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Greenaction for Health and Environmental Justice OPPOSITION to HECA

Additional submitted attachment is included below.



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Re: Greenaction for Health and Environmental Justice Comments on HECA

(08-AFC-8A)

On behalf of our members and constituents in Buttonwillow and Kern County, Greenaction for Health and Environmental Justice submits these comments to the California Energy Commission and the U.S. Department of Energy on the preliminary analysis of the proposed Hydrogen Energy California (HECA) project.

In addition to the comments in this document, we incorporate into our comments the comments submitted by the Sierra Club on this project including their comments on “Air Quality, Water Supply, Alternatives, Public Health, and Nuisance (08-AFC-8A.)”

We urge the CEC and DOE to reject the proposed Hydrogen Energy California (HECA) project.

I. Overview of Concerns about the HECA Project:

The HECA Project would consist of a power generation facility, an integrated fertilizer manufacturing complex, and carbon dioxide capture for off-site enhanced oil recovery and sequestration. The facility would use integrated gasification combined cycle technology to convert a blend of the dirty fossil fuels coal and petroleum coke into hydrogen-rich syngas, which would be used to generate minimal amounts of electricity in a combined-cycle power block and to manufacture nitrogen-based fertilizer.¹

The proposed facility would be located about seven miles west of the outermost edge of the City of Bakersfield and immediately next to the community of Tupman and near the low-income Latino and Spanish speaking community of Buttonwillow in western Kern County in the San Joaquin Valley.² The San Joaquin Valley air basin is currently designated as nonattainment with the state and national ambient air quality standards for fine particulate matter or PM2.5; nonattainment with the state standard for particulate matter equal to or smaller than 10 micrometers (“PM10” or “respirable particulates”); nonattainment with the 3-hour state standard for ozone, severe nonattainment with the 1-hour state standard for ozone, and extreme nonattainment with the 3-hour national standard for ozone.³

¹ PDOC, pg. 1 and 3.

² *Ibid.*

³ PDO

The HECA Project would be major source of air pollutants emitting nitrogen oxides (“NOx”) and volatile organic compounds (“VOCs”), which are both ozone precursors, as well as PM10 and carbon monoxide (“CO”) in excess of the District’s applicable major source thresholds pursuant to SJVAPCD Rule 2201.⁴ In addition, the HECA Project would be a major source for nitrogen dioxide (“NO₂”), CO, and CO₂-equivalent (“CO_{2e}”) greenhouse gas emissions for purposes of prevention of significant deterioration (“PSD”) of air quality pursuant to 40 CFR 52.21 (b)(1)(i)⁵ and would emit NO₂, CO, particulate matter (“PM”), PM10 and CO_{2e} in excess of the applicable PSD significant emission increase thresholds.⁶ The HECA Project would also emit Toxic Air Contaminants, as defined under California Title 17, CCR, §93000, and HAPs, as defined by the federal Clean Air Act §112(b)(1), including acetaldehyde, ammonia (“NH₃”), carbonyl sulfide (“COS”), hydrogen sulfide (“H₂S”), methanol (“MeOH”), propylene, sulfuric acid and sulfates, and diesel particulate matter.⁷

The Project’s surrounding area is classified as PSD Class II but there are three Class I areas – parks or wilderness areas given special protection under the federal Clean Air Act – near the Project site with one area being located within 100 kilometers (“km”) of the Project site: San Rafael Wilderness (60 km); Domelands Wilderness Area (105 km), and Sequoia National Park (120 km).⁸

We agree with the preliminary staff assessment/draft environmental impact statement (PSA/DEIS) that concluded that the proposed facility has significant, and for the most part, unresolved issues. The 15 technical sections with either significant, unmitigated impacts, non-compliance with applicable laws, ordinances, regulations, and standards (LORS) or outstanding issues that need resolution through additional data, further discussion and/or analysis are: air quality; biological resources; carbon sequestration and greenhouse gas emissions; cultural resources; land use; noise and vibration; soil and surface water resources; traffic and transportation; visual resources; waste management; water supply; geology and paleontology; power plant efficiency; power plant reliability; and transmission system engineering.

The pollution from the HECA project, combined with the cumulative impacts of existing poor air quality and multiple stationary and mobile pollution sources impacting the residents and environment, would be unsafe and unacceptable.

As the HECA project would disproportionately and negatively impact people of color and non-English speaking residents, the CEC and Department of Energy must both comply with environmental justice and civil rights mandates and avoid taking any action that would have a discriminatory and disparate impact on this protected class of people. The project must thus be rejected.

II. HECA is not the beneficial, green project that it claims to be. The CEC Preliminary Staff Assessment discloses notable facts regarding significant impacts of the HECA project:

Upon closer examination of the proposed operations of the HECA project, it is apparent that the project will not provide the benefits to the community and the environment as it so declares. The

C, Appendix K, pg. 7.

⁴ PDOC, pg. 94.

⁵ PDOC, pg. 96.

⁶ PDOC, pg. 97.

⁷ PDOC, Appendix H.

⁸ PDOC, Appendix K, pg. 29.

HECA project claims that it will primarily be producing clean-burning hydrogen fuel to generate approximately 405 megawatts of gross power.⁹ HECA conveniently highlights this claim of its project and downplays the other operations that will be occurring at the plant, namely the manufacture of over 1 million tons of fertilizer per year¹⁰.

However, while HECA boasts that it will be generating a clean-burning fuel, the process to produce that fuel involves the gasification of dirty fossil fuels - coal and petroleum coke – in a process that involves the emission of major air pollutants and greenhouse gases. Although HECA alleges that it will capture the CO₂ produced and inject it underground for enhanced oil recovery at Elk Hills Oil Field, the dangers of CO₂ sequestration and the other pollutants generated by the plant will still remain, posing a threat to the health of residents of nearby Buttonwillow and Tupman.

We must emphasize that the claim that this is a clean and climate-friendly project is false: dirty fossil fuels will be used and an end result of the project would be to help oil production which also contributes to air pollution and climate change.

Furthermore, the 405 MW of gross power that HECA states it will produce would first be utilized to power the production of fertilizer at the plant. Secondly, it would use the power to capture the CO₂ emitted during the gasification process. The remaining amount of power left for the grid, specifically only 52.5 MW of power¹¹, would be negligible. As little energy would be produced, as toxic and greenhouse gas pollutants would be emitted from the gasification of dirty fuels, claims that HECA will provide clean, significant power to the grid should be rejected by the CEC.

As is clear from the PSA/DEIS, the HECA plant would further exacerbate the poor air quality at the project site area. Specifically, the PSA/DEIS finds that the HECA project could result in significant violations of the PM10 and PM2.5 standards.¹² We share these same concerns, yet respectfully caution the CEC staff when determining if HECA can in fact considerably and effectively mitigate PM10 and PM2.5 impacts. In addition, the PSA/DEIS discloses that the emissions of NO_x and VOC from HECA can contribute to higher ozone levels in the region¹³ since NO_x and VOC have a known relationship to ozone formation. The San Joaquin Valley presently is an extreme nonattainment area for ozone according to the 8-hour standard¹⁴.

Permitting the HECA project to operate in San Joaquin Valley – especially in an already heavily impacted area - would be negligent and a direct threat to public health as it is apparent that the project would be contributing to already unacceptably high air pollution levels.

⁹ “Project Fact Sheet,” Hydrogen Energy California, http://hydrogenenergycalifornia.com/wp-content/uploads/file_attachments/260720121334560/Project_Fact_Sheet.pdf

¹⁰ *Ibid.*

¹¹ *Executive Summary*. Preliminary Staff Assessment / Draft Environmental Impact Statement for the Hydrogen Energy California Project. California Energy Commission, June 2013.

¹² *Air Quality*, Preliminary Staff Assessment / Draft Environmental Impact Statement for the Hydrogen Energy California Project. California Energy Commission, June 2013. pg. 4.1-51.

¹³ *Air Quality*, Preliminary Staff Assessment / Draft Environmental Impact Statement for the Hydrogen Energy California Project. California Energy Commission, June 2013. pg. 4.1-74.

¹⁴ “Classifications of 8-hour Ozone (2008) Nonattainment Areas.” Green Book, US EPA. July 31, 2013.

It should also be noted that in the PSA/DEIS the CEC staff acknowledges the presence of an environmental justice population¹⁵ near the proposed HECA plant site.¹⁶ Buttonwillow houses an 83% minority population, leaving a 50% minority population in the buffer area¹⁷ of the project. Thus, the construction and operations related to the HECA project would have significant and disproportionate effects on the environmental justice population. Combined with the present impacts on this environmental justice population, these effects should be prevented and the environmental justice population shielded from additional harm.

III. According to the CalEnviroScreen, Tupman and Buttonwillow are presently afflicted with existing air pollution. The cumulative impacts of such pollution combined with that which would be emitted by the HECA plant place an undue and unacceptable burden on residents:

Kern County houses two cities which are next to the proposed HECA plant: Tupman and Buttonwillow.¹⁸ An analysis of the current state of these cities with regard to pollution and population characteristics (as provided by the CalEnviroScreen) reveals that the HECA plant would place additional, unacceptable burdens upon residents of these cities who are presently bearing some of the highest pollution levels in the state.

Buttonwillow ranks in the top 15% of the most vulnerable cities in California, according to the CalEnviroScreen. The CalEnviroScreen utilizes a multi-factor approach that incorporates pollution burden and population characteristics of geographical areas to determine a CalEnviroScreen score that indicates the vulnerabilities of certain geographic areas to pollution. In particular, the vulnerabilities are translated as scores that are based on an evaluation of the cumulative impacts¹⁹ of multiple components related to pollution burden and population characteristics, including exposures, environmental effects, sensitive populations, and socioeconomic factors. In addition to the CalEnviroScreen score, the CalEnviroScreen provides percentile ranks for a multitude of cities according to various socioeconomic factors and exposures. These percentile ranks are also key in determining the most vulnerable towns and cities in California.

Exposures that currently burden residents of Kern County, including the residents of Buttonwillow and Tupman, include ozone and particulate matter pollution. Kern County has been designated a nonattainment area by the US EPA for the 8-hour ozone standard²⁰ and the PM2.5 standard²¹ and by

¹⁵ “An environmental justice population exists when the minority population of the potentially affected area is greater than 50 percent, or when the minority population percentage is meaningfully greater than the minority population percentage in the general population or in some other appropriate unit of geographic analysis.” PSA/DEIS, pg. 4.9-4.

¹⁶ PSA/DEIS, pg. 4.9-5.

¹⁷ The PSA/DEIS calculated the buffer area in the following manner: first, two radii encompassing areas equal to 6-miles from the center points of the HECA power plant site and the CO₂ processing facility site, respectively, were estimated. The two radii were then merged to create a combined buffer area. See PSA/DEIS, pg. 4.9-4.

¹⁸ “Project Location,” Hydrogen Energy California. <http://hydrogenenergycalifornia.com/project-location>

¹⁹ Cal/EPA utilized the following definition of cumulative impacts for the CalEnviroScreen model: “Cumulative impacts means exposures, public health or environmental effects from the combined emissions and discharges in a geographical area, including environmental pollution from all sources, whether single or multi-media, routinely, accidentally, or otherwise related. Impacts will take into account sensitive populations and socioeconomic factors, where applicable and to the extent data are available.” It should be noted that this definition differs from the statutory definition contained in the California Environmental Quality Act.

²⁰ “8-hour Ozone (2008) Nonattainment Area/State/County Report,” US EPA, <http://www.epa.gov/oaqps001/greenbk/hnca.html>

²¹ “Particulate Matter (PM-2.5) 2006 Standard Nonattainment Area/State/County Report,” US EPA, <http://www.epa.gov/oaqps001/greenbk/rnca.html#7381>

Cal/EPA for the 1-hour ozone standard²², PM2.5 standard²³, and PM10 standard²⁴. According to the CalEnviroScreen, the ozone concentrations of Buttonwillow and Tupman are ranked in the 70th and 73rd percentile, respectively, in the state of California.²⁵ In other words, residents of Buttonwillow and Tupman are exposed to ozone concentrations that are greater than the ozone concentrations of 70% and 73%, respectively, of similarly monitored sites in California. Such ozone pollution can cause significant irritation and inflammation of the respiratory system, leading to chest pain, hospitalization, and even premature death.^{26,27} Additional air pollution generated by the HECA project would further strain the residents already plagued by ozone pollution in Kern County. These already vulnerable populations should be protected from further pollution rather than further neglected.

In addition to ozone pollution, particular matter pollution is a severe burden on residents of Kern County. As a designated nonattainment area by the US EPA and Cal/EPA for the federal and state PM2.5 standards^{4,6} and the state PM10 standard⁷, Kern County experiences high exposure rates to PM2.5, one of the two major contributors of air pollution-related morbidity and mortality.²⁸ The CalEnviroScreen has assigned Buttonwillow and Tupman to the 97th and 98th percentile, respectively, for PM2.5 pollution. With some of the highest exposure rates to PM2.5 in the state, Buttonwillow and Tupman should be shielded from further exposure to any kind of air pollution. The air pollution generated by the proposed HECA project would negatively affect the residents of Buttonwillow and Tupman, who are already disproportionately bearing heavy burdens of air pollution.

The CalEnviroScreen further includes data regarding the population characteristics of the populations living at monitored sites. The CalEnviroScreen utilizes various socioeconomic factors to indicate the vulnerabilities of populations. Such factors include children under the age of 10, individuals greater than 65 years of age, individuals over age 25 with less than a high school education, households where no one age 14 and over speaks English “very well” or speaks English only, individuals living below two times the federal poverty level, and race/ethnicity. The pollution burden in combination with the population characteristics of Buttonwillow and Tupman make both cities exceptionally vulnerable to projects such as the proposed HECA plant.

A closer examination of the socioeconomic factors of Buttonwillow and Tupman, as studied for the CalEnviroScreen, reveals alarming percentile rankings in comparison to other cities in the country. Buttonwillow and Tupman rank in the 94th and 91st percentiles, respectively, for the percent of their populations that are over age 25 and possess less than a high school education. According to the CalEnviroScreen, studies suggest that education “can have a protective effect from exposure to environmental pollutants that damage health”²⁹. When a greater percentage of the population over age 25 is without a high school education, this “protective effect” is diminished, leaving a substantial

²² “2012 Area Designations for State Ambient Air Quality Standards – Ozone,” http://www.arb.ca.gov/desig/adm/2012/state_o3.pdf

²³ “2012 Area Designations for State Ambient Air Quality Standards – PM 2.5,” http://www.arb.ca.gov/desig/adm/2012/state_pm25.pdf

²⁴ “2012 Area Designations for State Ambient Air Quality Standards – PM 10,” http://www.arb.ca.gov/desig/adm/2012/state_pm10.pdf

²⁵ CalEnviroScreen 1.0 data as available at <http://oehha.ca.gov/ej/ces042313.html>.

²⁶ “Ozone.” American Lung Association. <http://www.lung.org/healthy-air/outdoor/resources/ozone.html>

²⁷ *CalEnviroScreen Guidance and Screening Tool*, California Communities Environmental Health Screening Tool, Version 1, April 2013, p. 16

²⁸ *CalEnviroScreen Guidance and Screening Tool*, California Communities Environmental Health Screening Tool, Version 1, April 2013, p. 17

²⁹ *CalEnviroScreen Guidance and Screening Tool*, California Communities Environmental Health Screening Tool, Version 1, April 2013, p. 81

portion of the population vulnerable to the damaging effects of pollution, as is the case in Buttonwillow and Tupman. The proposed HECA plant would exploit this particular socioeconomic factor and lead to further deterioration of the health of these vulnerable populations.

In addition, CalEnviroScreen cites linguistic isolation as a factor that can indirectly affect health. The inability to speak or difficulty with speaking English well can affect “an individual’s communication with service providers”³⁰ such as health care providers. Accordingly, these individuals are less likely to seek medical attention and are more likely to have difficulty obtaining medical advice, since communication is essential in the process of obtaining health care. Buttonwillow ranks in the 94th percentile nationally for linguistic isolation of its population. Thus, since about 30% of Buttonwillow residents are already hampered in their ability to obtain health care due to linguistic isolation³¹, a staggering percentage when compared to other cities across California, additional factors affecting the health of these residents, be it direct or indirect, would create an unjust burden on these individuals. The proposed HECA plant would contribute significantly to this unjust burden by threatening the health of Buttonwillow and Tupman residents. The pollution emitted by the HECA plant would increase the residents’ need for health care, a service that many already have difficulty obtaining.

Another socioeconomic factor that negatively influences health is poverty. The CalEnviroScreen points to studies that suggest that “impoverished populations are more likely than wealthier populations to experience adverse health outcomes when exposed to environmental pollution”³². Since wealth affects numerous factors related to one’s lifestyle, such as living conditions, nutrition, and access to health care, low-income communities suffer in aspects such as nutrition and access to health care. Limitations on these aspects render low-income individuals particularly vulnerable to exposure of environmental pollution. Tupman ranks in the 94th percentile for the percent of its population living below two times the federal poverty level. Specifically, an alarming 63.7% of the population of Tupman lives below two times the federal poverty level.³³ Buttonwillow ranks in the 90th percentile for the same category. In particular, 58.4% of Buttonwillow residents live below two times the federal poverty level.³⁴ Poverty can lead to greater susceptibility to exposures from environmental pollution, such as that which would be emitted by the HECA plant, placing these impoverished individuals in an unacceptably vulnerable position.

Overall, the results gathered from the CalEnviroScreen suggest that the HECA plant would burden an already burdened population: the residents of Buttonwillow and Tupman. Considering the socioeconomic factors and present pollution burden of these two cities, the proposed HECA plant would further diminish the quality of life for residents of Buttonwillow and Tupman. Such an outcome should be prevented, and doing otherwise would constitute endangerment of the health of the individuals of both communities.

The cumulative impacts of present pollution and the future pollution that would be generated by the HECA plant would cause further deterioration of the health of residents of Buttonwillow and would make the HECA plant an impermissible addition to the Buttonwillow geographical area. At present, Buttonwillow is home to a very large commercial hazardous waste treatment and disposal facility

³⁰ *CalEnviroScreen Guidance and Screening Tool*, California Communities Environmental Health Screening Tool, Version 1, April 2013, p. 85

³¹ CalEnviroScreen 1.0 data as available at <http://oehha.ca.gov/ej/ces042313.html>.

³² *CalEnviroScreen Guidance and Screening Tool*, California Communities Environmental Health Screening Tool, Version 1, April 2013, p. 89.

³³ CalEnviroScreen 1.0 data for zip code 93276 as available at <http://oehha.ca.gov/ej/ces042313.html>.

³⁴ CalEnviroScreen 1.0 data for zip code 93206 as available at <http://oehha.ca.gov/ej/ces042313.html>.

called Clean Harbors Buttonwillow LLC. The US EPA has recorded the air pollution compliance status of this facility as “B,” indicating that violations were found at this facility for both emissions and procedural non-compliance^{35,36}. In addition, this hazardous waste landfill is expected to undergo a major expansion in the next few years, adding even more toxic and particulate pollution to this overburdened area and its at-risk residents.

In addition to bearing the pollution from the Clean Harbors Buttonwillow facility, residents of Buttonwillow must endure the pollution created by vehicles passing through Buttonwillow on a major highway: California Highway 58. Highway 58 intersects Interstate Highway 5 in Buttonwillow and thus is a common route for large commercial vehicles, especially commercial trucks, which collectively produce significant amounts of air pollutants.

The HECA plant would potentially lead to an increase in truck traffic on Highway 58 for the transportation of coal to the project site. If a railway line were constructed for the transportation of the coal, the emissions from the train would similarly contribute to air pollution in the Buttonwillow vicinity.

Local residents are also exposed to significant pesticide contamination due to the fact that many residents are farmworkers who are exposed on the job, and many residents are also exposed to pesticide drift that occurs following spraying of pesticides on fields near homes, schools and workplaces.

In addition, oilfield operations including fracking are another pollution source prevalent near the proposed project area.

The cumulative impacts of Buttonwillow’s current pollution and the pollution expected to be produced by the HECA plant would compound the negative health issues of residents of Buttonwillow, as described above. The HECA project should be rejected in order to prevent further environmental degradation and unwarranted injury to the health of the people of Buttonwillow. We respectfully request the CEC to consider this matter in earnest. As local residents are already exposed to multiple pollution sources and are already vulnerable, adding a major new pollution source is unacceptable and could result in additional profound ill health effects for an already burdened community.

IV. Adequate notice for the public hearings regarding the HECA project was not provided by the CEC, which has the responsibility to respect the rights of citizens to have ample notice regarding any public hearing and to provide meaningful opportunities for public participation:

Information regarding the public hearings and workshops held by the CEC for the HECA project were posted without sufficient notice prior to the dates the public hearings and workshops were being held. The calendar events for the public hearings and workshops were posted on the CEC’s website on the afternoon of September 10th. The public hearings and workshops were scheduled for and held on September 17th, 18th, and 19th. Seven days does not constitute sufficient notice as some individuals may have needed to make travel, work replacement, or child care arrangements in order to attend the public hearings and workshops. By not providing adequate notice, the CEC effectively denied people their

³⁵ Envirofacts for Clean Harbors Buttonwillow LLC, US EPA, available at http://oaspub.epa.gov/enviro/multisys2_v2.get_list?facility_uin=110000500912

³⁶ Memorandum on “Clarification Regarding Federally-Reportable Violations for Clean Air Act Stationary Sources,” US EPA. <http://www.epa.gov/compliance/resources/policies/data/systems/air/afs-frvs-memo-clarification3-22-10.pdf>, pg. 4

right to meaningful participation in the decision-making process, violating the rights of those individuals and favoring entities such as the company who were able to easily attend the workshops and hearings with such short notice.

V. Civil Rights Laws Must Be Considered and Complied With In the Decision on HECA:

As a recipient of federal and state funds, the California Energy Commission is subject to Title VI of the United States Civil Rights Act of 1964 and California Government Code 11135. Both of these important laws must be considered, and complied with, in the CEC's decision on the HECA project.

These civil rights laws prohibit the CEC from taking any action that would have a discriminatory, disparate and negative impact on people of color and non-English speakers. As the HECA project, if built, would clearly have a significant, disproportionate and negative impact on Latinos and Spanish-speakers who comprise a large percentage of nearby residents, the CEC must reject the HECA project. Similarly, as a federal agency, the DOE is subject to the Executive Order on Environmental Justice and must refrain from approving projects that would have a discriminatory and disparate impact on Latinos and Spanish speaking residents.

VI. Conclusion:

For the reasons stated herein, we respectfully urge that the HECA project be rejected.

For health and environmental justice,



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