles that met strict regulatory requirements and rigorous deadlines.
- Development of strategic approaches for cleanup of contaminated sites in consultation with clients and regulators.

Executive Director:

As Executive Director with Orange Coast Watch, Matt led efforts to restore water quality at Orange County beaches from multiple sources of contamination including urban runoff and the discharge of wastewater. In reporting to a Board of Directors that included representatives from leading Orange County universities and businesses, Matt prepared issue papers in the areas of treatment and disinfection

of wastewater and control of the dischrge of grease to sewer systems. Matt actively participated in the development of countywide water quality permits for the control of urban runoff and permits for the discharge of wastewater. Matt worked with other nonprofits to protect and restore water quality, including Surfrider, Natural Resources Defense Council and Orange County CoastKeeper as well as with business institutions including the Orange County Business Council.

Hydrogeology:

As a Senior Hydrogeologist with the U.S. Environmental Protection Agency, Matt led investigations to characterize and cleanup closing military bases, including Mare Island Naval Shipyard, Hunters Point Naval Shipyard, Treasure Island Naval Station, Alameda Naval Station, Moffett Field, Mather Army Airfield, and Sacramento Army Depot. Specific activities were as follows:

- Led efforts to model groundwater flow and contaminant transport, ensured adequacy of monitoring networks, and assessed cleanup alternatives for contaminated sediment, soil, and groundwater.
- Initiated a regional program for evaluation of groundwater sampling practices and laboratory analysis at military bases.
- Identified emerging issues, wrote technical guidance, and assisted in policy and regulation development through work on four national U.S. EPA workgroups, including the Superfund Groundwater Technical Forum and the Federal Facilities Forum.

At the request of the State of Hawaii, Matt developed a methodology to determine the vulnerability of groundwater to contamination on the islands of Maui and Oahu. He used analytical models and a GIS to show zones of vulnerability, and the results were adopted and published by the State of Hawaii and County of Maui.

As a hydrogeologist with the EPA Groundwater Protection Section, Matt worked with provisions of the Safe Drinking Water Act and NEPA to prevent drinking water contamination. Specific activities included the following:

- Received an EPA Bronze Medal for his contribution to the development of national guidance for the protection of drinking water.
- Managed the Sole Source Aquifer Program and protected the drinking water of two communities through designation under the Safe Drinking Water Act. He prepared geologic reports, conducted public hearings, and responded to public comments from residents who were very concerned about the impact of designation.
- Reviewed a number of Environmental Impact Statements for planned major developments, including large hazardous and solid waste disposal facilities, mine reclamation, and water transfer.

Matt served as a hydrogeologist with the RCRA Hazardous Waste program. Duties were as follows:

- Supervised the hydrogeologic investigation of hazardous waste sites to determine compliance with Subtitle C requirements.
- Reviewed and wrote "part B" permits for the disposal of hazardous waste.

- Conducted RCRA Corrective Action investigations of waste sites and led inspections that formed the basis for significant enforcement actions that were developed in close coordination with U.S. EPA legal counsel.
- Wrote contract specifications and supervised contractor's investigations of waste sites.

With the National Park Service, Matt directed service-wide investigations of contaminant sources to prevent degradation of water quality, including the following tasks:

- Applied pertinent laws and regulations including CERCLA, RCRA, NEPA, NRDA, and the Clean Water Act to control military, mining, and landfill contaminants.
- Conducted watershed-scale investigations of contaminants at parks, including Yellowstone and Olympic National Park.
- Identified high-levels of perchlorate in soil adjacent to a national park in New Mexico and advised park superintendent on appropriate response actions under CERCLA.
- Served as a Park Service representative on the Interagency Perchlorate Steering Committee, a national workgroup.
- Developed a program to conduct environmental compliance audits of all National Parks while serving on a national workgroup.
- Co-authored two papers on the potential for water contamination from the operation of personal watercraft and snowmobiles, these papers serving as the basis for the development of nation-wide policy on the use of these vehicles in National Parks.
- Contributed to the Federal Multi-Agency Source Water Agreement under the Clean Water Action Plan.

Policy:

Served senior management as the Senior Science Policy Advisor with the U.S. Environmental Protection Agency, Region 9. Activities included the following:

- Advised the Regional Administrator and senior management on emerging issues such as the potential for the gasoline additive MTBE and ammonium perchlorate to contaminate drinking water supplies.
- Shaped EPA's national response to these threats by serving on workgroups and by contributing to guidance, including the Office of Research and Development publication, Oxygenates in Water: Critical Information and Research Needs.
- Improved the technical training of EPA's scientific and engineering staff.
- Earned an EPA Bronze Medal for representing the region's 300 scientists and engineers in negotiations with the Administrator and senior management to better integrate scientific principles into the policy-making process.
- Established national protocol for the peer review of scientific documents.

Geology:

With the U.S. Forest Service, Matt led investigations to determine hillslope stability of areas proposed for timber harvest in the central Oregon Coast Range. Specific activities were as follows:

- Mapped geology in the field, and used aerial photographic interpretation and mathematical models to determine slope stability.
- Coordinated his research with community members who were concerned with natural resource protection.

- Characterized the geology of an aquifer that serves as the sole source of drinking water for the city of Medford, Oregon.

As a consultant with Dames and Moore, Matt led geologic investigations of two contaminated sites (later listed on the Superfund NPL) in the Portland, Oregon, area and a large hazardous waste site in eastern Oregon. Duties included the following:

- Supervised year-long effort for soil and groundwater sampling.
- Conducted aquifer tests.
- Investigated active faults beneath sites proposed for hazardous waste disposal.

Teaching:

From 1990 to 1998, Matt taught at least one course per semester at the community college and university levels:

- At San Francisco State University, held an adjunct faculty position and taught courses in environmental geology, oceanography (lab and lecture), hydrogeology, and groundwater contamination.
- Served as a committee member for graduate and undergraduate students.
- Taught courses in environmental geology and oceanography at the College of Marin.

Invited Testimony, Reports, Papers and Presentations:

Hagemann, M.F., 2008. Disclosure of Hazardous Waste Issues under CEQA. Presentation to the Public Environmental Law Conference, Eugene, Oregon.

Hagemann, M.F., 2008. Disclosure of Hazardous Waste Issues under CEQA. Invited presentation to U.S. EPA Region 9, San Francisco, California.

Hagemann, M.F., 2005. Use of Electronic Databases in Environmental Regulation, Policy Making and Public Participation. Brownfields 2005, Denver, Coloradao.

Hagemann, M.F., 2004. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in Nevada and the Southwestern U.S. Presentation to a meeting of the American Groundwater Trust, Las Vegas, NV (served on conference organizing committee).

Hagemann, M.F., 2004. Invited testimony to a California Senate committee hearing on air toxins at schools in Southern California, Los Angeles.

Brown, A., Farrow, J., Gray, A. and **Hagemann, M.**, 2004. An Estimate of Costs to Address MTBE Releases from Underground Storage Tanks and the Resulting Impact to Drinking Water Wells. Presentation to the Ground Water and Environmental Law Conference, National Groundwater Association.

Hagemann, M.F., 2004. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in Arizona and the Southwestern U.S. Presentation to a meeting of the American Groundwater Trust, Phoenix, AZ (served on conference organizing committee).

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in the Southwestern U.S. Invited presentation to a special committee meeting of the National Academy of Sciences, Irvine, CA.

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River. Invited presentation to a tribal EPA meeting, Pechanga, CA.

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River. Invited presentation to a meeting of tribal repesentatives, Parker, AZ.

Hagemann, M.F., 2003. Impact of Perchlorate on the Colorado River and Associated Drinking Water Supplies. Invited presentation to the Inter-Tribal Meeting, Torres Martinez Tribe.

Hagemann, M.F., 2003. The Emergence of Perchlorate as a Widespread Drinking Water Contaminant. Invited presentation to the U.S. EPA Region 9.

Hagemann, M.F., 2003. A Deductive Approach to the Assessment of Perchlorate Contamination. Invited presentation to the California Assembly Natural Resources Committee.

Hagemann, M.F., 2003. Perchlorate: A Cold War Legacy in Drinking Water. Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. From Tank to Tap: A Chronology of MTBE in Groundwater. Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. A Chronology of MTBE in Groundwater and an Estimate of Costs to Address Impacts to Groundwater. Presentation to the annual meeting of the Society of Environmental Journalists.

Hagemann, M.F., 2002. An Estimate of the Cost to Address MTBE Contamination in Groundwater (and Who Will Pay). Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. An Estimate of Costs to Address MTBE Releases from Underground Storage Tanks and the Resulting Impact to Drinking Water Wells. Presentation to a meeting of the U.S. EPA and State Underground Storage Tank Program managers.

Hagemann, M.F., 2001. From Tank to Tap: A Chronology of MTBE in Groundwater. Unpublished report.

Hagemann, M.F., 2001. Estimated Cleanup Cost for MTBE in Groundwater Used as Drinking Water. Unpublished report.

Hagemann, M.F., 2001. Estimated Costs to Address MTBE Releases from Leaking Underground Storage Tanks. Unpublished report.

Hagemann, M.F., and VanMouwerik, M., 1999. Potential Water Quality Concerns Related to Snowmobile Usage. Water Resources Division, National Park Service, Technical Report.

VanMouwerik, M. and **Hagemann, M.F.** 1999, Water Quality Concerns Related to Personal Watercraft Usage. Water Resources Division, National Park Service, Technical Report.

Hagemann, M.F., 1999, Is Dilution the Solution to Pollution in National Parks? The George Wright Society Biannual Meeting, Asheville, North Carolina.

Hagemann, M.F., 1997, The Potential for MTBE to Contaminate Groundwater. U.S. EPA Superfund Groundwater Technical Forum Annual Meeting, Las Vegas, Nevada.

Hagemann, M.F., and Gill, M., 1996, Impediments to Intrinsic Remediation, Moffett Field Naval Air Station, Conference on Intrinsic Remediation of Chlorinated Hydrocarbons, Salt Lake City.

Hagemann, M.F., Fukunaga, G.L., 1996, The Vulnerability of Groundwater to Anthropogenic Contaminants on the Island of Maui, Hawaii. Hawaii Water Works Association Annual Meeting, Maui, October 1996.

Hagemann, M. F., Fukanaga, G. L., 1996, Ranking Groundwater Vulnerability in Central Oahu, Hawaii. Proceedings, Geographic Information Systems in Environmental Resources Management, Air and Waste Management Association Publication VIP-61.

Hagemann, M.F., 1994. Groundwater Characterization and Cleanup at Closing Military Bases in California. Proceedings, California Groundwater Resources Association Meeting.

Hagemann, M.F. and Sabol, M.A., 1993. Role of the U.S. EPA in the High Plains States Groundwater Recharge Demonstration Program. Proceedings, Sixth Biennial Symposium on the Artificial Recharge of Groundwater.

Hagemann, M.F., 1993. U.S. EPA Policy on the Technical Impracticability of the Cleanup of DNAPL-contaminated Groundwater. California Groundwater Resources Association Meeting.

Hagemann, M.F., 1992. Dense Nonaqueous Phase Liquid Contamination of Groundwater: An Ounce of Prevention... Proceedings, Association of Engineering Geologists Annual Meeting, v. 35.