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TECHNICAL MEMORANDUM

To:	Tierra del Sol Solar Farm LLC; Rugged Solar LLC
From:	Mike Greene, Environmental Specialist/Acoustician
Subject:	Infrasound and Low-Frequency Noise, Tracker Motor and Fenceline Noise Measurements at Newberry Springs Solar Facility
Date:	August 20, 2014
Attachment:	*Protect Our Communities Foundation, et al. v. Jewell*, Case No. 13-CV-575-JLS-JMA

1.0 INTRODUCTION

In response to comments received during public review of the Soitec Solar Development Draft Programmatic Environmental Impact Report (DPEIR) requesting quantification of infrasound and low frequency noise (ILFN) levels from the Proposed Project, Dudek conducted ILFN measurements of key noise components at the concentrator photovoltaic (CPV) solar facility located in Newberry Springs, CA. The solar facility at Newberry Springs, CA (Newberry Springs) deploys CPV technology that is comparable to the Proposed Project analyzed in the DPEIR, such as CPV electric generation systems and associated inverters and transformers. This memorandum summarizes the results of the ILFN noise measurements.

2.0 BACKGROUND

Low frequency sound is generally sound at frequencies between 20 and 200 hertz (Hz), while infrasound commonly refers to sound at frequencies below 20 Hz. Sound is perceived and recognized by its loudness (pressure) and pitch (frequency), but the human ear does not respond equally to all frequencies. The human ear can most easily recognize sounds in the middle of the audible spectrum, between approximately 1000 to 4000 Hz. The perceptibility of sound at the extremes of the spectrum is markedly reduced. For this reason, ILFN is typically inaudible, i.e., outside the range of perception at ordinary pressure levels. ILFN may become audible, however, at very high-pressure levels, exceeding 85 decibels on the G-weighted sound scale (dBG). Virtually every piece of mechanical equipment emits infrasound, including traffic, air conditioners, refrigerators, surf, our own hearts and wind. Typical infrasound exposure levels for people who live in cities are approximately 50-65 dBG most of the time due to traffic, air conditioning, heating fans, subways and air traffic.

A recent United States District Court Decision for a wind turbine project, citing expert opinion testimony by epidemiologist Dr. Mark Roberts among others, who disputed any connection between wind turbine noise and human health, determined that the United States Bureau of Land Management "was not required to accept Plaintiffs' opinion that an assessment of wind turbine noise must give special prominence to low-frequency sound, or that a 'G-weighted' scale is more appropriate for measuring wind turbine noise than other existing scales." *Protect Our Communities Foundation, et al. v. Jewell*, Case No. 13-CV-575-JLS-JMA, Order on Cross Motions for Summary Judgment at pp. 15-19 (March 25, 2014).

Nonetheless, in order to provide the requested information, noise measurements were conducted using unweighted 1/3rd-octave bands as well as the G-weighted scale.

3.0 NOISE MEASUREMENT EQUIPMENT

Specialized noise measurement equipment is necessary in order to assess ILFN. A Rion NA-18 infrasound sound level meter and 1/3rd octave band real time analyzer fitted with a 1-inch microphone (model UC24) was used for the measurements. This equipment is capable of measuring sound frequencies from 1 hertz (Hz) to 80 Hz. Using the Rion NA-18, noise measurements of the transducers and inverters were conducted using the G-weighted scale and in the unweighted 1/3rd octave band frequency domain.

For the noise measurements, the measurement equipment was attached to a tripod at a height of five feet above the ground and the microphones were fitted with windscreens. For the measurements of the inverters, a reference distance of 50 feet from the equipment was used, because the noise level from the equipment of interest was high enough relative to the ambient noise level so as to render a sufficiently robust signal-to-noise ratio. For the measurements of the transformer noise, a reference distance of 25 feet was used to ensure a robust signal-to-noise ratio.

4.0 ILFN STANDARDS

There are no County of San Diego, California, or federal standards for ILFN. The nations of Australia and Denmark use 85 dBG as a guideline for siting of wind turbine projects because the accepted threshold for audibility of ILFN is 85 dBG.

The County has not adopted a significance threshold for ILFN and does not view ILFN as a public health issue.

5.0 NOISE MEASUREMENT RESULTS

The noise measurements were conducted on April 23, 2014, in the middle of the day; see Figure 1 for noise measurement locations. Meteorological conditions were warm and sunny, with generally light winds and low humidity (81 degrees F, 2-3 mph winds on-site, approximately 5-6 mph winds at the offsite ambient location, 22% relative humidity). The G-weighted noise measurements are summarized in Table 1; the unweighted 1/3rd-octave band noise measurements are summarized in Table 2.

Table 1: G-Weighted Noise Measurements

Measurement Number	Start Time	End Time	Leq (dBG)	Measurement Location
1	11:55	11:56	59.4	Schneider Xantrex GT250 480 Inverter at 50'
4	12:30	12:31	61.4	Transformer & Cooling fans cabinet at 25'
5	12:31	12:32	59.8	
6	12:36	12:37	62	
7	12:45	12:46	57	Schneider Xantrex GT500 Inverter at 50'
8	12:47	12:48	59	
9	12:49	12:50	55.1	
10	12:55	12:56	59.8	
11	13:21	13:22	65.6	Fenceline, south side, 250' from GT 500 inverter
12	13:51	13:52	60.2	Fenceline, southwest side, 375' from GT 500 inverter
13	14:11	14:12	68.9	Tonopah Street & Tujunga Avenue (Ambient Measurement) approx. 0.5 mile from project site

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Table 2: 1/3rd-Octave Band Noise Measurements

Measure-ment Location	Start Time	End Time	1 Hz	1.25 Hz	1.6 Hz	2 Hz	2.5 Hz	3.15 Hz	4 Hz	5 Hz	6.3 Hz	8 Hz	10 Hz	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz
GT 250 Inverter at 50'	11:55	11:56	62.6	62.1	60.8	61	56.6	53.6	53.4	50.8	49.5	47.9	46.5	45.9	45.6	46.3	46.6	45.9	43.7	44	44.7	43.1
Transformer & Cooling fans cabinet at 25 '	12:30	12:31	74	69.9	65	67.9	65.8	64.7	61	57.7	57	53.2	49.8	48	46.7	48.7	46.8	40.4	39	40.5	42.4	39.1
Schneider Xantrex GT500 Inverter at 50'	12:45	12:46	58.4	54.3	55	53.3	52.1	50	48.4	47.5	45.1	46	44	41.2	44.1	44.1	43.2	42.1	45.3	47.5	52.8	46.5

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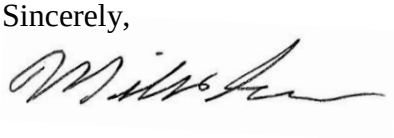
6.0 CONCLUSIONS

The G-weighted noise measurement data in Table 1 indicates that measured ILFN equipment noise levels ranged from 55 dBG (Xantrex GT500 Inverter measurement 9, at 50 feet) to 62 dBG (transformer and cooling cabinet at 25 feet). When normalized to a distance of 50 feet assuming an attenuation rate of 6 dB per doubling of distance, however, the expected sound pressure level would be approximately 56 dBG. Thus, even at a relatively near distance (far nearer than a resident or other noise-sensitive receiver would be located), the G-weighted noise levels were found to be well under the audibility threshold of 85 dBG used by environmental protection agencies in Australia and Denmark (as stated in Section 4.0, no definitive standard has been established for large sources of low-frequency noise in the United States). At the minimum potential distances from transformer/inverter pads to property line for the Tierra del Sol and Rugged solar projects (130 feet and 800 feet, respectively), the combined Xantrex GT500 / transformer ILFN noise levels would be approximately 55 dBG at 130 feet or 39 dBG at 800 feet. This estimate conservatively neglects any benefit from the enclosures that would be constructed around the inverters.

It is also noted that the G-weighted noise levels measured at the fenceline were comparable to or greater than the levels measured at the reference locations for the transformers and inverters. In addition, the G-weighted noise level measured at the off-site ambient location approximately ½-mile from the site was 7 to 14 dB higher than at the reference locations for the transformers and inverters. This is attributable to the slightly higher wind levels at this location during the measurement, and demonstrates that even relatively low wind speeds can generate substantially higher ILFN levels than the equipment of interest. It is established that acoustical energy (audible or inaudible) diminishes with distance from a source because of geometric spreading as well as atmospheric effects. Therefore, it is concluded the contribution of ILFN from the transformers and inverters to offsite receivers is negligible when compared to the existing ambient ILFN noise in the area.

Sincerely,



_____

Mike Greene
Environmental Specialist/Acoustician

Mike Greene, INCE – Environmental Specialist/Acoustician

Mike Greene is an environmental specialist/acoustician with more than 23 years' professional experience in acoustical analysis and noise control engineering. Mr. Greene has conducted and participated in noise and vibration analyses for hundreds of transportation, commercial, industrial, and residential developments throughout California and the United States.

EDUCATION

University of California, San Diego
BS, Applied Mechanics, 1985

CERTIFICATIONS

Board Certified, Institute of Noise Control Engineering (INCE Bd. Cert.)

County of San Diego-approved

PROFESSIONAL AFFILIATIONS

Transportation Research Board, ADC40 subcommittee

As a project or task manager, Mr. Greene has conducted noise studies for industrial and commercial facilities, ranging from hospitals to manufacturing plants to super-speedway facilities. He is experienced in the modeling of existing and future roadway noise impacts using the Federal Highway Administration's Traffic Noise Model (TNM®) and is experienced with the use of both SoundPLAN and CadnaA, computer software programs for prediction and assessment of noise levels in the vicinity of industrial facilities and other noise sources such as roadways, railways and airports.

PROJECT EXPERIENCE

Development

Pacific Landing Acoustical Study, Murrieta, California. Provided comprehensive acoustical consulting services for the proposed residential apartment development project, to be located adjacent to the I-215 freeway in Murrieta. The proposed project consists of thirty-three multi-family apartment structures. The analysis of noise included an exterior noise evaluation, and exterior to interior noise assessment, of existing and future noise levels calculated to occur at exterior living areas and building facades of the Pacific Landing property. Evaluation of short-term, temporary, noise levels generated from project construction was also addressed as well as noise generation from proposed exterior mechanical equipment (i.e, ground or roof-mounted HVAC packages), evaluated at the nearest noise-sensitive property line.

Additionally, the study included an analysis of interior noise isolation between living units and between public areas and living units, in compliance with California State Title 24 (Noise Insulation) and City of Murrieta Building Code requirements.

Sunroad East Harbor Island Hotel Draft Environmental Impact EIR and Port Master Plan Amendment, Port of San Diego, San Diego, California. Served as task manager to conduct a noise analysis that included noise measurements, on-site and off-site traffic and construction noise impact assessment, in addition to other on-site operational noises, such as Heating, Ventilation, and Air Conditioning (HVAC), parking lots, etc., and effects from nearby San Diego

International Airport. The results of the analysis were summarized in a technical report and in the noise section of the EIR.

Rider Distribution Warehouse Technical Studies and EIR, Riverside County, California. Responsible for noise measurement, analysis, and reporting of potential effects on the noise environment from the project. Construction noise (which included potential rock blasting) and operational noise from warehouse and truck operations were addressed for this project which was located near a nature preserve area and residences.

Tejon Mountain Village EIR, Tejon Ranch Company, Tejon, California. Conducted the noise analysis for the EIR for Tejon Mountain Village, a proposed resort community located near the Grapevine, in northern Los Angeles County. Noise measurements of existing ambient noise levels were conducted in the vicinity of the Interstate (I-) 5 freeway as well as in the more remote portions of the project site. Traffic noise was modeled using the TNM® noise model. Additionally, potential for noise impacts from a distant sand and gravel mine was assessed, as well as from construction noise of the project itself.

Coronado Yacht Club Redevelopment and Expansion EIR, Port of San Diego, California. Served as noise task manager to provide guidance and oversight of the noise analysis and reporting of results for the proposed improvements to the Coronado Yacht Club.

San Diego Convention Center EIR, Port of San Diego, California. Served as noise task manager to provide guidance and oversight of the noise analysis and reporting of results for the proposed expansion of the San Diego Convention Center. Issues included potential noise effects from construction activities as well as proposed outdoor events overlooking the harbor and Coronado Island residents.

San Pedro Waterfront EIS/EIR, Port of Los Angeles, Los Angeles, California. As noise task manager, was responsible for the successful completion of the noise analysis. Managed and supervised the noise measurements, modeling, analysis and results reporting. Primary issues of concern included potential effects from traffic and construction noise.

Wilmington Waterfront EIR, Port of Los Angeles, Los Angeles, California. Responsible for the successful completion of the noise analysis for this complex project. Conducted and supervised the noise measurements, modeling, analysis and results reporting, which involved analysis of potential effects from traffic, freight rail, light rail, industrial and construction noise.

Education

EIR for Campus Master Plan and Student Housing, California State University, Dominguez Hills, Carson, California. Responsible for the completion of the noise analysis and reporting for the project. Supervised the noise measurements, modeling, analysis and results reporting, which involved analysis of potential effects from traffic, on-campus facilities, and operations and construction noise.

Multiple School Projects, Los Angeles Unified School District, Los Angeles, California. Noise analyses were conducted for several proposed school construction projects as part of an on-call environmental consulting contract for the district. Noise studies were conducted for L.A. Unified School District High Schools 13, 9, and 12. The analyses included noise measurements of ambient conditions and traffic noise impact analysis to estimate potential noise effects at both existing noise-sensitive land uses and proposed on-site receptors. Additionally, noise during

construction and operation (such as from school athletic fields and stadiums) was assessed. The results of the noise studies were summarized in noise technical reports.

Energy

El Segundo Power Redevelopment Project, NRG/Dynegy, El Segundo, California. Conducted the noise analysis for a proposed 630-megawatt (MW) power plant. Project would replace two aging power units with a newer, more efficient combined-cycle (combustion turbines and steam turbine) plant. Responsible for the preparation of the noise analysis, a section of the project's Application for Certification, response to comments, and oral and written testimony before the California Energy Commission.

Weymouth Filtration Plant Solar Project, Metropolitan Water District, La Verne, California. Conducted the noise study for the Initial Study/Mitigated Negative Declaration (IS/MND) for this project. The primary issue with respect to noise from the project was potential effects at nearby residences and other land uses from construction activities associated with the proposed project.

Lake Skinner Solar Project—Metropolitan Water District, Riverside County, California. Task Manager, Noise. Conducted the noise study for the IS/MND for this project, located in Riverside County. The primary issue with respect to noise was potential effects at adjacent residences from construction activities associated with the proposed project.

OceanWay Secure Energy Project EIS/EIR for Woodside Natural Gas Deepwater Port—AMEC, Los Angeles County, California. Task Manager, Noise. Responsible for the noise and vibration section of the EIS/EIR of this proposed liquefied natural gas (LNG) project. The potential noise/vibration effects of onshore construction and operations were assessed with respect to local, state and federal standards.

Transportation

Meadowpass Road Extension EIR, City of Walnut, California. Responsible for the measurement, analysis, and reporting. The primary issue for this project with respect to noise was potential effects from traffic at nearby residences as a result of the construction of the road extension.

I-15 Widening from San Bernardino to I-215 EIR/EIS, Transportation Commission, County of Riverside, California. Potential noise increases at adjacent noise-sensitive land uses were addressed pursuant to Federal Highway Administration and Caltrans guidelines. Noise measurements were conducted at representative noise-sensitive land uses along the 43.5-mile project alignment. Noise modeling (TNM® Version 2.5) was conducted in order to assess the changes in future traffic noise levels resulting from the proposed improvements, to determine existing and future traffic noise impacts and to provide noise abatement design guidance as needed. The results of the noise study were summarized in a noise study report and noise abatement decision report pursuant to Caltrans Technical Noise Supplement (TeNS) and noise protocol guidance.

State Route (SR-) 2 Freeway Terminus IS/Environmental Assessment (EA), Metro, Los Angeles, California. As part of this joint National Environmental Policy Act (NEPA)/California Environmental Quality Act (CEQA) document, the project was analyzed at an equal level of detail for the No Action alternative and all five project alternatives. The analyses were conducted in accordance with guidelines set forth in the Caltrans Traffic Noise Protocol and TeNS handbooks. The study included noise measurements of ambient conditions adjacent to the project alignment, traffic noise impact analysis (using TNM® Version 2.5) to estimate potential noise effects at existing noise-sensitive receptors, and noise during construction. Results were summarized in a noise study report pursuant to Caltrans TeNS guidance.

Northern Canoga Extension of the Orange Line EIR, Metro, Reseda, California. Project entailed noise measurements and subsequent noise analysis of Metro bus operations on rubberized asphalt concrete (RAC) and non-RAC busway pavement to determine the benefit provided by RAC. Because differences in the noise levels were not expected to be substantial and because of site conditions, the design of the measurement setups was crucial. Site selection and details of the measurement procedures, including coordination of a dedicated test bus and driver, was an important part of the study. Simultaneous measurements at multiple locations were conducted from approximately 1 a.m. to 4 a.m. to reduce the influence of background noise. Noise measurement methodology, analysis results, and conclusions were summarized in a technical memorandum to the client.

Busway and Bus Rapid Transit Projects, Massachusetts Bay Transportation Authority, Boston, Massachusetts. Conducted and participated in noise analyses for Busway and Bus-Rapid Transit (BRT) projects using Federal Transit Administration (FTA) methodologies and standards. The project involved the construction of a proposed BRT project in downtown Boston. Analyzed potential noise and vibration impacts at adjacent sensitive receptors from construction and operation using FTA methodologies. In addition, Mr. Greened worked on similar projects in Portland, Oregon, and near Dallas, Texas.

Water/Wastewater

New Evans Reservoir IS/MND, Public Utilities Department, City of Riverside, California. Responsible for the measurement, analysis, and reporting of noise for this IS/MND. The primary issue for this project with respect to noise was construction (trenching) along the pipeline alignment adjacent to noise-sensitive land receptors.

Otay Mesa Recycled Water System Capital Improvement Project EIR, Otay Water District, Otay Mesa, California. Responsible for the noise analysis for this ongoing project involving the construction of three recycled water pipelines by the Otay Water District. The potential effect of noise from construction activities was the primary issue with regard to noise for this project. Noise levels at adjacent noise-sensitive uses were predicted and compared with relevant thresholds of significance, and mitigation measures were recommended as necessary to reduce noise to a level below significance.

PUBLICATIONS

Greene, M. 2011. *Noise Assessment of an Aquatics Facility in a Residential Area*. Joint Institute of Noise Control Engineering*/*Transportation Research Board ADC 40 Annual Summer Conference.

Greene, M. 2011. *Shake, Rattle & Roll Revisited: Results of Two Vibration Measurement Studies Near Large, Heavily-Traveled Freeways*. Joint Institute of Noise Control Engineering/Transportation Research Board ADC 40 Annual Summer Conference.

Greene, M. 2009. *Shake, Rattle and Roll: Results of a Vibration Study Near a Large, Heavily-Traveled Freeway*. Transportation Research Board ADC 40 Annual Summer Conference.

Greene, M. 2008. *Case Study and Lessons Learned: Preliminary Determination of Quiet Zone "Benefitted Area.*" Transportation Research Board ADC 40 Annual Summer Conference.

Greene, M. 2008. *Does Installation of a Traffic Signal Cause Increased Traffic Noise? Pre- and Post-Installation Noise Measurement Results*. Transportation Research Board ADC 40 Annual Summer Conference.

Greene, M. 2004. *Multiple Analysis and Measurement Methods to Confirm the Absence of Noise Impacts from a Power Plant*. Transportation Research Board and the National Conference on Noise Control Engineering (NOISE-CON 2004).

Greene, M. 2002. *Typical Diurnal Traffic Noise Patterns for a Variety of Roadway Types*. Proceedings of the 2002 International Congress and Exposition on Noise Control Engineering (Inter-Noise 2002).

Greene, M. 2002. *Comparison of Pile-Driver Noise from Various Pile-Driving Methods and Pile Types.* Proceedings of the 2002 International Congress and Exposition on Noise Control Engineering (Inter-Noise 2002).

Greene, M. 2000. *Determination of Insertion Loss for Classrooms at a High School*. Proceedings of the 140th Meeting of the Acoustical Society of America and the National Conference on Noise Control Engineering (NOISE-CON 2000).

Greene, M. 1997. *Case Study: Noise Analysis of Operations from an Existing Mine at a Nearby Proposed Residential/Recreational Development*. Proceedings of the 1997 National Conference on Noise Control Engineering (NOISE-CON 1997).

Greene, M. 1991. *P.C. Based Program for Air Quality Calculations.* Proceedings of the Institute of Environmental Sciences Technical Meeting.

ATTACHMENT

***Protect Our Communities Foundation, et al. v. Jewell,* Case No. 13-CV-575-JLS-JMA**

UNITED STATES DISTRICT COURT

SOUTHERN DISTRICT OF CALIFORNIA

THE PROTECT OUR COMMUNITIES FOUNDATION, BACKCOUNTRY AGAINST DUMPS, and DONNA TISDALE, Plaintiffs, vs. SALLY JEWELL, et al., Defendants, and TULE WIND LLC, Intervenor-Defendant	CASE NO. 13CV575 JLS (JMA) **ORDER ON CROSS MOTIONS FOR SUMMARY JUDGMENT** (ECF Nos. 18, 30, and 31)

Presently before the Court is Plaintiffs Protect Our Communities Foundation, Backcountry Against Dumps, and Donna Tisdale's (collectively, "Plaintiffs") Motion for Summary Judgment. (Mot. for Summ. J., ECF No. 18.) Also before the Court are Intervenor-Defendant Tule Wind LLC's ("Tule") Combined Cross-Motion for Summary Judgment and Opposition to Plaintiffs' Motion for Summary Judgment, (Tule Cross Mot. for Summ. J., ECF No. 30), and Federal Defendants S.M.R. Jewell, Neil Kornze, Tom Zale, the U.S. Bureau of Land Management, and the U.S. Department of the Interior (collectively, "Federal Defendants") Combined Cross Motion for Summary Judgment and Opposition to Plaintiffs' Motion for Summary Judgment, (Fed. Def. Cross Mot. for Summ. J., ECF No. 31), as well as

the parties' associated oppositions and replies, (Resp. in Opp'n to Tule Cross Mot. for Summ. J., ECF No. 34; Resp. in Opp'n to Fed. Def. Cross Mot. for Summ. J., ECF No. 33; Tule Reply in Supp., ECF No. 38; Fed. Def. Reply in Supp., ECF No. 39.)

The Court heard oral argument regarding the parties' motions on March 3, 2014, and thereafter took the matter under submission. Having considered the parties' arguments and the law, the Court **DENIES** Plaintiffs' motion for summary judgment and **GRANTS** Tule's and Federal Defendants' cross motions for summary judgment.

BACKGROUND

In this action, Plaintiffs challenge the Bureau of Land Management's ("BLM") Record of Decision ("ROD") authorizing development of the Tule Wind Project, a utility-scale wind energy facility, on public lands in San Diego County. Plaintiffs maintain that BLM's approval of a right-of-way for Tule, a subsidiary of Iberdrola Renewables, Inc., to construct, operate, and maintain 62 wind turbines on 12,360 acres of federally-managed lands in the McCain Valley, approximately 70 miles east of the City of San Diego, violates the National Environmental Policy Act, 42 U.S.C. §§ 4321–4370h ("NEPA"); the Migratory Bird Treaty Act, 16 U.S.C. §§ 703–712 ("MBTA"); and the Bald and Golden Eagles Protection Act, 16 U.S.C. §§ 668–668d ("BGEPA").

Tule's original proposal for a wind energy facility contemplated up to 128 1.5 to 3.0 megawatt ("MW") wind turbine generators, producing up to 200 MW, on lands administered by BLM, the Ewiiaapaayp Indian Tribe, and the California State Lands Commission, as well as on private lands. To address concerns regarding the Project's environmental impacts, however, BLM approved only a scaled-down version of Tule's proposal, eliminating 33 turbines from BLM-administered lands, reducing the generating capacity of the Project to 186 MW, and requiring the undergrounding of certain transmission infrastructure.

BLM, together with the California Public Utility Commission ("CPUC"), prepared an Environmental Impact Statement ("EIS") for the Project, which aims to provide a comprehensive analysis of the Project's impacts on environmental, social, economic, biological, and cultural resources. The Draft EIS was released for public comment on December 23, 2010. (Administrative Record ("AR") 6943–9742.) The Final EIS was released on October 3, 2011. (AR 1–5877.) BLM published the initial ROD on December 19, 2011, approving the right-of-way on the terms set forth in the Final EIS. (AR 9750–95.)

LEGAL STANDARD

"Because the statutes under which [Plaintiffs] seek[] to challenge administrative action do not contain separate provisions for judicial review, [this Court's] review is governed by the [Administrative Procedure Act ("APA")]." *City of Sausalito v. O'Neill*, 386 F.3d 1186, 1205 (9th Cir. 2004). Under the APA, agency decisions must be upheld unless the Court finds that the decision or action is "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law." 5 U.S.C. § 706(2)(A). Agency action taken "without observance of procedure required by law" may also be set aside. 5 U.S.C. § 706(2)(D).

Agency action is arbitrary and capricious if:

> the agency has relied on factors which Congress has not intended it to consider, entirely failed to consider an important aspect of the problem, offered an explanation for its decision that runs counter to the evidence before the agency, or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise.

City of Sausalito, 386 F.3d at 1206 (quoting *Motor Vehicle Mfrs. Ass'n of U.S. v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983)). "The standard is 'highly deferential, presuming agency action to be valid and affirming the agency action if a reasonable basis exists for its decision.'" *Protect Our Cmtys. Found. v. Salazar*, No. 12cv2211 GPC (PCL), 2013 WL 5947137, at *2 (S.D. Cal. Nov. 6, 2013) (quoting *Nw. Ecosystem Alliance v. U.S. Fish and Wildlife Serv.*, 475 F.3d 1136, 1140 (9th Cir. 2007)). Agency action is valid if the agency "'considered the relevant factors

and articulated a rational connection between the facts found and the choices made.'" *Id*. (quoting *Arrington v. Daniels*, 516 F.3d 1106, 1112 (9th Cir. 2008)). Plaintiffs bear the burden of showing that agency action is arbitrary or capricious. *Id.* (citing *Kleppe v. Sierra Club*, 427 U.S. 390, 412 (1976)).

ANALYSIS

1. NEPA

NEPA requires that an EIS be prepared for all "major Federal actions significantly affecting the quality of the human environment." 42 U.S.C. § 4332(2)(C). The EIS should "provide full and fair discussion of significant environmental impacts and . . . inform decisionmakers and the public of the reasonable alternatives which would avoid or minimize adverse impacts or enhance the quality of the human environment." 40 C.F.R. § 1502.1.

Judicial review of an agency's EIS under NEPA is limited to a "rule of reason that asks whether an EIS contains a reasonably thorough discussion of the significant aspects of the probable environmental consequences." *City of Sausalito*, 386 F.3d 1186, 1206–07 (quoting *Idaho Conservation League v. Mumma*, 956 F.2d 1508, 1519 (9th Cir. 1992)). "The key question is whether the EIS's form, content, and preparation foster both informed decisionmaking and informed public participation." *Id.* (quotation omitted).

The Court may not substitute its judgment for that of the agency, however. *See Protect Our Cmtys. Found.*, 2013 WL 5947137 at *2 (citing *Selkirk Conservation Alliance v. Forsgren*, 336 F.3d 944, 958 (9th Cir. 2003)). NEPA does not contain substantive environmental standards, nor does the statute mandate that agencies achieve particular substantive environmental results. *See id.* (citing *Ctr. for Biological Diversity v. U.S. Forest Serv.*, 349 F.3d 1157, 1166 (9th Cir. 2003)). Rather, this Court's role is to ensure that the agency "has taken a 'hard look' at a decision's environmental consequences." *City of Sausalito*, 386 F.3d at 1207.

In this action, Plaintiffs contend that BLM violated NEPA by (1) failing to

articulate a legitimate public purpose and an actual need for the Tule Wind Project, (2) prematurely dismissing the "distributed generation" alternative without in-depth analysis or discussion, (3) failing to take a "hard look" at the Project's environmental impacts, and (4) improperly deferring specification and analysis of mitigation measures. The Court considers each of Plaintiffs' arguments in turn.

A. Did BLM Fail to Articulate an Adequate Purpose and Need for the Project?

NEPA's implementing regulations state than an agency must "briefly specify the underlying purpose and need to which the agency is responding in proposing the alternatives including the proposed action." 40 C.F.R. § 1502.13. "Agencies enjoy 'considerable discretion' to define the purpose and need of a project." *Nat'l Parks & Conservation Ass'n (NPCA) v. BLM*, 606 F.3d 1058, 1070 (9th Cir. 2009) (quoting *Friends of Se.'s Future v. Morrison*, 153 F.3d 1059, 1066 (9th Cir. 1998)). "'[A]n agency cannot define its objectives in unreasonably narrow terms,'" however. *Id.* (quoting *City of Carmel-By-The-Sea v. U.S. Dep't of Transp.*, 123 F.3d 1142, 1155 (9th Cir. 1997)). "An agency may not define the objectives of its action in terms so . . . narrow that only one alternative from among the environmentally benign ones in the agency's power would accomplish the goals of the agency's action, and the EIS would become a foreordained formality." *Friends*, 153 F.3d at 1066 (internal quotations omitted). An agency's statement of purpose is evaluated under a "reasonableness standard." *NCPA*, 606 F.3d at 1070 (citations omitted).

Here, the Final EIS sets forth BLM's purpose and need for the proposed action:

> Taking into account the BLM's multiple use mandate, the purpose and need for the proposed action is to respond to a [Federal Land Policy and Management Act ("FLPMA")] right-of-way application submitted by Tule Wind, LLC to construct, operate, maintain, and decommission a wind energy-generating facility and associated infrastructure on public lands managed by the BLM in compliance with FLPMA, BLM right-of-way regulations, and other applicable Federal laws and policies.
>
> In conjunction with FLPMA, the BLM's applicable authorities include the following:

> • Executive Order 13212, dated May 18, 2001, which mandates that agencies act expediently and in a manner consistent with applicable laws to increase the production and transmission of energy in a safe and environmentally sound manner.
>
> • Section 211 of the Energy Policy Act of 2005[,] . . . which established a goal for the [Department of Interior ("DOI")] (BLM's parent agency) to approve at least 10,000 megawatts of nonhydropower renewable energy power on public lands by 2015.
>
> • Secretarial Order 3285A1, Renewable Energy Development by the DOI, dated February 22, 2010. This Secretarial Order establishes the development of renewable energy as a priority for the DOI and creates a Departmental Task Force on Energy and Climate Change. It also announced a policy goal of identifying and prioritizing specific locations (study areas) best suited for large-scale production of solar energy.
>
> The BLM will decide whether to deny the proposed right-of-way, grant the right-of way, or grant the right-of-way with modifications. Modifications may include modifying the proposed use or changing the route or location of the proposed facilities (43 CFR 2805.10(a)(1)).

(AR 141–42.) Thus, BLM's purpose and need, as articulated in the Final EIS, is "grounded in both the [agency's] duty to act on FLPMA Title V [right-of-way] applications and federal objectives promoting renewable energy." (Fed. Def. Cross Mot. for Summ. J. 11, ECF No. 31.)

Plaintiffs contend, however, that BLM violated NEPA by "parroting the Project applicant's statement of purpose and need, thereby improperly constraining [the agency's] consideration of alternatives and subsequently failing to show that an actual need exists." (Mot. for Summ. J. 30, ECF No. 18.) Plaintiffs maintain that it is "insufficient for NEPA purposes" for BLM to "reiterate its statutory duty to review 'right-of-way application[s] submitted' to it." (*Id.* at 31.) According to Plaintiffs, a purpose and need statement that "does nothing more than respond to the applicant's proposed Project" is inadequate because it "simply repeat[s] the applicant's goals and [fails] to consider the underlying *federal government's* purpose in considering the application and the *federal government's* need for the project." (*Id.* (citing *NPCA*, 606 F.3d at 1071).)

Moreover, Plaintiffs insist that BLM must demonstrate an "actual need" for

the Project by explaining "why this Project better achieves [the aforementioned policy objectives] than [other renewable energy sources, such as] rooftop solar, industrial solar, tidal, geothermal, hydroelectric, or rooftop wind power," as well as specifying "where the electricity to be generated by the Project will be used and whether there is an existing or projected supply shortage." (*Id.*)

Federal Defendants contend, on the other hand, that "[a]n agency's obligation to respond to [right-of-way] applications consistent with its statutory authorities is a purpose that is uniquely governmental, but [that also] . . . takes into account the private applicant's objectives," as required by law. (Fed. Def. Cross Mot. for Summ. J. 13, ECF No. 31.) Thus, Federal Defendants maintain that "BLM formulated its own purpose and need [statement] with not only the Applicant's goals and needs, but also its unique statutory role and policy prerogatives, in mind." (*Id.*)

Here, Plaintiffs' argument that BLM's statement of purpose merely parrots Tule's private objectives is simply unsupported by the record. In the Final EIS, BLM sets forth a statement of purpose and need, in a separate section of the document, that reflects the influence not only of Tule's goals, but also of statutory, executive, and administrative directives regarding the promotion of renewable energy on federal lands. *See HonoluluTraffic.com v. Fed. Transit Admin.*, 742 F.3d 1222, 1230 (9th Cir. 2014) ("The [EIS's] stated objectives comply with the intent of the relevant federal statutes."). BLM is not only permitted, but required, to consider this statutory and regulatory framework before taking action on a right-of-way application. *See NPCA*, 606 F.3d at 1070 ("'[A]n agency should always consider the views of Congress, expressed, to the extent that the agency can determine them, in the agency's statutory authorization to act, as well as in other congressional directives'" (quoting *Citizens Against Burlington, Inc. v. Busey*, 938 F.2d 190, 196 (D.C. Cir. 1991))). Although BLM's statement of purpose may overlap with Tule's objectives in certain respects, such overlap is unremarkable in light of BLM's obligation to consider a private applicant's goals in responding to a right-of-way

application. *See Alaska Survival v. Surface Transp. Bd.*, 705 F.3d 1073, 1085 (9th Cir. 2013) (citation omitted) ("An agency must look hard at the factors relevant to definition of purpose, which can include private goals, especially when the agency is determining whether to issue a permit or license.").

The Court need not second-guess BLM's judgment that there is an actual need for the Project, as Plaintiffs demand. The Court's task is to determine "whether BLM's purpose and need statement properly states . . . BLM's purpose and need, against the background of a private need, in a manner broad enough to allow consideration of a reasonable range of alternatives." *NPCA*, 606 F.3d at 1071.

BLM's purpose and need statement was not so narrow as to render the EIS a mere formality or to "unreasonably constrain the possible range of alternatives." *Id.* at 1072. Not only did BLM consider several alternatives to the proposed Project, it ultimately did not adopt Tule's original proposal, authorizing instead a scaled-down version with a substantially more limited generating capacity and a reduced number of wind turbines. (*See* AR 9763–9767.)

Plaintiffs contend that the range of alternatives analyzed by BLM was too narrow because all of the alternatives considered would have resulted in utility-scale energy development of some kind. (Resp. in Opp'n to Tule Cross Mot. for Summ. J. 35–36, ECF No. 34 (citing *NPCA*, 606 F.3d at 1072).) Unlike *National Parks & Conservation Association v. BLM*, however, where "a landfill development of some sort" was improperly foreordained by BLM's unreasonably narrow statement of purpose, *see* 606 F.3d at 1071, the statutory, executive, and administrative directives invoked by BLM here set forth legitimate governmental objectives that justify the agency's limited focus on utility-scale projects on public lands. *Cf. HonoluluTraffic.com*, 742 F.3d at 1231 ("The statement of purpose and need is broad enough to allow the agency to assess various routing options and technologies for a *high-capacity* . . . [transportation] project. [Thus, the agency's statement of purpose] is reasonable . . . [because it does] not foreclose *all* alternatives, and

because it [is] shaped by federal legislative purposes." (emphasis added)). Accordingly, BLM's purpose and need statement complied with NEPA's requirements.

B. Did BLM Improperly Dismiss the Distributed Generation Alternative?

Judicial review of the range of alternatives considered in an EIS "is governed by a 'rule of reason' that requires an agency to set forth only those alternatives necessary to permit a 'reasoned choice.'" *California v. Block*, 690 F.2d 753, 767 (9th Cir. 1982) (quoting *Save Lake Wash. v. Frank*, 641 F.2d 1330, 1334 (9th Cir. 1981)). The "touchstone for [a court's] inquiry is whether an EIS's selection and discussion of alternatives fosters informed decision-making and informed public participation." *Id.*

The appropriate range of alternatives is defined by the purpose and need statement. 40 C.F.R. § 1502.13; *Carmel*, 123 F.3d at 1155. An EIS need not consider an alternative that does not respond to the purpose and need, or the implementation of which "is deemed remote and speculative." *Life of the Land v. Brinegar*, 485 F.2d 460, 472 (9th Cir. 1973).

Here, BLM considered a variety of different alternatives, ultimately selecting seven of them for in-depth study and analysis, including five alternatives utilizing configurations or designs for the Project that were not proposed by Tule, and two no-action alternatives under which BLM would have denied the requested right-of-way altogether. (*See* AR 2485–98, 9764–65.) In Section C of the Final EIS, BLM provided a thorough discussion of the alternatives, explaining why the five selected action alternatives were suitable for full analysis, and why other options were preliminary eliminated after brief examination. (*See* AR 385–90, 395–417.)

Ultimately, BLM selected the "Reduction in Turbines" alternative, which calls for the removal of 63 turbines from the proposed Project, including 33 turbines planned for BLM-administered lands, most of them near the western side of the

Project site. (AR 2498–99, 9789.) BLM determined that removing the selected wind turbines would substantially reduce adverse impacts to golden eagles and other rare and special-status birds. (AR 2498.)

Plaintiffs take issue with the EIS because BLM refused to conduct an in-depth analysis of their preferred alternative, which relies on distributed energy generation. Under this alternative, the Tule Wind Project would not be built, and instead BLM would rely on widespread development of solar photovoltaic systems, or "rooftop solar," on residential and commercial structures in San Diego County, as well as development of other small-scale renewable energy sources, such as hydrogen fuel cells and biofuels. (AR 20633–34, 20636–37.)

As explained in Section C of the EIS, BLM determined that the distributed generation alternative did not merit in-depth study because it fails to fulfill several Project objectives and is infeasible from a regulatory, technical, and commercial perspective. To begin with, BLM found that the alternative is infeasible because applicable California regulations do not provide sufficient incentives for development of rooftop solar. (AR 412.) Although California recently introduced a system of tradable renewable energy credits, BLM found that the market for such credits "has yet to be defined and is not yet active." (*Id.*) Next, BLM determined that the alternative remains highly speculative because installation of at least 100,000 new rooftop solar energy systems would be required in order to generate the amount of electricity anticipated from the Project, an unprecedented increase over current installation rates. (*Id.*) Third, BLM found that rooftop solar projects implemented on the scale contemplated by Plaintiffs would create "rapid localized voltage drops" as a consequence of "intermittent performance." (AR 413.) This development would require "extensive upgrading to local substations," the environmental impacts of which BLM could not evaluate with certainty. (*Id.*)

Finally, and "most important[ly]," BLM concluded that the distributed generation alternative does not further the policies set forth in the statutory,

executive, and administrative directives invoked in the statement of purpose and need. BLM determined that the referenced policies require evaluation of *utility-scale* renewable energy development, rather than distributed generation, as well as siting and management of renewable energy projects *on public lands*, rather than on private structures. (*Id.*)

Not surprisingly, Plaintiffs disagree with BLM's grounds for excluding the distributed generation alternative from further study. Plaintiffs reject BLM's characterization of the regulatory environment for rooftop solar as unfavorable. Plaintiffs emphasize that CPUC has already clarified the structure and rules of the market for tradable renewable energy credits, thereby eliminating any regulatory hurdles to widespread development of distributed energy generation systems. (Resp. in Opp'n to Fed. Def. Cross Mot. for Summ. J. 15, ECF No. 33.)

Plaintiffs also maintain that distributed energy generation is not only commercially feasible, but actually more cost-effective than utility-scale wind energy. According to Plaintiffs, distributed energy projects "'can get built quickly and without the need for expensive new transmission lines'" and also reduce cost by "minimizing the vulnerability of the electrical grid to fires and other natural disasters." (Mot. for Summ. J. 13, ECF No. 18 (citing AR 20660–20663).)

Lastly, Plaintiffs maintain that distributed generation would contribute to state and federal renewable energy resource goals, while imposing far less drastic environmental impacts than utility-scale wind. Plaintiffs argue that the statutory, executive, and administrative directives invoked by BLM do not justify the agency's narrow focus on utility-scale development; indeed, Plaintiffs suggest that there is "nothing about [those provisions] that is mandatory." (*Id.* at 11.)

The Court agrees with Tule and Federal Defendants that BLM provided more than sufficient discussion and analysis of the distributed generation alternative to satisfy NEPA. Although BLM must consider project alternatives that would avoid or minimize damage to the environment, the agency is not required to provide a

comprehensive examination of alternatives that are infeasible or inadequate to meet stated objectives. *See Life of the Land*, 485 F.2d at 472.

BLM's conclusion that current regulatory conditions in California are unfavorable to the development of rooftop solar is defensible and merits deference from the Court. As Tule points out, the eligibility of distributed energy installations for renewable energy credits remains unclear, such that the regulatory hurdles to widespread development of rooftop solar that BLM identified in the EIS may continue to exist today. (*See* Tule Reply in Supp. 5–6, ECF No. 38.)

Moreover, BLM's determination that distributed energy generation is infeasible from a technical and commercial perspective also merits deference, as the agency's conclusion is based on its expertise and on thorough discussion and consideration of the available evidence. *See, e.g.*, *Lands Council v. McNair*, 537 F.3d 981, 1003 (9th Cir. 2008) (en banc) ("[The agency] must explain the methodology it used for its . . . analysis, . . . [but] NEPA does not require [this Court] to 'decide whether an [EIS] is based on the best scientific methodology available'" (quoting *Friends of Endangered Species, Inc. v. Jantzen*, 760 F.2d 976, 986 (9th Cir.1985))), *overruled on other grounds by Winter v. Natural Res. Def. Council*, 555 U.S. 7 (2008). BLM relied on its own assessment of the relative capacity of rooftop solar and utility-scale wind in concluding that an unprecedented increase in rooftop solar installations would be necessary to match the Project's anticipated output. (AR 412–13.) The agency also relied on its expertise in finding that widespread development of rooftop solar may lead to imbalances in the grid system that would require additional modifications to existing substations, with uncertain environmental impacts. (AR 413.)

BLM's conclusion that distributed generation is inconsistent with the agency's documented objectives is also supported by the record. The EIS acknowledges that distributed generation projects would contribute to renewable energy sourcing goals, (AR 411), but the Project's objectives are far more specific and demanding than

these broad aims. Distributed generation would fall short with respect to these objectives, such as providing renewable energy to meet California's renewable portfolio standard target of 33% renewable sources by 2020, as well as fulfilling BLM's obligation to seek to approve 10,000 MW of renewable energy projects on public lands by 2015. Furthermore, the statutory, executive, and administrative directives invoked by BLM are not merely precatory, as Plaintiffs suggest. These provisions articulate specific policies that BLM must consider in managing the resources within its jurisdiction. *See HonoluluTraffic.com*, 742 F.3d at 1230 ("The [EIS complies] with the *intent* of the relevant *federal statutes*" (emphasis added)). Accordingly, BLM's discussion of Project alternatives complied with NEPA and was not "arbitrary [or] capricious." 5 U.S.C. § 706(2)(A).

C. Did BLM Fail to Take a "Hard Look" at the Project's Environmental Impacts?

"Under NEPA, an EIS must contain a 'reasonably thorough' discussion of an action's environmental consequences." *NPCA*, 606 F.3d at 1072 (quoting *Block*, 690 F.2d at 761). "An EIS must 'provide full and fair discussion of significant environmental impacts.'" *Id.* (quoting 40 C.F.R. § 1502.1). The Court's review is "limited to whether an EIS took a 'hard look' at the environmental impacts of a proposed action." *Id.* The Court must make a "'pragmatic judgment whether the EIS's form, content, and preparation foster both informed decision-making and informed public participation.'" *Id.* (quoting *Block*, 690 F.2d at 761).

Plaintiffs maintain that BLM failed to take a hard look at several of the Tule Wind Project's environmental consequences, including (1) noise impacts, (2) electric and magnetic field ("EMF") pollution, (3) impacts on avian species, and (4) impacts on climate change. The Court discusses each issue in turn.

(1) Noise Impacts

(a) Audible Noise Impacts

Section D.8 of the EIS addresses potential noise impacts from construction

and operation of the Tule Wind Project. Section D.8.1 provides a "description of the existing noise setting," whereas "applicable noise ordinances and limitations" are discussed in Section D.8.2. (AR 1585.) BLM's analysis of noise impacts within the Project area, along with a discussion of planned mitigation measures, appears in Section D.8.3. (*Id.*)

Section D.8.3 of the EIS identifies several adverse noise impacts resulting from construction and operation of the Project: (1) "[c]onstruction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances;" (2) "[c]onstruction activity would temporarily cause groundborne vibration;" (3) "[p]ermanent noise levels would increase due to corona noise from operations of the transmission lines and noise from other project components;" and (4) "[r]outine inspection and maintenance activities would increase ambient noise levels." (AR 1599.)

As the EIS makes clear, BLM adopted a cautious and conservative approach to measuring turbine noise. (AR 1618–19, 3432–33.) BLM modeled a worst-case scenario, utilizing noise levels associated with the noisiest turbine model, multiplied to reflect the maximum number of proposed turbines. Accordingly, the EIS acknowledges that "wind turbine project-related noise levels range from 36 dBA to 54 dBA" and that "[w]ithout mitigation and assuming all turbines utilized a maximum noise emission of 111 dBA (109 dBA plus 2 dBA for uncertainty), the project would exceed maximum allowable nighttime noise limits . . . at five property boundaries and daytime noise limits . . . at three properties." (AR 1618.) The EIS concludes that "[b]ecause the noise generated by wind turbines would exceed the allowable noise level limits at several identified receptors, the impact would be adverse under NEPA." (*Id.*)

In light of these projections, the EIS outlines a site-specific noise mitigation plan. (AR 1619–20.) The noise mitigation plan is designed to ensure that "noise from turbines will not adversely impact surrounding residences" and that the

"operation of the turbines will comply with [applicable local noise ordinances]." (AR 1619.) The mitigation plan calls for measures to diminish noise from turbine operations, including "revising the turbine layout, [curtailing] nighttime use of selected turbines, [utilizing] an alternate turbine manufacturer (or combination of manufacturers), implementation of noise reduction technology," and other unspecified methods. (AR 1619–20.)

Despite BLM's extensive discussion of noise impacts, Plaintiffs insist that the EIS is deficient because BLM failed to model turbine noise using larger, more powerful 3.0 MW turbines. The Court agrees with Tule and Federal Defendants, however, that BLM's careful analysis of the Project's audible noise impacts was more than sufficient to satisfy NEPA. BLM relied on its expertise in reaching the conclusion that the more powerful 3.0 MW turbines were unsuitable for modeling the Project's noise impacts—the agency found that larger turbines require greater setback distances and produce lower noise emissions, thereby underestimating overall noise levels. (*See* Fed. Def. Cross Mot. for Summ. J. 22, ECF No. 31 (citing AR 1618–19).) The EIS complies with NEPA because it carefully elucidates BLM's conservative methodology for modeling noise emissions, (*see* AR 1618–19, 3417, 52731); NEPA does not require the agency to use an alternative methodology, even one that Plaintiffs believe is superior.[1] *See McNair*, 537 F.3d at 1003.

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(b) Inaudible Infrasound and Low Frequency Noise ("ILFN") Impacts

i. BLM's Analysis of Potential ILFN Impacts

In addition to audible noise, the EIS also addresses the impacts of infrasound

[1] Plaintiffs also take issue with BLM's use of a 2.6 dB "hot weather adjustment" in modeling the 2.0 MW turbine. Plaintiffs insist that the 3.0 MW turbine would have been noisier if a similar adjustment had been applied to that model. As Tule and Federal Defendants explain, however, the "hot weather adjustment" reflects a specific component unique to the Gamesa G87 2.0 MW turbine, such that BLM's decision not to apply the adjustment to the 3.0 MW turbine was justified. (*See* Tule Reply in Supp. 9, ECF No. 38.)

and low frequency noise ("ILFN"). "Low frequency sound is generally sound at frequencies between 20 and 200 Hz," while "infrasound commonly refers to sound at frequencies below 20 Hz." (AR 3424.) "Sound is perceived and recognized [both] by its loudness (pressure) and pitch (frequency)," but the "human ear does not respond equally to all frequencies." (*Id.*) Thus, the human ear can most easily recognize sounds in the "middle of the audible spectrum," between 1000 to 4000 Hz, but perception is attenuated at the extremes of the spectrum. (*Id.*) For this reason, ILFN is typically inaudible, *i.e.*, outside the range of perception at ordinary pressure levels. ILFN may become audible, however, at very high pressure levels, exceeding 85 dB.

Numerous comments on the Draft EIS raised concerns regarding human exposure to inaudible ILFN from wind turbines:

> NOI2: Commenters suggest that the [Final EIS] is inadequate because characteristics of audible and inaudible sound are not fully addressed, including the appropriate measurements of both, and the health effects of prolonged audible and inaudible sound.
> . . .
> NOI4: Commenters suggest that the document is inadequate because it does not attempt to calculate the amount of low-frequency noise and infrasound that would be generated.
>
> NOI5: Commenters suggest that the document is inadequate because it does not address the effects of low-frequency noise and infrasound on public health, does not consider peer-reviewed and epidemiological studies to address potential health effects related to low-frequency noise and infrasound, and does not include any mitigation to address these impacts.
>
> NOI6: Commenters suggest that wind turbines generate significant low-frequency noise, greater than other noise sources. Commenters suggest that health effects related to low-frequency noise are more severe than health effects resulting from community noise in general; therefore, noise sources generating low-frequency noise should be subject to stricter guidelines.

(AR 3412–13.)

BLM addressed these concerns in the Responses to Comments section of the Final EIS. After canvassing the available literature, BLM concluded that inaudible ILFN is not expected to have adverse health effects. Rather, BLM determined that

exposure to ILFN has been shown to be harmful only at "very high [pressure] levels," exceeding the "internationally recognized threshold for perception of infrasound." (AR 3428, 3425.) In other words, BLM concluded that ILFN poses a risk to human health only when *audible*.

The EIS subsequently discusses exposure to ILFN above 85 dB, the accepted threshold for audibility, noting that excessive exposure at such levels "has been associated with a condition termed 'vibro-acoustic disease' (VAD), a thickening of cardiovascular structures, such as cardiac muscle and blood vessels." (AR 3428.) The EIS explains that risk of VAD is limited to rare situations, such as "military operations" and "work carried out in connection with the Apollo space program," where infrasound levels can reach 125 dB, vastly exceeding the levels of infrasound produced by wind turbines. (*Id.*)

Plaintiffs contend, however, that the EIS is deficient due to BLM's refusal to accept the view that ILFN can have adverse effects on human health at pressure levels below the threshold of audibility. According to Plaintiffs, *inaudible* ILFN has been "documented to cause insomnia, vertigo, ear pressure or pain, fatigue, unsteadiness, dizziness, tinnitus, headaches, external auditory canal sensation, irritability, memory, and concentration loss, loss of motion, cardiac arrhythmias, stress, and hypertension . . . ." (Mot. for Summ. J. 16, ECF No. 18 (quoting AR 20749).)

To support these allegations, Plaintiffs rely on a scientific study conducted by Drs. Salt and Hullar, indicating that inaudible ILFN is powerful enough to stimulate the ear's cochlear outer hair cells, thereby causing significant annoyance and harm to human beings. (AR 20734.) Plaintiffs also rely on a study conducted by Dr. Nina Pierpont, which discusses "Wind Turbine Syndrome," an ostensible medical condition caused by wind turbine noise. Dr. Pierpont's study suggests that ILFN from wind turbines causes significant health problems. (AR 3747–49.)

Federal Defendants and Tule maintain that BLM *did* evaluate the evidence

and expert testimony invoked by Plaintiffs, but ultimately rejected it as flawed and unpersuasive. The Court agrees. Where there are conflicting expert opinions, it is not the Court's role to determine which scientific studies an agency must credit. *See Nat'l Parks & Conservation Ass'n (NPCA) v. U.S. Dep't of Transp.*, 222 F.3d 677, 682 (9th Cir. 2000). Rather, the Court must defer to the agency's determination. *Id.*

Here, contrary to Plaintiffs' account, BLM thoroughly reviewed the materials that Plaintiffs submitted, but ultimately chose to rely on its own experts, rather than Plaintiffs' authorities. For example, BLM relied upon epidemiologist Dr. Mark Roberts's expert opinion, which calls into question the scientific validity of the Pierpont study. (AR 3748 ("Scientific evidence challenges the notion that adverse health effects from wind turbine sound [are] plausible . . . . Dr. Pierpont's peer-review process appears to be among colleagues and friends and not a single- or double-blind process. Nontraditional references such as newspaper articles and television interviews are used to support Dr. Pierpont's hypothesis.")) BLM also invoked expert testimony from Dr. Arlene King, the Chief Medical Officer of Ontario, Canada, disputing any connection between wind turbine noise and human health. (AR 3749.)

The EIS does not, however, merely "[critique] one particular doctor's theory," as Plaintiffs contend. (Resp. in Opp'n to Fed. Def. Cross Mot. for Summ. J. 23, ECF No. 33.) Rather, the EIS provides reasoned explanation and scientific support for BLM's conclusion that inaudible ILFN emissions from wind turbines do not adversely impact human health. *See* AR 3749 ("Both Dr. Mark Roberts . . . and Dr. Arlene King, the Chief Medical Officer for Ontario, Canada, concluded [that] there is inadequate evidence to establish a causal link between exposure to wind turbine noise and adverse human health effects."). In sum, BLM carefully evaluated the available scientific evidence regarding the health impacts of ILFN emissions, rejected Plaintiffs' concerns, and reached a permissible conclusion. *See Protect Our Cmtys. Found.*, 2013 WL 5947137 at *8 (rejecting challenge to a previous EIS in

which Plaintiffs invoked the same scientific studies regarding ILFN impacts).

ii. BLM's Modeling of ILFN Emissions

In Section D.8 of the EIS, BLM utilized "A-weighted" and "C-weighted" scales to gauge noise impacts from wind turbine operations. The EIS explains that the "A-weighted" scale was used because it most closely simulates the effects of noise on the human ear:

> The A-weighting scale is appropriate because it is a close approximation of the human response to different frequencies of sound and is in broad use across many disciplines that address noise. The A-weighting scale attenuates low-frequency noises in a manner that simulates how human ears attenuate low-frequency noise at low levels (approximately 40 decibels (dB)). The A-weighting scale is the most common weighting scale for environmental acoustics analysis and assessing compliance with applicable noise limits. State and federal agencies that regulate environmental noise throughout the United States rely on the A-weighted decibel, or dB(A), as the appropriate metric for assessing human response to noise. Applicable noise rules in California also rely on the A-weighted decibel.

(AR 3417.) The C-weighted scale was also used to "simulate human perception at higher sound levels, in excess of 70 dB." (*Id.*)

According to Plaintiffs, BLM was obligated to undertake either "G-weighted" or "unweighted" measurements, either of which would assign greater prominence to low-frequency sound. Plaintiffs maintain that the EIS is deficient without such measurements because "A-weighting considerably underestimates the likely influence of wind turbine noise on the ear." (*Id.*) Federal Defendants contend, however, that Plaintiffs raise a mere "disagreement over methodology," such that "the agency's methodology must be upheld." (Fed. Def. Cross Mot. for Summ. J. 24, ECF No. 31.)

The Court agrees with Federal Defendants. BLM's thorough explanation of its choice of methodology complies with NEPA and merits deference from the Court. *See Protect Our Communities Foundation*, 2013 WL 5947137 at *9 (citing *Native Ecosystems Council*, 697 F.3d at 1053) ("Disagreeing with the methodology [utilized] by the agency does not constitute a NEPA violation."). BLM was not

required to accept Plaintiffs' opinion that an assessment of wind turbine noise must give special prominence to low-frequency sound, or that a "G-weighted" scale is more appropriate for measuring wind turbine noise than other existing scales.[2]

(2) Electric and Magnetic Field ("EMF") Pollution

(a) EMF Emissions Measurement and Monitoring

Section D.10.8 of the EIS assesses the potential health impacts of electric and magnetic fields ("EMFs"). The EIS explains that EMFs need not be considered for "determination of environmental impact because there is no agreement among scientists that EMFs create a health risk and because there are no defined or adopted . . . NEPA standards for defining health risks from EMFs." (AR 1845–46.) Nonetheless, the EIS goes on to provide substantial information regarding EMFs "for the benefit of the public and decision makers." (*Id.*)

To begin with, the EIS distinguishes between electric fields and magnetic fields—electric fields are "typically not of concern because [they] are effectively shielded by materials such as trees, walls, and structures," whereas magnetic fields are "not easily shielded by objects or materials." (*Id.*) Consequently, the EIS focuses its discussion primarily on magnetic fields.

The EIS explains that there is "little or no evidence" to support a relationship between magnetic fields and health effects. (AR 1848, 1851–53 (relying on scientific studies and reports by national and international authorities, such as the World Health Organization, the U.S. Environmental Protection Agency, and the Health Council of the Netherlands).) Because there is "inadequate or no evidence of

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[2] Federal Defendants also contend that Plaintiffs failed to preserve this argument for judicial review because Plaintiffs' comments on the Draft EIS presented "G-weighted" measurements as "only one of several permissible options." (Fed. Def. Cross Mot. for Summ. J. 23, ECF No. 31.) Plaintiffs requested that BLM "use C-, G-, and/or Z-weighted measurements, which give more weight to infrasound and lower frequencies, in addition to A-weighted measurements." (AR 5199.) The Final EIS incorporated Plaintiffs' suggestion and used C-weighted measurements to assess the Project's noise impacts. Thus, Plaintiffs' comments did not provide notice that G-weighted measurements were required. Because Plaintiffs' arguments fail on the merits, the Court declines to address the exhaustion issue.

health effects at low exposure levels," the EIS recommends no specific measures to address EMFs, beyond "no-cost" and "low-cost" mitigation efforts already required by law.[3] (AR 1857.)

Plaintiffs contend that the EIS is inadequate under NEPA because BLM failed to "measure EMF pollution through time-weighted averages of magnetic field exposure . . . in individual residences." (Mot. for Summ. J. 20, ECF No. 18). According to Plaintiffs, BLM "never gathered the data necessary to quantify the amount of EMF pollution that the Project would produce," instead resting on the unsupported conclusion that EMFs do not pose a risk to human health. (*Id.*)

Contrary to Plaintiffs' account, however, BLM did not "shunt aside" Plaintiffs' concerns regarding EMF impacts with mere "conclusory statements," nor was BLM's analysis of EMF impacts "uninformed." *Found. for N. Am. Wild Sheep v. U.S. Dep't of Agric.*, 681 F.2d 1172, 1179, 1180 (9th Cir. 1982). Rather, BLM presented a thorough overview of the scientific literature regarding the impacts of EMFs on human health and then relied on its own interpretation of the evidence, ultimately concluding that there is no scientific consensus regarding the health impacts of EMF exposure. In sum, BLM did not rely on the absence of evidence or information, but rather on its own expert assessment of the available science. *Cf. Wild Sheep*, 681 F.2d at 1180.

(b) Potential Stray Voltage Impacts

Section D.10.9 of the Final EIS discusses "Other Field-Related Public Concerns," including "potential health risk impacts," such as "induced currents, shock hazards, and effects on cardiac pacemakers." (AR 1869.) The EIS identifies "induced current and shock hazards" as significant Project impacts on public safety in Section D.10.9.2.

The EIS explains that "[i]nduced currents and voltages on conducting objects

[3] The EIS also notes that in California there are currently no applicable federal or state standards limiting EMF exposure from transmission lines or substation facilities. (AR 1858.)

near the proposed transmission lines represent a potential significant impact that can be mitigated." (AR 1877.) Induced current does not "pose a threat in the environment if the conducting objects are properly grounded." (*Id.*) Thus, the EIS calls for the implementation of Mitigation Measure PS-2 ("MM PS-2"), which requires Tule to "identify objects (such as fences, conductors, and pipelines) that have the potential for induced voltages and work with the affected parties to determine proper grounding procedures." (*Id.*)

Pursuant to MM PS-2, Tule must "install all necessary grounding measures prior to energizing the line" and must "notify in writing all property owners within and adjacent to the [Project area]" 30 days prior to energizing the line. (*Id.*) The written notice must provide guidance as to "activities that should be limited or restricted within the Project area" and must alert property owners as to their "responsibilities with respect to notification for any new objects that may require grounding." (*Id.*)

Plaintiffs insist that the EIS's discussion of induced current, or "dirty electricity," is inadequate. According to Plaintiffs, "grounding" is not an appropriate method for mitigating the safety risks posed by stray voltage, and may actually exacerbate the hazard by facilitating the diversion of induced current through the ground into residences and other structures. (Mot. for Summ. J. 22, ECF No. 18.)

Federal Defendants argue that "Plaintiffs conflate two different phenomena by describing EMF pollution as 'dirty electricity.'" (Fed. Def. Cross Mot. for Summ. J. 26, ECF No. 31.) As the Final EIS indicates, "electromagnetic energy and 'dirty electricity refer to different phenomena . . . [EMF] is a physical field produced by electrically charged objects . . . . Dirty electricity, on the other hand, is poor power quality . . . , which in turn might cause stray voltage." (AR 3455.) Federal Defendants maintain that any arguments regarding stray voltage, as opposed to EMFs, lack merit because the mitigation plan outlined in the EIS requires "proper

grounding prior to commissioning and regular [maintenance] thereafter." (Fed. Def. Cross Mot. for Summ. J. 26 n.15, ECF No. 31.)

Similarly, Tule emphasizes that the EIS explicitly recognizes that "improper grounding can cause adverse health effects." (Tule Cross Mot. for Summ. J. 26, ECF No. 30 (citing AR 3455).) Tule claims that the EIS's discussion is adequate because the document addresses potential impacts through the aforementioned mitigation plan, which requires proper grounding of turbines and surrounding objects.

The Court agrees with Federal Defendants and Tule that the EIS's discussion of induced current, and its articulation of associated mitigation measures, is sufficient to satisfy NEPA. An EIS is inadequate only if it entirely fails to consider an important aspect of a problem or neglects to examine available data or evidence. *City of Sausalito*, 386 F.3d at 1206 (citations omitted). Yet Plaintiffs' claim that so-called dirty electricity "is not analyzed at all" in the EIS is misleading, as is Plaintiffs' assertion that BLM "never actually addresses [EMFs and stray voltage] separately." In fact, the EIS provides a thorough analysis of stray voltage in Section D.10.9 and a similarly thorough discussion of EMF emissions in Section D.10.8. As indicated, the EIS explicitly acknowledges that stray voltage from the Project poses a potentially significant risk to public safety and proposes a mitigation plan to address this hazard, requiring Tule to ensure that turbines and nearby objects are properly grounded and to monitor the Project site on an ongoing basis. (AR 3455.)

In sum, BLM did not ignore evidence regarding EMF emissions or stray voltage, as Plaintiffs contend, but rather addressed the available scientific evidence in considerable detail—the agency examined competing scientific studies and expert reports, identified risks to public safety where appropriate, and set forth mitigation measures. For this reason, the EIS's discussion of EMF emissions and stray voltage complies with NEPA.

(3) Impacts on Avian Species

(a) Noise Impacts on Birds

Section D.2 of the EIS addresses Project impacts on biological resources, including avian species. In Section D.2.3.3, the EIS lists 11 significant biological resource impacts, including "direct or indirect loss of . . . sensitive wildlife" and "potential loss of nesting birds" as a result of construction activities, as well as possible "electrocution of, and/or collisions by, . . . sensitive bird and bat species" as a result of wind turbine operations. (AR 560.)

The EIS also discusses the impact of construction noise and human presence on birds in the Project area, specifically analyzing the impacts on golden eagles, California condors, and other special-status raptors, as well as southwestern willow flycatchers and other special-status songbirds. (AR 602–08.) The EIS acknowledges that "increased human presence and noise has the potential to cause the loss of nesting birds . . . ." (AR 608.)

Accordingly, the EIS also sets forth several mitigation measures, such as Mitigation Measure BIO-7j ("MM BIO-7j"), designed to minimize the impact of noise on nearby birds. (AR 593–94.) MM BIO-7j calls for Tule to develop a Nesting Bird Management, Monitoring, and Reporting Plan, including the establishment of buffer zones between Project activity and known or potential nesting sites based on an assessment of anticipated "noise level[s] and quality." (*Id.*)

In the Responses to Comments section, BLM further explains that the Avian and Bat Protection Plan ("ABPP") developed by Tule "incorporate[s] measures to protect bird species from noise associated with project construction and operations." (AR 3766.) The ABPP indicates that noise impacts to birds are likely to be low and will be avoided or mitigated by specific measures taken during the design, construction, and operation of the Project, such as "minimization of surface disturbance, seasonal restrictions on ground disturbance, burial of collector lines, and trash abatement programs." (AR 13475.)

Plaintiffs contend, however, that the EIS fails to take a "hard look" at the

impacts of noise on birds in the Project area. According to Plaintiffs, the Final EIS is deficient because (1) it focuses exclusively on construction, rather than operational, noise; (2) it discusses only nesting and fledgling birds, ignoring birds at other stages of life and neglecting to discuss bird reproductive and foraging success; and (3) it relies on conclusory statements about potential impacts, rather than site-specific data and analysis. (Mot. for Summ. J. 24–25, ECF No. 18.) Plaintiffs also dismiss the EIS's discussion of mitigation, arguing that the measures proposed are inadequate, and unlikely to be effective, absent a more thorough analysis of noise impacts. (*Id.* at 24).

Plaintiffs' argument that the EIS entirely ignores the impacts of operational noise from wind turbines is misleading, however. The EIS discusses both construction and operational noise, and the ABPP, which is incorporated by reference into the EIS, explicitly concedes that operational noise may impact birds and sets forth concrete measures to mitigate this risk. (AR 3766 (noting that the ABPP "incorporate[s] measures to protect bird species from noise associated with project construction and operations.").)

Moreover, BLM was not required to credit the testimony of Plaintiffs' expert, Dr. Travis Longcore, as to the potential for turbine noise to disturb birds. BLM did not assign much weight to Dr. Longcore's opinion because his testimony relates to bird species unlikely to be found in the Project area. (Tule Cross Mot. for Summ. J. 28 n.13, ECF No. 30.) Plaintiffs maintain that BLM had no good reason for discrediting Dr. Longcore's opinion, but the Court's role is not to instruct the agency as to which scientific studies it must follow. *See N. Plains Res. Council, Inc. v. Surface Transp. Bd.*, 668 F.3d 1067, 1075 (9th Cir. 2011).

Finally, Plaintiffs' argument that the EIS fails to rely on site-specific data and analysis is inaccurate. The EIS's discussion of noise impacts is based on empirical, site-specific studies undertaken by BLM to help the agency gauge the presence of threatened or special-status species in the Project area. (AR 2795–2849.) BLM

chose to give Plaintiffs' expert testimony less weight because it focused on avian species that the agency believed were unlikely to be present near the Project site. (*See* Tule Cross Mot. for Summ. J. 28 n.13, ECF No. 30). BLM did not merely "shunt[] aside" Plaintiffs' concerns, *Wild Sheep*, 681 F.2d at 1179, but rather provided a full and fair discussion of the problem, basing its analysis on geographic considerations and an assessment of existing data.

(b) Nocturnal Bird Mortality

Plaintiffs also argue that BLM "entirely failed to conduct any nighttime bird surveys in the Project area, thus leaving the public and decisionmakers alike to speculate about the Project's impacts to burrowing owls, long-eared owls, and other nocturnal bird species." (Mot. for Summ. J. 25, ECF No. 18.) According to Plaintiffs, BLM was not permitted to rely exclusively on "daytime bird surveys and studies of nocturnal bird migration in other regions" to conclude that nocturnal birds are not prevalent in the Project area and that night-migrating birds fly at altitudes higher than the proposed turbines. (*Id.*)

Federal Defendants and Tule emphasize that the EIS determined that night-migrating birds, even "when flying over or along a ridge that results in them flying at a lower elevation, are at an elevation ranging from 702 to 2,523 feet," whereas the "proposed turbines of the Tule Wind Project . . . [will be] 492 feet tall." (AR 528–29.) Moreover, Federal Defendants and Tule point out that the nocturnal birds that Plaintiffs are concerned with, *e.g.*, long-eared owls and burrowing owls, have not been located within the Project area at all and are not believed to reside there.

Here, BLM's conclusion that the Project is unlikely to have significant impacts on night-migrating birds is supported by the available evidence. The Final EIS makes clear that "there is no project-specific information describing the Tule Wind Project area as a major route of the Pacific Flyway for birds during migration." (AR 528.) The EIS explains that "[b]irds migrating in the Pacific

Flyway may cross over the Tule Wind Project area, but these birds likely fly at an elevation above the wind turbines and transmission infrastructure proposed as part of the project." (*Id.*) This finding is not wholly speculative, as Plaintiffs seem to suggest; rather, the EIS supports its reasoning with a citation to a relevant scientific study.[4] (*Id.* (citing Mabee et al. 2006).) The EIS also adequately discusses impacts to nocturnal birds, such as owls, and sets forth mitigation measures. (AR 587, 3535–36.)

(4) Climate Change

In Section D.18 of the Final EIS, BLM evaluated the Project's impacts on climate change. Section D.18.3 presents an analysis of the Project's overall impacts on climate change, while sections D.18.4 through D.18.7 evaluate the impacts of each of the identified alternatives. The EIS states that greenhouse gas ("GHG") emissions from the Tule Wind Project, including both operational emissions and amortized annual construction emissions, would amount to 646 metric tons of carbon dioxide equivalent per year ("MTCO2E/yr"), "well below the CEQA significance threshold of 10,000 MTCO2E/yr," as well as the CEQ indicator for further NEPA analysis of GHG emissions. (AR 2454, 35926.) BLM also suggested that the project might "potentially [decrease] overall emissions attributable to electrical generation in California." (AR 2454.)

Plaintiffs contend, however, that BLM's analysis of the Project's impacts on climate change is inadequate because the agency (1) failed to provide data to support

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[4] Plaintiffs maintain that the EIS mischaracterizes the Mabee study on which it relies. The EIS states that "[r]ecent studies indicate that nocturnal migrants, even when flying over or along a ridge that results in them flying at a lower elevation, are at an elevation ranging from 702 to 2,523 feet." (AR 528.) According to Plaintiffs, the EIS fails to disclose that the study actually indicates that 13–16% of night-migrating birds fly at significantly lower altitudes. Yet, as Federal Defendants and Tule emphasize, low altitude flight was identified near a wind-energy facility located on a ridgeline, a very different geographical setting. (Tule Reply in Supp. 18–19, ECF No. 38.)

In any case, the Court is not authorized to substitute its judgment for BLM's. *See Selkirk Conservation Alliance*, 336 F.3d at 958. BLM is entitled to utilize its expertise to interpret the available scientific evidence and to determine which portions of a scientific study, if any, are relevant to assessing the Project's potential impacts. *See id.*

its prediction that the Project will reduce GHG emissions, and (2) failed to conduct a "life-cycle assessment" of the Project's GHG emissions. First, Plaintiffs contend that BLM must indicate the number of "megawatt hours" of energy the Project is expected to generate per year. (Mot. for Summ. J. 27, ECF No. 18.) Without this data, Plaintiffs maintain that BLM has no way of estimating how much conventional energy generation will be displaced by the Project and, consequently, no basis for anticipating that the Project will diminish GHG emissions. (*Id.*) Second, Plaintiffs fault BLM for focusing its climate change analysis exclusively on impacts resulting from "on-site" construction and operation; Plaintiffs claim that BLM should also have considered emissions from off-site equipment manufacture and transportation. (*Id.*)

Here, as Tule emphasizes, the "MW hours" estimate of the Project's anticipated generation that Plaintiffs seek was readily available based on other data already provided by BLM. (Tule Reply in Supp. 21, ECF No. 38 ("To estimate the project's MW-hours production, one simply multiplies the 31% capacity factor times the project size (186 MW) and the number of hours in a year.").) Regardless, the EIS does not guarantee, or even predict, that the Project will diminish overall GHG emissions. The EIS merely provides that "the project [will] create a renewable source of energy, thereby potentially decreasing overall emissions attributable to electrical generation in California." (AR 2454.) Indeed, the Responses to Comments clarify that the EIS "does not definitively state that there [will] be any resulting fossil fuel shut-down and GHG emission reduction as a result of the project." (AR 3709.) BLM's suggestion does not contradict the available evidence and requires no additional quantitative support.

Furthermore, BLM was not obligated to engage in the "life-cycle" assessment of GHG emissions that Plaintiffs demand. This type of evaluation is not required by applicable state or federal regulations and would be largely speculative, as BLM contends, considering that manufacturing and transportation of wind turbines and

other Project components are outside of BLM's control. BLM's choice of methodology in evaluating climate change impacts is grounded in legitimate concerns and is therefore entitled to respect from the Court. *See Native Ecosystems Council*, 697 F.3d at 1053.

D. Did BLM Improperly Defer Specification and Analysis of Mitigation Measures?

NEPA requires that an EIS "discuss measures to mitigate adverse environmental requirements." *Carmel*, 123 F.3d at 1154. "Mitigation must 'be discussed in sufficient detail to ensure that environmental consequences have been fairly evaluated.'" *Id.* (quoting *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 353 (1989)). "An [EIS] need not contain a 'complete mitigation plan' that is 'actually formulated and adopted.'" *Id.* (quoting *Robertson*, 490 U.S. at 352). "An [EIS] cannot, however, omit a reasonably thorough discussion of mitigation measures because to do so would undermine the action-forcing goals of [NEPA]." *Id.* (citing *Robertson*, 490 U.S. at 529).

Plaintiffs contend that the EIS "improperly defers formulation of multiple important mitigation plans," including a habitat restoration plan, an avian protection plan, and a site-specific noise mitigation plan, "until after completion of environmental review." (Mot. for Summ. J. 34, ECF No. 18.) Plaintiffs argue that the mitigation measures outlined in the EIS fail to provide "sufficient detail to ensure that environmental consequences have been fairly evaluated," (*Id.* (quoting *S. Fork Band Council of W. Shoshone of Nev. v. U.S. Dep't of the Interior*, 588 F.3d 718, 727 (9th Cir. 2009))); according to Plaintiffs, the measures identified do not simply leave room for minor adjustments as the Project moves forward, but rather are left entirely undeveloped.

Federal Defendants maintain, however, that the EIS fleshes out the proposed mitigation measures in far more detail than is required by NEPA. Federal Defendants emphasize that mitigation efforts must be flexible and contingent in

order to address "on-the-ground conditions," and also point out that adaptive management plans that "contemplate post-decision monitoring and modification . . . satisfy NEPA's requirements." (Fed. Def. Cross Mot. for Summ. J. 35, ECF No. 31.)

Here, the Court agrees with Federal Defendants that the EIS provides a reasonably thorough and complete discussion of mitigation measures. For example, as part of its discussion of construction-related impacts on native vegetation in the Project area, the EIS sets forth Mitigation Measures BIO-1d ("MM BIO-1d") and BIO-1e ("MM BIO-1e"), both of which call for a Habitat Restoration Plan to restore vegetation in areas affected by Project construction. (AR 564–65.) Although the Habitat Restoration Plan is not exhaustively described, MM BIO-1d and MM BIO-1e do set forth specific guidelines for minimizing impacts to native vegetation communities, such as requiring that work areas "be revegetated with native species characteristic of the adjacent native vegetation communities," calling for the designation and approval of a "habitat restoration specialist . . . to determine the most appropriate method of restoration," and suggesting possible restoration methods, including "hydroseeding, hand-seeding, imprinting, and soil and plant salvage." (AR 564.) MM BIO-1d and MM BIO-1e also set forth a timeline for implementation, which indicates that the Habitat Restoration Plan shall be approved "prior to construction of the project," and provides that "all construction materials shall be completely removed from the site [after completion of the Project] and that "[a]ll temporary construction access roads shall be permanently closed and restored." (*Id.*)

With respect to areas permanently impacted by Project construction, MM BIO-1e provides that "[h]abitat compensation shall be accomplished through agency-approved land preservation or mitigation fee payment for the purpose of habitat compensation of lands supporting comparable habitats to those lands impacted by the [Project]." (AR 565.) MM BIO-1e also sets a specific deadline,

which states that "[l]and preservation or mitigation fee payment for habitat compensation must be completed within 18 months of permit issuance." (*Id.*)

Similarly, the EIS outlines with reasonable specificity steps that Tule must take to minimize noise from Project construction and operation. The EIS acknowledges that "the noise generated by wind turbines [will] exceed the allowable noise level limits" at several locations within the Project area. (AR 1619.) For this reason, the EIS sets forth Mitigation Measure NOI-3 ("MM NOI-3"), which calls for the development and implementation of a site-specific noise mitigation plan. (*Id.*) The noise mitigation plan will be designed to ensure that turbine operations "comply with County General Plan Policy 4b and County Noise Ordinance Section 36.404," provisions that set specific dB-level limits for different zoning districts at various times of day. (AR 1619, 1593.) MM NOI-3 also provides that "[m]itigation of . . . turbine noise may include revising the turbine layout, curtailment of nighttime use of selected turbines, utilization of an alternate turbine manufacturer (or combination of manufacturers), and implementation of noise reduction technology." (AR 1619.)

Finally, the EIS recognizes that "special-status bird species have the potential to collide with towers and transmission lines and have the potential to be electrocuted by the transmission towers associated with the Tule Wind Project, resulting in injury or mortality." (AR 614–15.) To address this risk, the EIS sets forth Mitigation Measure BIO-10b, which requires that "[a]n Avian Protection Plan . . . be developed jointly with the U.S. Fish and Wildlife Service [("FWS")] and California Department of Fish and Game and . . . provide the framework necessary for implementing a program to reduce bird mortalities." (AR 614.) The EIS provides that the "Avian Protection Plan shall include the following: corporate policy, training, permit compliance, construction design standards, nest management, avian reporting system, risk assessment methodology, mortality reduction measures, avian enhancement options, quality control, public awareness, and key resources." (*Id.*) A draft ABPP was actually developed by Tule, in

consultation with FWS, and incorporated by reference in the Final EIS. (AR 13440.) The ABPP is an 85-page document that covers each Project phase, including pre-construction, siting and construction, and post-construction, and outlines a conservation strategy based on the "elements of avoidance, minimization, mitigation and adaptive management." (AR 13444.)

In short, Plaintiffs' claim that proposed mitigation measures were entirely undeveloped is not supported by the record. The EIS outlined several mitigation measures in considerable detail. As indicated, NEPA contains no substantive requirement that environmental impacts be mitigated or avoided—the mitigation measures proposed in an EIS "need not be legally enforceable, funded, or even in final form to comply with NEPA's procedural requirements." *NPCA*, 222 F.3d at 681. Rather, the mitigation discussion must provide only "sufficient detail" to indicate that environmental impacts have been fairly evaluated. *S. Fork*, 588 F.3d at 727. The EIS's discussion of mitigation is more than adequate under NEPA.

2. MBTA and BGEPA

The MBTA provides that, unless otherwise permitted, "it shall be unlawful at any time, by any means or in any manner, to pursue, hunt, take, capture [or] kill . . . any migratory bird . . . nest, or egg of any such bird" unless permitted by the Secretary of the Interior. 16 U.S.C. § 703(a). "'Take' means to pursue, hunt, shoot, wound, kill, trap, capture, or collect." 50 C.F.R. § 10.12. The MBTA is a criminal statute enforced by the FWS. *See* 16 U.S.C. §§ 706, 707(a), (d). Although the MBTA does not create a private right of action, Plaintiffs may bring suit under the APA for violations of the MBTA.

The BGEPA prohibits the taking, possession, sale, or transport of bald and golden eagles, except pursuant to Federal regulations. 16 U.S.C. § 668(a); 50 C.F.R. Part 22. Under the BGEPA, FWS issues permits to take, possess, and transport bald and golden eagles for a variety of purposes provided such permits are compatible with the preservation of the bald eagle or the golden eagle. 16 U.S.C. § 668a; 50

C.F.R. §§ 22.21–22.29. In September 2009, FWS published a final rule establishing, among other revisions to Part 22, a new regulation, 50 C.F.R. § 22.26, that provides for permits to take eagles where the taking is associated with, but not the purpose of, otherwise lawful activities, *i.e.*, incidental take. 74 Fed. Reg. 46,836 (Sept. 11, 2009).

Plaintiffs argue that BLM was required to obtain a permit under the MBTA because the Project will inevitably cause bird fatalities, either through collision with wind turbines or transmission lines, or through habitat modification and destruction. (Mot. for Summ. J. 35, ECF No. 18 (citing *Humane Soc'y of the U.S. v. Glickman*, 217 F.3d 882, 884–88 (D.C. Cir. 2000)).) Similarly, Plaintiffs claim that BLM was required to seek a permit for incidental take under the BGEPA because the Project will inevitably kill or disturb golden eagles. (*Id.* at 39.)

Federal Defendants contend that Plaintiffs' expansive interpretation of the MBTA is inconsistent with the long-standing position of FWS and the Department of the Interior that the statute does not apply to government agencies and employees acting in a purely regulatory capacity. (Fed. Def. Cross Mot. for Summ. J. 39, ECF No. 31.) Moreover, Federal Defendants argue that Tule, as the private applicant seeking to construct and operate a wind-energy facility on public land, is the proper party to seek a BGEPA permit for incidental take of golden eagles, not BLM. (*Id.* at 46–47.) Tule maintains that it has worked closely with FWS to develop the ABPP and to take appropriate measures to avoid eagle mortality, such that FWS determined that a BGEPA permit was not required at this time. (Tule Reply in Supp. 29, ECF No. 38.)

Although the Court is deeply troubled by the Project's potential to injure golden eagles and other rare and special-status birds, the Court nonetheless agrees with Tule and Federal Defendants that BLM was not required to obtain permits under the MBTA or the BGEPA prior to granting Tule's right-of-way application. Federal agencies are not required to obtain a permit before acting in a regulatory

capacity to authorize activity, such as development of a wind-energy facility, that may incidentally harm protected birds. *Cf. Glickman*, 217 F.3d at 884–88 (holding that an agency must seek an MBTA permit before engaging in "direct" killing of protected birds). Indeed, the governing interpretation of the MBTA in the Ninth Circuit is quite narrow and holds that the statute does not even prohibit incidental take of protected birds from otherwise lawful activity. *See Seattle Audobon v. Evans*, 952 F.2d 297, 302 (9th Cir. 1991) (holding that the MBTA applies to "physical conduct of the sort engaged in by hunters and poachers," but not to "habitat modification or destruction."). District courts within the Ninth Circuit have also rejected the expansive interpretation of the MBTA proposed by Plaintiffs.[5] *See Protect Our Cmtys. Found.*, 2013 WL 5947137, at *18–19 ("Plaintiffs have failed to demonstrate that a permit is required under the MBTA for an unintentional killing of migratory birds"); *Native Songbird Care & Conservation v. LaHood*, 2013 WL 335657 at *4 (N.D. Cal. July 2, 2013) ("Plaintiffs' view [is] that the APA and MBTA authorize private suits against federal agencies whenever an agency authorizes a project implemented by third parties that, years later, has the unintended effect of taking even a single migratory bird. Private suits under the MBTA appear to be rare, and the cases cited by Plaintiffs do not support such an expansive interpretation of its scope."); *see also Newton Cnty. Wildlife Ass'n v. U.S. Forest Serv.*, 113 F.3d 110, 116 (8th Cir. 1997) ("Whatever [the] reason the [FWS] does not require the Forest Service to obtain MBTA permits, this enforcement policy is committed to agency discretion.").

Similarly, BLM is not required to seek a BGEPA permit—BLM's approval of Tule's right-of-way application does not, by itself, harm or molest golden eagles.

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[5] Plaintiffs reference a recent criminal prosecution, *United States v. Duke Energy Renewables, Inc.*, Case No. 213-cr-00268-KHR (D. Wyo. filed Nov. 7, 2013), in which FWS chose to bring criminal charges under the MBTA against a wind energy facility for incidental take of protected birds. (*See* Req. for Judicial Notice, ECF No. 35.) Although the Court takes notice of the filings that Plaintiffs present, FWS's exercise of its enforcement discretion does not support Plaintiffs' argument that BLM was required to seek a permit prior to granting Tule's right-of-way application.

Tule has also satisfied its obligations under the BGEPA by developing the ABPP in consultation with BLM and FWS. FWS has determined that Tule should seek, as an initial matter, to avoid impacts to eagles from the Project through phased implementation, monitoring, and adaptive management. (AR 5904 ("[FWS] believes that the ABPP for the Tule Wind Energy Project is appropriate in its adaptive management approach to avoid and minimize take of migratory birds, bats and eagles within the Phase I project area.").) Accordingly, BLM's decision to grant Tule's right of way application, prior to obtaining MBTA or BGEPA permits, was not "arbitrary, capricious" or without observance of procedure required by law.[6] 5 U.S.C. §§ 706(2)(A), (D).

CONCLUSION

For the reasons stated above, the Court **DENIES** Plaintiffs' motion for summary judgment and **GRANTS** Tule's and Federal Defendants' cross motions for summary judgment.

IT IS SO ORDERED.

DATED: March 25, 2014

Janis L. Sammartino
Honorable Janis L. Sammartino
United States District Judge

[6] Tule argues that Plaintiffs failed topreserve their arguments regarding MBTA and BGEPA permitting for judicial review. (Tule Cross Mot. for Summ. J 39–40, ECF No. 30.) No one informed BLM through the public comment process that the agency was obligated to seek permits from FWS for incidental take of birds. As the Court finds that Plaintiffs' MBTA and BGEPA arguments fail on the merits, the Court declines to address the exhaustion issue.