August 27, 2009

Contra Costa County
Department of Conservation & Development
651 Pine Street, Fourth Floor - North Wing
Martinez, CA 94553-1229
Attn: Ruben Hernandez

Re: Praxair 21.3-mile Hydrogen Pipeline Project, County File #LP072009

Dear Mr. Hernandez:

I am writing regarding the proposed Praxair Hydrogen Pipeline Project, on behalf of Communities for a Better Environment (CBE) and its members. My comments regarding this Draft Environmental Impact Report (DEIR) are based on my experience in aquatic ecology and environmental toxicology. This DEIR should be recirculated to include information about the larger capacity changes occurring at the Chevron, ConocoPhillips and Shell refineries due to the pipeline construction and operation. I also found that additional information needs to be included to determine appropriate mitigations and alternatives for the project and that there are incomplete or unavailable sections in the stormwater pollution prevention plan (SWPPP).

Project Description

Praxair seeks to build a 21.3-mile hydrogen pipeline connecting the Chevron, ConocoPhillips, and Shell refineries to increase utilization of hydrogen at the refineries. The pipeline will pass through numerous watersheds, crossing creeks, wetland, riparian and other habitat. The watersheds are: Wildcat Creek Watershed; San Pablo Creek Watershed; Rheem and Garrity Creek Watersheds; Pinole Creek Watershed; Refugio Creek, Rodeo Creek and Carquinez Area Watersheds; Alhambra Creek Watershed; and Peyton Slough Watershed. The watersheds have the same names as the creeks above, plus Ohlone, Rodeo, and McEwen Creeks.

The local surface water bodies are used extensively for both recreation and commercial purposes, including subsistence anglers. The water bodies support diverse habitats and communities of flora and fauna. Horizontal directional drilling method is proposed to be used to cross Wildcat Creek (0.4 miles from Chevron refinery) and the tributary to Rodeo Creek (11.8 miles). Jack and Bore method is proposed to be used at Pinole Creek (7.9 miles), McEwen Creeks (15.9 miles) and Alhambra Creeks (18.4 miles). The project also goes through urban areas across Contra Costa County.

Construction Impacts and Mitigation

The DEIR fails to consider the direct impacts from the proposed Chevron Expansion project. It also fails to consider the impacts from pipeline's operation at the three refineries, which is shown to enable the hydroprocessing of heavier and more contaminated crude oils at the refineries.[1] [2]

[1] See August 2009 Expert Report of Greg Karras regarding the Contra Costa Pipeline Project DEIR.
[2] See August 2009 Expert Report of Julia May regarding the Contra Costa Pipeline Project DEIR.

Hydrogen is necessary to hydrogenate heavy, contaminated crude oils, thus breaking down the oils to lighter, more valuable products such as gasoline and releasing sulfur and heavy metals. [3] These contaminants are related to air and water pollution and accidents at refineries.

The DEIR should mitigate the impacts from industrial discharges into surface waters of pollutants. According to TRI Explorer, in 2007, Shell Refinery in Martinez discharged 216,862 pounds of contaminants, including ammonia, nitrate compounds and metals, into surface waters; ConocoPhillips Refinery in Rodeo discharged 398,622 pounds; and Chevron Refinery in Richmond discharged 293,301 pounds of contaminants into surface waters. [4] In 2006, Chevron discharged 701,524 pounds; ConocoPhillips discharged 367,766 pounds; and Shell discharged 282,886 pounds. [5] In 2005, Chevron discharged 597,837; ConocoPhillips discharged 82,775; and Shell discharged 542,497 pounds.[6] The DEIR does not consider the impacts of the increased production of hydrogen or the hydroprocessing of crude oils at these refineries on discharges in the effluent.

Industrial discharges, including air emissions that get deposited onto land and water, greatly contribute to the degradation of water quality, affect Bay sediment, and have toxic effects on biota. An increase in nitrogen loading into water-bodies, particularly in estuaries which are high in nutrients, can cause a chemical imbalance of nutrients used by aquatic plants and animals. This increase in nitrogen accelerates eutrophication, which leads to oxygen depletion and reduces fish and shellfish populations.

Dioxins are persistent, bioaccumulate and are toxic and they are listed on the 303(d) list of the Clean Water Act. Dioxins can enter waterways degrading water quality and the wildlife that depends on it. Dioxins emitted or volatilized can enter directly onto the Bay or it can deposit into the watershed and enter the Bay via stormwater runoff. The interaction between pollution and sediments affects benthic communities, communities living in the sediment, and is the primary source of tissue contamination. They can alter and disrupt growth factors, hormones, enzymes, and developmental processes, and in animals, dioxin causes cancer in multiple organ systems, even at extremely low exposure levels, as low as nanograms per kilogram of body weight. The San Francisco Bay is on the Clean Water Act list of waterways that are severely impaired by dioxins. Fishing in the SF Bay is listed as most likely impaired by dioxins; preservation of rare and endangered fish species, fish spawning, wildlife habitat, and estuarine habitat are listed as possibly impaired by dioxins and there is also a fish consumption advisory based on levels of dioxins in fish and water. [7] Although the San Francisco Bay has a legacy of dioxins, combustion is thought to be the main source of new dioxins in the environment. [8]

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[3] See August 2009 Expert Report of Greg Karras regarding the Contra Costa Pipeline Project DEIR.

[4] U.S. EPA. (2008). TRI Explorer, Toxics Release Inventory database public reports interface. Accessed June 25, 2009 from http://www.epa.gov/triexplorer/

[5] U.S. EPA. (2008). TRI Explorer, Toxics Release Inventory database public reports interface. Accessed June 25, 2009 from http://www.epa.gov/triexplorer/

[6] U.S. EPA. (2008). TRI Explorer, Toxics Release Inventory database public reports interface. Accessed June 25, 2009 from http://www.epa.gov/triexplorer/

[7] San Francisco Estuary Institute. November 12, 2004. SFEI Contribution #309. Dioxins in San Francisco Bay: Impairment Assessment/Conceptual Model.

[8] *Id.*

Mercury is another well-known contaminant of SF Bay water and of SF Bay fish and also on the 303(d) list of the Clean Water Act. Mercury is bioaccumulative, suspected for causing numerous health problems in wildlife, hatching problems in migratory birds and known for its significant health risk to humans and wildlife from fish consumption. It is discharged in effluent and deposited in the air from industrial sources. Methylmercury is a potent form of mercury converted by bacteria. In a recent study on the formation in wetlands, methylmercury was found to be higher in higher-elevation tidal marsh in the North Bay than in the lower-elevation sloughs because of anoxic conditions and higher organic matter available. [9] The DEIR neglects to analyze the potential impacts of disturbing sediments contaminated with methylmercury or other contaminants in wetland and creek habitat from drilling and short-term drainage of the creeks. The DEIR also does not adequately mitigate possible erosion from the impacts of compacting soils by having heavy construction equipment, trucks and automobiles travelling into and out of sensitive habitats via non-paved roads and a plan for watering, removal of non-native invasive plant species, and monitoring the re-establishment of vegetation.

Furthermore, the DEIR fails to analyze the impacts on water quality by increased emissions of dioxins, mercury, and other persistent bioaccumulative toxins. A report from Greg Karras shows that hydrogen, which is largely used to hydroprocess the heavier portions of crude oils at refineries in order to produce more motor fuel products, used to treat the same mix of feedstock crude oils, results in increased fuel combustion per barrel of crude oil inputs.[10] This will result in increased emissions of toxins, such as dioxins, mercury, polyaromatic hydrocarbons and polychlorinated biphenyls since these pollutants are emitted from refinery fuel combustion and burning more of the same fuels will increase those emissions. These impacts to water quality from increased refinery air emissions are not analyzed in the DEIR and are not addressed by the current Total Maximum Daily Loads (TMDLs), standards set by the San Francisco Bay Regional Water Quality Control Board. The TMDLs do not require control of refinery air emissions.

The DEIR should include disposal methods of the chloramines filters and information about points of discharge into the creeks from the hydrostatic testing of the pipes. The DEIR states that 727,200 gallons maximum total of construction water (EBMUD water) used for hydrostatic testing of pipes will be filtered of chloramines and chlorine residuals and discharged into the waterways. It also states that because of its acute toxicity to aquatic organisms and persistence, the standard for residual chlorine is 0.0 mg per liter. The DEIR does not state what the filters are or disposal methods, and points of discharge to adjacent surface waters. San Francisco Bay Regional Water Quality Control Board lists Wildcat Creek, San Pablo Creek, Rodeo, and Pinole Creek as impaired on the 2006 Clean Water Act Section 303(d) List for diazinon.[11] Because the water used for hydrostatic testing needs to be monitored, the DEIR should mention the points of discharge into the waterways.

[9] San Francisco Estuary Institute, (SFEI). 2008. The Pulse of the Estuary: Monitoring and Managing Water Quality in the San Francisco Estuary. SFEI Contribution 559. San Francisco Estuary Institute, Oakland, CA.

[10] See August 2009 Expert Report of Greg Karras regarding the Contra Costa Pipeline Project DEIR.

[11] Accessed on June 25, 2009 from http://www.waterboards.ca.gov/water_issues/programs/tmdl/docs/303dlists2006/epa/state_usepa_combined.pdf

SWPPP

The Storm Water Pollution Prevention Plan (SWPPP) is incomplete and cannot be properly evaluated. The section on Earthwork and Grading is incomplete; specifics were left out until they hire a contractor and develop construction plans. The Attachments, in particular, Attachment E – the BMP checklist includes erosion control and sediment control measures – is missing.[12] I did not have access to the attachments C through Q of the SWPPP from the Web, [13] nor was it in the hardcopy submitted to CBE and therefore cannot comment on these sections. On page 3-2, its says, "Potential mitigation for project impacts will be described in the CWA Section 404 and Rivers and Harbors Act Section 10 permit application." The evaluation of mitigations should be discerned in the public review process of the EIR. The Construction Activity Schedule is incomplete. The duration to construct each segment has an impact to wildlife and to the public.

The DEIR fails to outline the possible impacts to water quality, wildlife and to construction workers concerning the use of bentonite in drilling processes. Acute exposure to bentonite, being largely made from silica compounds, has health effects. It is an eye, skin and lung irritant. Potential Chronic Health Effects include hazardous in case of inhalation. Concerning drainage, the DEIR does not answer concerns over the potential for overflowing of existing storm water drainage systems during construction activities and does not specify if the storm water would get treated before flowing to the Bay.

The DEIR should include hiring a third-party biologist to conduct a pre-and post-construction comparisons and monitor conditions for habitat, vegetation recovery, and water quality at all crossings as mitigation measures. Reports should be submitted to county and made publicly available.

Subsistence fishing issues

The DEIR fails to address the impacts to subsistence anglers. A 2001 survey by Ma'at Youth Academy graduates of 132 anglers fishing in the Richmond Harbor and the San Pablo Reservoir revealed 70% were Asian, African American and Latino with households 6 or fewer and with almost half with children ages 5 or younger and 73% routinely caught Bay fish consumption continue to do so in highly contaminated areas. [14] This builds upon previous peer-reviewed work that also shows Bay Area subsistence anglers are disparately and highly exposed to dioxins accumulated in Bay food webs released from local industrial plants despite the use of pollution control technology, such as in cracking and reforming processes at petroleum refineries (Karras, 2001. Attachment 1). From an ecological perspective, an analysis of water quality impacts from this hydrogen pipeline project would relate to the root cause of exposure to dioxins, which is the increased capacity occurring at the Chevron, ConocoPhillips and Shell refineries.

[12] Failed to access Attachments C through Q of SWPPP on August 20, 2009 at http://cocoplans.org/CCPipelineProject/Appendix%20B_SWPPP_May2009.pdf

[13] Special Projects site for the Contra Costa County Department of Conservation & Development accessed on July 1, 2009 at http://www.cocoplans.org/

[14] Ma'at Youth Academy. 2005. Something Fishy. Accessed on August 8, 2009 at http://www.maatya.org/somethingfishy.html

Conclusion

The DEIR should be recirculated and amended. The DEIR fails to provide complete information in order for the public to adequately evaluate the potential environmental impacts, particularly to water quality. Providing information and documentation is necessary for confidence in environmental review and it is a public access and participation issue. Furthermore, this evaluation cannot proceed without the context of the changes occurring at the Chevron, ConocoPhillips and Shell Refineries. Fence-line low-income communities of color bear a disproportionate burden of the emissions and discharges from industrial and domestic activities, exposures, and risk from pollution. Fence-line communities have consistently voiced concerns about both the health impacts and the need for green jobs from refineries for decades.[15] The public should be given all contexts to this pipeline project and the opportunity to comment on its entirety to adequately evaluate the environmental impacts. These concerns of the worker and community health and environmental impacts merit higher scrutiny of this proposed project.

Regards,

Anna Yun Lee
Staff Researcher/ Scientist
Communities for a Better Environment

Attachment 1: Karras, G. 2001. Dioxin Pollution Prevention Inventory for the San Francisco Bay. American Chemical Society.

[15] Ana Orozco, Torm Nompraseurt and Dr. Henry Clark. August 8, 2009. "The Problem with Chevron in Richmond." Bay Area News Group. Accessed on August 18, 2009 from http://www.insidebayarea.com/opinion/ci_13016588