



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 6
1445 ROSS AVENUE, SUITE 1200
DALLAS, TX 75202-2733

September 26, 2011

CERTIFIED MAIL - RETURN RECEIPT REQUESTED: 7011 0110 0001 3590 6322

Mr. Dennis Payne
Vice President
Valero Refining Texas LP - Corpus Christi West Plant
5900 Up River Road
Corpus Christi, TX 78407

Re: Clean Air Act Section 114 Information Request
Valero Refining Texas LP, Corpus Christi, TX

Dear Mr. Payne:

Enclosed is an Information Request (Request) issued to Valero Refinery Texas LP – Corpus Christi West Plant (Valero) under the authority of Section 114 of the Clean Air Act (CAA). The purpose of this Request is to obtain information necessary to determine whether Valero, located in Corpus Christi, Texas, is in compliance with the provisions of the CAA.

Please provide the information requested within 30 days of receipt of this document, to Mr. Ryan Rosser, at the above address. If you have any questions, please contact Mr. Rosser at (214) 665-2247.

Sincerely,

A handwritten signature in black ink, appearing to read "John Blevins".

John Blevins
Director
Compliance Assurance and
Enforcement Division

Enclosure

cc: Bryan Sinclair
Texas Commission on Environmental Quality

INFORMATION REQUEST

VALERO REFINING TEXAS LP, CORPUS CHRISTI WEST PLANT

The U.S. Environmental Protection Agency (EPA) Region 6 is issuing this Information Request (Request) to Valero Refining Texas LP – Corpus Christi West Plant pursuant to Section 114(a) of the Clean Air Act (CAA) 42 U.S.C. § 7414(a) for the purpose of determining compliance with the CAA. Section 114(a) authorizes the Administrator of EPA to require the submission of information. The Administrator has delegated this authority to the Director of the Compliance Assurance and Enforcement Division, EPA Region 6. This Request pertains to the Valero Refining Texas LP – West Plant (facility) located in Corpus Christi, Texas.

The information requested must be submitted whether or not you regard part or all of it a trade secret or confidential business information. You may, if you desire, assert a business confidentiality claim on all or part of the information submitted. Any information subsequently determined to constitute a trade secret will be protected under 18 U.S.C. §1905. Unless you make a claim at the time that you submit the information, it may be made available to the public by EPA without further notice to you. You should read 40 C.F.R. Part 2 carefully before asserting a business confidentiality claim, since certain categories of information are not properly the subject of a claim. Emission data is exempt from claims of confidentiality under Section 114 of the Act, and the emissions data that you provide may be made available to the public. Information subject to a business confidentiality claim is available to the public only to the extent allowed under 40 C.F.R. Part 2, Subpart B. Failure to assert a business confidentiality claim makes all submitted information available to the public without further notice.

You must submit all information under an authorized signature with the following certification:

I certify under penalty of law that I have examined and am familiar with the information in the enclosed documents, including all attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are, to the best of my knowledge and belief, true and complete. I am aware that there are significant penalties for knowingly submitting false statements and information, including the possibility of fines or imprisonment pursuant to Section 113(c)(2) of the Act, and 18 U.S.C. §§ 1001 and 1341.

We may use any information submitted in response to this Request in an administrative, civil, or criminal action.

This Request is not subject to the Paperwork Reduction Act, 44 U.S.C. § 3501 et seq., because it seeks collection of information from specific individuals or entities as part of an administrative action or investigation.

All information responsive to this Request should be sent to the following:

Mr. Ryan Rosser
Toxics Enforcement Section (6EN-AT)
Compliance Assurance and Enforcement Division
U.S. EPA – Region 6
1445 Ross Avenue, Suite 1200
Dallas, TX 75202-2733

I. INSTRUCTIONS

1. If information or documents not known or not available to you as of the date of submission of a response to this Request should later become known or available to you, you must supplement your response to EPA. Moreover, should you find, at any time after the submission of your response that any portion of the submitted information is false or misrepresents the truth, you must notify EPA of this fact as soon as possible and provide EPA with a corrected response. There are significant penalties for submitting false information, including the possibility of fine or imprisonment.
2. For each document produced in response to this Request, indicate on the document, or in some other reasonable manner, the number of the Question to which it responds. Please submit all information for each question in a logically sequenced, bound format.
3. Please provide a separate response to each question and subpart of a question set forth in this Request and precede each answer with the number of question to which it corresponds.
4. For each question, identify each person responding to any question contained in this Request on your behalf, as well as each person consulted in the preparation of a response.
5. For each question, identify each document consulted, examined, or referred to in the preparation of the response or that contains information responsive to the question, and provide a true and correct copy of each such document if not provided in response to another specific question. Indicate on each document produced in response to this Request the number of the question to which it corresponds.
6. Please provide all information, where possible, in editable electronic format, on compact disc or other electronic storage media, all data tables from the facility's flaring records management database. Provide the data in a format such that all information can be readily viewed in Microsoft Access (Microsoft Excel is not an acceptable format for data tables containing greater than 65,000 records).

II. DEFINITIONS

The following definitions shall apply to the following words as they appear in this Enclosure:

1. The terms "document" and "documents" shall mean any object that records, stores, or presents information, and includes writings of any kind, formal or informal, whether or not wholly or partially in handwriting, including documentation solely in electronic form, including by way of illustration and not by way of imitation, any invoice, manifest, bill of lading, receipt, endorsement, check, bank draft, canceled check, deposit slip, withdrawal slip, order, correspondence, record book, minutes, memorandum of telephone and other conversations, including meetings, agreements and the like, diary, calendar, desk pad, scrapbook, notebook, bulletin, circular, form, pamphlet, statement, journal, postcard, letter, telegram, telex, report, notice, message, analysis, comparison, graph, chart, interoffice or intra office communications, photo stat or other copy of any documents, microfilm or other film record, any photograph, sound recording on any type of device, any punch card, disc or disc pack; any tape or other type of memory generally associated with computers and data processing (together with the programming instructions and other written material necessary to use such punch card, disc, or disc pack, tape or other type of memory and together with printouts of such punch card, disc, or disc pack, tape or other type of memory); and (a) every copy of each document which is not an exact duplicate of a document which is produced, (b) every copy which has any writing, figure or notation, annotation or the like on it, (c) drafts, (d) attachments to or enclosures with any document, and (e) every document referred to in any other document.
2. The term Valero includes any officer, director, agent, or employee of Valero Refining Texas LP – Corpus Christi, including any merged, consolidated, or acquired predecessor or parent, subsidiary, division, or affiliate thereof.
3. The terms "person" or "persons" shall have the meaning set forth in Section 302(e) of the Act, 42 U.S.C. § 7602 (e), and includes an individual, corporation, partnership, association, State, municipality, political subdivision of a State, and any agency, department, or instrumentality of the United States and any officer, agent or employee thereof.
4. The terms "you" or "yours", as used in each of the questions set forth in the attached Section 114 letter, refers to, and shall mean, the company or corporation with which each addressee of the attached Section 114 letter is affiliated including its subsidiaries, division, affiliates, predecessors, successors, assigns, and its former and present officers, directors, agents, employees, representatives, attorneys, consultants, accountants, and all other persons acting on its behalf.

5. All terms used in this Request will have their ordinary meaning unless such terms are defined in the CAA, 42 U.S.C. § 7401 et seq., and the implementing regulations.
6. Words in the masculine shall be construed in the feminine, and vice versa, and words in the singular shall be construed in the plural, and vice versa, where appropriate in the context of a particular question or questions.

III. QUESTIONS

Valero Refining Texas LP shall submit the following information about its West Plant Refinery in Corpus Christi, Texas within 30 days:

Regarding flaring:

1. Provide a list of each flare¹ operating at your facility during the time period from September 1, 2007 until receipt of this letter.
2. For each flare listed in question 1 above; list the periods of time (date, start time, and end time) that combustible material was routed to each facility flare (i.e., “venting periods”). This Request and all requests below seek information regarding all facility devices meeting the definition of flare set forth in footnote 1.
3. For each venting period listed in response to Question 2 above, provide the net heating value of the gas being combusted (waste gas, sweep gas, supplemental natural gas, etc., excluding pilot gas and steam or air) in BTU/scf, of the stream that was vented to each facility flare. The averaging time shall not be greater than one hour.
4. For the Btu/scf information in Question 3 above, provide a narrative explanation and example calculations describing how you arrived at your response.
5. For each venting period listed in response to Question 2 above, provide the average mass flow rate of all material at the flare tip, combustible and non-combustible, in lb/hr. that was vented to each facility flare. The averaging time shall be no more than one hour.
6. For the average mass flow rate of all material in Question 5 above, provide a narrative explanation and example calculations describing how you arrived at your response.

¹ For the purpose of this Information Request, “flare should be broadly defined as any open combustion unit (i.e., lacking an enclosed combustion chamber) whose combustion air is provided by uncontrolled ambient air around the flame, and that is used as a control or safety device. A flare may be equipped with a radiant heat shield (with or without a refractory lining), but is not equipped with a flame air control damping system to control the air/fuel mixture. In addition, a flare may also use auxiliary fuel. The combustion flame may be elevated or at ground level.

7. For each venting period listed in response to Question 2 above, provide the average rate at which steam and/or air was being added to each facility flare, in lb/hr for steam and/or scf/hr for air, at all locations on the flare (i.e., the sum of seal, upper, lower, center, winterizing, etc.) during each venting period. The averaging time shall be no more than one hour. Include in your answer minimum steam rates that are controlled by orifice plates.
8. For the average rate at which steam and/or air was being added in Question 7 above, provide a narrative explanation and example calculations, describing how you arrived at your response.
9. For each venting period listed in response to Question 2 above, provide the average steam-to-vent gas or air-to-vent gas ratio (lb steam/lb vent gas or scf of air/lb of vent gas) during any release to each facility flare. The averaging time shall be no more than one hour.
10. For the average steam-to-vent gas or air-to-vent gas ratio (lb steam/lb vent gas or scf of air/lb of vent gas) during any release in Question 9 above, provide a narrative explanation and example calculations, if appropriate, describing how you arrived at your response.
11. Provide an hourly average of the concentration of each constituent, with their respective molecular weights and Btu/scf ratings, in each vent stream during venting periods for the dates beginning one month prior to your receipt of this Request.
12. Provide the pilot gas flow rate in lbs/hr.
13. Provide a list of the primary constituents in the vent stream released to each flare for venting periods since September 1, 2007 and an estimated range of each constituent's concentration. Except for the period specified in Question 11, you need not determine the exact concentration of all compounds for each period of time, but only the most prominent compounds and an approximate range of concentration.
14. For each facility flare, provide the minimum steam or air addition rate, in lb/hr for steam and/or scf/hr for air, at all locations on the flare (seal, upper, lower, center), and, if steam rate is controlled by an orifice plate, show the location and flow rate of the plate. To the extent that the minimum steam or air addition rate changes on a seasonal basis, state the minimum rate for each season and the time periods during which each season's minimum rate applies.
15. Provide copies of any and all flaring related documents in your possession, custody, or control that describe how to properly operate the flare, and/or prescribe or recommend the amount of steam or air to be added to each facility flare, including but not limited to: all documents which indicate how the flare is constructed and operated (performance tests, piping and instrumentation diagrams [P&IDs], operations and/or

- design manuals, compliance reports, equipment repair orders, Method 22 reports, etc). Provide the copy of the entire document if within the document it states the maximum steam or air rate, minimum steam or air rate, steam or air addition rate associated with a vent scenario, general steam-to-organic gas/vent ratio, gas or air-to-organic gas/vent gas ratio, or any other reference to steam or air addition.
16. For each facility flare, state with specificity which, if any, Federal and/or state regulations regulate/apply to each flare (regulatory applicability tables). In addition, if any facility flare is listed in a permit issued under Federal and/or state regulations, provide an electronic copy, preferably in "PDF", of each currently effective permit.
 17. For each facility flare, state whether the flare is configured to receive gases/vapors from a pressure relief device, which is a safety device used to prevent operating pressures from exceeding the maximum allowable working pressure of the process equipment. Also state whether the flare and its associated closed vent system is used as the method of compliance with any Federal leak detection and repair (LDAR) provision, including but not limited to 40 C.F.R. § 60.482-4(c), or 40 C.F.R. § 63.165 (c).
 18. Does the facility/supplier meet the applicability requirements of the Final Mandatory Reporting of Greenhouse Gases Rule at 40 CFR § 98.2?
 - a) If no, provide the basis for your determination, including, but not limited to, a complete description of the methods used to calculate your emissions for purposes of determining applicability, a description of all data and assumptions used in such calculations, and records to substantiate the use of any data and assumptions in the calculations
 - b) If yes:
 - I. Identify the applicability subpart(s);
 - II. Provide a list of all the sources at the facility that are covered under the GHG reporting rule.
 - III. Where applicable, provide any records of calibration of monitoring equipment used to estimate or measure GHG emissions.

Regarding benzene

19. Is your facility a "chemical manufacturing plant", "coke by-product recovery plant", or "petroleum refinery" as defined in 40 CFR § 61.341?
20. Do you have a hazardous waste management permit under subtitle C of the Solid Waste Disposal Act?

21. Please provide copies of your total annual benzene (TAB) and quarterly reports submitted in accordance with 40 CFR § 61.357 for the past three years.
22. Please provide a simplified flow diagram of your wastewater streams beginning at the point of generation. On this diagram, please indicate:
 - a) The point of generation for each wastewater stream and the total annual benzene at the point of generation (if this is accurately reported in the TAB required by Question 3 above, it is sufficient to indicate the line item(s) on the TAB(s)). If you have selected the compliance option found at 40 CFR § 61.342(e), please also include the total annual benzene quantity of each stream which you have included in the 6 BQ as determined by the test methods found at 40 CFR § 61.355(k).
 - b) The annual flow-weighted benzene concentration, percent water, and annual average flow volume for each wastewater stream at the entrance to and exit from each waste management or treatment unit.
 - c) Indicate whether or not each waste management unit (as that term is defined at 40 CFR § 61.341) is controlled in accordance with 40 CFR §§ 61.343-347 by using a hatched line or shape for uncontrolled units and an unhatched line or shape for controlled units.
23. Please describe how your facility complies with the requirements found at 40 CFR § 61.355(c)(1)(ii)-(v). Specifically, how do you assure that:
 - a) There is no volatilization of the benzene by exposure to air prior to determination of the benzene concentration;
 - b) There is no mixing or diluting of the wastewater stream with other wastes or other materials resulting in a dilution of the benzene concentration;
 - c) There is no treatment of the wastewater which removes benzene prior to the determination of benzene concentration; and
 - d) Each phase of the wastewater is tested.
24. Please describe, in detail, the strategy you have used for the past three years to comply with the requirements of 40 CFR § 61.342.
 - a) For each year in the past three years during which the total annual benzene quantity from facility waste was less than 10 Mg/yr, please indicate whether or not your facility has updated the information listed in 40 CFR § 61.357(a)(1)-(3) whenever there was a change in the process generating a waste stream that could cause the total annual benzene to exceed 10 Mg/yr.
 - b) For each year in the past three years during which you have elected to comply with the option found at 40 CFR § 61.342(c)(3)(ii), please include, in addition to the reports required by Question 3 above.
 - (1) A table identifying each waste stream chosen for exemption as part of the 2 Mg and the total annual benzene quantity in these waste streams for each of the past three years.
 - (2) Total annual benzene quantity in streams which contain less than 10 ppm benzene and the control status of each of these streams.

- (3) The total annual benzene quantity and control status for wastes with a water content of 10 percent or less as required by 40 CFR § 61.355(k).
- c) For each year in the past three years during which you have elected to comply with the option found at 40 CFR § 61.342(e), please include, in addition to the reports required by Question 3 above.
- (1) The flow-weighted benzene concentration of each stream entering the enhanced biodegradation unit.
 - (2) The annual waste quantity of each stream entering the enhanced biodegradation unit.
25. Provide all documentation and calculations used to determine the annual benzene quantity for all wastewater that was generated from remediation activities at the facility for the past three years according to the procedures set forth in 40 CFR § 61.355 (b)(4). Provide the basis for the calculation.
26. Identify for each process unit subject to NESHAP Subpart FF any and all periods where problems were identified and corrective action taken during normal and emergency operations for the last three years. Provide all compliance orders and enforcement documents related to these time periods.
27. Identify all caustic wastewater streams which contain benzene and their respective flow-weighted benzene concentrations, in ppm by weight, and annual quantity of waste, for each of past three years, regardless of whether each is processed as a waste, used to control pH in wastewater treatment system in the plant, sent off-site for treatment, or sold as a product. Please indicate on which line(s) you have included caustic wastewater stream(s) in the TABs required by Question 21 above. If these streams do not appear on the TABs required by Question 21, please provide the flow-weighted annual average benzene concentration of these streams and the total quantity of annual waste.
28. Provide all documentation of tests for no detectable emissions per 40 CFR § 61.356(h), and initial reports filed per §§ 61.357(a) and (d)(1).
29. Please describe in detail the routine procedures used in sampling for benzene in waste water. Please include collection techniques, sample handling and laboratory procedures used beginning with sample collection and continuing through laboratory analysis.
30. Provide all documentation of treatment processes per 40 CFR § 61.356(e) for the last three years. Identify all control equipment used at the facility, as described in §61.356(d) and provide process flow diagrams that illustrate their use, as well as identify their control efficiency in removal/control of benzene air emissions and/or concentration in wastewater effluent. State whether or not all of the engineering design documentation for all such control equipment which is installed on waste management units is currently retained by the facility. Verify whether or not all control device records have been maintained for each control device in use for the past three years.

Sour water streams

Instructions on determining both the point of waste generation and the point of measurement for sour water streams: The point of waste generation for sour water streams (streams with greater than 10 ppm of sulfide or 10 ppm of ammonia) is not at the exit of the sour water stripper but at the point where the waste is generated (in the same manner as the point of waste generation is determined for non-sour water streams). If a stream is sour and has been managed in management units which meet the requirements of 40 CFR § 61.343-347 from the point of waste generation OR the waste has been treated in totally enclosed systems, the benzene concentration and waste quantity may be determined at the exit of the sour water stripper; if the waste is not managed in management units which meet the requirements of 40 CFR § 61.343-347 from the point of waste generation OR the waste has been treated in totally enclosed systems, the waste must be measured at the point of waste generation as with non-sour streams.

Keeping the above instructions in mind, please answer the following questions:

31. For sour streams treated in the sour water stripper:
 - a) Show each sour stream on the TABs required by Question 21 above at the point of waste generation.
 - b) List the ammonia and sulfide concentration of each sour stream on the TABs required by the Question 21 above at the point of waste generation. If these streams do not appear on the TAB, please provide the flow-weighted annual average benzene concentration of these streams, total quantity of annual waste, and ammonia and sulfide concentration.
 - c) List the benzene concentration and quantity of each stream on the TABs required by Question 21 above at the point of waste generation.

32. For non-sour streams treated in the sour water stripper:
 - a) Show each non-sour stream on the TABs required at the point of waste generation.
 - b) List the ammonia and sulfide concentration of each non-sour stream on the TABs required above at the point of waste generation for the past three years.
 - c) List the benzene concentration and quantity of each stream on your TABs at the point of waste generation for the past three years.
 - d). Determine the total annual benzene for all nonsour streams treated in the sour water stripper.

33. For all sour water strippers at the facility for the past three years.
 - a) What is the annual flow-weighted average inlet concentration of ammonia and sulfide and the total flow of water through each sour water stripper at the facility?
 - b) What is the annual flow-weighted average outlet concentration of ammonia and sulfide and the total flow of water through each sour water stripper at the facility?
 - c) What is the total annual mass of ammonia and sulfide removed by each sour water stripper at the facility?

- d) What is the percentage removal of ammonia and sulfide at each sour water stripper at the facility?
- e) How is the total annual mass of ammonia and sulfide removed by each sour water stripper at the facility disposed of?

Wastewater received at your facility from off-site

- 34. Do you receive off-site wastewater from a chemical manufacturing plant, petroleum refinery, or coke by-product recovery plant? For each facility from which you receive off-site wastewater, please answer the following:
 - a) Is the wastewater you receive from off-site generated at a facility which is exempted under the provisions of 40 CFR § 61.342(a) from meeting the air emission control standards of 40 CFR part 61, subpart FF?
 - b) Has the owner or operator of the facility from which the wastewater is sent to your facility complied with the provisions of 40 CFR § 61.342(f)?
- 35. Is the off-site material managed at your facility in a waste management operation or recovery operation listed below:
 - a) A hazardous waste management operation regulated as under the Resource Conservation & Recovery Act of 1976 (RCRA) exempted from air emission control requirements under 40 CFR parts 264 or 265.
 - b) Non-hazardous wastewater treatment operation where this operation is the predominant function conducted at the facility and the facility is not a publicly-owned treatment works.
 - c) RCRA-exempt hazardous waste recycling facility.
 - d) Used solvent recovery operation.
 - e) Used oil recovery operation.
- 36. For each facility from which you receive off-site wastewater, please provide the following documents:
 - a) Copies of notices for the past 5 years, as required by 40 CFR § 61.342(f)(2).
 - b) Copies of determination of wastewater quantity and benzene concentrations as required by 40 CFR § 61.355(c)(1)(C) which correspond with each notice.
 - c) Please indicate on which line(s) you have included wastewater received from off-site in the TABs required by Question 21 above. Please provide the basis for the calculation in your TAB for wastewater received from off-site.
- 37. For any wastewater streams accepted from off-site which are treated in your sour water stripper please indicate the following:
 - a) Has the wastewater been managed in management units controlled per the requirements of 40 CFR §§ 61.343-347 from the point where the wastewater is received at your facility until the wastewater enters the sour water stripper at your facility?
 - b) What are the ammonia and sulfur concentrations of the wastewater at the point where the wastewater enters your facility.

Wastewater sent off-site from your facility

38. Do you send wastewater off-site from your facility to another?
39. Is the wastewater you send off-site exempted under the provisions of 40 CFR § 61.342(a) from meeting the air emission control standards of 40 CFR § 61.343-347?
40. Have you complied with the provisions of 40 CFR § 61.342(f) for all wastewater streams sent off-site?
41. For each facility to which you send off-site wastewater, please provide the following documents:

Copies of notices for the past 5 years, including date wastewater is shipped offsite,

- a) quantity of wastewater shipped offsite, name and address of the facility receiving the wastewater, and a copy of the notice sent with the wastewater.
- b) Copies of determination of wastewater quantity and benzene concentrations as required by 40 CFR § 61.355(c)(1)(C) which correspond with each notice in 61.342(f). If using the 61.342(e) option, please indicate the off-site waste quantity and benzene concentration in accordance with 40 CFR § 61.355(k)(2)(iii).
- c) Please indicate on which line(s) you have included wastewater sent off-site on your TABs required by Question 21 above. Please provide the basis for the calculation in your TAB for wastewater received from off-site.

Wastewater containing benzene managed and/or treated onsite by other entities

42. Are any wastewater streams which contain benzene managed and/or treated by a contractor on your site. For each company which manages and/or treats benzene wastewater streams on your site, please name each company and answer the following questions:
 - a) Is the company owned by the same parent company which owns your facility.
 - b) Do you list the streams managed and/or treated by the company on your TAB? If so, please provide a copy of each TAB for the past five years and indicate on that TAB the streams which are managed by the other company.
 - c) Does your facility have decision-making authority over the operations of the other through a contractual agreement or voting interest?
 - d) Is there a support dependency relationship between your company and the company treating your benzene waste onsite?
43. Are any of your wastewater streams which contain benzene managed and/or treated by a another company which is located within the geographical borders of your facility? If so, respond to the following questions:
 - a) Is the company owned by the same parent company which owns your facility?

- b) Do you list the streams managed and/or treated by the company on your TAB? If so, please provide a copy of each TAB for the past three years and indicate on that TAB the streams which are managed by the other company.
- c) Does your facility have decision-making authority over the operations of the other through a contractual agreement or voting interest?
- d) Is there a support dependency relationship between your company and the company treating your benzene waste onsite?

Contiguous facilities

44. Is your facility contiguous with another site which has benzene waste, such as a refinery, chemical company, TSDF, coke byproduct plant, loading rack, or any other facility. If so, answer the following questions:
- a) Is the off-site facility owned by the same parent company which owns your facility?
 - b) Is either facility a subsidiary of the other?
 - c) Does either have decision-making authority over the operations of the other through a contractual agreement or voting interest?
 - d) Is there a support dependency relationship between the two facilities?
45. Please provide the following information on each facility which meets any of the criteria of 43a. through 43d. of this section above.
- a) Name of facility.
 - b) Facility Address.
 - c) Do you receive any wastestreams from the facility which contain benzene?

If the answer to 43c. is yes, please provide the line number on the TAB required by Question 21 above. If these streams do not appear on the TAB required by Question 21 above, please provide the flow-weighted annual average benzene concentration of these streams and the total quantity of annual waste.

Turnaround waste

46. For process unit turnaround waste (as defined in 40 CFR § 61.341) at your facility, please list all such waste for the past 5 years along with the following information:
- a) Quantity of the waste.
 - b) Benzene concentration of the waste.
 - c) Whether the waste was included in the TAB in the year it was generated or averaged over more than one year. If averaged over more than one year, please indicate over which years it was averaged.
 - d) The line item number of the waste on the TAB for the year(s) in which the turnaround waste was reported.

Spills

47. Please list all spills containing benzene for the past 5 years along with the following information:

- a) Waste quantity of the spill.
- b) Benzene concentration of the unit creating the spill.
- c) Whether or not the spill was considered controlled. If the spill is considered to be controlled, please explain your reasoning in deeming it such.
- d) The line item number of the spill on the TAB(s) for the years in which the spill occurred. If these streams do not appear on the TAB required by Question 21 above, please provide the flow-weighted annual average benzene concentration of these streams and the total quantity of annual waste.

Treatment Processes

48. For each Enhanced Biodegradation Unit (as defined by 40 CFR § 61.348(b)(i)(B)) at your facility, please answer the following questions:
 - a) What residence time is utilized for each enhanced biodegradation unit?
 - b) How do you determine the food-to-microorganism ratio as described in 40 CFR § 61.348(b)(i)(B) utilized at your facility?
 - c) Which species and in what proportions of microorganisms are utilized at your facility? How do you maintain a species of microorganisms which has the capacity to biodegrade benzene?
49. Please provide information which demonstrates that each treatment process or wastewater system achieves the appropriate conditions specified in 40 CFR § 61.348(a) or (b) using either engineering calculations as specified in 40 CFR § 61.348(c)(1) or performance tests as specified in 40 CFR § 61.348(c)(2).