Chevron

Dave Feiglstok
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AREA AIR QUALITY
AGEMENT DISTRICT

November 29, 2011

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BAY AREA AIR QUALITY
MANAGEMENT DISTRICT

Mr. Greg Solomon
Senior Air Quality Engineer
Bay Area Air Quality Management District
939 Ellis Street
San Francisco, CA 94109

CONFIDENTIAL BUSINESS INFORMATION & TRADE SECRET SUBMITTAL - REDACTED VERSION

Chevron Energy & Hydrogen Renewal Project
Renewal of Authority to Construct – District Regulation 2-1-407
Application No. 12842, Plant 10

Dear Greg:

Further to Chevron's October 24, 2011 letter concerning the request for renewal of the Authority to Construct (ATC) issued on September 19, 2008, the following additional information is being provided. This information provides more documentation concerning "substantial use" for the Hydrogen Purity element of Chevron's Hydrogen & Energy Renewal Project (Renewal Project). This submittal contains the following:

- **Attachment 1:**
  - **Process Flow Diagram Drawing D-349319-3 #1 Sulfur Recovery (Plant 2100):** This drawing shows the existing #1 Sulfur Recovery Unit (SRU). New and/or modified equipment is highlighted in yellow.
  - **Process Flow Diagram Drawing D-373253-0 #2 Sulfur Recovery (Plant 2200):** This drawing shows the existing #2 SRU. New and/or modified equipment is highlighted in yellow.
- **Attachment 2:**
  - **Hydrogen Purity Equipment List:** This is the same list that was previously submitted to the District. However, this version shows cells revised and new information highlighted in

yellow and with bold font. All of this equipment has been purchased and received. Some of it was installed prior to the Court injunction.

- **Attachment 3:**
  - **Worldwide Master Contract between Chevron U.S.A. Inc. and Air Products & Chemical Inc.:** This is the master contract between Chevron and Air Products that provides the framework for site-specific amendments. An amendment to this agreement was executed to provide for the Renewal Project for Air Products' two 15,000 gallon tanks liquid oxygen tanks and oxygen distribution (enrichment) system that were detailed in Chevron's October 24, 2011 submittal to the District.
- **Attachment 4:**
  - **Purchase Orders for Oxygen Flow Skid and SRU Liquid Oxygen System:** REDACTED
  - **Amendment 19 to Worldwide Master Contract between Chevron U.S.A. Inc. and Air Products & Chemical Inc.:** REDACTED
- **Attachment 5:**
  - **Record of Chevron Payments to Air Products for Liquid Oxygen Storage Tanks:** REDACTED

As set forth in District Regulation 2-1-407, pursuant to an environmental impact report that "explicitly covered a construction period longer than four years," the District issued the ATC on September 19, 2008. By letter dated September 15, 2010, Chevron requested that the ATC be renewed for an additional two year term. The District subsequently requested additional information by letter dated October 6, 2010. Chevron responded to that request by letter dated November 17, 2010. Chevron submitted additional information demonstrating "substantial use" on July 14, August 16, September 13, and October 24, 2011.

TRADE SECRET INFORMATION

Please note that much of the information included with this transmittal, as well as the attachments, is confidential business/trade secret information. Chevron asserts that this information is trade secret pursuant to Section 6254.7 of the Government Code and District Rule 2-1-202.7 and is not public record due to the following:

- The attached Process Flow Diagrams, cost information on the Hydrogen Purity Equipment List payment history, Master Contract, purchase orders, and contract amendment between Chevron and Air Products contain information of commercial value that could provide competitors with a business advantage.

The redacted, public version of this submittal is also being submitted to the District with this letter.

If you have any questions concerning the information provided in this submittal, please contact Bob Chamberlin at (510) 242-1466.

Sincerely,

Dave Feiglstok

Attachments

CHEVRON REVISED RENEWAL PROJECT

ATTACHMENT 1

SULFUR RECOVERY UNIT PROCESS FLOW DIGRAMS

D-349319-3 #1 Sulfur Recovery (Plant 2100)

D-373253-0 #2 Sulfur Recovery (Plant 2200)

THESE PROCESS FLOW DIAGRAMS HAVE BEEN REDACTED SINCE THEY CONTAIN CONFIDENTIAL BUSINESS INFORMATION AND ARE TRADE SECRET

CHEVRON REVISED RENEWAL PROJECT

ATTACHMENT 2

HYDROGEN PURITY EQUIPMENT LIST

Revised November 22, 2011

Chevron Revised Renewal Project - Hydrogen Purity Equipment List

REDACTED PUBLIC VERSION YELLOW highlighted cells indicate information updated for November 23, 2011 Revision

	Project Component	Associated Sources	Equipment Tag #	Equipment Name	Status	Service Order #	Purchase Order	Purchase Date	Delivery Date	Cost	Location
1	Emergency Scrubber & Caustic Storage	S-3328 Caustic Storage Tank	T-2440	Fresh Caustic Tank	Received - Not Installed	15021228	11031000-0019	10/31/2007	2/23/2010	REDACTED-CONFIDENTIAL & TRADE SECRET	Yard 3
2	Emergency Scrubber & Caustic Storage	S-3329 Spent Caustic Storage Tank	T-2445	Spent Caustic Tank	Received - Not Installed	15021228	11031000-0019	10/31/2007	2/23/2010	REDACTED-CONFIDENTIAL & TRADE SECRET	Yard 3
3	Emergency Scrubber & Caustic Storage	S-4454 #6 H2S Plant Recycle Amine Generator	C-2440	Emergency Caustic Scrubber	Received - Not Installed	15017494	11031000-0015	10/31/2007	2/23/2010	REDACTED-CONFIDENTIAL & TRADE SECRET	Yard 3
4	Emergency Scrubber & Caustic Storage	S-4454 #6 H2S Plant Recycle Amine Generator	E-2445	Spent Caustic Tank Heater	Received - Not Installed	*0015013429, 0015013428	11031000-0002	5/27/2007	1/21/2009	REDACTED-CONFIDENTIAL & TRADE SECRET	RFR-Mill St
5	Emergency Scrubber & Caustic Storage	S-4454 #6 H2S Plant Recycle Amine Generator	P-2445	Spent Caustic Loading Pump	Received - Not Installed	15026943	11031000-0072	5/16/2007	4/1/2009	REDACTED-CONFIDENTIAL & TRADE SECRET	Installed
6	No. 6 H2S Plant (New)	S-3327 Lean Amine Storage Tank	T-2420	Amine Storage Tank	Received - Not Installed	15021228	11031000-0019	5/16/2007	4/1/2009	REDACTED-CONFIDENTIAL & TRADE SECRET	Installed
7	No. 6 H2S Plant (New)	S-4454 #6 H2S Plant Recycle Amine Generator	C-2430	Amine Regenerator	Received - Not Installed	15017494	11031000-0015	5/16/2007	4/1/2009	REDACTED-CONFIDENTIAL & TRADE SECRET	Yard 4-I-3
8	No. 6 H2S Plant (New)	S-4454 #6 H2S Plant Recycle Amine Generator	E-2030	Lean DEA Trim Cooler	Received - Not Installed	*0015013429, 0015013428	11031000-0002	11/12/2008	6/20/2008	REDACTED-CONFIDENTIAL & TRADE SECRET	Installed
9	No. 6 H2S Plant (New)	S-4454 #6 H2S Plant Recycle Amine Generator	E-2420 A	Regenerator Overhead Condensers	Received - Not Installed	0015015888	11031000-0003	5/16/2007	4/1/2009	REDACTED-CONFIDENTIAL & TRADE SECRET	Installed
10	No. 6 H2S Plant (New)	S-4454 #6 H2S Plant Recycle Amine Generator	E-2420 B	Regenerator Overhead Condensers	Received - Not Installed	0015015888	11031000-0003	5/16/2007	4/1/2009	REDACTED-CONFIDENTIAL & TRADE SECRET	Installed
11	No. 6 H2S Plant (New)	S-4454 #6 H2S Plant Recycle Amine Generator	E-2420 C	Regenerator Overhead Condensers	Received - Not Installed	0015015888	11031000-0003	5/16/2007	4/1/2009	REDACTED-CONFIDENTIAL & TRADE SECRET	Installed
12	No. 6 H2S Plant (New)	S-4454 #6 H2S Plant Recycle Amine Generator	E-2420 D	Regenerator Overhead Condensers	Received - Not Installed	0015015888	11031000-0003	5/16/2007	4/1/2009	REDACTED-CONFIDENTIAL & TRADE SECRET	Installed
13	No. 6 H2S Plant (New)	S-4454 #6 H2S Plant Recycle Amine Generator	E-2425 A	Lean/Rich Amine Exchanger	Received - Not Installed	15015845	11031000-0006	5/16/2007	4/1/2009	REDACTED-CONFIDENTIAL & TRADE SECRET	Yard-4-E-1
14	No. 6 H2S Plant (New)	S-4454 #6 H2S Plant Recycle Amine Generator	E-2425 B	Lean/Rich Amine Exchanger	Received - Not Installed	15015845	11031000-0006	12/28/2006	10/8/2008	REDACTED-CONFIDENTIAL & TRADE SECRET	Yard-4-E-1
15	No. 6 H2S Plant (New)	S-4454 #6 H2S Plant Recycle Amine Generator	E-2426 A	Lean Amine Coolers	Received - Not Installed	11031000-0003	0015015888	11/10/2008	3/12/2009	REDACTED-CONFIDENTIAL & TRADE SECRET	Yard-4-L-1
16	No. 6 H2S Plant (New)	S-4454 #6 H2S Plant Recycle Amine Generator	E-2426 B	Lean Amine Coolers	Received - Not Installed	11031000-0003	0015015888	11/10/2008	3/12/2009	REDACTED-CONFIDENTIAL & TRADE SECRET	Yard-4-L-1
17	No. 6 H2S Plant (New)	S-4454 #6 H2S Plant Recycle Amine Generator	E-2426 C	Lean Amine Coolers	Received - Not Installed	11031000-0003	0015015888	2/1/2007	10/8/2008	REDACTED-CONFIDENTIAL & TRADE SECRET	Yard-4-E-1
18	No. 6 H2S Plant (New)	S-4454 #6 H2S Plant Recycle Amine Generator	E-2426 D	Lean Amine Coolers	Received - Not Installed	11031000-0003	0015015888	2/1/2007	10/8/2008	REDACTED-CONFIDENTIAL & TRADE SECRET	Yard-4-I-1
19	No. 6 H2S Plant (New)	S-4454 #6 H2S Plant Recycle Amine Generator	E-2427 A	Regenerator Reboilers	Received - Not Installed	*0015013429, 0015013428	11031000-0002	10/8/2007	Shipped 6/20/08	REDACTED-CONFIDENTIAL & TRADE SECRET	Yard-4-H, I-5
20	No. 6 H2S Plant (New)	S-4454 #6 H2S Plant Recycle Amine Generator	E-2427 B	Regenerator Reboilers	Received - Not Installed	*0015013429, 0015013428	11031000-0002	10/8/2007	Shipped 6/20/08	REDACTED-CONFIDENTIAL & TRADE SECRET	Yard-4-H, I-5
21	No. 6 H2S Plant (New)	S-4454 #6 H2S Plant Recycle Amine Generator	E-2470	Acid Gas Heater	Received - Not Installed	*0015013429, 0015013428	11031000-0002	10/8/2007	Shipped 6/20/08	REDACTED-CONFIDENTIAL & TRADE SECRET	Yard-4-H, I-5
22	No. 6 H2S Plant (New)	S-4454 #6 H2S Plant Recycle Amine Generator	K-2429	Amine Collector Filter	Received - Not Installed	15020415	11031000-0012	10/3/2007	2/16/2009	REDACTED-CONFIDENTIAL & TRADE SECRET	Yard-4-H, I-5
23	No. 6 H2S Plant (New)	S-4454 #6 H2S Plant Recycle Amine Generator	K-2450	Cartridge Filter	Received - Not Installed	15020415	11031000-0012	5/27/2007	1/21/2009	REDACTED-CONFIDENTIAL & TRADE SECRET	Yard-4-H, I-5
24	No. 6 H2S Plant (New)	S-4454 #6 H2S Plant Recycle Amine Generator	K-2451	Cartridge Filter	Received - Not Installed	15020415	11031000-0012	5/15/2007	8/23/2008	REDACTED-CONFIDENTIAL & TRADE SECRET	Yard 4-I-4
25	No. 6 H2S Plant (New)	S-4454 #6 H2S Plant Recycle Amine Generator	P-2429	Amine Collector Pump	Received - Not Installed	15026943	11031000-0072	5/3/2007	6/16/2009	REDACTED-CONFIDENTIAL & TRADE SECRET	Yard-4-H-4
26	No. 6 H2S Plant (New)	S-4454 #6 H2S Plant Recycle Amine Generator	P-2440	Caustic Pumps	Received - Not Installed	15026941	11031000-0334	3/28/2008	12/1/2008	REDACTED-CONFIDENTIAL & TRADE SECRET	Yard 6
27	No. 6 H2S Plant (New)	S-4454 #6 H2S Plant Recycle Amine Generator	P-2440A	Caustic Pumps	Received - Not Installed	15026941	11031000-0334	5/14/2007	1/26/2009	REDACTED-CONFIDENTIAL & TRADE SECRET	Yard-6-7-4
28	No. 6 H2S Plant (New)	S-4454 #6 H2S Plant Recycle Amine Generator	P-2470	Sour Water Pumps	Received - Not Installed	15026943	11031000-0072	2/24/2008	11/2/2009	REDACTED-CONFIDENTIAL & TRADE SECRET	Yard-6 Area J-5
29	No. 6 H2S Plant (New)	S-4454 #6 H2S Plant Recycle Amine Generator	P-2470A	Sour Water Pumps	Received - Not Installed	15026943	11031000-0072	2/24/2008	11/2/2009	REDACTED-CONFIDENTIAL & TRADE SECRET	Yard-6 Area J-5
30	No. 6 H2S Plant (New)	S-4454 #6 H2S Plant Recycle Amine Generator	V-2415	Rich Amine Flash Drum	Received - Not Installed	15018088	11031000-0102	2/24/2008	11/2/2009	REDACTED-CONFIDENTIAL & TRADE SECRET	Yard 3
31	No. 6 H2S Plant (New)	S-4454 #6 H2S Plant Recycle Amine Generator	V-2415A	Flash Drum Scrubber	Received - Not Installed	15018088	11031000-0102	2/24/2008	11/2/2009	REDACTED-CONFIDENTIAL & TRADE SECRET	Yard 3
32	No. 6 H2S Plant (New)	S-4454 #6 H2S Plant Recycle Amine Generator	V-2420	Regen Reflux Drum	Received - Not Installed	15015846	11031000-0093	3/19/2008	6/8/2009	REDACTED-CONFIDENTIAL & TRADE SECRET	Yard-4-I-5
33	No. 6 H2S Plant (New)	S-4454 #6 H2S Plant Recycle Amine Generator	V-2427 A	Reboiler Condensate K O Drums	Received - Not Installed	15015535	11031000-0017	1/29/2009	11/30/2009	REDACTED-CONFIDENTIAL & TRADE SECRET	Installed
34	No. 6 H2S Plant (New)	S-4454 #6 H2S Plant Recycle Amine Generator	V-2427 B	Reboiler Condensate K O Drums	Received - Not Installed	15015535	11031000-0017	12/16/2008	6/12/2009	REDACTED-CONFIDENTIAL & TRADE SECRET	Yard-4-H-3
35	No. 6 H2S Plant (New)	S-4454 #6 H2S Plant Recycle Amine Generator	V-2428	Oil Skim Drum	Received - Not Installed	15015535	11031000-0017	5/3/2007	7/16/2009	REDACTED-CONFIDENTIAL & TRADE SECRET	Yard 3

Chevron Revised Renewal Project - Hydrogen Purity Equipment List

REDACTED PUBLIC VERSION YELLOW highlighted cells indicate information updated for November 23, 2011 Revision

	Project Component	Associated Sources	Equipment Tag #	Equipment Name	Status	Service Order #	Purchase Order	Purchase Date	Delivery Date	Cost	Location
36	No. 6 H2S Plant (New)	S-4454 #5 H2S Plant Recycle Amine Generator	V-2429	Amine Collector	Received - Not Installed	15015535	11031000-0017	4/6/2009	7/20/2009	REDACTED-CONFIDENTIAL & TRADE SECRET	Warehouse Floor D
37	No. 6 H2S Plant (New)	S-4454 #5 H2S Plant Recycle Amine Generator	V-2452	Activated Carbon Bed	Received - Not Installed	15015189	11031000-0074	4/6/2009	7/20/2009	REDACTED-CONFIDENTIAL & TRADE SECRET	Warehouse Floor D
38	No. 6 H2S Plant (New)	S-4454 #6 H2S Plant Recycle Amine Generator	V-2470	Acid Gas K.O. Drum	Received - Not Installed	15017959 / 15017961	11031000-0095	3/6/2007	3/13/2008	REDACTED-CONFIDENTIAL & TRADE SECRET	Benicia Fabrication
39	No. 6 H2S Plant (New)	S-4454 #6 H2S Plant Recycle Amine Generator	D-2510T	Sour Water Concentrator - Trays	Installed	15024275	11031800-0208	10/2/2007	3/26/2008	REDACTED-CONFIDENTIAL & TRADE SECRET	Yard 3 or Tent
40	No. 6 H2S Plant (New)	S-4454 #6 H2S Plant Recycle Amine Generator	E-2518A	Stripped Water Air Cooler	Installed	15029190 15023530	11031000-0196 11031000-0197	3/31/2009	8/19/2008	REDACTED-CONFIDENTIAL & TRADE SECRET	Yard 4 Area M-5
41	No. 6 H2S Plant (New)	S-4454 #6 H2S Plant Recycle Amine Generator	E-2518B	Stripped Water Air Cooler	Installed	15029190 15023530	11031000-0196 11031000-0197	3/31/2009	8/19/2008	REDACTED-CONFIDENTIAL & TRADE SECRET	Yard 4 Area M-5
42	No. 6 H2S Plant (New)	S-4454 #6 H2S Plant Recycle Amine Generator	E-2518C	Stripped Water Air Cooler	Installed	15029190 15023530	11031000-0196 11031000-0197	3/31/2009	8/19/2008	REDACTED-CONFIDENTIAL & TRADE SECRET	Yard 4 Area M-5
43	No. 6 H2S Plant (New)	S-4454 #6 H2S Plant Recycle Amine Generator	P-2511	Concentrator Feed Pumps	Installed	15029190	11031000-0196	3/31/2009	8/19/2008	REDACTED-CONFIDENTIAL & TRADE SECRET	WHSE-FL-D
44	No. 6 H2S Plant (New)	S-4454 #6 H2S Plant Recycle Amine Generator	P-2511A	Concentrator Feed Pumps	Installed	15029190	11031000-0196	4/6/2009	7/20/2009	REDACTED-CONFIDENTIAL & TRADE SECRET	WHSE-FL-D
45	No. 6 H2S Plant (New)	S-4454 #6 H2S Plant Recycle Amine Generator	P-2515	Concentrator Bottoms Pumps	Installed	15029190	11031000-0196	4/6/2009	7/20/2009	REDACTED-CONFIDENTIAL & TRADE SECRET	WHSE-FL-D
46	No. 6 H2S Plant (New)	S-4454 #6 H2S Plant Recycle Amine Generator	P-2515A	Concentrator Bottoms Pumps	Installed	15029190	11031000-0196	5/1/2008	1/8/2008	REDACTED-CONFIDENTIAL & TRADE SECRET	WHSE-FL-D
47	No. 6 H2S Plant (New)	S-2421 (was S-4456) Fresh Amine Storage Tank	T-2421 (Existing T-2400)	Fresh Amine Tank	Existing tank T-2400 (custic service) to be refurbished and renamed to T-2421 (fresh amine service).						
48	SRU Modifications	S-4436 F-2170 Stack Gas Heater No. 1 SRU S-4227 SRU #1 w/TGU A-0020	D-2150	Quench Column	Installed	15038665	11031400-1005	1/29/2009	7/6/2009	REDACTED-CONFIDENTIAL & TRADE SECRET	Yard 4 Area M-7
49	SRU Modifications	S-4436 F-2170 Stack Gas Heater No. 1 SRU S-4227 SRU #1 w/TGU A-0020	E-2101 (see dwg. D-349319-0)	Sulfur Condenser No. 1 (Train 1)	Received - Not Installed	15036755	11031000-0004	6/5/2007	7/16/2008	REDACTED-CONFIDENTIAL & TRADE SECRET	Yard 3 or Tent C-6
50	SRU Modifications	S-4436 F-2170 Stack Gas Heater No. 1 SRU S-4227 SRU #1 w/TGU A-0020	E-2150	Cooler - Quench Water	Received - Not Installed	Document not readily available	Document not readily available	4/6/2009	6/15/2009	REDACTED-CONFIDENTIAL & TRADE SECRET	No. 3 Warehouse
51	SRU Modifications	S-4436 F-2170 Stack Gas Heater No. 1 SRU S-4227 SRU #1 w/TGU A-0020	E-2183	Heater - Purge Air	Received - Not Installed	15031738	11021480-0591	3/11/2009	6/15/2009	REDACTED-CONFIDENTIAL & TRADE SECRET	No. 3 Warehouse
52	SRU Modifications	S-4436 F-2170 Stack Gas Heater No. 1 SRU S-4227 SRU #1 w/TGU A-0020	E-2184	Heater - Purge Air	Received - Not Installed	15031738	11021480-0591	3/11/2009	6/15/2009	REDACTED-CONFIDENTIAL & TRADE SECRET	No. 3 Warehouse
53	SRU Modifications	S-4436 F-2170 Stack Gas Heater No. 1 SRU S-4227 SRU #1 w/TGU A-0020	FS-2101 (see dwg. D-349319-0)	Acid Gas Burner (Train 1)	Received - Not Installed	15013994	11031100-0056	4/6/2009	6/15/2009	REDACTED-CONFIDENTIAL & TRADE SECRET	No. 3 Warehouse
54	SRU Modifications	S-4436 F-2170 Stack Gas Heater No. 1 SRU S-4227 SRU #1 w/TGU A-0020	K-2102	Vent Eductor	Received - Not Installed	15029190	11031000-0196	12/18/2008	3/3/2009	REDACTED-CONFIDENTIAL & TRADE SECRET	Yard 4-H-5
55	SRU Modifications	S-4436 F-2170 Stack Gas Heater No. 1 SRU S-4227 SRU #1 w/TGU A-0020	K-2150	Strainer - Main Weak Acid Circ Pump Suction	Received - Not Installed	15029190	11031000-0196	11/10/2008	3/27/2009	REDACTED-CONFIDENTIAL & TRADE SECRET	Yard 4-H-5
56	SRU Modifications	S-4436 F-2170 Stack Gas Heater No. 1 SRU S-4227 SRU #1 w/TGU A-0020	K-2150A	Strainer - Stay Weak Acid Circ Pump Suction	Received - Not Installed	15029190	11031000-0196	3/26/2008	4/22/2009	REDACTED-CONFIDENTIAL & TRADE SECRET	Yard 4-E-9
57	SRU Modifications	S-4436 F-2170 Stack Gas Heater No. 1 SRU S-4227 SRU #1 w/TGU A-0020	K-2181/A	Strainer - Fogging Water - Duplex	Received - Not Installed	15029190	11031000-0196	3/26/2008	4/22/2009	REDACTED-CONFIDENTIAL & TRADE SECRET	Yard 4-E-9
58	SRU Modifications	S-4436 F-2170 Stack Gas Heater No. 1 SRU S-4227 SRU #1 w/TGU A-0020	K-2182/A	Strainer - WESP Wash Water - Duplex	Received - Not Installed	15029190	11031000-0196	3/26/2008	4/22/2009	REDACTED-CONFIDENTIAL & TRADE SECRET	Yard 4-E-9
59	SRU Modifications	S-4436 F-2170 Stack Gas Heater No. 1 SRU S-4227 SRU #1 w/TGU A-0020	K-2183	Purge Air, WESP	Received - Not Installed	15031738	11021480-0591	3/26/2008	4/22/2009	REDACTED-CONFIDENTIAL & TRADE SECRET	Yard 4-E-9
60	SRU Modifications	S-4436 F-2170 Stack Gas Heater No. 1 SRU S-4227 SRU #1 w/TGU A-0020	K-2184	Purge Air, WESP	Received - Not Installed	15031738	11021480-0591	3/26/2008	7/20/2009	REDACTED-CONFIDENTIAL & TRADE SECRET	Yard 4-E-9
61	SRU Modifications	S-4436 F-2170 Stack Gas Heater No. 1 SRU S-4227 SRU #1 w/TGU A-0020	K-2185	Wet Electro-Static Precipitator	Received - Not Installed	15031738	11021480-0591	3/26/2008	7/20/2009	REDACTED-CONFIDENTIAL & TRADE SECRET	Yard 4-E-9
62	SRU Modifications	S-4436 F-2170 Stack Gas Heater No. 1 SRU S-4227 SRU #1 w/TGU A-0020	K-2187	Eductor - Therm. Oxidizer Recirculation	Received - Not Installed	Document not readily available	Document not readily available	3/31/2008	11/19/2008	REDACTED-CONFIDENTIAL & TRADE SECRET	Warehouse A-1-01-R
63	SRU Modifications	S-4436 F-2170 Stack Gas Heater No. 1 SRU S-4227 SRU #1 w/TGU A-0020	K-2188	Eductor - Stack Heater Recirculation	Received - Not Installed	Document not readily available	Document not readily available	3/31/2008	11/19/2008	REDACTED-CONFIDENTIAL & TRADE SECRET	Warehouse A-1-01-R
64	SRU Modifications	S-4436 F-2170 Stack Gas Heater No. 1 SRU S-4227 SRU #1 w/TGU A-0020	P-2111	Sulfur Degassing Pump	Received - Not Installed	15016520	11031400-0026	3/31/2008	11/19/2008	REDACTED-CONFIDENTIAL & TRADE SECRET	Warehouse A-1-01-R
65	SRU Modifications	S-4436 F-2170 Stack Gas Heater No. 1 SRU S-4227 SRU #1 w/TGU A-0020	P-2150	Quench Water Circulation	Received - Not Installed	No related service order	10023325	3/26/2008	4/22/2009	REDACTED-CONFIDENTIAL & TRADE SECRET	Yard 4-E-9
66	SRU Modifications	S-4436 F-2170 Stack Gas Heater No. 1 SRU S-4227 SRU #1 w/TGU A-0020	P-2150A	Quench Water Circulation - Stand-by	Received - Not Installed	No related service order	10023325	3/26/2008	4/22/2009	REDACTED-CONFIDENTIAL & TRADE SECRET	Yard 4-E-9
67	SRU Modifications	S-4436 F-2170 Stack Gas Heater No. 1 SRU S-4227 SRU #1 w/TGU A-0020	P-2160 B	Absorber Circulation Pump -- Top Bed	Received - Not Installed	15013318	11031000-013	3/26/2008	7/20/2009	REDACTED-CONFIDENTIAL & TRADE SECRET	Yard 4-E-9
68	SRU Modifications	S-4436 F-2170 Stack Gas Heater No. 1 SRU S-4227 SRU #1 w/TGU A-0020	P-2161	Absorber Circulation Pump -- StandBy	Received - Not Installed	15013319	11031000-013	10/2/2007	1/26/2009	REDACTED-CONFIDENTIAL & TRADE SECRET	Yard 4-H-5
69	SRU Modifications	S-4436 F-2170 Stack Gas Heater No. 1 SRU S-4227 SRU #1 w/TGU A-0020	V-2101	Steam Drum	Received - Not Installed	15036795	11031000-0004	10/2/2007	1/29/2009	REDACTED-CONFIDENTIAL & TRADE SECRET	Yard 4-H-5
70	SRU Modifications	S-4436 F-2170 Stack Gas Heater No. 1 SRU S-4227 SRU #1 w/TGU A-0020	V-2102	Steam Separator	Received - Not Installed	15035597	1103100-0816	7/23/2007	7/09/2008	REDACTED-CONFIDENTIAL & TRADE SECRET	Yard 4-J-4

Chevron Revised Renewal Project - Hydrogen Purity Equipment List

REDACTED PUBLIC VERSION YELLOW highlighted cells indicate information updated for November 23, 2011 Revision

	Project Component	Associated Source#	Equipment Tag #	Equipment Name	Status	Service Order #	Purchase Order	Purchase Date	Delivery Date	Cost	Location
71	SRU Modifications	S-4436 F-2170 Stack Gas Heater No 1 SRU S-4227 SRU #1 w/TGU A-0020 S-4437 F-2270 Stack Gas Heater No 2 SRU S-4228 SRU#2 w/TGU A-0021 S-4438 F-2370 Stack Gas Heater No 3 SRU S-4429 SRU #3 w/TGU A-0022	P-3100 (see drwg D-349386-1)	HP Boiler Feedwater Pumps	Received - Not Installed	15026943	11031000-0072	1/29/2009	7/6/2009	REDACTED CONFIDENTIAL & TRADE SECRET	Yard 4 Area E-9
72	SRU Modifications	S-4436 F-2170 Stack Gas Heater No 1 SRU S-4227 SRU #1 w/TGU A-0020 S-4437 F-2270 Stack Gas Heater No 2 SRU S-4228 SRU#2 w/TGU A-0021 S-4438 F-2370 Stack Gas Heater No 3 SRU S-4429 SRU #3 w/TGU A-0022	P-3100A (see drwg D-349386-1)	HP Boiler Feedwater Pumps	Received - Not Installed	15026943	11031000-0072	12/16/2008	6/12/2009	REDACTED CONFIDENTIAL & TRADE SECRET	Yard G-H-3
73	SRU Modifications	S-4436 F-2170 Stack Gas Heater No 1 SRU S-4227 SRU #1 w/TGU A-0020 S-4437 F-2270 Stack Gas Heater No 2 SRU S-4228 SRU#2 w/TGU A-0021 S-4438 F-2370 Stack Gas Heater No 3 SRU S-4429 SRU #3 w/TGU A-0022	P-3101 (see drwg D-349386-1)	LP Boiler Feedwater Pumps	Received - Not Installed	15026943	11031000-0072	Document not readily available	Document not readily available	REDACTED CONFIDENTIAL & TRADE SECRET	Yard 4 Area E-9
74	SRU Modifications	S-4436 F-2170 Stack Gas Heater No 1 SRU S-4227 SRU #1 w/TGU A-0020 S-4437 F-2270 Stack Gas Heater No 2 SRU S-4228 SRU#2 w/TGU A-0021 S-4438 F-2370 Stack Gas Heater No 3 SRU S-4429 SRU #3 w/TGU A-0022	P-3101A (see drwg D-349386-1)	LP Boiler Feedwater Pumps	Received - Not Installed	15026943	11031000-0072	4/6/2009	7/20/2009	REDACTED CONFIDENTIAL & TRADE SECRET	Yard 4 Area E-9
75	SRU Modifications	S-4436 F-2170 Stack Gas Heater No 1 SRU S-4227 SRU #1 w/TGU A-0020 S-4437 F-2270 Stack Gas Heater No 2 SRU S-4228 SRU#2 w/TGU A-0021 S-4438 F-2370 Stack Gas Heater No 3 SRU S-4429 SRU #3 w/TGU A-0022	P-3102 (see drwg D-352734-1)	Condensate Pumps	Received - Not Installed	15026943	11031000-0072	4/6/2009	7/20/2009	REDACTED CONFIDENTIAL & TRADE SECRET	Yard 4 Area E-9
76	SRU Modifications	S-4436 F-2170 Stack Gas Heater No 1 SRU S-4227 SRU #1 w/TGU A-0020 S-4437 F-2270 Stack Gas Heater No 2 SRU S-4228 SRU#2 w/TGU A-0021 S-4438 F-2370 Stack Gas Heater No 3 SRU S-4429 SRU #3 w/TGU A-0022	P-3102A (see drwg D-352734-1)	Condensate Pumps	Received - Not Installed	15026943	11031000-0072	3/6/2007	3/13/2008	REDACTED CONFIDENTIAL & TRADE SECRET	Yard 4 Area E-9
77	SRU Modifications	S-4436 F-2170 Stack Gas Heater No 1 SRU S-4227 SRU #1 w/TGU A-0020 S-4437 F-2270 Stack Gas Heater No 2 SRU S-4228 SRU#2 w/TGU A-0021 S-4438 F-2370 Stack Gas Heater No 3 SRU S-4429 SRU #3 w/TGU A-0022	P-3110C	Sulfinol Injection Pump	Received - Not Installed	1527295	11031000-0073	10/2/2007	3/26/2008	REDACTED CONFIDENTIAL & TRADE SECRET	Warehouse A-1-01-R
78	SRU Modifications	S-4436 F-2170 Stack Gas Heater No 1 SRU S-4227 SRU #1 w/TGU A-0020 S-4437 F-2270 Stack Gas Heater No 2 SRU S-4228 SRU#2 w/TGU A-0021 S-4438 F-2370 Stack Gas Heater No 3 SRU S-4429 SRU #3 w/TGU A-0022	P-3111C	TPA Injection Pump	Received - Not Installed	1527295	11031000-0073	3/31/2009	8/19/2009	REDACTED CONFIDENTIAL & TRADE SECRET	Warehouse A-1-01-R
79	SRU Modifications	S-4436 F-2170 Stack Gas Heater No 1 SRU S-4227 SRU #1 w/TGU A-0020 S-4437 F-2270 Stack Gas Heater No 2 SRU S-4228 SRU#2 w/TGU A-0021 S-4438 F-2370 Stack Gas Heater No 3 SRU S-4429 SRU #3 w/TGU A-0022	P-3112C	Amine Injection Pump	Received - Not Installed	1527295	11031000-0073	3/31/2009	8/19/2008	REDACTED CONFIDENTIAL & TRADE SECRET	Warehouse A-1-01-R
80	SRU Modifications	S-4436 F-2170 Stack Gas Heater No 1 SRU S-4227 SRU #1 w/TGU A-0020 S-4437 F-2270 Stack Gas Heater No 2 SRU S-4228 SRU#2 w/TGU A-0021 S-4438 F-2370 Stack Gas Heater No 3 SRU S-4429 SRU #3 w/TGU A-0022	TP-3100A (see drwg D-349386-1)	HP Boiler Feedwater Pump Turbine	Received - Not Installed	15026943	11031000-0072	3/31/2009	8/19/2008	REDACTED CONFIDENTIAL & TRADE SECRET	Yard 4 Area E
81	SRU Modifications	S-4436 F-2170 Stack Gas Heater No 1 SRU S-4227 SRU #1 w/TGU A-0020 S-4437 F-2270 Stack Gas Heater No 2 SRU S-4228 SRU#2 w/TGU A-0021 S-4438 F-2370 Stack Gas Heater No 3 SRU S-4429 SRU #3 w/TGU A-0022	TP-3101A (see drwg D-349386-1)	LP Boiler Feedwater Pump Turbine	Received - Not Installed	15026943	11031000-0072	3/31/2009	8/19/2008	REDACTED CONFIDENTIAL & TRADE SECRET	Yard 4 Area E
82	SRU Modifications	S-4436 F-2170 Stack Gas Heater No 1 SRU S-4227 SRU #1 w/TGU A-0020 S-4437 F-2270 Stack Gas Heater No 2 SRU S-4228 SRU#2 w/TGU A-0021 S-4438 F-2370 Stack Gas Heater No 3 SRU S-4429 SRU #3 w/TGU A-0022	TP-3102A (see drwg D-352734-1)	Condensate Pump Turbine	Received - Not Installed	15026943	11031000-0072	4/6/2009	7/20/2009	REDACTED CONFIDENTIAL & TRADE SECRET	Yard 4 Area E
83	SRU Modifications	S-4436 F-2170 Stack Gas Heater No 1 SRU S-4227 SRU #1 w/TGU A-0020 S-4437 F-2270 Stack Gas Heater No 2 SRU S-4228 SRU#2 w/TGU A-0021 S-4438 F-2370 Stack Gas Heater No 3 SRU S-4429 SRU #3 w/TGU A-0022	V-3101 (see drwg D-349386-1)	LP Boiler Feed Water Deaerator Surge Drum	Received - Not Installed	15020347	11031000-0065	4/6/2009	7/20/2009	REDACTED CONFIDENTIAL & TRADE SECRET	Yard 4 Area H-5
84	SRU Modifications	S-4436 F-2170 Stack Gas Heater No. 1 SRU S-4227 SRU #1 w/TGU A-0020 S-4437 F-2270 Stack Gas Heater No 2 SRU S-4228 SRU#2 w/TGU A-0021 S-4438 F-2370 Stack Gas Heater No. 3 SRU S-4429 SRU #3 w/TGU A-0022	V-3101A (see drwg D-349386-1)	LP Boiler Feed Water Deaerator	Received - Not Installed	15020347	11031000-0065	4/6/2009	7/20/2009	REDACTED CONFIDENTIAL & TRADE SECRET	Yard 4 Area H-5

Chevron Revised Renewal Project - Hydrogen Purity Equipment List

REDACTED PUBLIC VERSION YELLOW highlighted cells indicate information updated for November 23, 2011 Revision

	Project Component	Associated Sources	Equipment Tag #	Equipment Name	Status	Service Order #	Purchase Order	Purchase Date	Delivery Date	Cost	Location
85	SRU Modifications	S-4436 F-2270 Stack Gas Heater No. 1 SRU S-4427 SRU #1 w/TGU A-0020 S-4437 F-2270 Stack Gas Heater No. 2 SRU S-4428 SRU#2 w/TGU A-0021 S-4438 F-2270 Stack Gas Heater No. 3 SRU S-4429 SRU #3 w/TGU A-0022	V-3102 (see dwg D-352734-1)	Condensate Drum	Received - Not Installed	15017959 / 15017951	11031000-0095	7/23/2007	8/15/2008	REDACTED -CONFIDENTIAL & TRADE SECRET	Yard 8 Area 3-9
86	SRU Modifications	S-4437 F-2270 Stack Gas Heater No. 2 SRU S-428 SRU#2 w/TGU A-0021	C-2350	Quench Column	Received - Not Installed	15038665	11031400-1005	1/29/2009	7/6/2009	REDACTED -CONFIDENTIAL & TRADE SECRET	Yard 4 Area M-7
87	SRU Modifications	S-4437 F-2270 Stack Gas Heater No. 2 SRU S-428 SRU#2 w/TGU A-0021	E-2201 (see dwg D-349320-0)	Sulfur Condenser No. 1 (Train 2)	Received - Not Installed	15036795	11031000-0004	6/5/2007	7/16/2008	REDACTED -CONFIDENTIAL & TRADE SECRET	Yard 3 or Tent C-6
88	SRU Modifications	S-4437 F-2270 Stack Gas Heater No. 2 SRU S-428 SRU#2 w/TGU A-0021	E-2280	Cooler - Quench Water	Received - Not Installed	Document not readily available	Document not readily available	4/6/2009	6/15/2009	REDACTED -CONFIDENTIAL & TRADE SECRET	#8 Warehouse
89	SRU Modifications	S-4437 F-2270 Stack Gas Heater No. 2 SRU S-428 SRU#2 w/TGU A-0021	E-2283	Heater - Purge Air	Received - Not Installed	15031738	11021480-0591	4/6/2009	6/15/2009	REDACTED -CONFIDENTIAL & TRADE SECRET	#8 Warehouse
90	SRU Modifications	S-4437 F-2270 Stack Gas Heater No. 2 SRU S-428 SRU#2 w/TGU A-0021	E-2284	Heater - Purge Air	Received - Not Installed	15031738	11021480-0591	4/6/2009	6/15/2009	REDACTED -CONFIDENTIAL & TRADE SECRET	#8 Warehouse
91	SRU Modifications	S-4437 F-2270 Stack Gas Heater No. 2 SRU S-428 SRU#2 w/TGU A-0021	FB-2201 (see dwg D-349319-0)	Acid Gas Burner (Train 2)	Received - Not Installed	15013994	11031100-0056	4/6/2009	6/15/2009	REDACTED -CONFIDENTIAL & TRADE SECRET	#8 Warehouse
92	SRU Modifications	S-4437 F-2270 Stack Gas Heater No. 2 SRU S-428 SRU#2 w/TGU A-0021	K-2202	Vent Eductor	Received - Not Installed	15020346	11031000-0027	12/16/2008	3/3/2009	REDACTED -CONFIDENTIAL & TRADE SECRET	Yard 4-H-5
93	SRU Modifications	S-4437 F-2270 Stack Gas Heater No. 2 SRU S-428 SRU#2 w/TGU A-0021	K-2250	Strainer - Main Weak Acid Circ Pump Suction	Received - Not Installed	No related service order	10024351	11/10/2008	3/27/2009	REDACTED -CONFIDENTIAL & TRADE SECRET	Yard 4-H-5
94	SRU Modifications	S-4437 F-2270 Stack Gas Heater No. 2 SRU S-428 SRU#2 w/TGU A-0021	K-2250A	Strainer - Stby Weak Acid Circ Pump Suction	Received - Not Installed	No related service order	10024351	1/29/2009	11/30/2009	REDACTED -CONFIDENTIAL & TRADE SECRET	Yard 4-H-5
95	SRU Modifications	S-4437 F-2270 Stack Gas Heater No. 2 SRU S-428 SRU#2 w/TGU A-0021	K-2281	Strainer - Fogging Water - Duplex	Received - Not Installed	15031738	10024351	7/31/2008	7/20/2009	REDACTED -CONFIDENTIAL & TRADE SECRET	WHSE-FL-D
96	SRU Modifications	S-4437 F-2270 Stack Gas Heater No. 2 SRU S-428 SRU#2 w/TGU A-0021	K-2282/A	Purge Air Blower	Received - Not Installed	15031738	10024351	7/31/2008	7/20/2009	REDACTED -CONFIDENTIAL & TRADE SECRET	WHSE-FL-D
97	SRU Modifications	S-4437 F-2270 Stack Gas Heater No. 2 SRU S-428 SRU#2 w/TGU A-0021	K-2283	Purge Air, WESP	Received - Not Installed	15031738	11021480-0591	4/6/2009	7/20/2009	REDACTED -CONFIDENTIAL & TRADE SECRET	
98	SRU Modifications	S-4437 F-2270 Stack Gas Heater No. 2 SRU S-428 SRU#2 w/TGU A-0021	K-2284	Purge Air, WESP	Received - Not Installed	15031738	11021480-0591	4/6/2009	7/20/2009	REDACTED -CONFIDENTIAL & TRADE SECRET	
99	SRU Modifications	S-4437 F-2270 Stack Gas Heater No. 2 SRU S-428 SRU#2 w/TGU A-0021	K-2299	Wet Electro-Static Precipitator	Received - Not Installed	15031738	11021480-0591	4/6/2009	7/20/2009	REDACTED -CONFIDENTIAL & TRADE SECRET	
100	SRU Modifications	S-4437 F-2270 Stack Gas Heater No. 2 SRU S-428 SRU#2 w/TGU A-0021	K-2287	Eductor - Therm. Oxidizer Recirculation	Received - Not Installed	Document not readily available	Document not readily available	4/6/2009	7/20/2009	REDACTED -CONFIDENTIAL & TRADE SECRET	
101	SRU Modifications	S-4437 F-2270 Stack Gas Heater No. 2 SRU S-428 SRU#2 w/TGU A-0021	K-2288	Eductor - Stack Heater Recirculation	Received - Not Installed	Document not readily available	Document not readily available	3/6/2007	1/9/2008	REDACTED -CONFIDENTIAL & TRADE SECRET	Benicia Fabrication
102	SRU Modifications	S-4437 F-2270 Stack Gas Heater No. 2 SRU S-428 SRU#2 w/TGU A-0021	P-2211	Sulfur Degassing Pump	Received - Not Installed	15016520	11031400-0026	10/2/2007	1/4/2008	REDACTED -CONFIDENTIAL & TRADE SECRET	Yard 3 or Tent
103	SRU Modifications	S-4437 F-2270 Stack Gas Heater No. 2 SRU S-428 SRU#2 w/TGU A-0021	P-2250	Quench Water Circulation	Received - Not Installed	No related service order	10023325	3/31/2009	8/19/2008	REDACTED -CONFIDENTIAL & TRADE SECRET	
104	SRU Modifications	S-4437 F-2270 Stack Gas Heater No. 2 SRU S-428 SRU#2 w/TGU A-0021	P-2250A	Quench Water Circulation - Standby	Received - Not Installed	No related service order	10023325	3/31/2009	8/19/2008	REDACTED -CONFIDENTIAL & TRADE SECRET	
105	SRU Modifications	S-4437 F-2270 Stack Gas Heater No. 2 SRU S-428 SRU#2 w/TGU A-0021	P-2260 B	Absorber Circulation Pump -- Top Bed	Received - Not Installed	No related service order	10023325	3/31/2009	8/19/2008	REDACTED -CONFIDENTIAL & TRADE SECRET	
106	SRU Modifications	S-4437 F-2270 Stack Gas Heater No. 2 SRU S-428 SRU#2 w/TGU A-0021	P-2261	Absorber Circulation Pump -- StandBy	Received - Not Installed	No related service order	10023325	3/31/2009	8/19/2008	REDACTED -CONFIDENTIAL & TRADE SECRET	
107	SRU Modifications	S-4437 F-2270 Stack Gas Heater No. 2 SRU S-428 SRU#2 w/TGU A-0021	V-2201	Steam Drum	Received - Not Installed	15036795	11031000-0004	7/31/2008	2/20/2009	REDACTED -CONFIDENTIAL & TRADE SECRET	
108	SRU Modifications	S-4437 F-2270 Stack Gas Heater No. 2 SRU S-428 SRU#2 w/TGU A-0021	V-2202	Steam Separator	Received - Not Installed	15035507	1103100-0816	7/31/2008	2/20/2009	REDACTED -CONFIDENTIAL & TRADE SECRET	
109	SRU Modifications	S-4438 F-2270 Stack Gas Heater No. 3 SRU S-4429 SRU #3 w/TGU A-0022	C-2350	Quench Column	Installed	15038665	11031400-1005	7/31/2008	10/30/2008	REDACTED -CONFIDENTIAL & TRADE SECRET	Installed
110	SRU Modifications	S-4438 F-2270 Stack Gas Heater No. 3 SRU S-4429 SRU #3 w/TGU A-0022	E-2380	Cooler - Quench Water	Received - Not Installed	15031738	11021480-0591	7/31/2008	10/30/2008	REDACTED -CONFIDENTIAL & TRADE SECRET	WHSE-FL-D
111	SRU Modifications	S-4438 F-2270 Stack Gas Heater No. 3 SRU S-4429 SRU #3 w/TGU A-0022	E-2380A	Cooler - Quench Water - Standby	Received - Not Installed	15031738	11021480-0591	7/31/2008	2/20/2009	REDACTED -CONFIDENTIAL & TRADE SECRET	WHSE-FL-D
112	SRU Modifications	S-4438 F-2270 Stack Gas Heater No. 3 SRU S-4429 SRU #3 w/TGU A-0022	E-2382	Heater - Purge Air	Received - Not Installed	15031738	11021480-0591	7/31/2008	2/20/2009	REDACTED -CONFIDENTIAL & TRADE SECRET	WHSE-FL-D
113	SRU Modifications	S-4438 F-2270 Stack Gas Heater No. 3 SRU S-4429 SRU #3 w/TGU A-0022	E-2382A	Heater - Purge Air - Standby	Received - Not Installed	15031738	11021480-0591	7/31/2008	2/20/2009	REDACTED -CONFIDENTIAL & TRADE SECRET	WHSE-FL-D
114	SRU Modifications	S-4438 F-2270 Stack Gas Heater No. 3 SRU S-4429 SRU #3 w/TGU A-0022	E-2384	Heater - Purge Air	Received - Not Installed	15031738	11021480-0591	6/5/2007	7/16/2008	REDACTED -CONFIDENTIAL & TRADE SECRET	Yard 3 or Tent C-6
115	SRU Modifications	S-4438 F-2270 Stack Gas Heater No. 3 SRU S-4429 SRU #3 w/TGU A-0022	E-2384A	Heater - Purge Air - Standby	Received - Not Installed	15031738	11021480-0591	6/5/2007	7/16/2008	REDACTED -CONFIDENTIAL & TRADE SECRET	Yard 3 or Tent C-6
116	SRU Modifications	S-4438 F-2270 Stack Gas Heater No. 3 SRU S-4429 SRU #3 w/TGU A-0022	FB-2301 (see dwg D-349320-0)	Acid Gas Burner Train 3	Received - Not Installed	15013994	11031100-0056	3/11/2009	6/15/2009	REDACTED -CONFIDENTIAL & TRADE SECRET	No. 8 Warehouse
117	SRU Modifications	S-4438 F-2270 Stack Gas Heater No. 3 SRU S-4429 SRU #3 w/TGU A-0022	K-2304	Vent Eductor	Received - Not Installed	15020346	11031000-0027	3/11/2009	6/15/2009	REDACTED -CONFIDENTIAL & TRADE SECRET	No. 8 Warehouse

Chevron Revised Renewal Project - Hydrogen Purity Equipment List

REDACTED PUBLIC VERSION YELLOW highlighted cells indicate information updated for November 23, 2011 Revision

	Project Component	Associated Sources	Equipment Tag #	Equipment Name	Status	Service Order #	Purchase Order	Purchase Date	Delivery Date	Cost	Location
119	SRU Modifications	S-4436 F-2370 Stack Gas Heater No. 3 SRU S-4429 SRU #3 w/TGU A-0022	K-2350	Strainer - Main Weak Acid Circ Pump Suction	Received - Not Installed	No related service order	10024351	3/11/2009	6/15/2009	REDACTED -CONFIDENTIAL & TRADE SECRET	No. 8 Warehouse
120	SRU Modifications	S-4436 F-2370 Stack Gas Heater No. 3 SRU S-4429 SRU #3 w/TGU A-0022	K-2350A	Strainer - Stay Weak Acid Circ Pump Suction	Received - Not Installed	No related service order	10024351	4/6/2009	6/15/2009	REDACTED -CONFIDENTIAL & TRADE SECRET	No. 8 Warehouse
120	SRU Modifications	S-4436 F-2370 Stack Gas Heater No. 3 SRU S-4429 SRU #3 w/TGU A-0022	K-2361/A	Strainer - Fogging Water - Duplex	Received - Not Installed	No related service order	10024351	11/10/2008	3/27/2009	REDACTED -CONFIDENTIAL & TRADE SECRET	Yard 4-H-5
121	SRU Modifications	S-4436 F-2370 Stack Gas Heater No. 3 SRU S-4429 SRU #3 w/TGU A-0022	K-2382 A	Strainer - WESP Wash Water - Duplex	Received - Not Installed	15031738	11021480-0591	7/21/2007	7/10/2009	REDACTED -CONFIDENTIAL & TRADE SECRET	RFR-Mill St @ BWH
122	SRU Modifications	S-4436 F-2370 Stack Gas Heater No. 3 SRU S-4429 SRU #3 w/TGU A-0022	K-2383	Purge Air WESP	Received - Not Installed	15031738	11021480-0591	3/28/2008	5/5/2009	REDACTED -CONFIDENTIAL & TRADE SECRET	RFR-Mill St
123	SRU Modifications	S-4436 F-2370 Stack Gas Heater No. 3 SRU S-4429 SRU #3 w/TGU A-0022	K-2383A	Purge Air, WESP - Standby	Received - Not Installed	15031738	11021480-0591	2/9/2007	6/20/2008	REDACTED -CONFIDENTIAL & TRADE SECRET	Yard 4-H-5
124	SRU Modifications	S-4436 F-2370 Stack Gas Heater No. 3 SRU S-4429 SRU #3 w/TGU A-0022	K-2384	Purge Air, WESP	Received - Not Installed	15031738	11021480-0591	5/14/2007	4/1/2009	REDACTED -CONFIDENTIAL & TRADE SECRET	Yard 4-J-3
125	SRU Modifications	S-4436 F-2370 Stack Gas Heater No. 3 SRU S-4429 SRU #3 w/TGU A-0022	K-2384A	Purge Air, WESP - Standby	Received - Not Installed	15031738	11021480-0591	5/14/2007	4/1/2009	REDACTED -CONFIDENTIAL & TRADE SECRET	Yard 4-J-3
126	SRU Modifications	S-4436 F-2370 Stack Gas Heater No. 3 SRU S-4429 SRU #3 w/TGU A-0022	K-2385	Wet Electro-Static Precipitator	Received - Not Installed	15031738	11021480-0591	5/14/2007	4/1/2009	REDACTED -CONFIDENTIAL & TRADE SECRET	Yard 4-J-3
127	SRU Modifications	S-4436 F-2370 Stack Gas Heater No. 3 SRU S-4429 SRU #3 w/TGU A-0022	K-2387	Eductor - Therm. Oxidizer Recirculation	Received - Not Installed	Document not readily available	Document not readily available	5/14/2007	4/1/2009	REDACTED -CONFIDENTIAL & TRADE SECRET	Yard 4-J-3
128	SRU Modifications	S-4436 F-2370 Stack Gas Heater No. 3 SRU S-4429 SRU #3 w/TGU A-0022	K-2388	Eductor - Stack Heater Recirculation	Received - Not Installed	Document not readily available	Document not readily available	4/26/2007	4/28/2008	REDACTED -CONFIDENTIAL & TRADE SECRET	Yard 3 or Tent
129	SRU Modifications	S-4436 F-2370 Stack Gas Heater No. 3 SRU S-4429 SRU #3 w/TGU A-0022	P-2310	Sulfur Degassing Pumps	Received - Not Installed	15016520	11031400-0026	4/26/2007	4/28/2008	REDACTED -CONFIDENTIAL & TRADE SECRET	Yard 3 or Tent
130	SRU Modifications	S-4436 F-2370 Stack Gas Heater No. 3 SRU S-4429 SRU #3 w/TGU A-0022	P-2311	Sulfur Degassing Pump	Received - Not Installed	15016520	11031400-0026	5/14/2007	4/1/2009	REDACTED -CONFIDENTIAL & TRADE SECRET	Yard 4-J-3
131	SRU Modifications	S-4436 F-2370 Stack Gas Heater No. 3 SRU S-4429 SRU #3 w/TGU A-0022	P-2350	Quench Water Circulation	Received - Not Installed	No related service order	10023325	5/14/2007	4/1/2009	REDACTED -CONFIDENTIAL & TRADE SECRET	Yard 4-J-3
132	SRU Modifications	S-4436 F-2370 Stack Gas Heater No. 3 SRU S-4429 SRU #3 w/TGU A-0022	P-2350A	Quench Water Circulation - Stand-by	Received - Not Installed	No related service order	10023325	5/14/2007	4/1/2009	REDACTED -CONFIDENTIAL & TRADE SECRET	Yard 4-J-3
133	SRU Modifications	S-4436 F-2370 Stack Gas Heater No. 3 SRU S-4429 SRU #3 w/TGU A-0022	P-2360A	Absorber Circulation Pump – Low Bed	Received - Not Installed	No related service order	10023325	5/14/2007	4/1/2009	REDACTED -CONFIDENTIAL & TRADE SECRET	Yard 4-J-3
134	SRU Modifications	S-4436 F-2370 Stack Gas Heater No. 3 SRU S-4429 SRU #3 w/TGU A-0022	P-2360 B	Absorber Circulation Pump -- Top Bed	Received - Not Installed	No related service order	10023325	5/14/2007	4/1/2009	REDACTED -CONFIDENTIAL & TRADE SECRET	Yard 4-J-3
135	SRU Modifications	S-4436 F-2370 Stack Gas Heater No. 3 SRU S-4429 SRU #3 w/TGU A-0022	P-2361	Absorber Circulation Pump -- StandBy	Received - Not Installed	No related service order	10023325	2/9/2007	6/20/2008	REDACTED -CONFIDENTIAL & TRADE SECRET	Yard 4-H-5
136	SRU Modifications	S-4436 F-2370 Stack Gas Heater No. 3 SRU S-4429 SRU #3 w/TGU A-0022	V-2302	Steam Separator	Received - Not Installed	15035507	11031100-0816	2/9/2007	6/20/2008	REDACTED -CONFIDENTIAL & TRADE SECRET	Yard 4-H-5
137	SRU Modifications	S-4490 Sulfur Loading Rack	C-2911	Water Scrubber	Received - Not Installed	15030202	11031700-0203	2/9/2007	6/20/2008	REDACTED -CONFIDENTIAL & TRADE SECRET	Yard 4-J-5
138	SRU Modifications	S-4490 Sulfur Loading Rack	C-2921	Caustic Scrubber	Received - Not Installed	15030202	11031700-0203	2/9/2007	6/20/2008	REDACTED -CONFIDENTIAL & TRADE SECRET	Yard 4-H-5
139	SRU Modifications	S-4490 Sulfur Loading Rack	K-2950	Vent Gas Blower	Received - Not Installed	15031104	11031000-0205	10/3/2007	2/1/2009	REDACTED -CONFIDENTIAL & TRADE SECRET	Yard 4-J-5
140	SRU Modifications	S-4490 Sulfur Loading Rack	K-3160/A	Loading Rack + 2 Arms	Received - Not Installed	15029832	11031000-0204	10/3/2007	2/1/2009	REDACTED -CONFIDENTIAL & TRADE SECRET	Yard 4-J-5
141	SRU Modifications	S-4490 Sulfur Loading Rack	P-2650C	SBS Loading Pump	Received 1-9-09 - Not Installed	15029190	11031000-0196	10/3/2007	2/1/2009	REDACTED -CONFIDENTIAL & TRADE SECRET	Yard 4-J-5
142	SRU Modifications	S-4490 Sulfur Loading Rack	P-2650D	SBS Loading Pump	Received 1-9-09 - Not Installed	15029190	11031000-0196	3/26/2008	6/20/2009	REDACTED -CONFIDENTIAL & TRADE SECRET	Yard 4-E-9
143	SRU Modifications	S-4490 Sulfur Loading Rack	P-2921	Caustic Scrubber Bottom Pump	Received 1-9-09 - Not Installed	15029190	11031000-0196	3/12/2008	8/13/2009	REDACTED -CONFIDENTIAL & TRADE SECRET	Floor D
144	SRU Modifications	S-4490 Sulfur Loading Rack	P-2942	Caustic Feed Pump	Received 1-9-09 - Not Installed	15029190	11031000-0196	3/12/2008	8/13/2009	REDACTED -CONFIDENTIAL & TRADE SECRET	Floor D
145	SRU Modifications	S-4490 Sulfur Loading Rack	P-311	Fresh Caustic Pump	Received - Not Installed	15029190	11031000-0196	3/26/2008	6/30/2009	REDACTED -CONFIDENTIAL & TRADE SECRET	WHSE-FL-D
146	SRU Modifications	S-4490 Sulfur Loading Rack	P-311A	Fresh Caustic Pump	Received - Not Installed	15029190	11031000-0196	3/26/2008	6/30/2009	REDACTED -CONFIDENTIAL & TRADE SECRET	WHSE-FL-D
147	SRU Modifications	S-4490 Sulfur Loading Rack	P-3150	Sulfur Loading Pump	Received - Not Installed	15023529	11031700-0205	3/26/2008	6/30/2009	REDACTED -CONFIDENTIAL & TRADE SECRET	Yard 3
148	SRU Modifications	S-4490 Sulfur Loading Rack	P-3150A	Sulfur Loading Pump	Received - Not Installed	15023529	11031700-0205	7/27/2007	11/3/2008	REDACTED -CONFIDENTIAL & TRADE SECRET	Yard 3
149	SRU Modifications	S-4490 Sulfur Loading Rack	T-2942	Recirculating Caustic Tank	Received - Not Installed	15027461	11031000-0200	7/27/2007	11/3/2008	REDACTED -CONFIDENTIAL & TRADE SECRET	Yard 4 Area 5-4
150	TKC Modifications	S-4253 TKC/FCC Feed Hydrotreater	C-430	H2S Absorber	Received - Not Installed	15016268	11031000-0014	5/14/2007	7/30/2008	REDACTED -CONFIDENTIAL & TRADE SECRET	RFR Mill St.
151	TKC Modifications	S-4253 TKC/FCC Feed Hydrotreater	E-430A	H2S Absorber Feed Cooler	Installed	15015888	11031000-0003	5/3/2007	12/17/2007	REDACTED -CONFIDENTIAL & TRADE SECRET	TKC/FCCFH
152	TKC Modifications	S-4253 TKC/FCC Feed Hydrotreater	E-430B	H2S Absorber Feed Cooler	Installed	15015888	11031000-0003	5/3/2007	12/17/2007	REDACTED -CONFIDENTIAL & TRADE SECRET	TKC/FCCFH

Chevron Revised Renewal Project - Hydrogen Purity Equipment List

REDACTED PUBLIC VERSION YELLOW highlighted cells indicate information updated for November 23, 2011 Revision

	Project Components	Associated Sources	Equipment Tag #	Equipment Name	Status	Service Order #	Purchase Order	Purchase Date	Delivery Date	Cost	Location
153	TKC Modifications	S-4253 TKC/FCC Feed Hydrotreater	E-460	Cold MP Separator Vapor Air Cooler	Installed	15015888	11031000-0003	5/3/2007	6/16/2008	REDACTED -CONFIDENTIAL & TRADE SECRET	TKC/FCCFH
154	TKC Modifications	S-4253 TKC/FCC Feed Hydrotreater	E-707	Degassed Sour Water Cooler	Installed	15013428	11031000-0002	5/3/2007	6/16/2008	REDACTED -CONFIDENTIAL & TRADE SECRET	TKC/FCCFH
155	TKC Modifications	S-4253 TKC/FCC Feed Hydrotreater	E-711A	Fractionator Reflux Drum Vapor Air Cooler	Installed	15015888	11031000-0003	8/1/2007	9/10/2008	REDACTED -CONFIDENTIAL & TRADE SECRET	TKC/FCCFH
156	TKC Modifications	S-4253 TKC/FCC Feed Hydrotreater	E-711B	Fractionator Reflux Drum Vapor Air Cooler	Installed.	15015888	11031000-0003	7/23/2007	7/30/2008	REDACTED -CONFIDENTIAL & TRADE SECRET	TKC/FCCFH
157	TKC Modifications	S-4253 TKC/FCC Feed Hydrotreater	E-711C	Fractionator Reflux Drum Vapor Air Cooler	Installed	15015888	11031000-0003	1/29/2008	1/8/2009	REDACTED -CONFIDENTIAL & TRADE SECRET	TKC/FCCFH
158	TKC Modifications	S-4253 TKC/FCC Feed Hydrotreater	E-711D	Fractionator Reflux Drum Vapor Air Cooler	Installed	15015888	11031000-0003	1/16/2008	2/17/2009	REDACTED -CONFIDENTIAL & TRADE SECRET	Yard 4-N-5
159	TKC Modifications	S-4253 TKC/FCC Feed Hydrotreater	E-714	Cold LP Separator Vapor Air Cooler	Installed	15015888	11031000-0003	1/16/2008	2/17/2009	REDACTED -CONFIDENTIAL & TRADE SECRET	TKC/FCCFH
160	TKC Modifications	S-4253 TKC/FCC Feed Hydrotreater	K-430	Rich Amine Power Recovery Turbine	Received - Not Installed	15013318	11031000-0013	1/16/2008	2/17/2009	REDACTED -CONFIDENTIAL & TRADE SECRET	TKC/FCCFH
161	TKC Modifications	S-4253 TKC/FCC Feed Hydrotreater	K-712	Duplex Strainer	Installed	15035604	11031000-0367	5/1/2008	1/9/2009	REDACTED -CONFIDENTIAL & TRADE SECRET	Installed
162	TKC Modifications	S-4253 TKC/FCC Feed Hydrotreater	K-712A	Duplex Strainer	Installed	15035604	11031000-0367	5/1/2008	1/9/2009	REDACTED -CONFIDENTIAL & TRADE SECRET	Installed
163	TKC Modifications	S-4253 TKC/FCC Feed Hydrotreater	P-430	HP Lean Amine Pumps	Installed	15013318	11031000-0013	5/1/2008	1/9/2009	REDACTED -CONFIDENTIAL & TRADE SECRET	Installed
164	TKC Modifications	S-4253 TKC/FCC Feed Hydrotreater	P-430A	HP Lean Amine Pumps	Installed.	15013318	11031000-0013	5/1/2008	1/9/2009	REDACTED -CONFIDENTIAL & TRADE SECRET	Installed
165	TKC Modifications	S-4253 TKC/FCC Feed Hydrotreater	P-707	Sour Water Degasser Pumps	Installed	15026943	11031000-0072	3/26/2008	7/20/2009	REDACTED -CONFIDENTIAL & TRADE SECRET	TKC/FCCFH
166	TKC Modifications	S-4253 TKC/FCC Feed Hydrotreater	P-707A	Sour Water Degasser Pumps	Installed	15026943	11031000-0072	7/10/2008	7/20/2009	REDACTED -CONFIDENTIAL & TRADE SECRET	TKC/FCCFH
167	TKC Modifications	S-4253 TKC/FCC Feed Hydrotreater	P-712	V-711 Recycle Water Pumps	Installed	15026943	11031000-0072	7/10/2008	7/20/2009	REDACTED -CONFIDENTIAL & TRADE SECRET	TKC/FCCFH
168	TKC Modifications	S-4253 TKC/FCC Feed Hydrotreater	P-712A	V-711 Recycle Water Pumps	Installed	15026943	11031000-0072	7/9/2008	1/20/2009	REDACTED -CONFIDENTIAL & TRADE SECRET	TKC/FCCFH
169	TKC Modifications	S-4253 TKC/FCC Feed Hydrotreater	V-430	CHP Centrifugal Separator	Received - Not Installed	15016268	11031000-0014	5/30/2008	12/17/2009	REDACTED -CONFIDENTIAL & TRADE SECRET	RFR Mill St.
170	TKC Modifications	S-4253 TKC/FCC Feed Hydrotreater	V-431	Recycle Gas Compressor KO Drum	Received - Not Installed	15015843	11031000-0100	5/1/2008	9/5/2009	REDACTED -CONFIDENTIAL & TRADE SECRET	Warehouse Floor-D
171	TKC Modifications	S-4253 TKC/FCC Feed Hydrotreater	V-432	Rich Amine Degasser	Received - Not Installed	15015535	11031000-0017	5/1/2008	9/5/2009	REDACTED -CONFIDENTIAL & TRADE SECRET	Warehouse Floor-D
172	TKC Modifications	S-4253 TKC/FCC Feed Hydrotreater	V-707	TKC Sour Water Degasser	Installed	15015535	11031000-0017	5/1/2008	9/5/2008	REDACTED -CONFIDENTIAL & TRADE SECRET	TKC/FCCFH
173	TKC Modifications	S-4253 TKC/FCC Feed Hydrotreater	V-711	Fractionator Product Drum	Installed	15015846	11031000-0093	5/1/2008	9/5/2008	REDACTED -CONFIDENTIAL & TRADE SECRET	TKC/FCCFH
174	TKC Modifications	S-4253 TKC/FCC Feed Hydrotreater	F-510	TKN Reactor Furnace Burners	Received - Not Installed	15030838	11031000-0202	5/1/2008	11/1/2008	REDACTED -CONFIDENTIAL & TRADE SECRET	Main Warehouse Yard 3 or Tent B6
175	TKC Modifications	S-4253 TKC/FCC Feed Hydrotreater	F-520	TKN Reactor Furnace Burners	Received - Not Installed	15030838	11031000-0202	5/1/2008	11/1/2008	REDACTED -CONFIDENTIAL & TRADE SECRET	Main Warehouse Yard 3 or Tent B6
176	TKC Modifications	S-4253 TKC/FCC Feed Hydrotreater	F-530	TKN Reactor Furnace Burners	Received - Not Installed	15030838	11031000-0202	1/18/2008	8/28/2008	REDACTED -CONFIDENTIAL & TRADE SECRET	Main Warehouse Yard 3 or Tent B6
177	TKC Modifications	S-4253 TKC/FCC Feed Hydrotreater	F-651	Stabilizer Reboiler	Received - Not Installed	Document not readily available	Document not readily available	1/18/2008	8/28/2008	REDACTED -CONFIDENTIAL & TRADE SECRET	Main Warehouse Yard 3 or Tent B6
178	TKC Modifications	S-4253 TKC/FCC Feed Hydrotreater	K-519	TKN Coalescent Filter	Received - Not Installed	15029525	11031000-0198	4/7/2008	8/6/2009	REDACTED -CONFIDENTIAL & TRADE SECRET	Yard 4
179	TKC Modifications	S-4253 TKC/FCC Feed Hydrotreater	P-2425	OHH Pump	Received - Not Installed	15013318	11031000-0013	2/1/2007	11/11/2008	REDACTED -CONFIDENTIAL & TRADE SECRET	Yard 4-E-9
180	TKC Modifications	S-4253 TKC/FCC Feed Hydrotreater	P-2425A	OHH Pump	Received - Not Installed	15013318	11031000-0013	2/1/2007	11/11/2008	REDACTED -CONFIDENTIAL & TRADE SECRET	Yard 4-E-9

CHEVRON REVISED RENEWAL PROJECT

ATTACHMENT 3

Worldwide Master Contract

between

Chevron U.S.A. Inc. and Air Products & Chemicals Inc.

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CHEVRON REVISED RENEWAL PROJECT

ATTACHMENT 4

Purchase Orders and

Amendment to Worldwide Master Contract

between

Chevron U.S.A. Inc. and Air Products & Chemicals Inc.

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CHEVRON REVISED RENEWAL PROJECT

ATTACHMENT 5

Chevron Payment History to Air Products for Liquid Oxygen System

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