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Lamont Thompson, Senior Planner
City of Richmond
Planning and Building Regulations Department
1401 Marina Way South
Richmond, CA 94804

RE: Chevron Energy and Hydrogen Renewal Project

Dear Mr. Thompson:

As you know, Chevron must obtain permits from at least three separate permitting agencies: The Bay Area Air Quality Management District (BAAQMD), the California Energy Commission (CEC), and the City of Richmond for its Energy and Hydrogen Renewal Project (Project). The Attorney General's Office is reviewing the information submitted by Chevron to those agencies in support of various aspects of its Project.[1] Based on our preliminary review of the documents and information submitted by Chevron to the City, the BAAQMD, and the CEC, it appears that Chevron has provided incomplete and inconsistent material information to the different permitting agencies, which raises questions about the parameters of the project and its environmental impacts. Based on these apparent data gaps and inconsistencies, we renew our request that the City seek the relevant and definitive information from Chevron before making any determination on the permit or the environmental impact report.

I. Chevron failed to submit basic information about its Project, and has repeatedly revised the information submitted precluding a clear and fixed picture of the Project and its impacts.

Criteria Air Pollutant Emissions

It is fundamental to the permitting process that the decision-making agencies have a consistent and fixed understanding of the air pollution emissions information. Yet, the emissions

[1]The documents submitted by Chevron to the various agencies are complex and confusing, and our review is on-going. However, because of the potentially short time frame for the City's permitting decisions to be made, we submit this letter now.

estimates for this Project are a moving target. Chevron has submitted more than twenty (20) revisions of the emission estimates since its initial application to the BAAQMD in June 2005.[2] Even when it appeared that Chevron had submitted its "final" criteria pollutant estimates for the Project for CEQA purposes on 9/11/07[3], Chevron again may be revising its emission estimates to the BAAQMD through various documents such as draft permit conditions and its responses to questions from the BAAQMD.[4] Because Chevron has not committed to a fixed emissions estimate for the Project, the reviewing agencies are not in a position to determine the parameters of the Project or its environmental impact. Not only has Chevron failed to provide the agencies the information needed to adequately review the Project, it has also given inconsistent information to the three agencies (see Section II below.)

Cooling Tower for Co-Gen

In August, 2007, Chevron confirmed to the BAAQMD that it would not build a cooling tower for the cogeneration plant.[5] Previously, Chevron stated its intention to build the cooling tower, in its CEC permit application, in the DEIR, and in the BAAQMD application process. DEIR at 1-2; CEC application at 2-2, 2-3, 2-4. BAAQMD, Preliminary Draft Permit Conditions, Chevron Version 6, 4/2/07. If, as it now states to the BAAQMD, Chevron will not proceed with the cooling tower, this is another material change to the Project that may affect the evaluation of environmental impacts, including energy usage and emissions. Moreover, this latest change has not been incorporated in any environmental review document subjected to public review as required by CEQA because it was made after the various environmental documents were disseminated to the public.

Project Specifications to BAAQMD Continue to Change

As of at least February, 2007, Chevron was still submitting data forms to BAAQMD,

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[2] Chevron's Attachment 1, Response Set #3 to August 9, 2007 BAAQMD e-mail, Request #39.

[3] 9/11/07 e-mail from Barry Young (BAAQMD) to Lamont Thompson (City of Richmond) and Chuck Bennett.

[4]The responses and draft permit conditions submitted by Chevron since 9/11/07 are difficult to decipher and are not likely to be readily understood by members of the public. We are not entirely clear on the meaning of the most recent Chevron submissions but they appear to indicate changes in the emission estimates. At the very least, Chevron's current view of the Project's emissions needs to be explicitly and clearly set forth.

[5]See Chevron's Response, Attachment 1, Response Set #1 to August 9, 2007 BAAQMD Questions on Chevron Richmond Refinery Renewal Project #22.

changing basic engineering design, long after it submitted its initial permit application.[6] The initial permit application, of course, should have included the final design and emissions information. Data forms contain important information detailing how the various components of the Project will actually operate. For instance, the make, model, and rated capacity of the equipment, the total throughput in the last 12 months, the maximum operating rate, the operating times, the emission factors for criteria pollutants, the type and amount of fuel that the equipment will use, including its sulfur content, and abatement devices are just some of the information required in the data form. Without the final data form information, it is unlikely that the BAAQMD can adequately assess the impact of the Project. It is also likely that Chevron did not provide equivalent final information for the City's review. The changing information on the data forms creates a moving target and each appears to present a different project. It also raises a question as to whether the data forms and emission estimates are consistent with each other because they both continue to change. At this point, we cannot determine which project is before the BAAQMD and the City.

Incomplete Information to BAAQMD

As of August, 2007, more than 2 years after Chevron submitted its initial application, one agency, the BAAQMD, was still struggling to obtain basic information about the Project from Chevron to process Chevron's application as evidenced by forty three questions it posed to Chevron including, but not limited to the following[7]:

a. Revised flare emission calculations for all criteria pollutants for the hydrogen plant;
b. Updated count of new and replaced fugitive components because Chevron changed its emissions estimate submitted on 7/31/07;
c. Confirmation that the firing rates on the data forms are the maximum firing rates;
d. Specification of emission factors/methodology for flare emissions estimates to demonstrate compliance with permit condition;
e. Sulfuric acid mist emissions annual and maximum hourly calculations;
f. Baseline and permit to potential emission levels and vendor guarantee for criteria air pollutants for the stack heaters on the sulfur recovery units;
g. Confirmation that the Cogen Cooling tower has been removed from the Project;
h. The proper emission factor for baseline combustion emissions for RLOP sources;
i. Explanations for changes in the VOC estimates for the existing H2 plant (#37), power plant furnaces (#38), cogen unit (#39), #4 and #5 Rheniformers (#40), CCRR furnaces (#41), S-4253 TKC (#42), TKC Recycle Amine Contactor (#43),
j. Supporting documentation needed to estimate emissions such as throughput data, emission factors, CEM data, and maximum and annual average flow rates;

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[6] 2/22/07 e-mail from Brian Lusher (BAAQMD) to Robert Johnston (Chevron).

[7] 8/9/07 e-mail from Barry Young (BAAQMD) to Bob Chamberlin (Chevron).

k. The maximum benzene concentration used for the fugitive emissions calculation.

The sought-after information is fundamental and potentially significant for emission estimates for the Project. For example, depending on how just one of the forty three questions is resolved, (the proper emission factor for baseline combustion emissions for RLOP sources), the emissions estimate for VOCs could vary by almost 20 tons per year.[8] Chevron is seeking to use an "offset factor" that is almost twice as much as allowable by its current permit condition.[9] The significance of the use of this new "offset factor" is that Chevron would receive an additional offset credit of almost 20 tons per year of VOC emissions for the Project. This 20 ton difference in VOC emission estimates is potentially the difference between being below or above the significance threshold for VOCs under BAAQMD's CEQA Guidelines 1999 . If VOC emissions are above the significance threshold of 15 tons per year, the air quality impacts of the Project would be considered significant and mitigation measures would be required. Even if the 20 ton difference did not determine whether VOCs exceeded the significance threshold, it potentially means that Chevron would be allowed to emit 20 more tons of VOC emissions a year.

Because information regarding the actual emissions from the Project remains in flux, it appears that this information, which is similarly absent from the City's DEIR for the Project, has never been properly subjected to environmental review.

II. Chevron Provided Inconsistent Emissions Information to the Three Reviewing Agencies.

VOC Emissions from Storage Tanks

In its application to BAAQMD, Chevron omits reporting the emissions from new storage tanks, which are part of the Project. In the City's DEIR, Chevron concedes that VOC emissions from the same storage tanks will cause Chevron to exceed the significance threshold for VOCs. ("The total Proposed Project VOC fugitive emissions are estimate [sic] to increase by amounts greater than BAAQMD significance thresholds, primarily due to the proposed new and replacement tank component. . . This impact would be significant. ") DEIR at 4.3-33-4.3-36. Chevron acknowledges reporting inconsistent information to the different agencies – apparently believing that because the information was addressed in the DEIR, it need not be addressed by the BAAQMD. The information, however, is clearly relevant to both agencies, each with permitting authority directly applicable to the issue. At the very least, the inconsistencies have the effect of obscuring the parameters and impacts.

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[8] 8/13/07 e-mail from Bob Chamberlin (Chevron) to Greg Solomon (BAAQMD) and Lusher (BAAQMD).

[9] 8/9/07 e-mail from Barry Young (BAAQMD) to Bob Chamberlin (Chevron), Item #27.

Type of Fuel

Chevron provides inconsistent information about the type of fuel that will be used in the proposed power plant. According to the DEIR, Chevron states that the gas turbine will burn natural gas, medium-BTU natural gas, or LPG and that the duct burner will fire refinery fuel gas. DEIR at 3-32. The BAAQMD 6/7/07 draft permit, however, indicates that either natural gas or LPG can be fired in either unit. See Draft Permit, Condition 43. The CEC application indicates first that the turbine will fire natural gas or liquid petroleum gas (butane). SPPE Ap. at 1-1. These differences appear to be significant because the type of fuel used has an impact on the Project's likely emissions. Fox 7/9/07 comments at 11.

Inaccurate Representations in the DEIR

Chevron states in the DEIR that its emissions estimates, including assumptions, methodology, and calculations were peer reviewed, and that both the BAAQMD and the City's consultant (Environmental Science Associates) concurred with the assumptions, methodology and calculations. DEIR at 4.3-24. In fact, Chevron submitted over twenty (20) emissions estimates to the BAAQMD, and the BAAQMD apparently did not accept Chevron's emission estimates as final until at the earliest, September 11, 2007, (and Chevron has revised the estimates again since then), therefore it appears impossible for the BAAQMD to have concurred in the DEIR calculations as was asserted in the DEIR.

III. Evidence that the Project's Emissions Profile Continue to Change

The following charts, which are based on our review of the submissions to the three agencies, summarizes Chevron's inconsistent statements concerning new and net emissions.

a. New Emissions

The charts show that in its initial application to BAAQMD, Chevron estimated that new NOx emissions for the power plant project would be 100.24 tons per year; in the CEC application, Chevron estimated the same NOx emissions would be only 33.7 tons per year, one third the original estimate. Equally significant, the DEIR does not provide new emissions estimates for NOx at all, only net emissions (the difference between emissions for old operations and new operations).[10] (For additional inconsistencies in emission estimates, see Exhibit 1, Charts for New Emissions.)

b. Net Emissions

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[10]NOx emissions may be detailed in the appendix to the DEIR, but the appendix is not publically available on the City's website.

The *net* emissions for the four components of the Project also changed over time and were sometimes inconsistent among the three agencies. For example:

Proposed Hydrogen Plant *Net* CO emissions estimate (tons per year):

June 2005 Application to BAAQMD:	-24.78
May 2007 DEIR:	61.1
June 2007 CEC application:	49.59
Revision 18 and 19 to BAAQMD:	61.1
Revision 21 to BAAQMD:	49.49

Proposed Power Plant *Net* VOC emissions estimate (tpy):

June 2005 Application to BAAQMD:	19.86
May 2007 DEIR:	.9
June 2007 CEC application:	1.02
Revision 18 and 19 to BAAQMD:	.93
Revision 21 to BAAQMD:	1.02

Proposed Hydrogen Purity Component *Net* NOx emissions estimate (tpy):

June 2005 Application to BAAQMD:	11.91
May 2007 DEIR:	-3.7
June 2007 CEC application:	n/a
Revision 18 and 19 to BAAQMD:	-3.71
Revision 21 to BAAQMD:	5.42

<u>Proposed Reformer Replacement *Net* PM emissions estimate</u> (tpy):

June 2005 Application to BAAQMD:	3.7 tpy
May 2007 DEIR:	6.7
June 2007 CEC application:	n/a
Revision 18 and 19 to BAAQMD:	6.71 (Rev 18); 1.05 (Rev 19)
Revision 21 to BAAQMD:	1.05

(For additional inconsistencies in emission estimates, see Exhibit 2, Charts for Net Emissions.)

Given the importance of having accurate and consistent information about the expected emissions from the Project, any permitting decision seems premature until consistent emissions data is provided to all three agencies and to the public. If our on-going review of material submitted to the three different agencies raises additional issues, we will likely contact you again. We continue to believe that the EIR should be rejected and re-written when full information is available, and the entire document revised.

Thank you for your consideration.

Sincerely,

ROSE B. FUA
Deputy Attorney General

For EDMUND G. BROWN JR.
Attorney General

cc: Bill Lindsay, City Manager, City of Richmond
Barry Young, Manager Permit Evaluation, BAAQMD
Mary Dyas, Project Manager, CEC

EXHIBIT 1

PROPOSED POWER PLANT
NEW EMISSIONS (tons per year)

	NOx	SOx	CO	PM	VOC
6/05 Application to BAAQMD	100.24	0	61.01	24.79	41.10
9/15/06 Response to BAAQMD Incomplete Letter	80.09	0	48.75	19.81	34.34
2/26/07 Response to BAAQMD Incomplete Letter	41.03	0	33.02	28.2	10.8
5/07 DEIR	Not provided only net emissions	Not Provided	Not Provided	Not Provided	Not Provided
6/07 CEC Application New Emissions	33.7	1.7 (SO2)	32.9	47.3 (PM 10)	9.5
Response to 8/9/07 BAAQMD Questions	33.1	1.67	33.02	27.5	10.8

PROPOSED HYDROGEN PURITY IMPROVEMENTS
NEW EMISSIONS (tons per year)

	NOx	SOx	CO	PM	VOC
6/05 Application to BAAQMD	64.59	81.85	369.04	9.08	9.66
9/15/06 Response to BAAQMD Incomplete Letter	64.40	83.67	264.35	3.12	9.44
2/26/07 Response to BAAQMD Incomplete Letter	31.71	83.61	246.81	4.07	5.89
5/07 DEIR	Not provided only net emissions	Not Provided	Not Provided	Not Provided	Not Provided

PROPOSED HYDROGEN PLANT
NEW EMISSIONS (tons per year)

	NOx	SOx	CO	PM	VOC
6/05 Application to BAAQMD	43.47	41.24	52.04	40.16	36.23
9/15/06 Response to BAAQMD Incomplete Letter	51.45	44.53	61.75	18.94	40.54
2/26/07 Response to BAAQMD Incomplete Letter	61.77	49.98	104.46	29.53	42.48
5/07 DEIR	not provided	not provided	not provided	not provided	not provided
6/07 Response to CEC consultant data request	64.88	50.57	91.51	22.95	35.11

PROPOSED REFORMER REPLACEMENT
NEW EMISSIONS (tons per year)

	NOx	SOx	CO	PM	VOC
6/05 Application to BAAQMD	16.47	0.00	20.05	15.15	14.09
9/15/06 Response to BAAQMD Incomplete Letter	16.47	4.51	20.05	5.05	14.09
2/26/07 Response to BAAQMD Incomplete Letter	19.47	3.00	27.55	20.34	21.66
5/07 DEIR	Not Provided only net emissions	Not Provided	Not Provided	Not Provided	Not Provided

EXHIBIT 2

PROPOSED POWER PLANT
NET EMISSIONS (tons per year)

	NOx	SOx	CO	PM	VOC
6/05 Application to BAAQMD	-66.49	0	-12.63	-11.08	19.86
9/15/06 Response to BAAQMD Incomplete Letter	-87.4	0	-22.22	19.81	3.26
2/26/07 Response to BAAQMD Incomplete Letter	-11.8	0	30.22	14.84	.93
5/07 DEIR	-13.5	1.7	30.2	14.8	.9
6/07 CEC Application Net Emissions	-13.52	1.67	30.22	14.14	1.02
Revision 18 to BAAQMD	-13.52	1.67	30.22	14.84	.93
Revision 19 to BAAQMD	-13.52	1.67	30.22	14.14	.93
Revision 21 (1 of 3)	-13.52	1.67	30.22	14.14	1.02
Revision 21 (2 of 3)	-13.52	1.67	30.22	14.14	1.02
Revision 21 (3 of 3)	-13.52	1.67	30.22	14.14	1.02

PROPOSED HYDROGEN PURITY IMPROVEMENTS
NET EMISSIONS (tons per year)

	NOx	SOx	CO	PM	VOC
6/05 Application to BAAQMD	11.91	28.85	105.48	4.91	7.56
9/15/06 Response to BAAQMD Incomplete Letter	9.1	26.02	-10.17	1.62	7.28
2/26/07 Response to BAAQMD Incomplete Letter	3.71	25.97	-17.95	3.25	5.36
5/07 DEIR	-3.7	26	-17.1	3.2	5.4
Revision 18 to BAAQMD	-3.71	25.97	-17.05	3.23	5.36
Revision 19 to BAAQMD	-3.71	25.97	-15.09	5.94	5.53
Revision 21 (1 of 3)	5.42	25.97	-18.25	-2.46	6.20
Revision 21 (2 of 3)	5.42	25.97	-18.25	-.58	6.20
Revision 21 (3 of 3)	5.42	25.97	-18.25	-20.61	6.20

PROPOSED HYDROGEN PLANT
NET EMISSIONS (tons per year)

	NOx	SOx	CO	PM	VOC
6/05 Application to BAAQMD	-26.8	-48.7	-24.78	13.9	-.1
9/15/06 Response to BAAQMD Incomplete Letter	-22.09	-58.14	-17	7.96	8.95
2/26/07 Response to BAAQMD Incomplete Letter	-11.77	-52.41	61.10	-12.74	-2.1-
5/07 DEIR	-10.4	-52.4	61.1	-12.7	-2.1
6/07 CEC Application Net Emissions	-7.33	-51.81	49.59	-19.33	-0.57
Revision 18 to BAAQMD	-10.43	-52.41	61.10	-12.74	-2.10
Revision 19 to BAAQMD	-10.43	-51.81	61.10	-12.74	-2.10
Revision 21 (1 of 3)	-7.33	-51.81	49.59	-19.33	-0.57
Revision 21 (2 of 3)	-7.64	-51.81	49.59	-13.42	2.22
Revision 21 (3 of 3)	-7.33	-51.81	49.59	-19.33	-0.57

PROPOSED REFORMER REPLACEMENT
NET EMISSIONS (tons per year)

	NOx	SOx	CO	PM	VOC
6/05 Application to BAAQMD	-46.93	0	-13.45	3.7	-4.9
9/15/06 Response to BAAQMD Incomplete Letter	-50.64	1.82	-18.13	.93	-7.51
2/26/07 Response to BAAQMD Incomplete Letter	-47.67	2.95	19.61	4.93	4.64
5/07 DEIR	-46.2	3	21.4	6.7	5.9
Revision 18 to BAAQMD	-46.22	2.95	21.37	6.71	5.93
Revision 19 to BAAQMD	-52.04	1.75	15.75	1.05	.63
Revision 21 (1 of 3)	-52.04	1.75	15.75	1.05	.66
Revision 21 (2 of 3)	-52.04	1.75	15.75	1.05	.66
Revision 21 (3 of 3)	-52.04	1.75	15.75	1.05	.66