UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

July 26, 2012

Fred Pozzuto
U.S. Department of Energy
National Energy Technology Laboratory
3610 Collins Ferry Road
P.O. Box 880
Morgantown, WV 26507

Subject: Scoping Comments on the amended Notice of Intent (NOI) modifying the scope of the Environmental Impact Statement for the Hydrogen Energy California (HECA) Integrated Gasification Combined Cycle Project, Kern County, California

Dear Mr. Pozzuto:

The Environmental Protection Agency (EPA) has reviewed the Federal Register Notice published on June 19, 2012 amending the Notice of Intent for the subject project. Our comments are provided pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations (40 CFR Parts 1500-1508) and our NEPA review authority under Section 309 of the Clean Air Act.

EPA provided scoping comments to the Department of Energy (DOE) on May 28, 2010; however, because the project description and ownership has changed and the California Energy Commission (CEC) has created a new docket for this project, we are resubmitting scoping comments. The Hydrogen Energy California (HECA) project would construct and operate a new electricity generating plant in Kern County which will demonstrate Integrated Gasification Combined Cycle (IGCC) technology and capture, sell and sequester carbon dioxide (CO_2) on a commercial scale. The captured CO_2 would be compressed and transported via pipeline to an adjacent oil field for injection into deep underground oil and gas reservoirs for enhanced oil recovery (EOR) and geologic sequestration.

Primary changes to the project include: use of a blend of 75% coal and 25% petroleum coke (petcoke) for the life of the project; inclusion of a manufacturing plant that would produce and sell fertilizer and other nitrogenous compounds; and changes to the gasifier resulting in increases in hydrogen production and the amount of CO_2 exported to Elk Hills Oil field (from 2 million tons per year (tpy) to 3 million tpy). Utility corridors would be reduced for both potable water lines (from 7 miles to less than 1 mile) and electrical transmission lines (from 8 miles to 2 miles), and a new 13-mile natural gas pipeline would be installed to connect to a PG&E line with natural gas used for start-up, shut-down and equipment outages only. HECA is also now considering 2 coal transportation alternatives – a new 5-mile railroad spur connecting the site to the San Joaquin Buttonwillow line, and the originally proposed truck transport from an existing transloading facility.

We commend DOE for coordinating with the California Energy Commission (CEC) to align the NEPA and CEC environmental review processes. Having combined project meetings and documents simplifies the process for the public by avoiding confusion and reducing the burden of attending multiple meetings

and reviewing multiple environmental documents.

The project will require a Clean Air Act Prevention of Significant Deterioration (PSD) permit. EPA currently has PSD permitting authority for the project, which is located within the San Joaquin Valley Air Pollution Control District (SJVAPCD). However, on June 1, 2012, EPA published in the Federal Register its proposal to approve a Clean Air Act California State Implementation Plan (SIP) revision that would transfer PSD permitting authority within the SJVAPCD from EPA to the SJVAPCD. EPA is currently reviewing public comments received on this proposed SIP approval, thus at this time it has not been finally determined whether EPA or the SJVAPCD will be the PSD permitting authority for the HECA project.

EPA also has regulatory authority regarding the CO_2 sequestration component, as well as any other fluid injection activities of the proposed project. EPA has approved the State of California Division of Oil, Gas, and Geothermal Resources (DOGGR) as the primary agency for elements of the Safe Drinking Water Act Class II Underground Injection Control (UIC) Program. EPA is consulting with the DOGGR to determine whether all the associated injection wells under this HECA project proposal are indeed classified as Class II.

In our attached detailed comments, we have identified several issues for your attention in the preparation of the DEIS. EPA appreciates the opportunity to comment on preparation of the DEIS. When the DEIS is released for public review, please send one hard copy and two electronic copies to the above address (Mail code: CED-2) at the same time it is officially filed with our Washington D.C. Office. If you have any questions, please contact me at (415) 947-4178 or vitulano.karen@epa.gov.

Sincerely,

Karen Vitulano
Environmental Review Office

Enclosure: EPA's Detailed Scoping Comments

cc: Bob Worl, California Energy Commission
David Warner, San Joaquin Valley Air Pollution Control District
Elena Miller, California Division of Oil, Gas, and Geothermal Resources
California Public Utilities Commission

Purpose and Need and Alternatives

The Department of Energy (DOE) utilizes a financing selection process separate from NEPA that includes an "environmental critique" for the proposals deemed suitable for selection in this round of awards. DOE selected the Hydrogen Energy California (HECA) project for the award, and only considers alternatives that are being considered by the applicant. HECA analyzed several sites and determined that the proposed site is the only reasonable site; therefore, the range of alternatives will be limited to this one site. The DEIS should discuss this process as well as HECA's rationale as to why the proposed site is the only reasonable site to demonstrate the commercialization of this technology.

We recommend the DEIS discuss the feasibility of a reduced size project alternative. If different technologies are available for a particular component process, they should be considered in the alternatives analysis, consistent with the ability to fulfill the project purpose and need. We recommend that the DEIS evaluate the use of dry cooling or wet-dry hybrid cooling as a NEPA alternative to the proposed project. The DEIS could also evaluate dry scrubbing as an alternative to the proposed liquid scrubbing. These technologies would reduce water use, important in the arid climate of Kern County, and would be more sustainable in the long-term with uncertainties regarding water availability due to climate change.

Project Description for Carbon Capture and Storage (CCS)

The project description should clearly describe the carbon sequestration and enhanced oil recovery (EOR) component of the project, including the process of how it will occur, how the project will demonstrate that CO_2 is contained and controlled, and the existing condition with regard to the oil recovery process that is happening now. Indicate whether any existing components will be maintained after the EOR project component is operational. We recommend the DEIS include discussions of how any continuing processes can be made more efficient; for example, if steam is used for oil recovery currently, and will continue to occur in concert with the project's CO_2 injection, explore whether the energy from waste heat could be utilized.

The DEIS should discuss alternatives for the proposed plant if (1) the arrangements as described with the Elk Hills 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 CO_2 sequestration operations under their ownership/operation if they are unable to sell CO_2 to Elk Hills.

Air Quality

The DEIS should provide a detailed discussion of air quality standards, ambient conditions, and potential air quality impacts of the project, including cumulative and indirect impacts. These should include construction-related impacts. The DEIS should specifically discuss the items below:

Ambient Conditions

The Draft EIS should include a detailed discussion of ambient air conditions (i.e., baseline or existing conditions) including the area's attainment or nonattainment status for all National Ambient Air Quality Standards (NAAQS). The project area in Kern County is designated as non-attainment for the annual and 24-hour $PM_{2.5}$ (particulate matter less than 2.5 microns) NAAQS. In fact, this area represents one of the most severe violations of the $PM_{2.5}$ standards in the entire country. The project area is also in

nonattainment and classified as extreme nonattainment for the 8-hour ozone standard. Because of the air basin's nonattainment status, it is important to reduce emissions of ozone precursors and particulate matter from this project to the maximum extent.

General Conformity

The DEIS should address the applicability of Clean Air Act (CAA) Section 176 and EPA's general conformity regulations at 40 CFR Parts 51 and 93 for those pollutants that do not exceed the NAAQS. Federal agencies need to ensure that their actions, including construction emissions subject to state jurisdiction, conform to an approved implementation plan. Mitigation may be available to reduce the project's air emissions, including $PM_{10.}$ Emissions authorized by a CAA permit issued by EPA, the State or the local air pollution control district would not be assessed under general conformity but through the permitting process.

While the General Conformity rule does not require linking the conformity determination and the NEPA process, we recommend linking the processes for convenience and efficiency. We also understand DOE guidance[1] encourages the integration of General Conformity with NEPA.

Permitting for Attainment and Nonattainment Pollutants

The DEIS should summarize all existing air quality regulations, the required compliance demonstration, and the respective air permitting agencies for federal attainment, federal nonattainment and hazardous air pollutant emissions. Additionally, to the extent that there are foreseeable air quality regulatory requirements that are anticipated to be applicable to the project upon construction and/or operations, the DEIS should identify such regulations.

The project will require a Prevention of Significant Deterioration (PSD) permit per section 165 of the Clean Air Act for attainment pollutants. The project also will require a Nonattainment New Source Review (NNSR) permit for nonattainment pollutants (40 CFR 51.160-51.165).

For a major new source subject to PSD, the emissions must be quantified to demonstrate which attainment pollutants trigger the PSD significant emission rate thresholds; Best Available Control Technology (BACT) must be applied to those pollutants; air quality modeling analyses must be conducted for the applicable pollutants; and additional impacts analyses must be addressed.

We understand that the San Joaquin Valley Air Pollution Control District (SJVAPCD) will be issuing a Determination of Compliance (DOC), which will include the NNSR requirements under 40 CFR 51.160-51.165 and SJVAPCD rules and regulations. We also understand that the DOC will then be considered in the California power plant licensing activities implemented by the California Energy Commission. For a major new source subject to NNSR, at a minimum, emissions must be quantified to demonstrate which nonattainment pollutants trigger the New Source Review requirements; Lowest Achievable Emission Rate (LAER) must be applied to those pollutants; and emission offsets must be obtained for the applicable pollutants.

At a minimum, the following requirements should be addressed in the DEIS:

- BACT - The Clean Air Act defines BACT as "an emissions limitation (including a visible emissions standard) based on the maximum degree of reduction of each pollutant subject to a

[1] http://energy.gov/sites/prod/files/nepapub/nepa_documents/RedDont/G-DOE-cleanairactguidance.pdf

regulation under this Act…which the Administrator, on a case-by-case basis, taking into account energy, environmental and economic impacts, and other costs, determines is achievable for such source…"

- LAER – The Clean Air Act defines LAER as "that rate of emissions which reflects— the most stringent emission limitation which is contained in the implementation plan of any State for such class or category of source, unless the owner or operator of the proposed source demonstrates that such limitations are not achievable, or the most stringent emission limitation which is achieved in practice by such class or category of source, whichever is more stringent."
- Air quality modeling considerations – It is important to ensure that there is not a violation of the NAAQS or applicable PSD increments, identify nearby areas designated as Class I and Class II areas, and confirm whether there are potential impacts on impairment to visibility, deposition or other air quality-related values

Mobile Sources

The DEIS should identify and quantify the addition of new mobile sources associated with the project, including truck traffic and rail traffic that may result from the transport of coal and petroleum coke feedstocks and other materials. The expected routes of travel, frequencies, and locations of sensitive receptors should be identified and impacts assessed. See also the comment under Environmental Justice, below.

Construction Emissions Mitigation

The DEIS should include a thorough analysis of impacts from the construction of the proposed project alternatives, and emission estimates of all criteria pollutants and diesel particulate matter (DPM). The DEIS should disclose the available information about the health risks associated with vehicle emissions and mobile source air toxics (see http://www.epa.gov/otaq/toxics.htm). EPA recommends including a Construction Emissions Mitigation Plan (CEMP) for fugitive dust and DPM/fine particulates in the DEIS and adopting this plan in the Record of Decision. The following mitigation measures should be included in the CEMP in order to reduce impacts associated with emissions from construction-related activities:

To reduce diesel particulate matter, hydrocarbons, and oxides of nitrogen (NOx) associated with construction activities, we recommend the following with regard to all construction-related engines:

- Minimize use, trips, and unnecessary idling of heavy equipment.
- Maintain and tune engines per manufacturer's specifications to perform at EPA certification levels, where applicable, and to perform at verified standards applicable to retrofit technologies. Employ periodic, unscheduled inspections to limit unnecessary idling and to ensure that construction equipment is properly maintained, tuned, and modified consistent with established specifications. The California Air Resources Board has a number of mobile source anti-idling requirements which could be employed. See their website at: http://www.arb.ca.gov/msprog/truck-idling/truck-idling.htm
- Prohibit any tampering with engines and require continuing adherence to manufacturer's recommendations.
- If practicable, lease new, clean equipment meeting the most stringent of applicable Federal[2] or State Standards[3]. In general, commit to the best available emissions control technology. Tier 4

[2] EPA's website for nonroad mobile sources is http://www.epa.gov/nonroad/.
[3] For ARB emissions standards, see: http://www.arb.ca.gov/msprog/offroad/offroad.htm.

engines should be used for project construction equipment to the maximum extent feasible[4]. Lacking availability of non-road construction equipment that meets Tier 4 engine standards, DOE should commit to using the best available emissions control technologies on all equipment.
- Include all available mitigation measures to reduce greenhouse gas emissions;
- Utilize EPA-registered particulate traps and other appropriate controls where suitable to reduce emissions of diesel particulate matter and other pollutants at the construction site.
- Use diesel fuel having a sulfur content of 15 parts per million or less, or other suitable alternative diesel fuel, unless such fuel cannot be reasonably procured in the market area.
- Include control devices to reduce air emissions. The determination of which equipment is suitable for control devices should be made by an independent Licensed Mechanical Engineer. Equipment suitable for control devices may include drilling equipment, generators, compressors, graders, bulldozers, and dump trucks.

The DEIS should identify the need for a *Fugitive Dust Control Plan* as required by the San Joaquin Valley Air Pollution Control District. In addition to the District's requirements, we recommend the following:

- Stabilize open storage piles and disturbed areas by covering and/or applying water or a non-toxic soil stabilizer or dust palliative where appropriate, to both inactive and active sites, during workdays, weekends, holidays, and windy conditions.
- Install wind fencing and phase grading operations where appropriate, and operate water trucks for surface stabilization under windy conditions.
- When hauling material and operating non-earthmoving equipment, prevent spillage and limit speeds to 15 miles per hour (mph). Limit speed of earth-moving equipment to 10 mph.
- Cover vehicles hauling soil or other loose materials with tarp or other means;
- Sweep adjacent paved streets with water sweepers in the event soil materials are carried onto them;
- Reclaim and revegetate disturbed areas as soon as practicable after completion of activity at each site.

Greenhouse Gas Emissions

The NOI identifies DOE's intent to evaluate the cumulative impacts of greenhouse gas emissions (GHG) and global warming. Because the project includes the injection of CO_2 for the purpose of enhanced oil recovery (EOR) and for geologic sequestration, the DEIS should include an estimate of the quantities of greenhouse gases both generated and sequestered by the project, and a discussion of the indirect impacts from the extended oil production that will occur at the Elk Hills Unit because of the project. We suggest including a graphical illustration showing the mass balance of carbon for clarity and comparison of alternatives. A mass balance would show the source(s) of carbon and its fate throughout the process (e.g., how much is used for EOR or urea production) including the mass emitted into the atmosphere and the mass sequestered below ground.

EPA also suggests DOE consider including the following in this discussion.

- A discussion of general climate change causes and effects, and whether the project falls within a

[4] Diesel engines < 25 hp rated power started phasing in Tier 4 Model Years in 2008. Larger Tier 4 diesel engines will be phased in depending on the rated power (e.g., 25 hp - <75 hp: 2013; 75 hp - < 175 hp: 2012-2013; 175 hp - < 750 hp: 2011 - 2013; and $\geq$ 750 hp 2011- 2015).

sector that is a large contributor,

- Whether the project will be subject to the GHG Reporting Rule[5] or the GHG Tailoring Rule[6],
- Identification of existing legislative and other authorities that require federal agencies to utilize renewable energy or reduce GHG emissions (e.g. the Energy Policy Act of 2005, EO 13423 - Strengthening Federal Environmental, Energy, and Transportation Management, etc.)
- Identification of local and regional climate change initiatives; Project GHG emissions in terms of effects on, or consistency with, local, state, regional, and, when applicable, national GHG reduction goals and strategies; and any regional and local concerns and/or resources that may be experiencing effects of climate change;
- An inventory of GHGs related to the project, and, where feasible, comparison amongst alternatives; quantification of direct emissions of GHGs including construction emissions and lifecycle emissions, as appropriate, and a qualitative discussion of indirect emissions of GHG (e.g. increases in vehicles miles traveled (VMT), increased extraction and use of oil through the enhanced oil recovery element of the project).
- A meaningful context for interpreting GHG emissions by expressing them in terms of equivalencies (see EPA's GHG equivalency calculator at: http://www.epa.gov/cleanenergy/energy-resources/calculator.html)
- How GHGs could be reduced for the project, and if reductions are not being proposed, a discussion as to why they are not being reduced,
- Adaptation strategies and potential mitigation measures;
- Project impacts on carbon dioxide (CO_2) sinks (vegetation) and changes in land albedo (reflectivity); e.g. changing agricultural land to paved areas;

Impacts of climate change on the project. The DEIS should identify how the project could be affected by climate change. This could include changes to water availability, temperature increases, increased extreme weather events (flooding, etc.). Adaptation strategies should be identified and discussed, as appropriate.

Cumulative climate change impacts on resources also affected by the project. The DEIS should also include a discussion on cumulative climate change impacts to resources also affected by the project. If there are project impacts on environmental justice (EJ) communities, the cumulative impacts from climate change on public health and environmental justice communities should be discussed[7].

Geological and Seismic Impacts

The DEIS should evaluate the increased risk of seismic activity resulting from proposed CO_2 injection. The recent National Academy of Sciences, National Research Council Report *Induced Seismicity Potential in Energy Technologies*[8] (2012) concluded that due to the large net volumes of injected fluids involved, CCS may have potential for inducing larger seismic events. Identify operating practices that could reduce induced seismicity.

[5] http://www.epa.gov/climatechange/emissions/ghgrulemaking.html
[6] http://www.epa.gov/nsr/documents/20100413fs.pdf
[7] EPA's report *Analyses of the Effects of Global Change on Human Health and Welfare and Human Systems* (available: http://www.climatescience.gov/Library/sap/sap4-6/final-report) suggests that EJ communities have less adaptive capacity and are thus more prone to disproportional impacts from climate change.
[8] Available: http://www.nap.edu/catalog.php?record_id=13355

Water Resources

Water Demand

The amended NOI states that the project will use brackish water from the Buena Vista Water Storage District for process water needs, and will connect to the new West Kern Water District facility for potable water.

The DEIS should identify the potential effects on other water users and natural resources in the project's area of influence from project water use. For groundwater, the DEIS should clearly depict reasonably foreseeable direct, indirect, and cumulative impacts to this resource. Specifically, the potentially-affected groundwater basin should be identified, drawdown impacts estimated, including impacts to other wells, and any potential for subsidence and impacts to springs or other open water bodies and biologic resources analyzed. Municipal water use should be estimated and discussed in terms of impacts to regional water resources and the public utility, if any.

Construction and Operational Stormwater Permits

The DEIS should note that, under the Federal Clean Water Act (CWA), any construction project disturbing a land area of one or more acres requires a construction stormwater discharge permit[9]. In addition, since the facility would include steam electric power generation[10], permit coverage would also be required under the CWA for stormwater discharges from the facility after construction had been completed. The DEIS should document the project's consistency with both of these applicable stormwater permitting requirements. Requirements of the stormwater pollution prevention plans for both the construction and operational phase of the facility should be reflected, as appropriate, in the DEIS. The DEIS should discuss specific mitigation measures that may be necessary or beneficial in reducing adverse impacts to water quality and aquatic resources.

Hydrology and Impacts to Waters of the U.S.

The DEIS should describe the original (natural) drainage patterns in the project locale, as well as the drainage patterns of the area during project operations. Identify whether any components of the proposed project are within a 50 or 100-year floodplain.

In describing existing conditions, the DEIS should identify and quantify all wetlands and waters of the U.S. within the study area, including an overview of their condition and current threats to their ecological health. We recommend DOE consult early with the U.S. Army Corps of Engineers if it appears that any component (power plant, other facilities, transmission lines) of the proposed project could requires a permit of authorization under Section 404 of the Federal Clean Water Act (CWA). Section 404 regulates the discharge of dredged or fill materials into waters of the United States. EPA strongly recommends avoidance of waters when siting project features, and appreciates the statement in the amended NOI that horizontal directional drilling will be used to avoid wetland impacts for pipelines and transmission lines. In addition to wetlands, we recommend avoiding impacts to all waters of the U.S. as possible.

Waste Management

The DEIS should discuss and characterize all waste generated from both plant operations and from associated activities such as vehicle maintenance, etc. Include waste materials generated during

[9] http://www.swrcb.ca.gov/water_issues/programs/stormwater/
[10] http://www.epa.gov/npdes/pubs/sector_o_steamelectricpower.pdf

construction of the proposed project and associated facilities and explain handling and disposal practices. Discuss the environmental impacts associated with management and disposal of these wastes, including the projected annual amount, composition, where disposal will occur, regulatory requirements associated with storage and disposal, and whether it would be considered hazardous under Federal or State law.

The amended NOI states that solids generated by the gasifier would be accumulated onsite and made available for appropriate recycling or beneficial reuse, or disposed of in accordance with applicable laws. The DEIS should include a discussion of the potential recycling and beneficial reuse options and estimate potential impacts, both adverse and beneficial, associated with this reuse.

The NOI indicates that the project would recycle water and would incorporate zero liquid discharge (ZLD) technology for process and other wastewater from plant operations, resulting in no industrial wastewater discharge. The DEIS should identify any wastes that are generated from this process and associated impacts, including how wastes will be disposed.

Environmental Justice

Consistent with the Executive Order (EO) 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-income Populations," the DEIS should describe measures taken by DOE to: (1) fully analyze the environmental effects of the proposed actions on minority and low income populations, and (2) present opportunities for affected communities to participate in the NEPA process[11]. Environmental justice impacts should be carefully assessed for this proposal particularly in light of the project area's nonattainment status for the annual and 24-hour $PM_{2.5}$ NAAQS and extreme nonattainment status for the 8-hour ozone standard. In addition, the DEIS should discuss compliance with Title VI of the Civil Rights Act of 1964.

Public Participation. Public participation is important to establish a dialogue with nearby communities and to understand communities' concerns and perspectives about potential project impacts. The serious nature of the existing air quality impairment and the attention of the population to new sources of pollutants warrant increased public involvement for this project. DOE should specifically elicit participation of minority and low-income populations during the NEPA process and provide affected communities with the tools (e.g., summary reports and background explanations in plain language) to ensure that the communities understand technically complex issues and have meaningful opportunities for participation and input. Participation materials should be prepared in the languages spoken by nearby communities and affected areas. The success of outreach efforts and the level of meaningful involvement of the affected communities should be documented in the DEIS. These efforts could include any newsletters and summary meeting notes that were made available, outreach to workers and tenants, in addition to landowners, and/or holding meetings during the evening or weekends when more of the working public would be able to participate. EPA's Office of Environmental Justice has developed a model plan for public participation that may assist DOE in this effort[12].

In the context of "affected environment," the DEIS should document existing human health and environmental risks (sources of pollutants) to which people in the project areas and larger air basin are

[11] Guidance by the Council on Environmental Quality (CEQ) clarifies the terms "low-income" and "minority population" and describes the factors to consider when evaluating disproportionately high and adverse human health effects. http://ceq.hss.doe.gov/nepa/regs/ej/justice.pdf

[12] The Model Plan for Public Participation, EPA OECA, February 2000, can be downloaded from: http://www.epa.gov/environmentaljustice/resources/publications/nejac/model-public-part-plan.pdf

exposed. DOE should identify and address disproportionately high and adverse human health or environmental effects and note whether any impacts identified, including those deemed minor or less than significant, will be borne entirely by a population with EJ concerns. The document should also explore potential mitigation measures for any adverse environmental justice effects.

Impact Assessment. Projects that can affect EJ communities often warrant additional analysis to determine impacts to these communities. There is a growing body of evidence that EJ communities are more vulnerable (more likely to be adversely affected by 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. EPA has developed a toolkit that can assist in the evaluation of environmental justice impacts and cumulative risks. This and other tools are available at http://www.epa.gov/compliance/resources/policies/ej/index.html#tools. The toolkit includes a methodology for EJ assessment. Assessment of the project's impact on EJ communities should reflect coordination with those affected populations.

In general, the communities in the southern part of the valley are concerned about poor air quality and may lack adequate health care and have other vulnerabilities. They are also concerned about pesticide use, and drinking water contamination and how these cumulatively affect their health. These issues are important to address in the impact assessments.

Buttonwillow is the nearest community to HECA and it is a mostly Latino community. Information important to EJ groups in and around Buttonwillow is documented here: http://www.invisible5.org/index.php?page=buttonwillow

The EJ demographics analysis and impact assessment should include the coal import site at Wasco, California that could serve the facility under the truck transport alternative. This coal storage plant in Wasco is in proximity to a farm labor camp. We recommend that appropriate outreach occur to this community. It is our understanding that Wasco residents are mostly Spanish speaking and do not use email. EPA works with the Wasco community through the Center for Race, Poverty and the Environment (CRPE).

The following website and report should be informative as to the concerns of the local EJ population. CRPE worked with Wasco residents and others on their Power to the People project which focused on green jobs[13]. The report produced out of that work can be accessed at: http://www.crpe-ej.org/crpe/images/stories/featured/green/j6365_crpe_eng_web.pdf . Note the concerns regarding cumulative health impacts and public participation at the end of the report - especially p. 6-8 of the pdf.

It may be helpful to know that EPA considers the EJ analysis for the China Shipping Container Terminal Project EIR is be especially effective and recommends it use as a model for EJ analyses for other

[13] See http://www.crpe-ej.org/crpe/index.php?option=com_content&view=article&id=108&Itemid=106

projects. That analysis is available at:
http://www.portoflosangeles.org/EIR/ChinaShipping/DEIR/5_Environmental_Justice.pdf.

Impacts to Children
Executive Order 13045, "Protection of Children from Environmental Health Risks and Safety Risks" (April 21, 1997), requires Federal agencies to make it a high priority to identify and assess environmental health and safety risks that may disproportionately affect children and to ensure that policies, programs, activities, and standards address disproportionate risks to children that result from environmental health or safety risks. Consistent with EO 13045 - the DEIS should identify the proportion of households with children in the project area and assess environmental health risks and safety risks that may disproportionately affect children.

Cumulative Impacts
Cumulative impacts analyses are of increasing importance to EPA as they describe the threat to resources as a whole. Understanding these cumulative impacts can help identify opportunities for minimizing threats. The DEIS should describe the methodology used to assess cumulative project impacts. Guidance on how to analyze cumulative impacts has been published by the CEQ [14]. Additionally, EPA assisted in the preparation of a guidance document for assessing cumulative impacts (Available: http://www.dot.ca.gov/ser/cumulative_guidance/purpose.htm). While this guidance was prepared for transportation projects in California, the principles and the 8-step process outlined therein are useful for other types of projects and provides a systematic way to analyze cumulative impacts for a project.

The cumulative impacts analysis should identify how resources, ecosystems and human communities of concern have already been affected by past or present activities in the project areas. Characterize these resources in terms of their response to change and capacity to withstand stresses, and identify the additional stresses that will affect resources. Trends data should be used to establish a baseline for the affected resources, to evaluate the significance of historical degradation, and to predict the environmental effects of the project components.

We have the following recommendations for structuring cumulative impacts analyses:

- Focus on resources of concern – those resources that are "at risk" and/or are significantly impacted by the proposed project, before mitigation. Identify which resources are analyzed, which ones are not, and why. We recommend DOE consider the following resources and receptors in terms of cumulative impacts: air quality (this discussion should include impacts associated with greenhouse gases and climate change), human populations (environmental justice), groundwater, hydrology, soils, significant agricultural lands, and biological resources.
- Identify all other on-going, planned, and reasonably foreseeable projects in the study area that may contribute to cumulative impacts. Where studies exist on the environmental impacts of these other projects, use these studies as a source for quantifying cumulative impacts;
- Include a baseline for the resources of concern with an explanation as to why that baseline was selected; and
- When cumulative impacts are anticipated, mitigation should be proposed. Clearly state the lead

[14] Considering Cumulative Effects Under the National Environmental Policy Act, Council on Environmental Quality, January 1997. http://ceq.eh.doe.gov/nepa/ccenepa/ccenepa.htm

agency's mitigation responsibilities and the mitigation responsibilities of other entities.

Biological Resources/Threatened and Endangered Species
If the project may affect threatened or endangered species or their critical habitat, DOE is required to consult with the U.S. Fish and Wildlife Service (USFWS) under Section 7 of the Endangered Species Act (ESA). The DEIS should briefly describe the consultation process and indicate how DOE intends to meet its ESA Section 7 obligations.

The amended NOI states that currently no threatened or endangered species have been identified at the proposed plant site but 3 listed plant species and 9 listed wildlife species have the potential to occur in the rights-of-way of the linear facilities. The DEIS should identify these proposed and listed threatened and endangered species and critical habitat that might occur and quantify which species or critical habitat might be directly or indirectly affected by each alternative, including the effects of interrelated and interdependent actions within the meaning of 50 CFR 402.02. Therefore, the DEIS, as well as the Biological Assessment (BA), should include analysis of whether any changes to the current Elk Hills operation associated with this project are interrelated or interdependent actions and, if so, the effects of those changes on listed species. We recommend that the DEIS include the BA as an appendix.

In addition to threatened and endangered species, the DEIS should assess impacts to habitat and biological diversity[15], including any impacts to vegetation and wildlife in the Tule Elk Reserve and the environmentally sensitive Bureau of Land Management-owned and other lands near the Elk Hills Unit.

Consultation with Tribes
Executive Order 13175, Consultation and Coordination with Indian Tribal Governments (November 6, 2000), was issued in order to establish regular and meaningful consultation and collaboration with tribal officials in the development of federal policies that have tribal implications, and to strengthen the United States government-to-government relationships with Indian tribes. The DEIS should describe the process and outcome of government-to-government consultation between DOE and each of the tribal governments within the project area, issues that were raised (if any), and how those issues were addressed in the formulation of the preferred alternative.

National Historic Preservation Act and Executive Order 13007
Historic properties under the National Historic Preservation Act (NHPA) are properties that are included in the National Register of Historic Places (NRHP) or that meet the criteria for the National Register. Section 106 of the NHPA requires a federal agency, upon determining that activities under its control could affect historic properties, to consult with the appropriate State Historic Preservation Officer/Tribal Historic Preservation Officer (SHPO/THPO). Under NEPA, any impacts to tribal, cultural, or other treaty resources must be discussed and mitigated. Section 106 of the NHPA requires that Federal agencies consider the effects of their actions on cultural resources, following regulation in 36 CFR 800. The DEIS should document these impacts and consultation outcomes.

Environmentally Significant Agricultural Land
The NOI states that the project will be located on agricultural land. The DEIS should assess whether the proposed project could have significant direct or indirect effects on prime or unique agricultural lands, as well as to any farmland of statewide or local importance. With less "prime" quality agricultural land

[15] Council on Environmental Quality has published the document *Incorporating Biodiversity Considerations into Environmental Impact Analysis Under NEPA:* http://ceq.hss.doe.gov/publications/incorporating_biodiversity.html

available, greater reliance on marginally productive farmland will occur, resulting in greater soil erosion, increased fertilizer requirements, and increased environmental damage.

Pollution Prevention
The DEIS should reflect CEQ's January 29, 1993 guidance to Federal agencies to incorporate a wide array of pollution prevention features and mechanisms in the design, construction and operation of Federal projects under NEPA. Some pollution prevention opportunities discussed in Chapter V of the Fossil Fuel Electric Power Generation Industry "Sector Notebook" may be applicable to the project. This handbook is available at:
http://www.epa.gov/compliance/resources/publications/assistance/sectors/notebooks/fossilsn.pdf

Electric and Magnetic Fields
The DEIS should discuss potential impacts of electric and magnetic fields (EMFs) associated with transmission lines and substations, and analyze potential health impacts of the project due to increased EMFs. Include a summary of existing scientific evidence that may be relevant to evaluating the reasonably foreseeable impacts associated with EMFs (40 CFR 1502.22) to disclose this information to the public under NEPA.