

SETTLEMENT AGREEMENT

This Settlement Agreement is hereby agreed to between Texas Petrochemicals LP ("TPC") and the City of Houston (the "City"), hereafter referred to jointly as the "Parties."

I.

WHEREAS, TPC owns and operates a chemical manufacturing facility (the "Facility") in Houston, Texas located at 8600 Park Place Boulevard, Houston, Texas 77017;

II.

WHEREAS, TPC and the City recognize that the Emission Reduction Agreement between TPC and the Texas Commission on Environmental Quality, executed in June, 2005, and attached hereto as Exhibit A, represents a significant voluntary commitment on the part of TPC to improve air quality in Houston's East End; and

III.

WHEREAS, TPC is actively implementing its commitments under the Emission Reduction Agreement; and

IV.

WHEREAS, the location of the Facility gives the City a significant interest in TPC's implementation of the Emission Reduction Agreement and in addressing the City's concerns about the air quality in Houston's East End; and

V.

WHEREAS, TPC and the City have collaborated in a constructive dialog during 2005 to develop a closer working relationship; and

VI.

WHEREAS, the City has not alleged and TPC expressly denies that its Facility is operating in violation of any law or regulation or is otherwise causing air pollution in the surrounding community; and

VII.

WHEREAS, this Settlement Agreement is intended to resolve any and all claims or causes of action of the City, be they claims under statute, ordinance, common law or other legal authority, relative to air emissions from the Facility prior to the effective date of this Settlement Agreement; and

VIII.

WHEREAS, this Settlement Agreement is intended to be enforceable by the Parties in the same manner as any other contract between the City and a private party; and

IX.

WHEREAS, the Parties recognize that the Settlement Agreement has been negotiated at arms length and in good faith and that the Settlement Agreement is fair, reasonable, and in the public interest;

NOW THEREFORE, the Parties hereby agree to the following:

1. Flare Butadiene (“BD”) Emission Reduction Measures

TPC will complete its Flare Gas Recovery Project by no later than December 31, 2005. During 2006, TPC will operate its new Flare Gas Recovery System to optimize its performance. Although TPC expects to achieve the majority of the BD emissions reductions from the flare during 2006, TPC will commit, beginning with calendar year 2007, and continuing thereafter during the remaining term of this Settlement Agreement, to limit the annual emissions of BD

from the flare to less than 5,702 pounds, excluding emissions attributable to Force Majeure events. This limit represents a reduction of 29,129 pounds from the flare's 2004 emissions (34,313 pounds), plus 10% of the difference between 29,129 and 34,313. Calculations of BD emissions will assume that 98% of the BD routed to the flare is oxidized.

2. Fugitive BD Emission Reduction Measures

(a) No later than January 1, 2006, and continuing thereafter during the remaining term of this Settlement Agreement, TPC will use a "leak" definition of 250 parts per million ("ppm") of Volatile Organic Compounds ("VOC") for all of the Facility's components regulated under its Leak Detection and Repair ("LDAR") programs.

(b) No later than January 1, 2007, and continuing thereafter during the remaining term of this Settlement Agreement, TPC will initiate repair attempts within 24 hours for any manually-operated valve in hazardous air pollutant service when scheduled EPA Method 21 monitoring of the valve indicates a VOC concentration greater than 100 ppm, but less than 250 ppm. Attempts to reduce any such concentration to less than 100 ppm will be made using hand-held tools and traditional leak repair methods, such as using bonnet-tightening wrenches to tighten packing, and the valve will then be remonitored. If the concentration remains above 100 ppm, no further action will be required pursuant to this Settlement Agreement. If the concentration exceeds 250 ppm upon remonitoring, then the Facility's usual leak repair procedures will be followed.

(c) Beginning with calendar year 2008, and continuing thereafter during the remaining term of this Settlement Agreement, the estimated annual BD emissions from fugitive sources will be at least 9,060 pounds less than the estimated annual BD emissions from fugitive

sources during 2004. The Parties recognize that fugitive emissions from leaking components, such as valves, pumps, flanges and connectors, are quantified on the basis of presumptive "emissions factors." The Parties recognize that it is not possible to precisely quantify the mass of fugitive emissions generated annually at a chemical manufacturing facility, and that any predicted mass reduction in annual fugitive BD emissions is merely an estimate. For purposes of the audit required under Paragraph 6, fugitive BD emissions will be estimated using the emissions estimation procedures described in Exhibit B. To the extent that the audit required under Paragraph 6(b) of this Settlement Agreement demonstrates that the Facility's 2004 fugitive BD emissions were calculated incorrectly by TPC, e.g., if incorrect emissions factors were used, TPC will agree to a level of reductions in fugitive BD emissions reductions greater than 9,060 pounds so as to compensate for that error. For example, if such an error revealed that TPC underestimated its 2004 fugitive BD emissions by 1000 pounds, TPC would be required to reduce its fugitive BD emissions by 10,060 pounds per year. If the audit required under paragraph 6(c) concludes that TPC undercounted its components for 2004, the 2004 BD fugitive emissions level will be adjusted upward accordingly and the 9,060 pound reduction commitment will be based on this adjusted 2004 baseline value.

(d) TPC may make-up any shortfall in estimated fugitive emission reductions under (c), above, by further reducing BD emissions from the flare by an amount equal to at least 105% of the shortfall. For example, if TPC were to reduce fugitive emissions by 8,060 pounds per year (1,000 pounds less than the 9,060 pound target) TPC could compensate for the 1,000-pound shortfall by reducing BD emissions from the flare by an additional 1,050 pounds per year, thereby reducing the flare's maximum BD emissions to no more than 4,652 pounds per year.

(e) If there is a shortfall of fugitive emissions, as described in 2(d), and TPC has already reduced BD emissions at the flare beyond 5,702 pounds, that additional reduction shall be credited against the shortfall. If, for example, the fugitive emissions reductions were to result in a shortfall of 1,000 pounds, and BD emissions at the flare have already been reduced to 4,652 pounds per year, then that reduction shall be credited against the shortfall, and no further reduction shall be required.

(f) No later than January 1, 2006, and continuing thereafter, on a quarterly or more frequent basis, during the remaining term of this Settlement Agreement, TPC will incorporate the use of a passive infrared spectrometer camera as a routine part of the Facility's LDAR program and to identify potential emissions of BD during start-ups of process units. Equipment that is subject to regulatory leak detection and repair requirements that is found to be leaking using the passive infrared spectrometer camera will be monitored using EPA Method 21 (if applicable) and will be subject to the leak repair requirements of Paragraphs 2(a) and (b).

3. Cooling Tower BD Emission Reduction Measures

No later than December 31, 2005, TPC will complete its Cooling Tower Monitoring Project. No later than January 1, 2006, TPC will monitor the concentration of BD in the cooling water return for each cooling tower using the methods prescribed in 30 TAC § 115.764 (in effect on the date this Settlement Agreement is executed). During 2006, TPC will operate its new Cooling Tower Monitoring System to optimize its performance. No later than January 1, 2007, and continuing thereafter during the remaining term of this Settlement Agreement, TPC will implement the following procedures to identify and repair leaks in heat exchangers that may result in BD emissions from cooling towers:

(a) A potential leak of BD will be deemed to have occurred for purposes of this Settlement Agreement if, based on the monitoring results, TPC calculates a concentration of BD of 1 ppm or greater in cooling water.

(b) If a potential leak of BD is detected, TPC will initiate efforts to confirm the existence of a leak and to identify and attempt to repair the leak within 24 hours. A confirmed BD leak will be repaired as soon as practical, but not later than 30 days after the leak is confirmed.

(c) Within 7 days after attempting repair, TPC will determine whether any confirmed BD leak has stopped based on the monitoring results, whereby TPC calculates a concentration of BD of less than 1 ppm in cooling water over a 24-hour period. If the leak has not stopped, TPC will promptly attempt additional repairs.

(d) If the repair of a confirmed BD leak necessitates the shutdown of process equipment, the repair may be delayed until the next scheduled shutdown of that equipment under either of the following circumstances:

(i) An unscheduled shutdown to repair the leak will cause more BD emissions than the delay in repair; or

(ii) A shutdown is otherwise scheduled to begin within 60 days after the leak is detected, and the delay in repair will not cause more BD emissions than an unscheduled shutdown to repair the leak.

(e) Repair may be delayed for up to 90 days after a BD leak is confirmed if the parts or personnel necessary to make the repair are not available earlier.

(f) The audit provided for under paragraph 6(b) below will be used to establish 2007 BD emissions from the Facility's cooling towers. This 2007 BD emissions baseline for the cooling towers will be adjusted upward by 10% to account for operational variability. During calendar year 2008, and continuing thereafter during the remaining term of this Settlement Agreement, annual BD emissions from the Facility's cooling towers will be at least 402 pounds lower than the adjusted 2007 BD emissions baseline, excluding emissions attributable to Force Majeure events.

4. Loading BD Emission Reduction Measures

No later than December 31, 2006, TPC will install "dry break" loading equipment at the Facility's rail loading unit in accordance with the Emission Reduction Agreement. No later than June 30, 2007, TPC will seek to add this obligation as a special condition to one of the Facility's air permits. If a time extension for installation of the equipment is authorized under the Emission Reduction Agreement, the timelines set forth above shall be extended accordingly.

5. Wastewater BD Emission Reduction Measures

No later than January 1, 2008, TPC will implement the improvements to its wastewater handling systems set forth in the plan developed by TPC pursuant to the Emission Reduction Agreement.

6. Independent Audits

(a) No later than July 31, 2007, TPC will conduct an independent third party audit to assess whether TPC has met its obligations under Paragraph 1 above, concerning emissions

reductions from the flare. No later than September 30, 2007, TPC will provide a report of this audit to the City.

(b) No later than February 15, 2008, TPC will conduct an independent third party audit to assess whether TPC has met its obligations under Paragraph 3 above, concerning cooling tower emissions reductions. No later than April 15, 2008, TPC will provide a report of this audit to the City.

(c) No later than July 30, 2008, TPC will conduct an independent third party audit to assess whether TPC has met its obligations under Paragraph 2 above concerning fugitive emissions reductions. No later than September 30, 2008, TPC will provide a report of this audit to the City.

(d) In fulfilling its responsibilities under this Paragraph 6, TPC will select appropriately experienced and technically qualified auditors with which TPC does not have a substantial historical business relationship. TPC will advise the City of the auditor(s) TPC has selected and provide the City the qualifications of the auditor(s) at least 2 months before the audit is to commence. The City will concur in TPC's selection unless the City presents and documents objections concerning the technical competence or objectivity of the proposed auditor(s). If, in the exercise of good faith and for demonstrably objective reasons, the City does not concur with TPC's selection, TPC will select another auditor. The auditors identified in Exhibit C are agreed to be acceptable to the Parties.

7. Quarterly Reports

Beginning with the fourth quarter of 2006, and continuing thereafter during the remaining term of this Settlement Agreement, TPC will submit to the City a summary of BD emissions within 60 days after the end of each calendar quarter. Emissions from the flare and cooling towers will be included in all quarterly summaries. Emissions from fugitives sources will be included beginning with the report for the third quarter of 2008. Each summary will identify and explain any emissions that are attributable to Force Majeure events, as provided for in this Settlement Agreement.

8. Reduction in Fence Line BD Concentrations

(a) TPC commits that, by December 31, 2007, it will take appropriate measures to limit the net BD ground level impact of its Facility (as measured at the Facility's southern and northern fence lines) to an annual average concentration of no more than 1 part per billion by volume (ppbv). The configuration and operational details of the fence line monitoring system will be determined pursuant to the Emission Reduction Agreement. Downwind fence line BD concentrations determined to be attributable to sources other than the Facility will not be included in calculating the net impact. Other sources may include, but are not limited to, background area sources, mobile sources and other industrial sources of BD. If it is determined that the net impact is greater than 1 ppbv, TPC will implement additional, reasonably achievable measures to reduce Facility BD emissions that are determined to be responsible for the concentration above 1 ppbv.

(b) TPC commits to the goal of achieving a net impact level of 0 ppbv of BD at its southern and northern fence lines. BD concentrations attributable to sources other than the

Facility will not be included in calculating the net impact. TPC and the City agree that this commitment is a good faith aspirational goal and not a contractual commitment.

(c) If TPC monitors a one-hour average concentration of 25 ppbv BD at the fence line of the Facility, TPC will initiate an on-site investigation to identify and correct any Facility conditions that are found to be contributing to such a concentration. This threshold concentration for corrective action will be reduced over time pursuant to the Emission Reduction Agreement.

9. VOC Emissions Credits

TPC agrees not to sell BD or VOC emission credits obtained through the projects implemented pursuant to this Settlement Agreement for use at any other facility located in the City of Houston or for use at any facility in Harris County that produces or purifies BD for sale.

10. City Access to Data

TPC will send an e-mail alert to a designated City official, at the same time the e-mail is automatically received by TPC's environmental staff, any time (1) more than 500 pounds of BD is routed to the flare in any hour, which level would generate 10 pounds of BD emissions from the flare; (2) monitoring indicates a potential leak of BD from a heat exchanger; or (3) fence line monitoring measures a concentration of 25 ppbv or greater over any 1-hour period.

11. Enforcement of the Settlement Agreement

Unless otherwise provided in this Settlement Agreement, and in particular subject to the Dispute Resolution and Force Majeure provisions of this Settlement Agreement, any material

unexcused failure by TPC to comply with a specific material term or condition of this Settlement Agreement will provide the City an action for breach of contract. In entering into this Settlement Agreement, the City does not waive any enforcement rights it may have against TPC for claims under statutes, ordinances, common law or other legal authority that have not been waived and released under Paragraph 12 below. This Settlement Agreement does not otherwise enlarge the scope of the City's common law or regulatory rights.

12. Waiver and Release of Claims

This Settlement Agreement is intended to resolve and does fully resolve any and all claims or causes of action of the City, be they claims under statute, ordinance, common law or other legal authority, relative to air emissions from the Facility prior to the effective date of this Settlement Agreement

13. Duration of the Settlement Agreement

Except for the quarterly reporting requirements of Paragraph 7, the obligations imposed upon TPC pursuant to this Settlement Agreement will terminate 5 years after its effective date. For a period of 3 additional years after the termination of this Settlement Agreement, TPC will agree to provide the City with the quarterly summaries of BD emissions as provided for under Paragraph 7 of this Settlement Agreement.

14. Dispute Resolution

(a) Any dispute, controversy or claim arising out of, relating to, or in connection with this Settlement Agreement or the operations carried out hereunder, including

any dispute as to the construction, existence, validity, enforceability, enforcement, breach, or termination of this Settlement Agreement, shall be resolved pursuant to this Paragraph 14.

(b) The dispute resolution procedure set forth in this Paragraph 14 shall be invoked upon the giving of written notice by one of the Parties to this Settlement Agreement to the other, advising the other Party of a dispute. The notice shall describe the nature of the dispute, and it shall state the noticing Party's position with regard to such dispute.

(c) Disputes shall, in the first instance, be the subject of informal, good faith negotiations between the Parties. Such period of informal negotiations shall not extend beyond 30 calendar days from the date notice sent by the noticing Party has been received by the other Party, unless the Parties mutually agree that this period should be extended.

(d) If resolution of the dispute cannot be achieved at working staff levels, then, within the 30-day period for resolution, the Parties agree to a good faith undertaking by senior officials of TPC and the City to meet to attempt to resolve the dispute.

(e) If the Parties are unable to reach a settlement, each Party is entitled to pursue such other remedies as it deems appropriate, including judicial relief.

14. Force Majeure

(a) TPC shall not be in breach of this Settlement Agreement for any delay or default in performing in compliance with any provision thereof, including, without limitation, any exceedance of the emissions restrictions set forth under Paragraphs 1, 2 and 3, to the extent such delay or default is caused by Force Majeure.

(b) Force Majeure shall mean any act, event, or circumstance beyond TPC's reasonable control, including but not limited to:

(i) fire, flood, explosion, atmospheric disturbance, lightning, storm, hurricane, cyclone, typhoon, tidal wave, tornado, earthquake, volcanic activity, landslide, soil erosion, subsidence, washout, epidemic or other natural disaster;

(ii) acts of war (whether declared or undeclared), invasion, armed conflict, embargo, revolution, sabotage, terrorism or threat thereof, riot, civil war, blockade, insurrection, acts of public enemies, civil disturbances, or governmental authority restriction or prohibition binding on TPC; and

(iii) acts or failures to act after the date hereof of the City or of any governmental authority having jurisdiction, including the issuance of any permit, approval or concurrence or promulgation of any law, the effect of which would prevent, delay, or make unlawful TPC's performance hereunder, or would require TPC, in order to comply with said act, to take measures which are unreasonable under the circumstances.

(c) Force Majeure shall not include:

(i) breakdown or failure of equipment or other property owned by TPC that is caused by normal wear and tear, or failure to properly maintain equipment or other property; or

(ii) unanticipated or increased costs or expenses associated with the performance of TPC's obligations under this Settlement Agreement;

(d) To make a claim of Force Majeure, TPC shall notify the City in writing as soon as practicable, but in any event within 10 business days of the date when TPC first knew of the condition. In this notice, TPC shall specifically reference this Paragraph 13 and describe the anticipated length of time any delay may persist, the cause or causes of the delay, and the measures taken or to be taken by TPC to prevent or minimize the delay and the schedule by which those measures shall be implemented. TPC shall take all commercially reasonable steps to avoid or minimize such delays.

(e) If the City agrees that any delay or impediment to performance has been or will be caused by Force Majeure, it shall stipulate in writing within 10 business days of receipt of the Force Majeure notice to an extension of the required deadline(s) for all requirement(s) affected by the delay by a period that is at least equivalent to the delay actually caused by such circumstances.

(f) If the City does not accept TPC's claim of a delay or impediment to performance caused by Force Majeure, the City shall so notify TPC in writing within 10 business days of receipt of the Force Majeure notice. Receipt of such notification by TPC shall trigger the Dispute Resolution provisions of this Settlement Agreement.

15. Notices

Except as otherwise provided herein, all reports, notifications, certifications, or other communications required or allowed under this Settlement Agreement to be submitted or delivered to the City and to TPC shall be addressed as follows:

Mayor Bill White
City of Houston
901 Bagby
Houston, Texas 77002

Arturo Michel
City Attorney
City of Houston
901 Bagby
Houston, Texas 77002

Arturo Blanco
Chief of Bureau of Air Quality Control
City of Houston
7411 Park Place Blvd.
Houston, Texas 77087

David Berg
Berg & Androphy
3704 Travis
Houston, Texas 77002

John Yoars
Texas Petrochemicals LP
8600 Park Place Boulevard
Houston, Texas 77017-2599

Christopher A. Artzer
Texas Petrochemicals LP
Three Riverway
Suite 1500
Houston, Texas 77056

Bradley I. Raffle
Baker Botts L.L.P.
One Shell Plaza
910 Louisiana
Houston, Texas 77002

Either Party may change the contact information provided for in this Paragraph by written notice to the other Party.

16. Modification

Prior drafts of the Settlement Agreement shall not be used in any action involving the interpretation or enforcement of the Settlement Agreement. Any modifications to this Settlement Agreement shall be in writing and signed by the Parties.

17. Entire Agreement

This Settlement Agreement embodies and constitutes the entire understanding between the City and TPC with respect to the settlement contemplated in this Settlement Agreement, and all prior contemporaneous agreements, understandings, representations and statements, oral or written, are merged into this Settlement Agreement.

18. Severability

Provided the Parties' respective benefits are not materially compromised, should any court declare or determine that any provision of this Settlement Agreement is invalid or unenforceable under present or future laws, that provision shall be fully severable; this Settlement Agreement shall be construed and enforced as if the illegal, invalid, or unenforceable provision had never comprised a part of this Settlement Agreement; and the remaining provisions of this Settlement Agreement shall remain in full force and effect and shall not be affected by the illegal, invalid, or unenforceable provision or by its severance from this Settlement Agreement. Furthermore, in place of each such illegal, invalid, or unenforceable provision, there shall be added automatically as a part of this Settlement Agreement a provision as similar in terms of such illegal, invalid, or unenforceable provision as may be possible and be legal, valid, and enforceable.

19. Governing Law

Texas law shall govern the validity and interpretation of this Settlement Agreement.

TEXAS PETROCHEMICALS LP

By: _____

Title: _____

Date: _____

Daryl Bristow
Baker Botts L.L.P.

Bradley I. Raffle
Baker Botts L.L.P.

ATTEST:

CITY OF HOUSTON, TEXAS

Anna Russell
City Secretary

Bill White
Mayor of the City of Houston

APPROVED AND
RECOMMENDED:

COUNTERSIGNED:

Title: _____
Department: _____

Annise D. Parker
Controller
Date: _____

APPROVED AS TO FORM:

Assistant City Attorney

David H. Berg
Berg & Androphy

EXHIBIT A

**Emission Reduction Agreement between TPC and the Texas Commission on
Environmental Quality**

BI-LATERAL VOLUNTARY EMISSION REDUCTION AGREEMENT
between
THE EXECUTIVE DIRECTOR OF THE
TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
and
TEXAS PETROCHEMICALS LP

THIS BI-LATERAL VOLUNTARY EMISSION REDUCTION AGREEMENT ("Emission Reduction Agreement" or "Agreement") is made and entered into by the Executive Director of the Texas Commission on Environmental Quality ("TCEQ") and Texas Petrochemicals LP ("TPC"), a limited partnership doing business in Houston, Texas and owning and operating a chemical manufacturing facility that is the subject of this Emission Reduction Agreement.

I. RECITALS

1. The TCEQ is the state agency charged with enforcing and ensuring compliance with TEX. HEALTH & SAFETY CODE Chapter 382 (the "Code"), and the rules, orders, and permits issued pursuant to the Code.
2. The Executive Director (ED) of the TCEQ is charged with the responsibility of managing the administrative affairs of matters within the Commission's jurisdiction and in doing so may enter into agreements with entities for the purpose of carrying out the powers, duties, and responsibilities of the Commission as provided by TEX. WATER CODE §§ 5.221 and 5.229(b).
3. TPC owns and operates a chemical manufacturing plant (the "Plant") located at 8600 Park Place Boulevard in Houston, Texas.
4. The Plant is subject to the Code and the rules promulgated thereunder, codified at 30 TEX. ADMIN. CODE CHAPTERS 101 - 122.
5. Investigations and monitoring conducted by the TCEQ have identified elevated ambient concentrations of 1,3 butadiene ("BD") near the Plant.
6. Based upon these investigations and monitoring, the ED requested that TPC and other industrial plants submit plans to reduce the level of BD emissions in the Milby Park area.
7. TPC has ongoing efforts to reduce emissions of BD. Based on negotiations that have taken place between TPC and the TCEQ, TPC has agreed to implement certain voluntary measures that are intended to further reduce BD emissions from the Plant.
8. This Emission Reduction Agreement is entered into voluntarily by TPC in order to address the elevated ambient concentrations of BD near the Plant identified by the TCEQ and to ensure that the Plant maintains compliance with the Code and rules

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promulgated thereunder. This Emission Reduction Agreement is not an admission by TPC that it has caused or contributed to any alleged violation of law or rule.

II. OBJECTIVES

Consistent with the TCEQ's responsibilities to safeguard the State's air resources by controlling or abating air pollution and emission of air contaminants, and by entering into this Agreement, it is the objective of the ED to ensure achievement of BD reductions in the Milby Park area in the most expeditious, effective and efficient manner. TPC agrees to do its part in reaching this objective by committing to reduce BD emissions as outlined in this Agreement.

III. TERMS AND CONDITIONS

In response to the foregoing Recitals and in response to the commitments of TPC to the TCRQ, TPC and the TCEQ have entered into this Emission Reduction Agreement, the terms of which are as follows:

A. Fenceline BD Concentration Goal

Through the operational enhancements, LDAR procedures, monitoring, capital improvements, and collaborative efforts to which TPC has agreed in this Agreement and by undertaking such other activities that TPC may identify as reasonable to minimize BD emissions at the Plant, TPC commits to the goal of zero BD levels at the Plant's fenceline attributable to TPC's operations. Progress toward this goal is to be gauged by data from fenceline monitoring at the Plant and from the TCEQ's air quality monitors. TPC commits to reach 1 part per billion by volume (ppbv) net ground level concentration of BD by December 31, 2007, and thereafter further commits to continue to take additional measures necessary to achieve a net ground level BD concentration of 0 ppbv.

B. Site-wide BD Concentration Goal

TPC commits to the goal of reducing 2004 baseline BD emissions from its Plant (77,182 pounds per year) by fifty percent (50%) by December 31, 2008. Specifically, TPC estimates the majority of such anticipated total BD reductions of 38,591 pounds will be obtained from the following sources: flare (29,129 pounds in 2006); cooling tower (402 pounds by 2008); and fugitive emissions (9,060 pounds by 2008). After implementation of a BD reduction project and confirmation of actual BD reductions associated with a currently permitted process or activity covering BD emissions, TPC shall file an application with the TCEQ for appropriate permit allowable reductions proportionate with the confirmed actual BD emissions reductions. TPC shall not sell BD emissions credits obtained through projects implemented under this Agreement to any other plant located in the City of Houston or to any plant in Harris County that produces and purifies BD for sale.

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C. Operational Commitments

TPC shall address BD emissions from the following areas of its Plant:

1. **Rail Loading Operations:** TPC will complete installation and commence operation of "dry break" loading equipment at its loading racks by December 31, 2006, provided, however, that there are no material delays in the implementation of the "dry break" system by TPC's customers or suppliers or the Federal Railroad Administration. Until all loading equipment can be converted to "dry break" system and for equipment that cannot be converted to the "dry break" system, TPC will maintain loading equipment for railcars not serviceable by the "dry break" system. For equipment that cannot be converted to the "dry break" system, TPC shall provide the TCEQ with a list of that equipment and the reason(s) for not converting to the "dry break" system. When using the "non-dry break" system, TPC will monitor leaks via Method 21 at the onset of, during and at disconnect of loading/unloading operations. If a leak is detected using TPC's fugitive leak definition, TPC shall initiate immediate repair efforts, which may require termination of flow until the leak is corrected. TPC shall maintain a log of the inspection results; the log will be available for TCEQ inspection upon request.
2. **Maintenance Clearing Procedures:** TPC will complete a Plant-wide review of its maintenance clearing procedures to identify potential sources of latent maintenance-related BD emissions and will modify its maintenance clearing procedures as necessary to minimize such emissions. By June 30, 2005, TPC will complete the review, and within thirty (30) days thereafter, submit to the TCEQ a plan and timetable for implementing new procedures.
3. **API Separator and Wastewater Handling System:** TPC will evaluate process and maintenance wastewater activities throughout its Plant to identify areas where BD emissions may occur in the wastewater handling system. Because many of these wastewater streams are intermittent, evaluations will account for all operational conditions. Within thirty (30) days after this evaluation is completed, TPC will submit a report to the TCEQ summarizing its findings and setting forth a detailed plan and a timetable for appropriate improvements. Such improvements will include the routing of wastewater to controlled drain systems or the demonstrated control of emission at the point of origin. TPC will submit its report with the detailed plan and timetable to the TCEQ by September 30, 2005. TPC will complete all improvements detailed in the report by December 31, 2007.

D. Enhanced Leak Detection and Repair Procedures

1. **Reduced leak definition for components in BD service,** which shall mean a component handling a material containing five percent or greater concentration of

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BD: TPC will continue to adhere to the reduced concentration of 250 parts per million (from 500 parts per million) that constitutes a "leak" for components in BD service subject to the Plant's Leak Detection and Repair ("LDAR") program. If the Executive Director determines, based on fence-line monitoring data, that a leak definition of 250 ppm, in combination with other reductions listed in this Agreement, is not achieving the fence-line BD concentration goal in Section III.A., TPC shall reduce the leak definition for components in BD service to 100 ppm effective within 30 days after the ED's conclusions are provided in writing to TPC.

2. Monthly monitoring of components in BD service: TPC will continue to use a passive infrared spectrometer camera (equivalent to a Hawk camera or a Sherlock camera) as an additional part of its routine LDAR monitoring program for fugitive emissions.

K. Monitoring Commitments

TPC shall implement, by the dates specified below, the following supplements to its existing air quality monitoring systems which shall be used to modify operating processes and procedures during start-up, shut down, and maintenance and any other activity to reduce emissions.

1. Fence-line Monitoring: TPC will install one gas chromatograph and one open-path monitor along the northern fence-line and one gas chromatograph along southern fence-line. TPC can relocate these monitors along the east and west fence-lines during extended periods of easterly or westerly wind components to detect BD air quality concentrations. TPC will submit to the TCEQ, by June 30, 2005, a final proposal regarding the specific monitoring technology it intends to purchase and install, which shall include all quality control checks, performance checks, siting decision criteria, and proposed procedures to report these data to the TCEQ. TPC shall complete installation of the southern monitor by October 1, 2005. TPC shall install the northern monitors no later than December 31, 2005.

TPC Plant actions to be taken in response to measured BD concentrations at the fence-line shall be established by July 31, 2005. The TPC Plant actions shall include the development and implementation of an investigation protocol for possible sources of BD, and the development and implementation of the procedures for notifying TCEQ and TPC's industrial and residential neighbors. Initially, a measured concentration of 25 ppbv at the fence-line will initiate an on-site investigation and other corrective actions by TPC. This value will be lowered as the reductions listed in this Agreement are achieved as a result of activities undertaken to meet the Site-Wide BD Concentration Goal. Within 90 days of the completion of a project according to the schedule set out in this Agreement, TPC shall submit, for review and approval by the ED, a reduced measured concentration value to initiate on-site investigation and other corrective actions.

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2. **Passive Infrared Spectrometer Camera:** TPC will acquire and begin use of, by December 31, 2005, a passive infrared spectrometer camera (equivalent to a Hawk camera or a Sherlock camera) to be used as an integral part of TPC's routine monitoring of Plant operational processes and to monitor start-ups at the Plant's production units.
3. **Portable Spectrometer Device:** TPC will use a portable spectrometer device (Cercx II found or equivalent) to identify work practices that may generate BD emissions at its Plant. The device will be used by TPC on a monthly basis beginning August 1, 2005 to identify appropriate work practice revisions that will reduce BD emissions. TPC will use the device to review all major areas of its Plant operations – including its rail loading operations, BD finishing area, and API and wastewater areas. This process will continue until TPC has monitored and implemented recommended improvements to its work practices and procedures to ensure that Plant-related BD emissions are minimized.
4. **Cooling Water Monitoring:** Until such time as TPC fully implements the Cooling Tower Monitoring Project, described in Section F, below, it will continue to monitor its cooling towers twice per week to facilitate the identification and repair of heat exchanger leaks. TPC shall incorporate the results of the cooling tower monitoring into its Compliance Assurance Management System to assure prompt remedy of any leak.

F. Capital Project Commitments

By December 31, 2005, TPC shall install a water seal system and flare gas recovery equipment at its main Plant flare (the "Flare Gas Recovery Project"). The Flare Gas Recovery Project will be designed to recover and recycle all previously flared gas streams with the exception of streams having pressure levels great enough to breach the water seal system. By December 31, 2005, TPC shall also complete its Cooling Tower Monitoring Project, in accordance with TCEQ HRVOC rules, to provide TPC with real-time gas chromatographic emissions data between the Plant's cooling tower return lines and its cooling towers. The purpose of the Cooling Tower Monitoring Project is to allow TPC to identify and pinpoint BD leaks for prompt corrective action.

G. Collaboration with the TCEQ and Industrial Neighbors

1. So long as TPC has access to the real-time data from the TCEQ's Milby Park air quality monitor, TPC will investigate its operations whenever the Milby Park monitor detects ambient levels of BD from the direction of TPC's Plant in excess of 4 ppbv, averaged over any one hour period. Within two (2) days of TPC's receipt of a real-time reading in excess of the trigger level, TPC will submit to the TCEQ a report similar to those provided in response to EMRS alerts.

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2. TPC will continue to work with its industrial neighbors to share information as part of a joint process to anticipate and address BD emissions issues.

II. Amendment and Termination

Should circumstances indicate a need to alter or terminate the terms of this Emission Reduction Agreement, each party shall promptly notify the other party to discuss amendment to, or termination of, this Emission Reduction Agreement.

I. Effect of Agreement

This Emission Reduction Agreement is not an admission by TPC of a violation of any statute, rule, or permit. This Emission Reduction Agreement shall not become part of TPC's compliance history.

J. Reporting Requirements

TPC shall provide to the TCEQ quarterly reports documenting the installation, implementation, and findings associated with the process, operational, and monitoring commitments contained in this Agreement. Upon request of the ED, TPC shall provide any additional documentation or information related to any of the projects subject to this Agreement.

K. General Provisions

1. This Emission Reduction Agreement is the result of the unique facts of this particular matter, and this Emission Reduction Agreement may not be cited as precedent in any future action before the TCEQ.
2. Acceptance of the terms of this Emission Reduction Agreement is indicated by the signatures below.
3. This Emission Reduction Agreement is effective the date it is signed by TPC's and the TCEQ's authorized representatives.
4. This Emission Reduction Agreement may be executed in any number of counterparts, each of which shall be deemed an original for all purposes, but all of which together shall constitute one agreement.
5. By entering into this Agreement, TPC does not waive or limit its right to utilize the protections of the Texas Environmental, Health, and Safety Audit Privilege Act (the

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"Act"). To avail itself of the protections of the Act, TPC must comply with all notice and disclosure requirements as well as all other applicable requirements.

6. All notices and reports hereunder shall be in writing and shall be given by United States registered or certified mail, with return receipt requested, postage prepaid, or by United States Express Mail (or other overnight delivery service such as UPS) or courier service to the parties at the following addresses and shall be deemed complete upon receipt or refusal to accept delivery as indicated in the return receipt or in the receipt of such Express Mail or courier service:

If to the TCEQ: **Executive Director of the
Texas Commission on Environmental Quality
P.O. Box 13087
Austin, TX 78711-3087
(For certified mail)**

**Executive Director of the
Texas Commission on Environmental Quality
Building F
12100 Park 35 Circle
Austin, TX 78753
(For express or courier delivery)**

With a copy to: **John F. Steib, Deputy
Office of Compliance and Enforcement
Texas Commission on Environmental Quality
P.O. Box 13087
Austin, TX 78711-3087**

and **Lydia Gonzalez Gromatzky, Deputy
Texas Commission on Environmental Quality
Office of Legal Services
P.O. Box 13087
Austin, TX 78711-3087**

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If to Texas Petrochemicals LP:

**Max Jones
Director of EII&S
Texas Petrochemicals LP
8600 Park Place Boulevard
Houston, Texas 77017**

With a copy to:

**Bradley I. Raffle
Baker Botts L.L.P.
One Shell Plaza
910 Louisiana
Houston, Texas 77002**

and

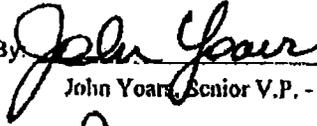
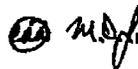
**Pam Giblin
Baker Botts L.L.P.
1500 San Jacinto Center
98 San Jacinto Blvd.
Austin, Texas 78701**

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III. SIGNATURES

Acceptance of the terms of this Emission Reduction Agreement is indicated by signature below.

TEXAS PETROCHEMICALS LP

By: 
John Yoars, Senior V.P. - Operations 

Date: June 7, 2005

TEXAS COMMISSION ON
ENVIRONMENTAL QUALITY

By: 
Glenn Shankle, Executive Director

Date: June 9, 2005

EXHIBIT B

Fugitive Emissions Estimate for TPC's 2004 Emissions Inventory

Page 1 of 2

Subject: Fugitive Emissions Estimations for Texas Petrochemicals LP's Houston Plant.

General: The EPA Protocol for Equipment Leak Emissions¹ was used to estimate total VOC fugitive emissions for 2004, consistent with TCEQ guidance documents.² This same Protocol will be used to quantify TPC's 2007 fugitive VOC emissions. If the number of regulated fugitive emissions components at TPC's plant is found during the 2007 audit to be different from the number used to estimate 2004 emissions, (40,209 pounds of BD) both the 2004 and 2007 estimates will be adjusted accordingly. As such, if the audit concludes that TPC undercounted its components for 2004, the 2004 BD fugitive emissions level will be adjusted upward accordingly and the 9,060 pound reduction commitment will be based on this adjusted 2004 baseline value.

Summary Description of Emissions Estimating Methodology: Fugitive emissions components at TPC (valves, flanges, pumps, etc) are monitored periodically using VOC leak detection instruments and in accordance with EPA 40 CFR Part 60 Method 21. These monitoring values or instrument ppm readings are recorded in TPC's fugitive emissions database and used to demonstrate compliance with various equipment leaks regulations and voluntary programs. These data are also used by a subroutine in the database to estimate total VOC fugitive emissions using the correlation equations in EPA's Protocol for Equipment Leak Emissions Estimates

EPA Correlation Equations:

$$\text{Leak Rate (kg/hr)} = F1 * (\text{ppm reading})^{F2}$$

Where F1 and F2 are factors, the value of which depends upon component type and service. These factors are defined in Table 2-9 on page 2-26 of the EPA Protocol.¹ The SOCFI default zero emissions rates from Table 2-11, page 2-33, and the 100,000 ppm screening value "pegged emissions rate" from Table 2-13, page 2-36 of the EPA protocol¹ are used for zero ppm or pegged screening values, respectively.

Fugitive emissions from those components that are not monitored (i.e. those components that are exempt from monitoring such as some inaccessible components) are estimated by the database subroutine using the appropriate average SOCFI emissions factor (Table 2-1 on page 2-14 of the EPA Protocol¹).

Speciation of Emissions: For the 2004 emissions inventory, historic values of the average emissions composition of each fugitive emissions area were used for speciation. These values are shown in Table 1.

¹ EPA 1995 Protocol for Equipment Leak Emissions Estimates. November, 1995, EPA-453/R-95-017

² TCEQ 2004 Emissions Inventory Guidelines, Appendix A, Technical supplement 3, Equipment Leak Fugitives, RG-360/04, December 2004;

TCEQ Air permits Technical Guidance for Chemical Sources, Equipment Leak Fugitives

Fugitive BD Emissions Estimate for TPC's 2004 Emissions Inventory
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Table 1
Average Composition (wt%) of Fugitive BD Emissions Areas
(FU Areas) as used in the 2004 Emissions Inventory
(Based on values used in previous years)

FU Area	1,3 Butadiene
FU-1A	2.05
FU-1B	
FU-1C	25.62
FU-1D	13.64
FU-2A	10.77
FU-2B	18.72
FU-2C,D	19.12
FU-3	22.21
FU-4	21.02
FU-5	
FU-6	21.61

EXHIBIT C

POTENTIAL AUDITORS

CITY OF HOUSTON TO AGREE TO THREE OF THESE COMPANIES

ENSR

ENVIRON

ARCADIS Geraghty & Miller International

Trinity Consultants Incorporated

Zephyr Environmental Corporation