

## DOCKETED

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*Comment Received From: Ted Walker*

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**Architect in Support of the HECA Project**

*Additional submitted attachment is included below.*

Comments by Ted A. Walker, Architect in support of the HECA project

January 15, 2016

Re: Docket #08-AFC-08A

California Energy Commission,

The California Energy Commission has conducted a series of workshops and symposiums for the purpose of advancing sustainable alternative technology in a number of areas. The second round of EPIC proposal will be coming out for proposals and grant applications this year.

I have had the opportunity to attend most of the presentations in person or on webcam. The continuation of the HECA project will help to advance the state of the ongoing discussions and seems far ahead of most of the current proposals in scale, research and development. I consider it to produce refined products through the gasification process and not a chemical plant as the opposition would like to portray.

HECA can be model facility in the power plant sector. In the future, this project could have a solar facility plug-in adjacent to it to minimize PG&E on the steam production cycle and could probably approach ZNE (zero net energy). It's primary function seems to be as a clean sustainable power source for CALISO but the resulting byproducts hold enormous potential.

The County of Kern concerns about the zoning seemed to be resolved. They expressed concerns about the product line proposed in the modified proposal which has since been dropped. This product line at the HECA type facilities could address the heavy vehicle sector. By producing synthetic diesel from urea (NH<sub>4</sub>), a clean synthetic fuel could be produced and blended with the existing diesel fuel and target areas such as the southern San Joaquin Valley air quality without major changes to existing diesel engine design. The recent Volkswagen scandal is an example of the potential of urea. The scandal disclosed it was added only at the emissions testing period. This could be an area of research in future EPIC grants. Synthetic diesel production could happen on the west side of the Kern Drainage Canal as a future application.

Also, large sectors of California industry and business are affected by cap and trade is faced with compliance by leaving the state or shutting down. This includes diesel pumps on farms, agricultural processing plants, emergency generators, manufacture of insulation and glass as well as the oil industry.

Even without that, the production of fertilizer in the vast agricultural of the area of the San Joaquin Valley is appropriate product line. Most fertilizer is manufactured and imported from unsafe and older plants in foreign countries and demand currently nearly doubles every 10 year as world demand increases. The importation of fertilizer means that greenhouse gases and transportation safety could contribute more pollution and balance of trade than a cleaner, safer and greener fertilizer that HECA could produce locally.

Most of the promising development proposals from the first EPIC presentations revolve around a blend of sustainable solutions. Most CHP (combined heat and power) proposals include gasification, wind or solar, conservation and transportation solutions are blends of sustainable solutions. UC Merced has been getting 50% gasification through plasma applications.

The solar issues are far from resolved with storage issues around the “duck curve” and a lack of recognized standard. The last solar vehicle workshop seemed to leave many with more questions than it answered. Gasification seems to be a branch of energy production that has been lost by society and possibly discouraged by the oil and gas energy. It was common during World War 2 and seems to be lost since then.

Gasification process starts with dirty water and dirty coal in a vacuum at controlled temperatures. *It exploits the weak bonds of H<sub>2</sub>O and CO* resulting in no combustion. The CO<sub>2</sub> resulting can be injected safely as a solid or liquid. It can be injected into oil formations as a fracking material thus saving water. It makes heavy crude more viscous and the study showing that it can be injected in many areas of the San Joaquin Valley is an important step forward. The comparison with the Porter Ranch methane storage may be used but it is probably not even a comparable situation. The gasification process eliminates this cycle and removes methane, nitrogen, harvests sulfur and precious metal for a cleaner and greener sustainable product lines. The dispatch ability of gasification is a major advantage over solar and wind alternatives. Its primary function seems to be as a clean dispatchable sustainable power source.

I am bewildered by the opposition of the Sierra Club and the environmental community to gasification. I believe much of the opposition is simply a lack of understanding of the science of gasification. It was also disappointing to see a lack of technical grounds by CEC legal staff for termination. The opponents seem to imply at least behind the scene that gasification is combustion burning of coal. Many of the delays HECA are a result of the opposition tactics and the applicant attempts to respond to false issues. I consider this producing refined products and not a chemical plant.

The water issues seem largely misconstrued or misunderstood by the opposition and even CEC staff. The agricultural areas have been heavily farmed, sprayed and fertilized for many years. The result is a drip effect of underground pollution that is added to by the hydraulics of the already naturally polluted oil field water. Buena Vista Water Storage District remediation proposal is a simple and creative way of cleaning up unpotable water and is a model for State Water Resources looking for affordable treatment programs. It also works as a buffer to prevent contaminated water from encroaching further into the district from Elk Hills and Clean Harbors to the west and south. The nitrates in this water help the gasification process while cleaning up the water.

The concerns about the transport of coal are not as dire as the opposition suggests. They have blocked the inclusion of a railroad spur at every turn and raised issues related to Wasco and the transport of coal. Coal and pet coal is transported up the valley constantly and shipped out of the Port of Stockton or blows around ports waiting to be shipped to other countries. China burns it so it can blow back to CA.

In the future this project could have a solar facility plug-in adjacent to it to minimize PG&E on the steam production cycle and could probably approach ZNE (zero net energy). Industry can safely produce, store and transport these products better and safer in a new facility than and older plants shipped around the world.

The public has largely supported the project when it is explained to them at local meetings. This area hit hard by low oil prices and the recession. The opposition to HECA has been using scare tactics and outright stating that coal is being burned. Most of the area is big Ag with few residences and the project is sited on what was considered Palm farms where crop dusters and chemicals have been used for a long time.

The Elk Hills Elementary School should probably be relocated as it was built in its remote location in the early 1950s at a time that Elk Hills was similar to a company town and many workers families lived on the military base. Currently, it serves as a magnet school and not sited appropriately under prevailing neighborhood school standards. The current location of HECA avoids cultural resource issues at Elk Hills as sited by legal staff. Elimination of Elk Hills in the proposal eliminates cultural resource concerns sited by staff as grounds for termination.

The applicant seemed to imply that a business and property improvement district (PID or PBID) be developed around the area including the HECA plant to address concerns of adjacent property owners. This type of district has been used in the revitalization of commercial areas throughout California. As a self-taxing entity business and property owners regularly meet and can deal with impacts. Property owners including private property owners, government owned properties like the state park and farmers and mostly HECA contribute annual fees assessed to fund ongoing improvements, security, public safety, or promotions. A representation governance board is elected and fees are distributed by county annually through the existing property taxing structure of the county.

As an architect practicing out of Sacramento for the last 45 years, I have worked all over the central valley and bay area. I consider myself energy neutral and in my practice have worked to produce more efficient cities and buildings. I started out during the energy crisis of the late '70 designing passive solar residential, offices and industrial projects as well as working to help urban areas become more energy efficient. A firm I worked for in the late 70s had contracts with PG&E to develop solar homes and have worked on power plants for several hospitals. I was raised in Elk Hills and my father ran Elk Hills as the petroleum engineer till the mid-1970s and I have a degree from CSU@ SLO with graduate studies in anthropology and design methodology. The family still owns several properties south and west of Buttonwillow and we have been following the progress of this proposal for the last 5 years.

This project has great potential for real innovation in the California and the world's energy sector. I would encourage the commission members to continue the approval process and not terminate the HECA project application. Thank you.

Ted A. Walker, Architect C8837

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HECA

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**From :** twarchitect@comcast.net  
**Subject :** HECA  
**To :** eFiling@ENERGY.CA.GOV

Fri, Jan 15, 2016 04:40 PM

 1 attachment

I am sending this again.  
Not sure that the first email was to correct address.  
Thanks,

Ted Walker

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 **Docket #08-AFC-08A, 1-15-16.pdf**  
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