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Via Electronic Mail

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Re: Comments on the Draft Environmental Impact Statement for the Hydrogen Energy California Project, EIS-0431

Dear Mr. Pozzuto,

Thank you for the opportunity to submit comments on the Draft Environmental Impact Statement for the Department of Energy's ("DOE") proposed award of \$408 million dollars to the Hydrogen Energy California ("HECA") coal gasification power/fertilizer plant project under the Clean Coal Power Initiative ("CCPI") program. The proposed HECA project would burn a blend of 75% sub-bituminous coal from New Mexico mines and 25% petcoke from southern California refineries to produce and sell electricity, carbon dioxide ("CO₂"), and fertilizer. Most of the captured CO₂ would be transported via a new pipeline to a nearby oil field owned by Occidental of Elk Hills, Inc. ("OEHI"), where it would be sequestered through its use for enhanced oil recovery.

The Sierra Club is a national nonprofit organization of approximately 1.3 million members and supporters dedicated to exploring, enjoying, and protecting the wild places of the earth; to practicing and promoting the responsible use of the earth's ecosystems and resources; to educating and enlisting humanity to protect and restore the quality of the natural and human environment; and to using all lawful means to carry out these objectives. Sierra Club has over 144,000 members in the state of California.

As discussed in detail below, the Draft Environmental Impact Statement for the HECA project (hereinafter, the "DEIS") is legally and technically flawed for several reasons. Most significantly, the DEIS is incomplete in its discussion and evaluation of many issues and, consequently, fails to take a "hard look" at the potential environment impacts of the HECA project or disclose basic information to the public as required by the National Environmental Policy Act ("NEPA"). In addition, the DEIS improperly restricts the project's purpose and need

and fails to consider and analyze reasonable, available, and less environmentally harmful alternatives and mitigation measures. Furthermore, DOE's failure to provide the necessary information or analysis regarding the impacts of the HECA project on environmental justice communities fails to fulfill the basic requirements of NEPA. DOE must address these flaws and circulate a supplemental draft EIS for public review prior to any final decision on the HECA project.

I. NEPA BACKGROUND.

NEPA is our "basic national charter for the protection of the environment." 40 C.F.R. § 1500.1. NEPA's fundamental purposes are to guarantee that: (1) agencies take a "hard look" at the environmental impacts of their actions by ensuring that they "will have available, and will carefully consider, detailed information concerning significant environmental impacts;" and (2) "the relevant information will be made available to the larger audience that may also play a role in both the decisionmaking process and the implementation of that decision." *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 349 (1989). NEPA "emphasizes the importance of coherent and comprehensive up-front environmental analysis to ensure informed decision-making to the end that the agency will not act on incomplete information, only to regret its decision after it is too late to correct." *Center for Biological Diversity v. United States Forest Serv.*, 349 F.3d 1157, 1166 (9th Cir. 2003) (citation omitted).

To accomplish these purposes, NEPA requires all agencies of the federal government to prepare a "detailed statement" that discusses the environmental impacts of, and reasonable alternatives to, all "major Federal actions significantly affecting the quality of the human environment." 42 U.S.C. § 4332(2)(C). This statement is commonly known as an environmental impact statement ("EIS"). See 40 C.F.R. Part 1502. An EIS must provide a "full and fair discussion of significant environmental impacts" of a proposed action, "supported by evidence that the agency has made the necessary environmental analyses." *Id.* § 1502.1. As the Ninth Circuit has stated, this consideration "must amount to a 'hard look' at the environmental effects." *Idaho Sporting Cong. v. Rittenhouse*, 305 F.3d 957, 963 (9th Cir. 2002).

An EIS must include an analysis of "direct effects," which are "caused by the action and occur at the same time and place," as well as "indirect effects which . . . are later in time or farther removed in distance, but are still reasonably foreseeable." 40 C.F.R. § 1508.8. An EIS must also consider the cumulative impacts of the proposed federal agency action together with past, present, and reasonably foreseeable future actions, including all federal and non-federal activities. 40 C.F.R. § 1508.7. As the Ninth Circuit has repeatedly emphasized, a cumulative impacts analysis "must be more than perfunctory; it must provide a useful analysis of the cumulative impacts of past, present, and future projects." *Klamath-Siskiyou Wildlands Ctr. v. Bureau of Land Mgmt.*, 387 F.3d 989, 994 (9th Cir. 2004). Moreover, a cumulative impacts analysis must be timely, and it is "not appropriate to defer consideration of cumulative impacts to a future date when meaningful consideration can be given now." *Kern v. United States Bureau of Land Mgmt.*, 284 F.3d 1062, 1075 (9th Cir. 2002).

Furthermore, an EIS must “rigorously explore and objectively evaluate all reasonable alternatives” to the proposed project. 40 C.F.R. § 1502.14(a). Consideration of alternatives is “the heart of the environmental impact statement,” because it compels agencies to “present the environmental impacts of the proposal and the alternatives in comparative form, thus sharply defining the issues and providing a clear basis for choice among options by the decisionmaker and the public.” *Id.* Because the statement of purpose and need for an agency action will determine the reasonable range of alternatives to be analyzed, an agency may not define the purpose and need too narrowly. *City of Carmel-by-the Sea v. U.S. Dept. of Transp.*, 123 F.3d 1142, 1155 (9th Cir. 1997) (holding that because the purpose and need of a project defines the range of alternatives, an agency “cannot define its objectives in unreasonably narrow terms”).

II. THE DEIS FAILS TO PROVIDE A FULL AND FAIR DISCUSSION OF SIGNIFICANT ENVIRONMENTAL IMPACTS AND MUST BE SUPPLEMENTED AND RECIRCULATED FOR PUBLIC COMMENT.

In the DEIS, DOE claims to have “identified and evaluated the potential environmental impacts” of the HECA project and, after the close of this comment period, expects to prepare and publish a Final EIS and make a final decision. DEIS at 1-1, 1-5. However, there are several problems with this approach given the fundamental purposes and legal requirements of NEPA. First and foremost, the DEIS -- by its own admission -- is lacking critical information in several issue areas regarding the significant environmental impacts of the HECA project. It is clear that this document alone does not allow DOE or the public to adequately consider, evaluate, or mitigate the many significant impacts of the project or amount to the “hard look” at environmental effects that NEPA requires. Given the substantial changes and additions that need to be made to the DEIS to meet the fundamental purposes of NEPA, DOE must be prepare a draft supplemental EIS and take additional public comment on that document prior to the release of any final EIS or decision on the project.

The informational deficiencies in the DEIS are extensive and widespread throughout the document.¹ As stated at the outset of the DEIS, there are “significant, and for the most part, unresolved issues” regarding the potential environmental impacts of the HECA project. DEIS

¹ DOE prepared the DEIS as a joint environmental document with the California Energy Commission (“CEC”) to fulfill its legal responsibilities under NEPA as well as the CEC’s duties under the California Environmental Quality Act. DEIS at 1-4 – 1-5, 2-1 – 2-2; *see* 40 C.F.R. § 1506.2 (elimination of duplication with State and local procedures). Because of its unique procedures in implementing CEQA, the CEC does not treat this document as a draft environmental impact report (“EIR”) or a draft decision, but rather as a “Preliminary Staff Assessment” (“PSA”). *See* DEIS at 1-1, 1-4 – 1-5. The CEC will continue to hold evidentiary hearings regarding the HECA project, and then prepare a Presiding Member’s Proposed Decision, which will be presented to the full Energy Commission for a vote to approve or deny that decision. *Id.* at 2-2.

at 1-1. Moreover, the DEIS contains several pages describing dozens of requests for additional, outstanding information regarding the project that must be provided to complete the Final PSA/DEIS. DEIS at 1-35 – 1-43. This information goes directly to the fundamental concerns that the Sierra Club and others have with the HECA project, and its absence undermines the ability of the public to provide meaningful comments on the DEIS.

While there is no need to repeat the explicit findings of the DEIS, a few issues are worth noting to highlight the inadequacy of this document for NEPA purposes. For example:

- **Waste Management:** With regard to the 850 tons of gasification solids that the HECA facility will produce daily, it has yet to be determined whether this waste will be considered hazardous or how/where it will be disposed of. DEIS at 1-33, 4-14.
- **Water Supply:** Significant questions remain regarding the project's proposed water source and the impacts from project pumping on neighboring wells, the water supply aquifer beneath the Buttonwillow Service Area, overdraft in the Kern County subbasin, and subsidence threats to the California Aqueduct. DEIS at 1-34, 4.15.
- **Traffic and Transportation:** Several outstanding issues remain regarding the precise number of truck trips that the facility will generate; the need to expand the Wasco coal servicing facility to meet the project's demand; information regarding the proposed rail spur and risks at private road crossings; and impacts on farm roads from heavy truck traffic and heavy load capacities. DEIS at 1-32, 4.11.
- **Biological Resources:** It is not clear whether the project would comply with state law relating to reptile and amphibian species; a more detailed analysis is needed regarding the impacts of groundwater drawdown on the biological resources in the area; and an adequate mitigation strategy remains to be developed to demonstrate that project impacts to sensitive biological resources would be reduced to less than significant levels. DEIS at 1-29 – 1-31, 4.2.
- **Cultural Resources:** Because the project applicant has yet to assess portions of the area in which the proposed project may affect cultural resources, there remains an unknown number of as-yet-unidentified, buried archaeological resources that must be assessed and evaluated in order to complete an analysis on this issue. DEIS at 1-31, 4.4.
- **Carbon Sequestration and Greenhouse Gas Emissions:** A determination regarding the impacts on these issues and compliance with applicable legal requirements will require significant additional detail from the applicant regarding the operating profile of the facility and assurances about how the CO₂ supplied to the Elk Hills Oil Field will remain sequestered. DEIS at 1-29, 4.3.
- **Environmental Justice:** The DEIS has identified significant impacts to environmental justice communities located in the buffer area surrounding the HECA project and the Elk Hills Oil Field operation, but does not contain the necessary information to determine if such impacts will be mitigated to a less than significant level. In particular, the potential need to expand and improve the coal transloading facility in Wasco could result in impacts related to air quality, public health, and traffic and transportation, among others, that are not analyzed in the DEIS. DEIS at 1-2, 4.9.

Following the various sections discussing the potential environmental impacts of the HECA project and the information that still needs to be provided to evaluate such impacts, the DEIS contains a separate section containing a handful of pages entitled “U.S. Department of Energy (DOE) Documents.” DEIS, Section 7. Specifically, this section consists of 7 pages discussing the “Environmental Consequences” of the facility, 2 pages and two tables discussing “Project Potential Cumulative Impacts,” 3 pages entitled “Irreversible or Irretrievable Commitments of Resources,” and a “HECA Project Permit/Approval List.” *Id.* As an initial matter, it is entirely unclear why DOE has included this separate, abbreviated section regarding *some* of the potential environmental impacts of the HECA project in this joint environmental review process, or what the relation of Section 7 is to the previous sections.

In any case, the short discussion of potential environmental impacts in Section 7 only reinforces the fact that the DEIS falls far short of the “full and fair discussion of significant environmental impacts” required by NEPA. 40 C.F.R. § 1502.1. For example, with regard to Cultural Resources, this section states that “the applicant has not yet demonstrated the ability to avoid damaging known cultural resources. In addition, the historical significance of most identified cultural resources in the Project area has not been determined.” DEIS, Section 7 at 2. With regard to Land Use, the DEIS provides that “it is unclear whether or not the project is fundamentally compatible with existing land uses and if the conditional use permit findings of approval can be met. Staff cannot reach a conclusion on the potential significant issues on land use until the outstanding information identified in the technical areas requesting such information is provided.” *Id.* at 3. With regard to Environmental Justice, the DEIS find that “HECA may result in an increased use of the Wasco coal transloading facility which could result in impacts related to air quality, public health, and traffic and transportation, among others. The potential need for expansion and improvements of the coal transloading facility near Wasco was not analyzed.” *Id.* at 4-5. With regard to Waste Management, the DEIS restates that the gasification solids “must be analyzed and classified as non-hazardous or hazardous waste according to California hazardous waste testing standards.” *Id.* at 6. Finally, with regard to Water Resources, the DEIS notes that “it is likely the proposed supply would have beneficial uses for agriculture and may be usable as a drinking water supply,” and that “there may be potential impacts to groundwater quality due to [Buena Vista Water Storage District] pumping from the proposed well field.” *Id.* at 7.

In addition to the lack of information regarding potential environmental impacts that the DEIS itself acknowledges, there are other potential impacts from the HECA project that the DEIS entirely fails to discuss or evaluate. For example, while DOE claims to have considered connected and cumulative actions, DEIS at 1-20, the DEIS fails to evaluate the impacts of coal mining in New Mexico that would be used to fuel this power plant. In particular, the HECA project is expected to use about 4,580 short tons of coal per day, or 1.6 million short tons per year, from Peabody’s Lee Ranch Mine in New Mexico. *See* DEIS at 1-7, 1-22. As a preliminary matter, DOE should ensure that the Lee Ranch Mine is operating in compliance with existing permits and local, state, and federal law. Surface mining uses environmentally destructive

techniques, and DOE should thoroughly analyze the effects from these mining activities on streams, wildlife, forest cover, and other biological resources.

Moreover, DOE must consider health impacts to local communities from coal mining. In particular, families and communities near blasting and mining sites suffer from airborne dust from blasting and mining operations, leading to respiratory illnesses and other significant health risks, as well as from the noise impacts from blasting. DOE must also consider the impacts on communities from the threats of coal slurry impoundments used in strip mining. Coal slurry – the waste sludge left behind after washing coal to remove impurities so the coal easier to burn – is stored in large waste pits behind earthen dams known as impoundments. These impoundments threaten local communities. Toxic chemicals in the coal slurry, including chlorine, lead, nickel, selenium, arsenic, and mercury, can leak from the impoundments, turning nearby streams black and tainting local water supplies. The impoundments can fail, sending coal waste barreling down valleys, destroying property and lives in its path.

In sum, there can be no dispute that the DEIS does not provide the “hard look” at the potential environmental impacts of the HECA project or allow for the “fully informed and well-considered” decision-making that NEPA requires. *Save the Yaak Comm. v. Block*, 840 F.2d 714, 717 (9th Cir. 1988) (internal quotation marks omitted). This deficient DEIS fails to fulfill the fundamental purposes of NEPA of “ensur[ing] that the agency, in reaching its decision, will have available, and will carefully consider, detailed information concerning significant environmental impacts,” or “guarantee[ing] that the relevant information will be made available to the larger audience that may also play a role in both the decisionmaking process and the implementation of that decision.” *Dep’t of Transp. v. Pub. Citizen*, 541 U.S. 752, 768 (2004) (internal quotation marks and citations omitted). In fact, given the substantial information gaps, the DEIS ensures exactly the opposite result.

Under NEPA, DOE has a “‘continuing duty to gather and evaluate new information relevant to the environmental impact of its actions,’ even after release of an EIS.” *Friends of the Clearwater v. Dombeck*, 222 F.3d 552, 559 (9th Cir. 2000) (quoting *Warm Springs Dam Task Force v. Gribble*, 621 F.2d 1017, 1023 (9th Cir. 1980)). Given the significant information that remains to be discussed and evaluated, DOE must fix the deficiencies identified above by preparing a draft supplemental EIS for the HECA project and taking additional public comment on that supplemental document, prior to the release of any final EIS or decision on the project. See 40 C.F.R. § 1502.9(c)(1) (requiring supplement to draft EIS where “(i) The agency makes substantial changes in the proposed action that are relevant to environmental concerns; or (ii) There are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts.”); 10 C.F.R. § 1021.314(a) (“DOE shall prepare a supplemental EIS if there are substantial changes to the proposal or significant new circumstances or information relevant to environmental concerns”); *Marsh v. Oregon Nat. Res. Coun.*, 490 U.S. 360, 374 (1989) (“If there remains ‘major Federal actio[n]’ to occur, and if the new information is sufficient to show that the remaining action will ‘affec[t] the quality of the human

environment' in a significant manner or to a significant extent not already considered, a supplemental EIS must be prepared").

III. THE STATEMENT OF PURPOSE AND NEED IS LEGALLY FLAWED AND WILL NOT BE ACHIEVED BY THE HECA PROJECT.

According to NEPA's implementing regulations, an EIS "shall 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. In order to ensure that a full range of alternatives is considered, the preparing agency must not unduly narrow the project objectives. *City of Carmel-by-the Sea*, 123 F.3d at 1155 (holding that because the purpose and need of a project defines the range of alternatives, an agency "cannot define its objectives in unreasonably narrow terms"); *Envtl. Prot. Info. Ctr. v. U.S. Forest Serv.*, 234 Fed.Appx. 440, 2007 WL 1417163 at *2 (9th Cir. May 9, 2007) (holding that the Forest Service violated NEPA "by defining the goals of its project so narrowly that only its preferred alternative would serve those goals").

In the DEIS, DOE asserts that the purpose and need of its action is to "is to advance DOE's CCPI program by funding projects that have the best chance of achieving the program's objective as established by Congress. The objective of the CCPI program is the commercialization of clean coal technologies that improve efficiency, environmental performance, and cost competitiveness well beyond those of technologies that are currently in commercial service." DEIS at 1-21. However, the purpose and need for this project should not be confined to addressing how DOE's pre-selected project meets the narrow purposes of the Energy Policy Act of 2005. Rather, DOE should define the purpose and need broad enough to include evaluation of other projects that could receive federal funding, including more worthy projects like renewable sources of energy. See *League of Wilderness Defenders-Blue Mountains Biodiversity Project v. U.S. Forest Serv.*, 689 F.3d 1060, 1069 (9th Cir. 2012) ("[A]n agency may not define the objectives of its action in terms so unreasonably 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") (internal quotations and citation omitted).

DOE has broad discretion both to select and shape the projects that receive CCPI funds, and has even greater discretion to issue loan guarantees, which may be awarded to a wide variety of projects that are wholly unrelated to coal-fired generation. Nevertheless, DOE takes the position that it can consider only two alternatives in a DEIS for a CCPI award or a loan guarantee—that is, the "action alternative" as it is proposed by the project applicant and a "no action" alternative to deny the requested federal assistance. DEIS at 1-25 – 1-26. In other words, DOE allows industry to present proposals on a "take it or leave it" basis and declines to consider potential improvements to a given project, much less different proposals that the Department itself could solicit. This unreasonably narrow statement of purpose and need forecloses the possibility that non-coal energy solutions, such as existing natural gas plants,

could meet this need. Yet DOE must consider all reasonable alternatives, even those that are “not within the jurisdiction of the lead agency.” 40 C.F.R. § 1502.14(c).

In any event, it is far from certain the HECA project itself will meet the narrow purpose and need as defined by DOE. First, as the DEIS indicates, the project would produce very little power, and will actually be a “net consumer” of electricity from the grid during times of peak fertilizer project. DEIS at 1-7. Consequently, the project is not an innovative solution to solve energy needs and does not meet the basic purpose of Clean Coal *Power* Initiative program. Moreover, Congress did not intend funds from the Energy Policy Act to support a private project producing fertilizer from coal. DOE must address how a private project producing fertilizer from coal satisfies the nation’s future energy needs.

DOE has also failed to explain how this project is novel or innovative. The Energy Policy Act authorizes funds for CCPI projects that “advance efficiency, environmental performance, and cost competitiveness well beyond the level of technologies that are in commercial service.” 42 U.S.C. § 15962(a). Yet the HECA project would not employ new or significantly improved technologies. In fact, Mitsubishi has been demonstrating the gasification technology proposed for HECA on a commercial scale at a 250-MW integrated gasification combined-cycle facility in Nakoso, Japan, since 2008. As DOE has previously acknowledged, “[c]oal gasification electric power plants are now operating commercially in the United States and in other nations.”² According to a RAND publication, “A recent survey documented the construction of 13 new coal-gasification facilities between 1993 and 2004 (NETL, undated).”³ For instance, the Dakota Gasification Company’s plant near Beulah, North Dakota has been operating for several years, as well as plants in Mulberry, Florida (Tampa Electric’s Polk Power Station), and Wabash, Indiana (Wabash River Coal Gasification Repowering Project).

Nor are the carbon management aspects of the facility new or innovative. Carbon capture from coal gasification (and other gas plants) is existing technology that is deployed in the U.S. and abroad. CO₂ is currently transported via pipeline in Wyoming and elsewhere. In addition, while DOE states that “[a] key objective of HECA is to mitigate impacts related to climate change by reducing greenhouse gas emissions relative to those emitted from conventional coal-fuel-fired power generation and nitrogen-based fertilizer manufacturing by capturing and sequestering CO₂ emissions,” DEIS, Section 7 at 2, there are several remaining unresolved questions regarding the environmental performance of the HECA facility with regard to these issues and no explanation regarding how the use of CO₂ for enhanced oil recovery will mitigate climate change impacts. See DEIS at 1-35 – 1-39, 4.3-3 – 4.3-6 (“Unresolved Areas Relating to Carbon Sequestration and Greenhouse Gases”). Finally, there is nothing in the DEIS regarding whether the HECA project would advance “cost

² DOE, Clean Coal Technologies, Gasification Technology R&D, available at: <http://energy.gov/fe/science-innovation/clean-coal-research/gasification>.

³ RAND, *Unconventional Fossil-Based Fuels, Economic and Environmental Trade-Offs* (2008), at 41, available at: http://www.rand.org/pubs/technical_reports/2008/RAND_TR580.pdf.

competitiveness” well beyond the level of technologies that are in commercial service. DEIS at 1-21.

In sum, DOE should prepare a supplemental DEIS for the HECA project that includes a statement of purpose and need that is not unreasonably narrow and allows for the consideration of a reasonable range of alternatives, as required by NEPA.

IV. THE DEIS FAILS TO CONSIDER A REASONABLE RANGE OF ALTERNATIVES TO THE HECA PROJECT.

It is well established that the discussion of alternatives is the “heart” of the NEPA process. 40 C.F.R. § 1502.14; *Ctr. for Biological Diversity v. National Highway Traffic Safety Admin.*, 538 F.3d 1172, 1217 (9th Cir. 2008). NEPA requires agencies to “study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources.” 42 U.S.C. § 4332(2)(E). An EIS must “rigorously explore and objectively evaluate all reasonable alternatives” to the proposed project in order to “sharply defin[e] the issues and provid[e] a clear basis for choice among options by the decisionmaker and the public.” 40 C.F.R. § 1502.14(a).

A primary purpose behind the obligation of an agency to consider alternatives is to “use the NEPA process to identify and assess the reasonable alternatives to proposed actions that will avoid or minimize adverse effects.” 40 C.F.R. § 1500.2(e); see *Methow Valley Citizens Council*, 490 U.S. at 351 (NEPA requires the agency to try on its own to develop alternatives that will “mitigate the adverse environmental consequences” of a proposed project). The existence of a viable but unexamined alternative renders an environmental impact statement inadequate. *Resources Ltd. v. Robertson*, 35 F.3d 1300, 1307 (9th Cir. 1994).

In the DEIS, DOE claims that “the range of reasonable alternatives” for the HECA project consists of (1) “the project as proposed by the applicant,” (2) “any alternatives still under consideration by the applicant or that are reasonable within the confines of the project as proposed (e.g., the particular location of the generating plant on the 1,106-acre site or the rights-of-way (ROWs) for linear facilities),” and (3) a no action alternative. DEIS at 1-26. DOE claims that such a restricted range of alternatives is permissible in the context of financial assistance and contracting under its own regulations. *Id.* at 1-19, 1-25. In particular, the DEIS states that “section 216 of DOE’s NEPA regulations requires the Department to prepare an ‘environmental critique’ that assesses the environmental impacts and issues relating to each of the proposals that the DOE selecting official considers prior to making a selection.” *Id.* at 1-26.

However, this regulation provides no such basis for DOE’s failure to consider all reasonable alternatives to the HECA project. As provided in section 216, “For offers in the competitive range, DOE shall prepare and consider an environmental critique before the selection.... The environmental critique will evaluate the environmental data and analyses submitted by offerors; it may also evaluate supplemental information developed by DOE as

necessary for a reasoned decision.” 10 C.F.R. § 1021.216(d), (f). Nowhere does this regulation limit the information or restrict the type of alternatives that DOE may consider. In fact, it specifically recognizes that DOE may develop “supplemental information...as necessary for a reasoned decision.” *Id.* More importantly, any “environmental critique” or “environmental synopsis” prepared under this section is not substitute for DOE’s consideration of a reasonable range of alternatives as required by NEPA. Rather, the regulation simply states that this environmental synopsis “shall be incorporated in any NEPA document” prepared by DOE. *Id.* § 1021.216(h).

Consequently, DOE must supplement the DEIS to explore and evaluate in detail a reasonable range of alternatives to the HECA project. Such alternatives should include:

- **Renewable Energy Projects:** If DOE finds there is a need for new electricity generation in California, the DEIS must evaluate other means of generating electricity in a less environmentally harmful manner—such as use of renewable energy and conservation and efficiency programs. There are many forms of renewable energy that DOE should analyze including solar (photovoltaic and thermal), geothermal, wind, small scale hydroelectric, biomass, and biogas. Kern County has 7,000 MW of approved renewable energy projects, and a goal of 10,000 MW by 2015.
- **Fertilizer Production Alternatives:** HECA would produce 2,800 tons per day of urea ammonium nitrate and 1,670 tons per day of urea pastilles. DEIS at 1-7. DOE must compare HECA’s plan to ship in coal by rail from New Mexico to produce fertilizer with current methods of fertilizer production, and consider a no fertilizer production alternative.
- **Gasifier Ratio of Coal and Petcoke:** HECA originally proposed to use 100% petroleum coke (“petcoke”), a byproduct of the oil refining process, as its predominant feedstock. HECA’s new proposal is to use a blend of 75% coal and 25% petcoke. Since mining and shipping the coal from New Mexico has a number of environmental and socioeconomic impacts, as described above, DOE must evaluate whether the project can use 100% petcoke, or a lesser percentage of coal than 75%.
- **Biomass:** DOE should also evaluate whether the gasifier can take a percentage of biomass. Biomass can be co-fired with coal to substantially reduce the emissions of pollutants, including carbon monoxide (“CO”).
- **Dry Cooling or Wet-Dry Hybrid Cooling Alternative:** DOE must analyze an air cooling system, or a hybrid wet-dry cooling system, as an alternative to water cooling, which would substantially reduce the amount of water the project requires. Use of an air-cooled heat exchanger would also mitigate air pollutant (particulate matter) emissions impacts of the proposed wet cooling towers.
- **Enclosed Ground Flare and a Flare Recovery System:** DOE must consider alternatives to the elevated flare. The exposure to wind significantly reduces combustion efficiencies of elevated flares. This could be remedied by the use of an enclosed ground flare. The Bay Area Air Quality Management District in California, where five large petroleum refineries are located, identifies use of an enclosed ground flare as BACT for flare

emissions. Flare gas recovery is another option which was not fully evaluated. Flare gas recovery systems are designed to recover and recycle back into the process gas that would otherwise be flared. The BP Whiting refinery in Indiana recently agreed to controls its flaring emissions by installing equipment on both its new and existing flares which will recover and reuse waste gases, cutting flaring emissions up to 90%.

- **Alternative Location:** Given the long transport of coal to the project site and associated environmental impacts, as well as the environmental justice impacts to communities surrounding the project site and near the Wasco coal loading terminal, DOE must evaluate alternative locations for the project. In addition, DOE should consider locations that do not involve prime agricultural land and the need to cancel Williamson Act contracts.
- **Reduced Project Size:** In consideration of the many significant impacts resulted from the HECA project, DOE should evaluate whether a reduced project size would meet the proposed purpose and need.
- **Natural Gas Plant:** DOE should evaluate an alternative that demonstrates carbon capture and storage with an existing natural gas-fired power plant.
- **Dry Scrubbing:** DOE should consider dry scrubbing as an alternative to the proposed liquid scrubbing.
- **Enhanced Oil Recovery:** DOE should discuss alternatives for the proposed plant if (1) the arrangements as described with the Elk Hills Oil Field do not materialize, or (2) the EOR operations terminate during the plant's operational life at a later date. It should be clear whether HECA is prepared to conduct CO₂ sequestration operations under their ownership/operation if they are unable to sell CO₂ to OEHI.

V. THE DEIS FAILS TO PROPERLY CONSIDER IMPACTS ON ENVIRONMENTAL JUSTICE COMMUNITIES.

Pursuant to Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-income Populations," each Federal agency is required to fully analyze whether its programs, policies, or activities have disproportionately high and adverse human health or environmental impacts on minority, low-income, or tribal populations. 59 Fed. Reg. 7,629 (Feb. 16, 1994). DOE must evaluate such impacts of its actions whenever it conducts environmental review under NEPA. See Presidential Memorandum for the Heads of All Departments and Agencies re Executive Order 12898 (Feb. 11, 1994) ("Each Federal agency shall analyze the environmental effects, including human health, economic and social effects, of Federal actions, including effects on minority communities and low-income communities, when such analysis is required by [NEPA]"); DOE, "Environmental Justice Strategy" (May 2008) at 5 (DOE's "Environmental Justice Goals" include "Continuing to use the [NEPA] process to determine whether an agency's proposed action would have disproportionately high and adverse human health or environmental effects on minority, low-income, and tribal populations."). While the DEIS acknowledges that environmental justice communities will be affected by the HECA project, see DEIS at 1-2, DOE's failure to provide the necessary information or analysis regarding such impacts fails to fulfill the basic requirements of NEPA.

First, as discussed above, the DEIS is lacking critical information that would allow the agency and the public to adequately consider, evaluate, or mitigate the potentially significant environmental justice impacts from the HECA project. As stated on the second page of the DEIS, given the environmental justice communities that surround the project site, there will be “significant impacts from the construction and operation of the proposed HECA project,” but the reviewing staff “does not have the necessary information to determine if these impacts can be mitigated below a significant level.” DEIS at 1-2. Moreover, even though there is “an 86 percent minority population in Wasco” that could suffer from “impacts related to air quality, public health, and traffic and transportation” as a result of an increased use of the Wasco coal transloading facility, the potential need for expansion and improvements of the facility “was not analyzed” in the DEIS. *Id.*; *see id.* at 4.4-152 (“Staff cannot conclude at this time, however, that the proposed project would not cause environmental justice impacts related to cultural resources because the applicant has not completed its efforts to identify cultural resources”); Section 7, at 4-5. This lack of information regarding environmental justice impacts is especially pronounced in DOE’s “cumulative impact analysis,” which notes the lack of information on this issue and simply concludes that HECA project along with other reasonably foreseeable project “could have an adverse or disproportionate impacts on an environmental justice population.” *Id.*, Section 7, Table 2-1.

Given this lack of information, it is entirely unclear how the DEIS is able to conclude in several sections that the HECA project does not have a significant impact on environmental justice communities. *See* DEIS at 1-15. It appears that rather than actually analyze the impacts of the HECA project on nearby minority, low-income, or tribal populations, the DEIS simply concludes that where the project’s impacts are mitigated to less than significant levels, there are no environmental justice concerns. *See, e.g.*, DEIS at 4.1-73 (“Since the project’s direct air quality impacts have been reduced to less than significant, there is no environmental justice issue for air quality”); 4.8-50 (“given the absence of any significant health impacts, there are no disparate health impacts and there are no environmental justice issues associated with Public Health.”). However, this is not the proper approach to examining potential impacts regarding environmental justice concerns.

It is well established that projects affecting environmental justice communities warrant additional analysis to determine impacts to these populations. *See, e.g.*, Council on Environmental Quality, “Environmental Justice: Guidance Under the National Environmental Policy Act” (Dec. 10, 1997) at 8-9 (“Agencies should consider relevant public health data and industry data concerning the potential for multiple or cumulative exposure to human health or environmental hazards in the affected population and historical patterns of exposure to environmental hazards”).⁴ In particular, there is a growing body of evidence that environmental justice communities are more vulnerable (more likely to be adversely affected by

⁴ These guidelines are available at:

http://energy.gov/sites/prod/files/nepapub/nepa_documents/RedDont/G-CEQ-EJGuidance.pdf.

a stressor) to pollution impacts than are other communities. Disadvantaged, underserved, and overburdened communities may have pre-existing deficits of both a physical and social nature that make the effects of environmental pollution more burdensome. This should be considered when drawing conclusions regarding significance of impacts. The environmental justice analysis should evaluate health, social, economic, and other indicators.

For example, in evaluating air quality impacts from emissions and increased vehicle use in the area, factors such as existing health impacts (*e.g.*, high asthma rates, etc.) should be considered, and access to health care discussed. One in six children in the San Joaquin Valley is diagnosed with asthma before the age of 18, an epidemic level. Yet the adverse impacts of air pollution are not distributed equally. Blacks and Hispanics experience more frequent exposures to elevated levels of fine particulate matter than non-Hispanic whites do. A March 2012 study on health inequalities in the San Joaquin Valley found that life expectancy varies by as much as 21 years depending on zip code. *See* Joint Center for Political and Economic Studies, “Place Matters for Health in the San Joaquin Valley: Ensuring Opportunities for Good Health,” (Mar. 2012).⁵ The rate of premature deaths (years of potential life lost before the age 65) in the lowest-income zip codes of the San Joaquin Valley is nearly twice that of those in the highest-income zip codes. Additionally, areas of the San Joaquin Valley with the highest levels of respiratory risk have the highest percentage of Hispanic residents (55%), while areas with the lowest level of respiratory risk have the lowest percentage of Hispanic residents (38%).

Therefore, even if air quality impacts can be mitigated to “less than significant” levels, there is no basis for the DEIS’ conclusion that “there is no environmental justice issue for air quality” without a more specific evaluation of the how the substantial air pollution from the HECA project affects nearby environmental justice communities. DOE must fix the deficiencies discussed above by preparing a draft supplemental EIS for the HECA project that provides the missing information regarding environmental justice impacts and includes a proper analysis regarding how the project will impact these vulnerable populations.⁶

⁵ This report is available at: <http://www.fresnostate.edu/chhs/cvhpi/documents/cvhpi-jointcenter-sanjoaquin.pdf>.

⁶ The Sierra Club has submitted several sets of comments to the CEC regarding the potential environmental impacts of the HECA project. Given that DOE has stated that those comments “do not need to be resubmitted” following the extension of the public comment period on this DEIS to October 1, 2013, *see* 78 Fed. Reg. 52,764 (Aug. 26, 2013), all comments submitted by the Sierra Club to the CEC are hereby incorporated by reference into this letter.

CONCLUSION

Given the significant information that remains to be discussed and evaluated regarding the HECA project, as well as the significant flaws with the DEIS' statement of purpose and need, consideration of alternatives, and analysis of particular issues, DOE must prepare a draft supplemental EIS that addresses these deficiencies and take additional public comment on that document prior to the release of any final EIS or final decision on the project.

Respectfully submitted,

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