UNITED STATES COURTS
SOUTHERN DISTRICT OF TEXAS
FILED
JUN 17 2004 JS
MICHAEL N. MILBY, CLERK OF COURT

UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF TEXAS
HOUSTON DIVISION

UNITED STATES of AMERICA,	)	
	)	
Plaintiff,	)	
and	)	
THE STATE OF DELAWARE,	)	
STATE OF LOUISIANA, and	)	
SIERRA CLUB,	)	
	)	
Plaintiff-Interveners,	)	
	)	
v.	)	Civil Action
	)	No. H-01-0978
MOTIVA ENTERPRISES LLC,	)	Honorable Melinda Harmon
Defendant.	)	
	)	

THIRD ADDENDUM TO CONSENT DECREE

WHEREAS, the United States of America (hereinafter "the United States"); the State of Delaware, and the State of Louisiana and Motiva Enterprises LLC (hereinafter "Motiva") are parties to a Consent Decree entered by this Court on August 20, 2001, and amended on May 29, 2002 and December 24, 2003 (hereinafter "the Consent Decree"); and

WHEREAS, Motiva has agreed to sell and The Premcor Refining Group Inc. (hereinafter "Premcor") has agreed to buy, certain refinery assets covered by the Consent Decree and located in Delaware City, Delaware (hereinafter the "Delaware City Refinery").

WHEREAS, Premcor has contractually agreed to assume the obligations, rights and benefits, and to be bound by the terms and conditions, of the Consent Decree as it applies to the Delaware City Refinery; and

WHEREAS, Premcor represents that it has the financial and technical ability to assume the obligations and liabilities of the Consent Decree as it relates to the Delaware City Refinery; and

WHEREAS, Motiva commits to making its technical resources available to Premcor throughout the permitting and construction processes for the primary air pollution control technologies to be installed at the Delaware City Refinery pursuant to the Second Addendum under the Consent Decree; and

WHEREAS, each of the undersigned has reviewed and hereby consents to this Third Addendum; and

NOW THEREFORE, the United States, the State of Delaware, the State of Louisiana, Motiva and Premcor hereby agree that, upon approval of this Third Addendum by the Court, the Consent Decree shall thereby be amended as follows:

1. Upon the date and time of completion of the transfer of ownership in the Delaware City Refinery (hereinafter "Closing Date"), Premcor, by its purchase of the Delaware City Refinery, assumes the obligations and liabilities, and secures the rights and benefits, of the Consent Decree as it pertains to the Delaware City Refinery in accordance with Paragraph 3, Part II, Applicability.

2. Except as provided below, after the Closing Date and upon entry by the Court of this Addendum, Motiva is released from its obligations and liabilities but retains all rights and benefits under the Consent Decree as it relates to the Delaware City

Refinery.

3. This Addendum only applies if the Closing Date occurs. In addition, if the Closing Date does not occur, Premcor bears no liability nor gains any rights or benefits under the Consent Decree, and Motiva's rights, benefits, obligations and liabilities are unaffected.

4. Nothing in this Addendum affects the provisions of the Consent Decree relative to the Norco, Convent and Port Arthur Refineries. In no event shall Premcor bear any liability under the Consent Decree relative to the Norco, Convent or Port Arthur Refineries.

5. Paragraph 4 of the Consent Decree is amended as follows:

Motiva operates three (3), and Premcor operates one (1), petroleum refinery covered by this Consent Decree for the manufacture of various petroleum-based products, including gasoline, diesel and jet fuels, and other marketable petroleum by-products.

6. Paragraph 5 is amended as follows:

(a) Motiva owns and operates refineries located as follows:

Norco, Louisiana

Convent, Louisiana

Port Arthur, Texas

(b) Premcor owns and operates a refinery located at Delaware City, Delaware.

A. Section IV. Reductions of NOx Emissions From Fluidized Catalytic Cracking Units ("FCCUs") and Fluid Coker Unit ("FCU")

1. Subsequent to the Closing Date, the provisions of Paragraph 8(b) (installation of SNCR on the Delaware City FCU) of the Consent Decree apply to both Motiva and Premcor. Motiva shall make its technical resources available after the Closing Date to assist Premcor in obtaining all appropriate federally enforceable permits (or construction permit waivers) and constructing the SNCR at the Delaware City Refinery required pursuant to the Second Addendum.

2. The obligations set forth in paragraphs 9 (SNCR Design Specification Submittal) and 22 through 24 (NOx Additives Optimization) of the Consent Decree have been fully satisfied by Motiva as they apply to the Delaware City Refinery, and no further action is required by either Motiva or Premcor with respect to these provisions.

B. Section V. Reductions of SO_2 Emissions from FCCUs and FCU

1. To clarify references, paragraph 38 shall be amended as follows:

> 38. Emission limits for PM-10 (in lb/1,000 lb coke burn) and H_2SO_4 (in ppm) from the Delaware City FCU and FCCU and Convent FCCU shall be based on the WGS licensors' guarantees. The concentration-based limits in Paragraphs 36, 37a and 37b shall not apply to the respective FCU or FCCU, as applicable, during periods of WGS bypass, provided that such bypass is necessary, meets the definition of start-up, shutdown, or malfunction, as provided for in federal and state regulations, and that Motiva or Premcor, as applicable, implements good air pollution control practices to minimize emissions during such events.

2. Motiva, with agreement of the United States and the State of Delaware, has committed to design and operate a regenerative wet gas scrubber on the Delaware City FCU to achieve SO_2 exit concentration-based limits of 25 ppmvd on a 365-day rolling average basis and 50 ppmvd on a 7-day rolling average basis, each at 0 percent oxygen. Thus, the obligations in paragraphs 39 through 50 of the Consent Decree pertaining to alternative regenerative wet gas scrubber design and emission limit setting for the Delaware City Refinery FCU are no longer applicable, and no further action is required by either Motiva or Premcor with respect to those provisions.

C. Section VI. Program Enhancements Re: Benzene Waste NESHAP

1. The obligations set forth in paragraphs 62, 63, 67, 75, 83, 85, 95, 96, 98 and 99 (Benzene Waste NESHAP) of the Consent Decree have been fully satisfied by Motiva as they apply to the Delaware City Refinery, and no further action is required by either Motiva or Premcor with respect to these provisions.

2. The obligations set forth in Paragraph 60 (General Refinery-wide Compliance Audit Requirements) relative to the Delaware City Refinery shall remain binding on Motiva, and shall not become obligations of Premcor.

3. Paragraph 61 shall be amended as follows:

> 61. Motiva shall certify to the United States and the State of Delaware or the State of Louisiana, as appropriate, that the audit and any related corrective action have been completed and that all Motiva refineries and the Delaware City Refinery are in compliance. The United States will review Motiva's certification and will respond with written concurrence. Motiva's and Premcor's releases from liability at the Motiva refineries and the Delaware City Refinery, respectively, for all past civil claims related to compliance with the Benzene Waste NESHAP through the date of lodging of this Consent Decree, as specified in Part XVI I (Effect of Settlement), and release for those

violations which Motiva or Premcor self-discloses as a result of its audits, will take effect upon the United States' concurrence with Motiva's audit and compliance certification. With respect to the Delaware City Refinery, to the extent that Motiva is unable to certify compliance prior to the Closing Date, then Premcor's release from liability at the Delaware City Refinery for those violations which Motiva or Premcor self-discloses as a result of its audits, will take effect upon the United States' concurrence with Motiva's audit, or Premcor's audit, as applicable, and compliance certification.

D. Section VII. Program Enhancements Re: Leak Detection and Repair

1. Paragraph 110 shall be amended as follows:

110. Within 60 days of completion of the audits, Motiva shall certify to EPA that the audit and any related corrective action have been completed and that all Motiva refineries and the Delaware City Refinery are in compliance or on a compliance schedule. The United States will review Motiva's certification and will respond with written concurrence. Motiva's and Premcor's releases from liability at the Motiva refineries and the Delaware City Refinery, respectively, as specified in Part XVII (Effect of Settlement), for all past civil claims related to compliance with the LDAR requirements through the date of lodging of this Consent Decree, and release for those violations which Motiva or Premcor self-discloses as a result of its audits will take effect upon the United States' concurrence with Motiva's audit and compliance certification. With respect to the Delaware City Refinery, to the extent that Motiva is unable to certify compliance prior to the Closing Date, then Premcor's release from liability at the Delaware City Refinery for those violations which Motiva or Premcor self-discloses as a result of its audits will take effect upon the United States' concurrence with Motiva's audit, or Premcor's audit, as applicable, and compliance certification.

2. Paragraph 112 shall be amended by adding the following sentence to the end of the paragraph:

"Premcor shall conduct an external audit of the LDAR program at the Delaware City Refinery at least once every two years, with the next audit due in 2004."

3. Paragraphs 113(a) (internal audits) and 113(b) (alternative audits) of the Consent Decree shall not apply to Premcor.

4. The obligations set forth in paragraph 109 (LDAR Audit) and subparagraphs 133(b) - 133(h) (First Progress Reports) of the Consent Decree have been fully satisfied by Motiva as they apply to the Delaware City Refinery, and no further action is required by either Motiva or Premcor with respect to these provisions.

E. Section VIII. Program Enhancements Re: NSPS Subparts A and J SO_2 Emissions from Sulfur Recovery Plants ("SRP") and Flaring

1. The obligations set forth in Paragraph 135(a) (Refinery Flare Audits) relative to the Delaware City Refinery shall remain binding on Motiva to the extent set forth in the revised paragraph 135(a) as below.

2. Paragraph 135(a) shall be amended as follows:

> 135(a). By no later than June 30, 2001, Motiva shall develop and submit for EPA approval a protocol for audits of pre-1974 refinery flares, including the following:
>
> Delaware City Refinery (DE): North, South, and Frozen Earth Propane.
>
> Convent Refinery (LA): Flare 1.
>
> Norco Refinery (LA): Coker and Hydrocracker.
>
> Port Arthur Refinery (TX): VPS #4 and Hydrocracker
>
> Motiva shall begin the audits by September 30, 2001. Within 30 days of completing each audit, Motiva shall submit the audit results to EPA and identify the flares for which it will accept NSPS Subpart J applicability. With respect to the Convent, Norco and Port Arthur Refineries, Motiva shall propose a schedule with the audit results for achieving compliance with Subpart J, to the extent necessary. With respect to the Convent, Norco and Port Arthur Refineries, Motiva shall submit notifications to EPA required by 40 C.F.R. § 60.7 when it has achieved compliance for each particular flare. With respect to the Delaware City Refinery flares, to the extent that Motiva is unable to certify compliance prior to the Closing Date, then within thirty (30) days of Motiva's submission of the audit results for the Delaware City Refinery, Premcor shall submit any required proposed schedule of compliance. In such case, Premcor shall submit to EPA a notification

required by 40 C.F.R. § 60.7 when it has achieved compliance for each particular flare. Such notifications shall be included in Motiva's or Premcor's next quarterly report following compliance, as required under Part XI. Motiva's or Premcor's release for liability for each particular flare for violations of NSPS Subpart J under Part XVII (Effect of Settlement) shall be contingent upon Motiva's or Premcor's respective certification of compliance.

3. The obligations set forth in paragraphs 137 (Rerouting of SRP Sulfur Pit Emissions), 141 through 143 (Past Flaring Analysis and Corrective Action) and 148(a) (Hydrocarbon Flaring Plan) of the Consent Decree have been fully satisfied by Motiva as they apply to the Delaware City Refinery, and no further action is required by either Motiva or Premcor with respect to these provisions.

4. Paragraph 165 is amended by replacing the first sentence with the following:

> Motiva shall be liable to pay all stipulated penalties for violations of the requirements of this part. However, if any AG Flaring Incident or Tail Gas Incident occurs at the Delaware City Refinery after the Closing Date, Premcor shall instead be responsible for any applicable stipulated penalties. Further, Motiva shall continue to be liable for any AG Flaring Incident or Tail Gas Incident associated with any incident or event that occurred before the Closing Date or which continues subsequent to the Closing Date. Motiva shall also be liable for any requirements set forth in this Section associated with any AG Flaring Incident or Tail Gas Incident that occurred before the Closing Date or which continues subsequent to the Closing Date. Notwithstanding the above, Premcor shall be liable for any applicable stipulated penalty for any failure to perform required Corrective Action(s) to be completed after the Closing Date for incidents occurring prior to the Closing Date, or for any failure to submit a report after all such Corrective Action(s) has been completed, as required pursuant to Paragraph 150(f)(5), to the extent Motiva identified such Corrective Action(s) within its Flaring Incident Reports submitted to EPA and DNREC pursuant to Paragraph 150 prior to the Closing Date, and to the further extent that the schedules identified in the Flaring Incident Reports provided for such Corrective Action(s) to be completed after the Closing Date.

F. Section IX. Permitting

1. The following paragraph 168b shall be added:

168b. With respect to the Delaware City Refinery, Motiva has submitted applications for the regenerative WGSs governed by Paragraph 35b and the SNCR governed by Paragraph 8b. Motiva shall make all reasonable efforts (including making its technical resources available) after the Closing Date to assist Premcor in obtaining all appropriate federally enforceable permits (or construction permit waivers) for the construction of the regenerative WGSs and SNCR at the Delaware City Refinery required pursuant to the Second Addendum. If Premcor fails to obtain the necessary permits in accordance with the schedules established under this Consent Decree, the United States may require Motiva to demonstrate that it has met its burden pursuant to this paragraph.

G. Section XII. Stipulated Penalties

1. Paragraph 174 is replaced by the following paragraphs:

174a. Motiva or Premcor, as applicable, shall pay stipulated penalties to the United States and the State of Delaware or Louisiana, as appropriate (split 50 percent to each), for each failure by the respective Company to comply with the terms of this Consent Decree applicable to such Company; provided however that in no event shall Premcor be responsible for stipulated penalties for any matter concerning the Convent, Norco or Port Arthur Refineries, nor for any matter concerning the Delaware City Refinery related to actions or omissions first occurring prior to the Closing Date; and provided further that the United States or the State of Delaware or Louisiana, as appropriate, may elect to bring an action for contempt in lieu of seeking stipulated penalties for violations of this Consent Decree.

174b. Notwithstanding the provisions of Paragraph 174a, subsequent to the Closing Date, in the event that Premcor fails to install the SNCR on the FCU by November 30, 2005 in accordance with paragraph 8b, then Motiva shall pay stipulated penalties to the United States and the State of Delaware (split 50 percent to each), pursuant to paragraph 175(a)(i); and the United States or the State of Delaware may concurrently bring an action for contempt against Premcor for the violation of this Consent Decree.

H. Section XVII. Effect of Settlement.

Paragraph 207 of the Consent Decree shall be replaced by the following:

> 207. During the life of this Consent Decree, the units described in paragraph 206 shall be on a compliance schedule and to the extent that Motiva or Premcor, as applicable, take required actions after obtaining all necessary permits to satisfy the compliance schedule, the releases of liability in paragraphs 204 and 206 shall extend to Motiva or Premcor as applicable, through the time of Motiva's or Premcor's satisfactory completion of the applicable compliance schedule. Further, any modification (as defined in 40 C.F.R. § 52.21) to the units which is not required by this Consent Decree is beyond the scope of this release. In addition, this paragraph shall not be construed to grant any release to Motiva or Premcor for new violations that originated after August 20, 2001 (the date of entry of the Consent Decree), and this paragraph does not affect any releases in Paragraphs 204 through 206.

I. Section XVIII. General Provisions

1. Paragraph 215 shall be further amended to include the following information:

As to Premcor:

James Fedena, Manager
Environment, Health & Safety
The Premcor Refining Group Inc.
2000 Wrangle Hill Road
Delaware City, DE 19706

With a copy to

Jeffrey Dill, Esquire
Assistant General Counsel
The Premcor Refining Group Inc.
1700 East Putnam, Suite 500
Old Greenwich, CT 06870

As to Plaintiff-Intervenor, the State of Delaware adding:

Valerie S. Csizmadia, Deputy Attorney General
Office of the Attorney General
102 W. Water Street, Third Floor
Dover, DE 19904

J. Section XIX. Termination

Paragraph 223 of the Consent Decree shall be replaced by the following paragraphs:

> 223a. All provisions of this Consent Decree applicable to Motiva shall be subject to termination upon motion by the United States, the State of Louisiana or Motiva after the Company satisfies all requirements of this Consent Decree applicable to Motiva. The requirements for termination for Motiva, as to the Norco, Convent and Port Arthur Refineries include payment of all stipulated penalties that may be due to the United States or the State of Louisiana under this Consent Decree, installation of control technology systems as specified herein, the performance of all other consent decree requirements, the receipt of all permits specified herein, and EPA's receipt of the first calendar quarterly progress report following the conclusion of Motiva's operation for at least one year of all units in compliance with the emission limits established herein, all with respect to the Norco, Convent and Port Arthur Refineries. The requirements for termination for Motiva as to the Delaware City Refinery under this Addendum include payment of any stipulated penalties that may be due to the United States or the State of Delaware, and the performance of all other requirements of this third addendum to the consent decree. At such time, if Motiva believes that it is in compliance with the applicable requirements of this Consent Decree and the relevant permits specified herein, and has paid any stipulated penalty required of Motiva by this Consent Decree, then Motiva shall so certify to the United States and the State of Louisiana and unless the United States or the State of Louisiana objects in writing with specific reasons within 120 days of receipt of the certification, the Court shall order the provisions of this Consent Decree applicable to Motiva be terminated on Motiva's motion. If the United States or the State of Louisiana objects to Motiva's certification, then the matter shall be submitted to the Court for resolution under Part XVI (Dispute Resolution) of this Consent Decree. In such case, Motiva shall bear the burden of proving that the relevant provisions of this Consent Decree shall be terminated.

223b. All provisions of this Consent Decree applicable to Premcor shall be subject to termination upon motion by the United States, the State of Delaware or Premcor after Premcor satisfies all requirements of this Consent Decree applicable to Premcor. The requirements for termination for Premcor, as to the Delaware City Refinery, include payment of all stipulated penalties that may be due from Premcor to the United States or the State of Delaware under this Consent Decree, installation of control technology systems as specified herein, the performance of all other consent decree requirements, the receipt of all permits specified herein, and EPA's receipt of the first calendar quarterly progress report following the conclusion of Premcor's operation for at least one year of all units in compliance with the emission limits established herein, all only with respect to the Delaware City Refinery. At such time, if Premcor believes that it is in compliance with the applicable requirements of this Consent Decree and the relevant permits specified herein, and has paid any stipulated penalty required of Premcor by this Consent Decree, then Premcor shall so certify to the United States and the State of Delaware, and unless the United States or the State of Delaware objects in writing with specific reasons within 120 days of receipt of the certification, the Court shall order the provisions of this Consent Decree applicable to Premcor be terminated on Premcor's motion. If the United States or the State of Delaware objects to Premcor's certification, then the matter shall be submitted to the Court for resolution under Part XVI (Dispute Resolution) of this Consent Decree. In such case, Premcor shall bear the burden of proving that the relevant provisions of this Consent Decree shall be terminated.

So entered in accordance with the foregoing this _____day of _____, 2004.

_____

Melinda Harmon
United States District Court Judge
Southern District of Texas

FOR PLAINTIFF, UNITED STATES OF AMERICA:

Tom Sansonetti **Date:** 5.28.04

Thomas L. Sansonetti
Assistant Attorney General
Environment and Natural Resources Division
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10th & Pennsylvania Avenue, N.W.
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Dianne M. Shawley **Date:** 5/19/04

Dianne M. Shawley
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U. S. v. Motiva Enterprises LLC, et al

FOR U.S. ENVIRONMENTAL PROTECTION AGENCY:

Thomas V. Skinner

Date: 6/9/04

Thomas V. Skinner
Acting Assistant Administrator
Office of Enforcement and Compliance
Assurance
U.S. Environmental Protection Agency
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Washington, D.C. 20460

For Plaintiff-Intervener the State of Delaware:

John Hughes
Secretary
Department of Natural Resources and
Environmental Control
89 Kings Highway
Dover, Delaware 19901

Date: 4·28·04

Valerie S. Csizmadia
Deputy Attorney General
Office of the Attorney General
102 West Water Street, Third Floor
Dover, Delaware 19904

Date: 4-28-04

Preliminary Approval of Plaintiff-Intervener, the State of Louisiana, through the Department of Environmental Quality:

Harold Leggett, Ph.D. by DMS **Date:** 5/18/04

Harold Leggett, Ph.D.
Assistant Secretary
Office of Environmental Compliance
Louisiana Department of Environmental Quality

Ted Broyles, II by DMS **Date:** 5/18/04

Ted Broyles, II
Senior Attorney
Office of the Secretary
Legal Affairs Division
P.O. Box 4302
Baton Rouge, Louisiana 70821-4302

For Northwest Air Pollution Authority of the State of Washington, A Washington Municipal Corporation:

By: Laughlan H. Clark, by DMA

Laughlan H. Clark
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P. O. Box 5226
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For Motiva Enterprises LLC:

J S Moorad

Date: 4/27/04

Judy Moorad
Vice President
Safety, Health and Environment
Shell Oil Products, U.S.
12700 Northborough Drive - NAX 300N
Houston, TX 77067-2508

For The Premcor Refining Group Inc.:

Bruce A. Jones
Vice President
Environment, Health and Safety
The Premcor Refining Group Inc.
1700 East Putnam
Old Greenwich, CT 06870

Date: 5/6/2004

Appendix I
Scope of Work

New or Modified Facilities Being Designed by Motiva for Consent Decree Compliance

Regenerative Wet Gas Scrubbers designed to achieve 25ppm annual and 50 ppm 7-day rolling average outlet SO2 concentrations will be installed on the DCR FCU and FCCU. A simplified process flow diagram for the regenerative scrubbers being designed is shown in Appendix III. Descriptions of the three process components of these scrubbers follows:

Belco Prescrubber - The Belco pre-scrubber system consists of quench spray tower components and a purge treatment unit. Exhaust flue gases from the Fluid Coker Unit CO (carbon monoxide) boiler and, in a separate scrubber system, exhaust flue gases from the Fluid Catalytic Cracker Unit CO boiler will be ducted to the inlet of down-flow Belco spray towers. The flue gas is quenched and saturated by means of high-density water sprays. The coarse fraction of particulates will be captured in the spray tower through the use of multiple spray curtains. Nearly 100% of particulate greater than 3 microns in size is captured in the spray tower along with a smaller percentage of finer particulate. A significant portion of the SO_3 from the flue gas is removed since the SO_3 forms a mist that acts like fine particulates. A portion of the SO_3 is collected in the Agglo-Filtering Modules. The flue gas passes to Belco's Agglo-Filtering Modules. Each module has a spray nozzle at its entrance to enhance particulate capture. In the modules, the flue gas is accelerated (compressed) and then decelerated (expanded). Water will condense on the fine particles and mist (including condensed SO_3) increasing them in size. The now enlarged and agglomerated particles and mist are captured by water sprays at the top of each module. The flue gas then passes through a set of down-flow Cyclolab droplet separators located inside the spray tower. Each treats a portion of the flue gas, removing free-water droplets from the gas by centrifugal separation. Water droplets are driven outward, collected on the walls and drained. The gas then passes out the bottom section of the spray tower and through a short duct to the bottom of the Cansolv absorber tower. The captured particles are extracted from the circulating pre-scrubber water stream in a low volume purge and sent to the Purge Treatment Unit. A clarifier separates suspended solids to produce a clear overflow and slurry underflow. The underflow is discharged to settling bins where, after additional water drains, the suspended solids are sent to an authorized facility.

Cansolv SO_2 Absorber - The Cansolv process is marketed by Black & Veatch Pritchard and Cansolv Technologies, Inc. The Cansolv system consists of an absorption tower system, regeneration unit and an Electrodialysis Unit for heat-stable salt removal. The SO_2 in the flue gas entering the lower section of the absorber tower is absorbed by contact with the Cansolv proprietary amine. Lean cool amine is fed to the top of the tower and SO_2 is absorbed into the amine solvent that exits the tower as rich amine. The tower internals consist of three

sections of structured packing. The absorption of SO_2 is proportional to lower operating temperatures. To lower the gas temperatures entering the absorber tower, the Belco pre-scrubber water is cooled by a circulating glycol-water stream in heat exchangers. The circulating glycol is then cooled through a series of air coolers.

Cansolv Regeneration - The rich SO_2 laden amine from the absorption tower is pumped by the rich solvent pump through filtration and then to lean/rich heat exchangers to the regeneration stripper tower. A steam heated reboiler is used to generate stripping steam in the column. As the amine flows down the column, the SO_2 is stripped from the liquid and carried overhead and cooled in the overhead condenser. The product SO_2 vapor is separated from the steam condensate in the reflux accumulator and is sent by blowers to the existing refinery sulfur recovery unit.

A slipstream of the lean amine flow is fed to the electrodialysis unit (ED) for heat-stable salts (HSS) removal. In this unit, heat stable ions like sulfate are replaced by regenerable sulfite anions from the stripper reflux. The ED unit accomplishes the HSS salt removal by electric field driven transport of ions from one solution to another through ion-selective membranes.

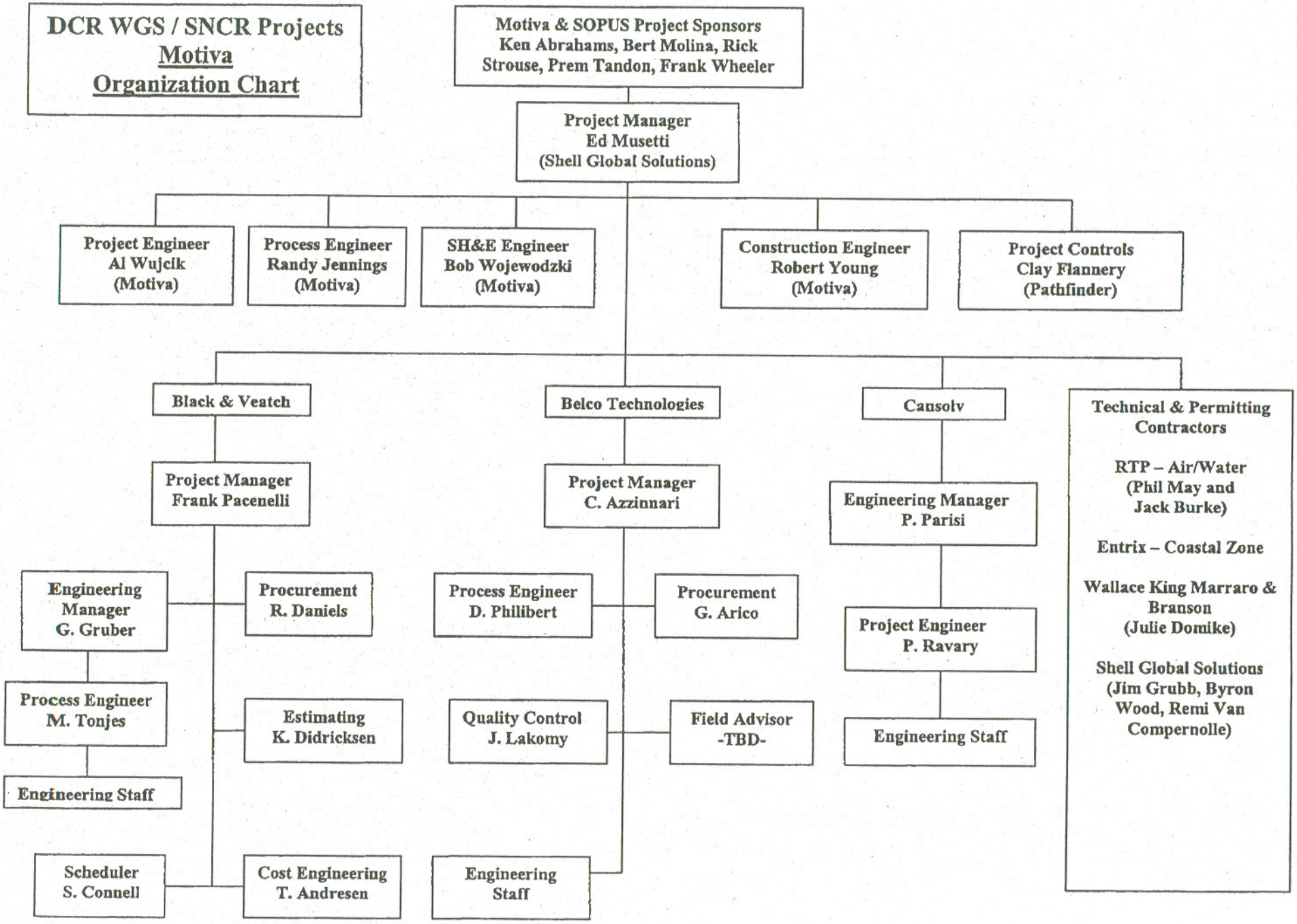
Sulfur Plant Changes - The SO_2 product gas from the wet gas scrubbers will be sent by blowers to a new water knockout drum located at each existing sulfur recovery unit. The gas will then be sent to the second stage of the sulfur plant thermal reactors. Modifications to the units' instrumentation and controls will be required as well as metallurgy changes to existing piping due to temperature increases. The SO_2 will be converted to molten sulfur and recovered in existing facilities for sulfur product sales. Modifications to both refinery Sulfur Plants and both Sulfur Tail Gas Treaters are also being completed to allow the burning of refinery sour water stripper ammonia off gas. Presently, the ammonia is burned in Crude Unit Atmospheric Heater, 21-H-701. Black & Veatch Pritchard is the engineering contractor designing all required modifications to these existing units.

CO Boiler Upgrades - Due to the pressure drop through the new scrubbers, the pressure of the flue gasses from the outlet of the CO Boilers will increase. Modifications to internal structural steel members and other strengthening work for both the FCU and FCCU CO Boilers will be required to operate the boilers at the higher operating pressure. Also, the boilers' forced draft fans will be replaced with higher discharge pressure fans.

A selective non-catalytic reduction (SNCR) system will be installed on the FCU CO Boiler to reduce NOx emissions from this unit by November 30, 2005 as required pursuant to paragraph 8b of the Consent Decree. Motiva has completed the preliminary engineering for this project. This project will result in a reduction in NOx emissions from the FCU CO boiler exhaust. Also as a result of installing the SNCR system, some unreacted ammonia will be emitted from the boiler, virtually all of which will be captured by the WGS prescrubber once the WGS system becomes operational.

Appendix II

Project Organization and Key Personnel Qualifications

The organization used by Motiva prior to closing of the DCR sale to Premcor is depicted in the attached the project organization chart file:

DCR WGS / SNCR Projects
Motiva
Organization Chart