PLAINS
PIPELINE, L.P.

Troy E. Valenzuela
Vice President, Environmental,
Health, & Safety

Direct: (713) 646-4614
Facsimile: (713) 646-4310

Via Certified Mail and Electronic Mail
May 10, 2013

Mr. R.M. Seeley
Director, Southwest Region
Pipeline and Hazardous Materials Safety Administration
8701 South Gessner, Suite 1110
Houston, Texas 77074

Re: Response to Notice of Probable Violation and Proposed Compliance Order; CPF 4-2013-5007; Request for Hearing

Dear Mr. Seeley:

This letter responds to the Notice of Probable Violation and Proposed Compliance Order (CPF 4-2013-5007) (NOPV/PCO) issued to Plains Pipeline, L.P. (Plains) regarding certain alleged violations of the Pipeline and Hazardous Materials Safety Administration (PHMSA) Pipeline Safety Regulations, Title 49, Code of Federal Regulations.[1] Plains is committed to operating its pipeline system safely and in accordance with applicable regulatory requirements. In this response, we address each of the items noted in the NOPV/PCO. As provided for by 49 C.F.R. §190.209, we are requesting an oral hearing under §190.211 with respect to the probable violations (items 5 and 6), proposed civil penalty, and the proposed compliance order identified in the NOPV/PCO. Prior to the scheduling of the oral hearing, Plains respectfully requests an opportunity to have an informal conference with PHMSA to discuss its response to the NOPV/PCO.

Response to Probable Violations Identified in NOPV/PCO

1) **§195.205 Repair, alteration and reconstruction of aboveground breakout tanks that have been in service.**

   PHMSA alleges that Plains does not have complete documentation showing that all repairs recommended by API 653 inspections were completed, or, if it determined that the repairs were not necessary, the engineering justification for why the repairs were not completed.

[1] Plains received the NOPV/PCO on April 10, 2013.

Response – Plains has been and remains committed to maintaining its tanks consistent with the applicable provisions of API Standard 653, including addressing repairs recommended by API 653 inspections. To provide for enhanced documentation and clarity regarding the specific actions taken in response to API 653 inspections, Plains is implementing a new Form 506 – API 653 Tank Repairs (see Attachment 1). This form is being used to specifically document the company's response to each recommendation noted in an API 653 inspection. In addition, Plains is field testing a program in one division of the company in which the contractor that performed the original API 653 inspection on a given tank will conduct a follow-up inspection to verify and document that its recommendations have been addressed (*i.e.*, repairs completed and/or justification for why a recommended repair was not performed). Plains is reviewing the implementation of this method of verifying tank repairs throughout the Plains Partnership.

2) **§195.402 Procedural manual for operations, maintenance, and emergencies.**

PHMSA alleges that Plains did not conduct monthly security inspections as specified in Plains' procedure P-195.432(b), Inspection of In-service Breakout Tanks, and did not document those inspections on the company's Form 505.

Response – We are unclear as to the basis for this alleged probable violation as the Plains O&M procedure P-195.432(b), in effect at the time of the inspection did not actually require a monthly security inspection of breakout tanks. Moreover, we are not aware of any applicable PHMSA regulations that would have specifically mandated such monthly inspections. Thus, the form Plains used to record the results of monthly breakout tank inspections (*i.e.*, Form 505 - Tank Inspection) at the time of the PHMSA inspection did not have a provision for recording a breakout tank security check.

We note, however, that Plains has designed and implemented security measures in accordance with the Transportation Security Administration's *Pipeline Security Guidelines*. A Site Specific Security Plan has been developed for the facility that provides for camera monitoring, routine security checks, inventories, inspections, and audits, as well as security drills/exercises and training. In addition, in recognition of the feedback from PHMSA and as an additional prudential measure, Plains has also updated its O&M procedure P-195.432(b)(c) and Form 505 to explicitly provide for a monthly security check on the breakout tanks. (See Attachment 2 for a copy of the procedure/form in place at the time of the inspection as well as a copy of the updated procedure/form.). This change is being implemented following training of inspection personnel on the updated procedure.

3) §195.430 Firefighting equipment.

PHMSA alleges that Plains does not have adequate verification that local public firefighting agency and the Safety Alliance of Cushing have adequate capability to respond to a fire at the facility.

Response – Plains is a member of a formal mutual aid agreement among the other terminal operators established under the Safety Alliance of Cushing (SAC). To our knowledge, all tank terminal operators in Cushing rely on the local Cushing Fire Department (CFD) and the SAC to fight tank fires. The CFD would respond to any tank fire and, under the mutual aid agreement, all terminal operators are required to provide the CFD with whatever material (primarily foam) and other support required to fight a fire. Thus, while Plains provides its employees with training on fire extinguishers to fight incipient fires, its policy is to allow professional fire fighters to fight fires beyond the incipient stage with Plains personnel acting to isolate if possible the fuel source to the fire and providing terminal and stored product information to the fire fighters. The CFD has brought its foam tender to the Plains' terminal to verify that it has the correct fitting on its foam tender to connect to Plains' water supply and terminal foam manifold.

Along with the other operators, Plains provides funding to annually send members of the CFD to the Williams Fire Fighting School. The attached document from the Fire Chief of the CFD shows the training members of the department have received and the equipment available to fight tank fires. (See Attachment 3.) Several years ago, the CFD successfully extinguished a tank ring fire at one of the Cushing terminals.

4) §195.432 Inspection of in-service breakout tanks.

PHMSA alleges that Plains did not provide the inspector with correctly established inspection intervals for breakout tanks.

Response – As noted in the NOPV/PCO, Plains provided PHMSA with an updated inspection schedule and data to address the identified inconsistencies. Plains is performing inspections on tanks in accordance with an updated schedule consistent with the applicable requirements.

5) §195.563 Which pipelines must have cathodic protection?

PHMSA alleges that Plains did not maintain cathodic protection on at least 16 breakout tanks at the Cushing Terminal according to the requirements of 49 C.F.R. §§ 195.563(d) and 195.565, and did not have adequate supporting

documentation to justify why compliance with API 651 is not necessary for the safety of the tank.

PHMSA Proposed Civil Penalty: $32,800

PHMSA Proposed Compliance Order: (1) Plains must install cathodic protection to the bottom of each unprotected breakout tank as required by 49 C.F.R. 195. PHMSA states that "Volatile Corrosion Inhibitor (VCI) may be used in conjunction with cathodic protection but cannot be used as a substitute for a cathodic protection system." (3) Plains must submit a plan for PHMSA approval within 30 day of receipt of Order that will provide for the installation of cathodic protection on all unprotected tanks. Installation must be completed within 1 year of PHMSA approval of plan.

***Plains' Response** – We do not believe the alleged probable violation, proposed civil penalty and proposed compliance order are warranted in light of the documented corrosion system Plains has in place to protect tank bottoms at the Cushing Terminal and respectfully request that they be dropped.*

Background
The NOPV indicates that for "at least sixteen (16) Cushing Terminal breakout tanks" Plains did not maintain cathodic protection according to the requirements of 49 C.F.R. §§ 195.563(d) and 195.565, and did not have adequate supporting documentation to justify why compliance with API 651 is not necessary for the safety of the tank. As an initial matter, we are unclear as to precisely which tanks are at issue as the NOPV does not specifically identify the allegedly noncompliant tanks. We respectfully request clarification on this point.

As shown in Attachment 4, there are 68 breakout tanks at the Cushing Terminal.[2] Thirty-six (36) tanks were initially constructed with a dielectric high density polyethylene (HDPE) liner below the tank, which was consistent with guidance from the U.S. Environmental Protection Agency aimed at protecting against potential soil and ground water contamination, and an impressed current cathodic protection system for the tank bottoms. Unfortunately, over time, the performance of the cathodic protection system began to decline to unacceptable levels on certain tanks. Thus, after carefully evaluating available options, in 2006 Plains commenced installation of a proprietary vapor corrosion inhibitor (VpCI®) system on those tanks to provide for external corrosion protection for the tank bottoms.

The VpCI® system was chosen for the tanks based on site-specific considerations and its performance capabilities. Because a HDPE liner is located approximately one foot below each tank, there is inadequate space to replace the anodes in the

[2] This table appears in Plains' O&M-205.

cathodic protection system following their decay. Moreover, impressed current from deep well ground bed anodes cannot adequately penetrate the HDPE liner. Unfortunately, there is no practical way to replace the depleted anodes without taking the tank out of service, removing the tank floor (and liner) and installing a new tank floor. As documented in Attachment 5, the VpCI® system provided an ideal solution as it constitutes a proven technology with an established history of providing corrosion protection for tank bottoms on aboveground storage tanks.

The VpCI® system, which is described in detail in Attachment 5, involves the injection of a vapor corrosion inhibitor slurry into the interstitial space between the tank floor and HDPE liner. Vapors disseminate until equilibrium is reached and the VpCI® molecules adsorb on the steel surface to suppress metal dissolution as well as reduction reactions. A key aspect of the system is the use of electrical resistance (ER) corrosion rate probes. These probes enable real-time monitoring of corrosion rates and provide for a more direct assessment of actual corrosion rates. Notably, various states, including Illinois, New York and Florida have specifically accepted the VpCI® system as an alternative to cathodic protection for corrosion control on the soil-side of aboveground storage tanks.

For the Cushing Terminal, consistent with its O&M 412 Manual, as Plains determines through monitoring data that existing cathodic protection is becoming ineffective for a particular tank, the VpCI® system is installed to protect the tank bottom from corrosion. To date, the VpCI® technology has been installed on 22 breakout tanks at the facility with an additional six tanks scheduled for this year (*i.e.*, tanks 3000 – 3600).[3] As shown in the tank information provided in Attachment 4, for some of the tanks, the cathodic protection system is still performing consistent with the requirements of API Recommended Practice 651. Nonetheless, Plains proactively installed the VpCI® technology on the tanks to assure continued corrosion protection in anticipation of the continuing decline in effectiveness of the original cathodic protection system.

The NOPV and PCO are inconsistent with PHMSA's prior communications with Plains regarding the use of the VpCI® technology as a means to achieve compliance with §§195.563/.565 cathodic protection requirements.

As discussed below, the use of VpCI® to satisfy the §§195.563/.565 cathodic protection requirements for breakout tanks at the Cushing Terminal was specifically addressed with PHMSA in 2009. At that time, we understood based on oral and written communications from PHMSA that Plains' approach and documentation were acceptable.

[3] With the installation of VpCI® on those tanks, the technology will be in place on all breakout tanks at the facility that still have HDPE liners.

On March 4, 2009, PHMSA issued a Notice of Amendment (NOA), CPF 4-2009-5004M, to Plains as follow up to an inspection of Plains' procedures for Operations and Maintenance. Item 5H of the NOA states that

> Plains has installed a Vapor Corrosion Inhibitor System (VpCI) under several breakout tanks at the Cushing Terminal Facility. The system does not rely on cathodic protection to protect the tank bottom.... Plains does not have procedures for the installation or monitoring of the VpCI system, nor does Plains have it noted why the use of cathodic protection is not needed for the tank bottom protection due to the use of the VpCI system. Plains must modify the procedures to provide specific details within the O&M manual to include VpCI.

Importantly, as noted later in the same NOA, Plains subsequently addressed this issue to the satisfaction of PHMSA by providing updated procedures and documentation. PHMSA's conclusion is memorialized on page 12 of the NOA:

> [i]n regard to Items 1 through 4, 5A, and **5G through 5O**, listed above, Plains provided finalized documentation via email to PHMSA on July 25, July 28, August 6, 2008, and August 21, 2008, of various changes made to their O&M Manual. After considering the material provided, PHMSA deemed the modifications **adequate**, and **no further action is required** in response to this Notice. *[emphasis added]*

Moreover, on September 3, 2009, Plains provided a copy of the updated O&M procedures to Terri Binns (PHMSA) via e-mail. The February 2, 2010, closeout letter PHMSA issued to Plains regarding the NOA states that PHMSA has reviewed the documentation provided by Plains, including the amended procedures, and **"no further action is necessary and this case is now closed."**

In light of these prior interactions with PHMSA concerning the use of the VpCI® system on breakout tanks at the Cushing Terminal and direct confirmation by PHMSA that our supporting documentation and procedures were acceptable, we are confused by and take issue with the inclusion of item 5 in the present NOPV/PCO, and, in particular, item 1 of the PCO which states that "Volatile Corrosion Inhibitor (VCI) may be used in conjunction with cathodic protection but cannot be used as a substitute for a cathodic protection system." *[emphasis added]*

Plains has adequate documentation in place to substantiate that all of its breakout tanks at the Cushing Terminal have adequate external corrosion

protection in place for the tank bottoms consistent with PHMSA requirements, including, as pertinent, justification for why compliance with API Recommended Practice 651 is not necessary for the safety of the tank.

We note that §195.565 sets out the requirements for the installation of cathodic protection on breakout tanks and the section specifically provides that "installation of the system need not comply with API Recommended Practice 651" if the operator notes in its corrosion control procedures why compliance with all or certain provisions is not necessary for tank safety. Moreover, as indicated in § 1.3 of API RP 651, the recommended practice "does not designate specific practices for every situation because the varied conditions in which tank bottoms are installed preclude standardization of cathodic protection practices." The limited utility of external cathodic protection for situations in which an impervious lining exists between the tank bottom and anodes such as with secondary containment systems is noted in §§ 5.1.4 and 5.4.3.3 of API RP 651.

As previously indicated, Plains has described its approach to corrosion control for the breakout tanks at the Cushing Terminal in detail to PHMSA on several occasions, including during and following the 2008 integrated audit, which was the subject of NOA CPF 4-2009-5004M. We have provided PHMSA with documentation regarding the usage of the VpCI® system to satisfy the requirements of §195.563 and §195.565, on breakout tanks for which the external cathodic protection system was ineffective. As noted above, based on oral and written communications from PHMSA, we understood that the agency had found our approach and the provided documentation acceptable.

In any event, in response to the present NOPV/PCO, we have reviewed our O&M 412 Manual to verify that it explains when and how the VpCI® system is used to protect breakout tanks. A copy of Section 412 of the Manual is attached for your reference. (See Attachment 6.) This is the same document that was provided to PHMSA in 2009 as follow up to the 2008 integrated audit, which PHMSA found "adequate" such that "no further action is required." For your reference, we have also attached a memorandum prepared by CORTEC, the provider of the VpCI® system, which provides additional information and substantiation regarding the technology and its application. (See Attachment 5.) In addition, we have included a summary of corrosion rate monitoring conducted per Plains Specification No. 724 (Attachment 7) for the breakout tanks with VpCI® which demonstrates that the tank bottoms are being adequately protected against corrosion. (See Attachment 8.)

Given that §195.565 specifically anticipates that compliance with all or certain provisions of API RP 651 may not be necessary for the safety of the tank and, in light of the substantiation provided by Plains in this and prior communications with PHMSA, we believe that the NOPV and PCO are unwarranted and, therefore, should be dropped.

6) §195.571 What criteria must I use to determine the adequacy of cathodic protection?

PHMSA alleges that Plains did not meet applicable criteria for cathodic protection on 27 breakout tanks at the Cushing Terminal as required by 49 C.F.R. §§ 195.565 and 195.571.

PHMSA Proposed Civil Penalty: $70,600

PHMSA Proposed Compliance Order: (Item 2) Plains must remedy all cathodic protection deficiencies and show by structure-to-soil measurements that one or more of the cathodic protection criteria in NACE SP0169 or API RP651 are met. (Item 3) Plains must submit reading noted above to PHMSA within 1 year.

***Plains' Response** – The alleged probable violation, proposed civil penalty and proposed compliance order are not warranted as Plains has provided data to substantiate that the referenced tanks are being adequately protected against corrosion.*

Given that §195.565 specifically anticipates that compliance with all or certain provisions of API RP 651- Cathodic Protection of Aboveground Petroleum Storage Tanks may not be necessary for the safety of the tank, it follows that the corresponding cathodic protection criteria referenced in paragraphs 6.2 and 6.3 of NACE SP 0169 may not be applicable to all situations. Indeed, while § 195.571 specifies that the cathodic protection required by subpart H of Part 195 must comply with one or more of the applicable criteria and considerations in paragraphs 6.2 and 6.3 of NACE SP 0169; paragraph 6.2 of SP 0169 specifically states that:

> [i]t is not intended that persons responsible for external corrosion control **be limited** to the criteria listed below. *[emphasis added]*

Accordingly, we disagree with alleged violation noted under item 6 of the NOPV, the proposed penalty, and the corresponding proposed remedial requirement set out by PHMSA under item 2 of the PCO. Monitoring data for the tanks substantiate that all of the tanks are being adequately protected from corrosion by cathodic protection consistent with API RP 651 and/or VpCI®.

PHMSA identified 27 breakout tanks under item 6 of the NOPV which it claims do not meet applicable criteria for cathodic protection. We note that 13 of those tanks are protected by VpCI®. In particular, VpCI® was installed on tanks 1800,

2000, 2200, 2400, 2500, 2900, and 3400 in 2011 and on tanks 1900, 2100, 2300, 2600, 2700, and 2800 in 2012. As the data provided in Attachment 8 demonstrate, corrosion rates on those tanks are very low and within the limits established in Plains Specification No. 724. This is significant, as this data provides a direct indication of the effectiveness of the corrosion protection system. As a result, we believe those corrosion rate data provide a more accurate and reliable measurement of the tank's status than the cathodic protection survey data Indeed, Plains installed the VpCI® technology to address its concerns about the continuing adequacy of the cathodic protection system.

With respect to tank 1800, we note that in 2010 the anode bed beneath the tank was damaged during repair activity and, given the constraints of the original cathodic protection system, Plains decided to move to the VpCI® system, which was installed in 2011. The VpCI® system was also installed on tank 2000 in 2011 due to concerns about the performance of the original cathodic protection system. As the data referenced in Attachment 8 indicate, the tank bottoms are being effectively protected from corrosion by the VpCI® system.

With respect to the remaining tanks referenced in the NOPV, we are unclear as to the basis for the alleged probable violation. In many instances (*i.e.*, tanks 3000, 3200, 3700, 3900, 4300, 4400, and 5000) the alleged noncompliance can be traced to readings associated with a bad reference cell while for the other tanks (*i.e.*, tanks 3100, 3300, 3500, 3600, 3800, 4000, and 5300) the cathodic protection survey data demonstrate compliance. (See Attachment 9.)

Concerning the bad reference cells, the Copper-Copper Sulfate reference electrodes that are placed under the breakout tanks are installed during construction and one of the challenges with these electrodes is they may become damaged during construction. Any nick or cut in the wire will give a false reading and they can also dry out. Unfortunately, once the tank is built, there is no way to replace the electrodes after they go bad. Accordingly, this must be accounted for when evaluating cathodic protection survey data and the affected data excluded from consideration.

As noted above, Plains intends to install the VpCI® technology on breakout tanks 3000 to 3600 this year.

Request for Oral Hearing

Although we are hopeful that through the provision of the enclosed information and by means of additional informal discussions with PHMSA this matter can be resolved in an efficient and mutually agreeable manner, in order to preserve its rights, Plains is requesting an oral hearing as provided for 49 C.F.R. §190.209 and §190.211. Plains intends to be represented by counsel at the oral hearing. The issues to be raised at the hearing include the following:

1) All aspects of Probable Violation No. 5, including the alleged facts giving rise to the alleged probable violation, the applicable law setting forth the requirement and PHMSA's interpretation and application of the same, Plains' responsive measures, and the basis for the corresponding proposed penalty amount and the remedial requirements set out in the PCO.

2) All aspects of Probable Violation No. 6, including the alleged facts giving rise to the alleged probable violation, the applicable law setting forth the requirement and PHMSA's interpretation and application of the same, Plains' responsive measures, and the basis for the corresponding proposed penalty amount and the remedial requirements set out in the PCO.

Plains respectfully requests that PHMSA provide it with the entire case file regarding this NOPV/PCO (CPR 4-2013-5007), as soon as possible, and no later than 30 days prior to any hearing, as provided for under 49 C.F.R. §190.211(e).

* * *

We look forward to the opportunity to discuss this matter further at your earliest convenience. Should you have any questions or desire additional information, please do not hesitate to contact me.

MLK

Sincerely,

Troy E. Valenzuela

Troy E. Valenzuela
Vice President, Environmental, Health, & Safety

ATTACHMENTS

Attachment 1 – Form 506 – API 653 Tank Repairs
Attachment 2 – Procedure P-195.432(b)(c) – Inspection of In-Service Breakout Tanks (2010 and 2013 versions)
Form 505 – Tank Inspection Form (2010 and 2013 versions)
Attachment 3 – May 2, 2013, Cushing Fire Department Letter
Attachment 4 – O&M – 205
Attachment 5 – VpCI® Tank Corrosion Protection System Data
Attachment 6 – O&M 412
Attachment 7 – Plains Specification No. 724
Attachment 8 – Corrosion Rate Data for Breakout Tanks with VpCI®
Attachment 9 – Cathodic Protection Survey Data