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DOCKET	
08-AFC-8	
DATE	FEB 07 2011
RECD.	FEB 07 2011

February 7, 2011

VIA FEDEX

Ms. Melissa Jones
Executive Director
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814

**Re: Hydrogen Energy California Power Plant (08-AFC-8)
Submittal of Non-Confidential Data Related to Occidental of Elk Hills, Inc.,
Enhanced Oil Recovery**

Dear Ms. Jones:

Hydrogen Energy California LLC ("Applicant") previously responded to Staff's Data Request No. 181. Data Request No. 181 pertained primarily to the Occidental of Elk Hills, Inc. ("Oxy") enhanced oil recovery project ("EOR Project"), and Applicant relied on Oxy for the response. Given the nature of certain of the information contained in the response, Applicant, on its own behalf and on behalf of Oxy, requested that the response be maintained as confidential. The basis for the request was fully set forth in Applicant's letter to you dated December 16, 2010, Docket Log No. 59304. The request was granted by letter dated January 14, 2011, Docket Log No. 59509.

Staff recently queried whether it could publicly disclose certain data within the response to Data Request No. 181 as part of its analysis. To help facilitate and expedite Staff's analysis, it was determined that the Applicant would submit non-confidential data related to Oxy's EOR activities that will address Staff's recent request and data needs. Accordingly, attached as Exhibit 1 to this letter, the Applicant is submitting to Staff, by copy of this letter, non-confidential data about Oxy's EOR activities that Staff may publicly disclose as part of its analysis. The submittal of the non-confidential Oxy EOR data allows Staff to complete its analysis without disclosing the confidential response to Data Request No. 181.

In addition to transmitting the requested information to Staff, the purpose of this letter is to confirm that preparation and submittal of the non-confidential Oxy EOR data contained in

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Exhibit 1, and its anticipated disclosure by Staff, does not alter the confidential nature of the response to Data Request No. 181. The response to Data Request No. 181 remains confidential pursuant to Gov. Code § 6254(k) and Gov. Code § 6254.15. Preparation and submittal of the non-confidential Oxy EOR data contained in Exhibit 1 does not constitute a waiver by the Applicant or Oxy of the confidential status of the previous response to Data Request No. 181, or permit public disclosure of any part of the previous response.

Thank you for your attention to this matter. Please let me know if you have any questions.

Best regards,



Michael Carroll
of LATHAM & WATKINS LLP

Enclosure

cc: Will Walters, CEC
Gregory Skannal, HECA LLC
Asteghik Khajetoorians, HECA LLC
Dale Shileikis, URS Corporation
Elliott Heide, Oxy

EXHIBIT 1



Occidental of Elk Hills, Inc

Attachment-181

**Greenhouse Gas Emissions
Resulting from the Occidental of Elk Hills, Inc.
Enhanced Oil Recovery (EOR) Process**

December 2010

**Occidental of Elk Hills, Inc. Response to
California Energy Commission Set Three Data Request No. 181
For the Hydrogen Energy California Project (08-AFC-8)**

Response to Set Three Data Request No. 181 for the HECA Project (08-AFC-8)

#181 Please provide an estimate, with all assumptions and calculations provided in electronic form (editable Excel spreadsheet), of the EOR processes greenhouse gas emissions and electricity consumption that includes the following:

- a. The direct annual CO₂ and CO₂E emissions from the EOR facility heaters and other fuel fired equipment.

Response: Upon full build-out, the facilities associated with the Oxy CO₂ EOR Project ("EOR Project") will include a Central Tank Battery (CTB), a gas Reinjection Compression Facility (RCF) and a CO₂ Recovery Plant (CRP). The preliminary design of the EOR Project facilities is underway. The combustion equipment included in the preliminary design and the greenhouse gas (GHG) emissions resulting from the operation of the equipment is summarized below:

Table-a.1
Greenhouse Gas Emissions from Combustion Equipment

Equipment Description and Process Information	Annual Heat Input (MMBtu/Yr)/1000	Carbon Dioxide CO ₂ e Tonne/Year	Methane CH ₄ as CO ₂ e Tonne/Year	Nitrous Oxide N ₂ O as CO ₂ e Tonne/Year
CO ₂ Injection Heater	525.600	27,788.47	9.93	16.29
Regen Gas Heater	87.600	4,631.41	1.66	2.72
TEG Reboiler	43.800	2,315.71	0.83	1.36
Amine Unit	8.760	463.14	0.17	0.27
Fire Pump Engine (175 Hp) X2	0.031	2.23	0.00	0.00
CTB – Flare (Pilot + Purge)	21.444	1,133.77	0.41	0.66
RCP – Flare (Pilot + Purge)	21.444	1,133.77	0.41	0.66
GHG Emissions from the Reasonably Foreseeable Use of the "Emergency Use Only Flares"				
CTB – Flare (Emergency Use)	21.32	4,443.70	0.40	0.66
RCF – Flare (Emergency Use)	21.32	4,131.07	0.40	0.66
Constituent GHG Emissions	-----	46,043.27	14.20	23.29
Total GHG Emission from All Natural Gas Combustion Equipment (CO₂e Tonne/Year)				46,080.76

b. The annual CO₂e emissions for the mobile sources (employee vehicles, maintenance delivery vehicles, etc.) required to operate the EOR facility.

Response: The operations associated with the EOR Project facilities are expected to require approximately 25 full time employees. The operation of the facility is not expected to require any additional maintenance delivery vehicles, beyond those that would occur even in the absence of the proposed project. The GHG emissions attributed to mobile source activity required for the operation of the EOR project is summarized below.

Table-b.1
GHG Emissions from Mobile Source
Activities Required for the Operation of the EOR Project

GHG Emissions from Light Duty Autos (Employee Commute)				
50 Vehicle Trips / Day 30 Miles per Trip or 1500 Miles per Day	Carbon Dioxide CO ₂	Methane CH ₄ as CO ₂ e	Nitrous Oxide N ₂ O as CO ₂ e	Total CO ₂ e Tonne/Year
	165.07	0.17	1.53	166.77

c. Provide the annual CO₂ leakage from the EOR process, including the leakage from all of the aboveground piping components stating at the HECA fence line.

Response: OEHI interprets the phrase "leakage" to be a reference to the following sources of GHG emissions: fugitive GHG emissions; GHG emissions resulting from maintenance activities conducted on the CO₂ injection system and the crude oil and natural gas production system; GHG emissions resulting from pressure relief venting (PRV); and GHG emissions resulting from blowdown and purge activities associated with such maintenance activities.

Table-c.1
Summary of GHG Emission Leakage
From Various Processes Associated with the EOR Project

Greenhouse Gas Emissions From Production Operations	Average Greenhouse Gas Emissions (Tonne/Year)			
	CO2 Tonne/Year	CH4 as CO2e Tonne/Year	N2O as CO2e Tonne/Year	Total CO2e Tonne/Year
Fugitive GHG Emissions	39.06	63.45	-----	102.51
Maintenance GHG	159.60	214.98	-----	374.58
Pressure Relief GHG	0.83	1.17	-----	2.00
Miscellaneous Small Tanks	1.33	2.21	-----	3.53
Total GHG Emissions	200.81	281.81	0.00	482.62

GHG Emissions by Year				
By Project Year	2015	2017	2019	2025
		1,002.13	336.06	305.93

Note:

1. Spreadsheets detailing the equipment included in each of the processes summarized above are included with this submittal. The composition of the gas streams are expected to change over time as the CO2 flood matures. Consequently the average composition was used to calculate the emissions summarized above. The composition of the streams versus time and greenhouse gas emissions estimated for 2015, 2017, 2019 and 2025 are contained in the spreadsheets included with this submittal.
2. "Fugitive GHG" includes the GHG emissions from leaking components used by: CO2 injection wells, production wells, satellite setting, the CTB, the RCF and the CRP.
3. "Maintenance GHG" includes the GHG emissions resulting from the venting of CO2 injection wells, crude oil and gas production wells, process vessels, tanks and other equipment that is expected to occur during annual turnarounds. Maintenance also includes the GHG emissions resulting from the blowdown of pipeline systems (CO2 injection, crude oil and natural gas production system and the line from HECA to OEHI).
4. "Pressure Relief GHG" includes the GHG emissions from the venting of gasses through PRV serving process equipment (mainly vessels).

d. Provide the annual electricity consumption (in MWh) for the EOR process.

Response: The annual electric power consumption for the EOR project and the resulting GHG emissions from power consumption are listed below.

Table-d.1
EOR Project Electricity Consumption and GHG Emissions

GHG Emissions from Project Power Consumption (Tonne/Year)				
Horsepower Require for the Project X PG&E Factor	Electrical Hp/Hr	MWh per Year	GHG (Kg/MWh)	GHG CO2e
0.524 CO2e Lb/KWh	116,000.00	758,055.36	237.68	180,176.63
<p>Note:</p> <p>The GHG factor is the CPUC verified and SJVAPCD approved GHG emission factor for electrical power consumption for the PG&E grid within the San Joaquin Valley.</p>				

REDACTED

**Print-outs of Excel
Spreadsheets Provided for Data Request**

**Response to the
California Energy Commission (CEC)
Data Request Set #3, Item #181**

**STATE OF CALIFORNIA
ENERGY RESOURCES
CONSERVATION AND DEVELOPMENT COMMISSION**

In the Matter of:)	Docket No. 08-AFC-08
)	
APPLICATION FOR CERTIFICATION,)	PROOF OF SERVICE
FOR THE HYDROGEN ENERGY)	
CALIFORNIA PROJECT BY HYDROGEN)	(October 21, 2010)
ENERGY INTERNATIONAL, LLC)	
_____)	
)	
)	

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HYDROGEN ENERGY CALIFORNIA PROJECT
CEC Docket No. 08-AFC-08

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HYDROGEN ENERGY CALIFORNIA PROJECT
CEC Docket No. 08-AFC-08

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HYDROGEN ENERGY CALIFORNIA PROJECT
CEC Docket No. 08-AFC-08

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DECLARATION OF SERVICE

I, Paul Kihm, declare that on February 7, 2011, I served and filed copies of the attached:

**LETTER FROM MICHAEL CARROLL TO MELISSA JONES RE SUBMITTAL OF
NON-CONFIDENTIAL DATA RELATED TO OCCIDENTAL OF ELK HILLS, INC.,
ENHANCED OIL RECOVERY**

to all parties identified on the Proof of Service List above in the following manner:

California Energy Commission Docket Unit

- Transmission via electronic mail and by depositing one copy with FedEx overnight mail delivery service at Costa Mesa, California, with delivery fees thereon fully prepaid and addressed to the following:

CALIFORNIA ENERGY COMMISSION

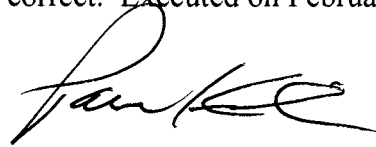
Attn: DOCKET NO. 08-AFC-08
1516 Ninth Street, MS-4
Sacramento, California 95814-5512
docket@energy.state.ca.us

For Service to All Other Parties

- Transmission via electronic mail to all email addresses on the Proof of Service list; and
- by depositing one paper copy with the United States Postal Service via first-class mail at Costa Mesa, California, with postage fees thereon fully prepaid and addressed as provided on the Proof of Service list to those addresses **NOT** marked "email preferred."

I further declare that transmission via electronic mail and U.S. Mail was consistent with the requirements of California Code of Regulations, title 20, sections 1209, 1209.5, and 1210.

I declare under penalty of perjury that the foregoing is true and correct. Executed on February 7, 2011, at Costa Mesa, California.



Paul Kihm

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February 7, 2011

VIA FEDEX

File No. 045049-0001

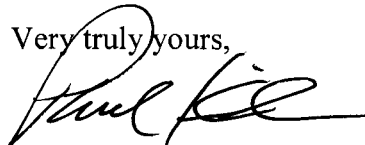
CALIFORNIA ENERGY COMMISSION
Attn: Docket No. 08-AFC-08
1516 Ninth Street, MS-4
Sacramento, California 95814-5512

Re: Hydrogen Energy California Project: Docket No. 08-AFC-08

Dear Sir/Madam:

Pursuant to California Code of Regulations, Title 20, Sections 1209, 1209.5, and 1210, enclosed herewith for filing please find a letter from Michael Carroll to Melissa Jones re submittal of non-confidential data related to Occidental of Elk Hills, Inc., enhanced oil recovery.

Please note that the enclosed submittal was filed today via electronic mail to your attention and served on all parties to the above-referenced project.

Very truly yours,


Paul E. Kihm
Senior Paralegal

Enclosure

cc: 08-AFC-08 Proof of Service List (w/encl., via e-mail and U.S. Mail)
Michael J. Carroll, Esq. (w/encl.)
Marc T. Campopiano, Esq. (w/encl.)