

To: The Honorable Board of Supervisors of Ventura County

From: Steven Colome, Sc.D., in support of the Citizens for Responsible Oil and Gas (CFROG)

RE: October 20, 2015 De Novo Appeal Hearing of the Planning Director's February 17, 2015 approval of minor modification of CUP 3344 (Case No.PL 13-0150)

The following statement addresses the inadequate and unsupported EIR addendum, and the lack of any other defensible evidence provided to date by the Planning Division with respect to Greenhouse Gases (GHG) and air quality impacts. The Planning Division has not justified its general summary statements and conclusions regarding GHG and other air emissions from the proposed CUP modification and its 30-year extension.

A. Planning has presented no defensible analysis of GHG emissions or impacts

1. The only analysis of GHG presented by the Planning Department (PD) is from the ***MND Addendum Mirada LU-11-0041, March 2012 Page 102 Director Pillhart February 17,2015 letter***. This faulty, out-of-date and incomplete analysis by the Planning Division was reviewed in Exhibit 27 and in presentation at the June 11, 2015 Planning Commission Hearing.

Errors in the Planning Division's in-house GHG analysis are serious and are not normally expected from a professional organization. The frank errors in the PD analysis include:

- Use of an outdated Global Warming Potential (GWP) multiplier for methane emissions.
- Failure to review and analyze short-term (<20 years) GWP of methane based on recent scientific evidence indicating a much higher GWP for

methane given its shorter atmospheric half-life in relation to carbon dioxide.

- Confusion and substitution by PD between metric and short tons, an elementary error not expected from a professional organization that should have the scientific and engineering expertise to catch and correct such errors.
- Use of default emission factor for methane that has been proven to frequently underestimate emissions in the field and is based on the unproven and unlikely assumption that all wells and leak sources are continuously in compliance.
- Use of a crude rule-of-thumb relation between volatile organic emissions and methane; an assumption that is unsupported in the record by data or analysis and is subject to substantial variability and error.
- Typographical errors that were propagated through several report iterations that imply either ignorance of basic chemistry or lack of simple and expected review and editing on the part of PD.

2. On page 11 of the PD letter to the Board of Supervisors for this hearing the PD defends its GHG position with the following statement:

"The VCAPCD did not identify any new significant impacts. The evaluation of GHG included in the EIR Addendum concludes that project-related emissions will be far below any threshold of significance for GHG emissions adopted by any air district in the state of California."

The problem with this unsupported statement is that:

- There is no analysis or report containing assumptions and calculations from the VCAPCD provided in the record to support this assertion.
- There is no indication in the PD statement of who within the VCAPCD was responsible for this conclusion. In the absence of a written study

and analysis with attribution there is no way to evaluate or verify the conclusion.

- There is no indication that this statement represents the official position of the VCAPCD.
- The VCAPCD does not monitor directly for GHG emissions nor does it have regulatory authority at this time for control of GHG.
- Statewide, thresholds of significance for GHG are still under evaluation and are not a settled matter.
- According to the VCAPCD:
<http://www.vcapcd.org/pubs/Planning/GHGThresholdReportRevised.pdf>:
"Unless directed otherwise, District staff will continue to evaluate and develop suitable interim GHG threshold options for Ventura County with preference for GHG threshold consistency with the South Coast AQMD and the SCAG region."

SCAQMD has continued to operate under interim guidelines and evaluates CEQA compliance on a case-by-case basis while encouraging CARB to develop state-wide thresholds.

- PD's reference to existing thresholds of significance has no meaning since CARB and CAPCOA are still in the process of determining levels of significance for CEQA and best practices for quantifying and mitigating GHG emissions.
- Frank errors in the PD's flawed GHG analysis (see Exhibit 27) indicate that the proposed CRC project alone could emit 15,000 tonnes/year of carbon dioxide equivalents, surpassing most interim GHG thresholds of significance.
- Logically, the GHG impacts of this project do not stop at the boundary of CRC's CUP; those impacts extend to the adjacent Hamp Lease that will experience higher GHG emissions from increased throughput. GHG

impacts include the total emission from pipeline and processing leaks, and ultimately the combustion of the gaseous and liquid products. These emissions cumulatively exceed any proposed threshold of significance and need to be evaluated through a competent technical study and mitigated by the lead agency.

- The general statement in the PD letter to the Board of Supervisors for this hearing does not constitute a reliable determination that there are no significant GHG impacts from the proposed project.

B. Earlier EIRs cited by Planning Department do not constitute adequate study of GHG or air quality impacts

On page 8 of the PD letter to the Board of Supervisors for this hearing the PD states:

"The 1978 and 1984 EIRs together comprise the certified EIR to the subject oil and gas facility."

The problem with this statement is that GHG emissions were not subject to CEQA review at that time. While GHG potential of carbon dioxide was recognized in the scientific community, there was little regulatory attention to GHG prior to the late 1980s and 1990s.

The EIR Addendum (Exhibit 4d) also does not address these deficiencies.

Substantial new information and scientific understanding has also been developed since 1984 regarding air pollution emissions from oil and gas development, including HAPs and cancer-causing chemicals.

C. Recent instrumentation developments would allow the VCAPCD to make direct measures of methane, carbon dioxide, and air toxics

Instead of relying on crude and inaccurate rules-of-thumb to estimate methane emissions as a fraction of total hydrocarbon emissions, methods currently exist for direct and accurate measurements in the field.

The rules-of-thumb do not constitute an adequate or accurate evaluation of potential environmental impacts.

Recently developed Greenhouse Gas Analyzers directly read out concentrations of methane and CO₂:

<http://www.lgrinc.com/analyzers/ultraportable-greenhouse-gas-analyzer/>

http://www.picarro.com/products_solutions/trace_gas_analyzers/co_co2_ch4_h2o

Passive fence-line monitoring of benzene is now available using low-cost time-averaged passive monitors:

<http://www.tandfonline.com/doi/abs/10.3155/1047-3289.61.8.834>

This is particularly relevant for detecting leak potential between times when private or public inspections of a facility are conducted. Early detection of leaks would reduce fugitive emissions of toxic chemicals into the sensitive site environment.

EPA has recently promulgated a fence-line refinery monitoring requirement (9-29-2015) for time-averaged benzene concentrations to better protect and detect fugitive emissions:

<http://yosemite.epa.gov/opa/admpress.nsf/0/D12EDC1C383ADF0385257ECF005B96B6>

These methods should be proactively utilized by VC to provide the types of information and background data necessary to accurately evaluate environmental exposures.

D. Imprudence of extending the proposed CUP for another thirty years

Understanding of the environmental and health impacts of oil and gas production is developing rapidly, as is the practice of exploration. The Board of Supervisors should carefully consider the implications of another long-term CUP extension.

In thirty years we will be in 2045.

- In 2005 Governor Schwarzenegger issued Executive Order S-3-05 which called for reducing GHG emissions to 1990 levels by 2020 and to 80% below 1990 levels by 2050.
- April of this year Governor Brown issued Executive Order B-30-15 to provide an interim target of reducing GHG emissions to 40% below 1990 levels by 2030.

To meet these important and ambitious goals all lead agencies must take their responsibilities seriously and need to carefully, thoroughly and honestly evaluate the potential impact of policies and permits and make extraordinary efforts to mitigate the impacts of agency decisions and permitted projects.

Recommendation to the Board of Supervisors

The Planning Department has failed to accurately, competently or thoroughly evaluate the Greenhouse Gas or other potential air quality impacts of the proposed project. The Department has failed to evaluate the project's potential cumulative impacts and downstream emissions.

A substantial portion of my professional career has been spent in advising various public agencies at the federal, local, state and international levels on the assessment and mitigation of public health and environmental impacts.

In all my experience I have never encountered a public agency so inclined to look the other way and give the oil and gas industry, which the agency has been entrusted by the public to regulate, a free pass. I do not take this indictment lightly, in my opinion and observation the Ventura County Planning Division is acting more like an adjunct and advocate for the industry, and the Department is therefore abdicating its responsibility as a protector of the public's interest.

It is time for the County to enter the 21st Century and face up to the need to update and inform the Board of Supervisors and other decision-makers in the lead agency the environmental impacts of this and similar projects. Reliance on thirty year old technical studies and a superficial EIR Addendum do not constitute proper environmental review.

It is time for a full technical study and new EIR. Creative and cost-effective mitigations will almost certainly be revealed in the process. That, in the end, is the objective and goal of CEQA.

(See Addendum on Page 8)

ADDENDUM---October 19, 2015 19:00

We have just received the 10/19/2015 Memorandum from APCO Michael Villegas to Brian Bacca. Mr. Villegas' memo refers to an industry-commissioned report written by InterAct that has apparently not been made available to the public; we have therefore not had an opportunity to review and validate the report's analysis.

As in our comments above, Mr. Villegas confirms that GHG emissions have not been measured at the CRC facility, and that GHG is inferred based on a general rule-of-thumb (subject to considerable error and variability) from an assumed ratio of methane to ROG. The reason for this indirect assessment is that the VCAPCD does not have direct regulatory responsibility for GHG and should not be expected to be in a position to conduct a thorough GHG analysis.

We appreciate that the VCAPCD recognizes the error we identified earlier in the PD's use of an outdated Global Warming Potential (GWP) for methane gas at the February 17, 2015 Planning Commission Hearing. In that hearing the PD underestimated the 100-year GWP of methane, compared with the current CARB scalar factor, by approximately 20%. Mr. Villegas also correctly identifies that the most recent IPCC report assigns a GWP of methane at 34 times CO₂ when assessed over a 100 year time frame, making the PD's original GWP factor in error by more than 60%.

Where we part ways with Mr. Villegas is his recommendation to apply the GWP factor of 25 to this CUP. The reason for our disagreement is that this value is not consistent with the current science and agencies are currently reviewing these factors; it is only a matter of time before the agencies adjust factors to comport with the established science.

More significant is that the 100-year GWP comparison is not appropriate given the atmospheric residence time of methane, which is approximately 10 years. Based on a 10-20 year time frame, methane has 80-100 times the GHG potential of CO₂. The reason this is relevant is that it is becoming clear we may need greater control of GHG in the near-term, and methane will take an increasingly important role as the need for GHG control increases.

Without access to the InterAct report and VCAPCD analysis, referred to in the Villegas memo, we cannot independently verify the conclusion in the memo. In the absence of a formal threshold of significance, any conclusion regarding GHG significance of the CRC project is unsupported.

VC should be looking forward and not in the rear-view mirror. These issues clearly need to be vetted and evaluated in a full EIR.