

Mail Stop 3561

February 23, 2010

Greg L. Armstrong
Chief Executive Officer
PNGS GP LLC
333 Clay Street, Suite 1100
Houston, Texas 77002

**Re: PAA Natural Gas Storage, L.P.
Registration Statement on Form S-1
Filed January 25, 2010
File No. 333-164492**

Dear Mr. Armstrong:

We have reviewed your filing and have the following comments. Where indicated, we think you should revise your document in response to these comments. If you disagree, we will consider your explanation as to why our comment is inapplicable or a revision is unnecessary. Please be as detailed as necessary in your explanation. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure. After reviewing this information, we may raise additional comments.

Please understand that the purpose of our review process is to assist you in your compliance with the applicable disclosure requirements and to enhance the overall disclosure in your filings. We look forward to working with you in these respects. We welcome any questions you may have about our comments or any other aspect of our review. Feel free to call us at the telephone numbers listed at the end of this letter.

Registration Statement on Form S-1

General

1. We note a number of blank spaces throughout your registration statement for information that you are not entitled to omit under Rule 430A of Regulation C. Please allow us sufficient time to review your complete disclosure prior to any distribution of preliminary prospectuses. In addition, please be advised that you may not circulate copies of your prospectus until you have included an estimated price range and related information based on a bona fide estimate of the public

offering within that range, as well as all other information required by the federal securities laws, except information you may exclude in reliance upon Rule 430A of Regulation C. When you complete the filing by filling in the blanks, please note that we may have additional comments.

2. Throughout your filing you state that you and your general partner were formed in January 2010. However, throughout your filing you also state that PAA became your sole owner on September 3, 2009 and that you “continued as the same legal entity” after such transaction. Please revise your disclosure to clarify the year in which you were formed and the manner in which control or ownership of you has changed since your formation.
3. Please confirm that you have complied with the amendments to Items 401, 402 and 407 of Regulation S-K that are effective February 28, 2010, as applicable. Refer to SEC release no. 33-9089.
4. We note your use of demographic and industry statistics. In this regard, to the extent you have not done so, disclose whether this information is based upon management’s belief, industry data, reports/articles or any other source. If the statement is based upon management’s belief, please indicate that this is the case and include an explanation for the basis of such belief. Alternatively, if the information is based upon reports or articles, please disclose the source of the information in your filing and provide copies of these documents to us, appropriately marked to highlight the sections relied upon. For example, we note the following statements:
 - “Pine Prairie has a total current working gas storage capacity of 14 Bcf in two caverns. . . making it one of the largest high-deliverability salt-cavern natural gas storage facilities in North America.” (page 2)
 - “Bluewater is located in the State of Michigan, which contains more natural gas storage capacity than any other state in the U.S. . . .” (page 3)
 - Plains All American Pipeline, L.P. is “the fourth largest publicly traded master limited partnership as measured by equity market capitalization.” (pages 7 and 112)

Please note that these are only examples.

5. Please provide pro forma financial statements for PAA Natural Gas Storage, L.P. as if 1) the formation transactions to be effected at the closing of this offering and 2) the purchase transaction that occurred on September 3, 2009 (hereinafter the PAA Ownership Transaction) had taken place on the most recent balance sheet date, in the case of the pro forma balance sheet, or as of January 1, 2009 in the case of the pro forma statements of operations. The pro forma effects of items 1) and 2) should be presented in separate columns. If you believe such pro forma

financial information is not required, please explain why. Refer to Article 11 of Regulation S-X.

Prospectus Summary, page 1

6. Please revise this section to limit the information to a brief overview of the key aspects of the offering. Currently much of the information presented is reiterated elsewhere in the filing or is not related to the key aspects of the offering.
7. Where you discuss Pine Prairie, please describe the “diverse group of customers” that Pine Prairie has attracted, similar to the type of disclosure you have provided with respect to Bluewater.

Our Competitive Strengths, page 6

8. If you choose to highlight your company’s competitive strengths in the summary, please balance that disclosure with a discussion of the principal competitive challenges or risks facing the company.

The Offering, page 12

9. Please provide a description or, at the very least a cross-reference, to the “certain operational and financial conditions” that trigger conversion of the Series B subordinated units.

Summary Historical Financial and Operating Data, page 19

Non-GAAP and Segment Financial Measures, page 20

10. Where you present distributable cash flows here and in Selected Historical Financial and Operating Data on page 77, please either repeat or include a cross reference to the disclosures on page 52 regarding the limitations on cash distributions and your ability to change your cash distribution policy. Also clarify that distributable cash flow does not reflect actual cash on hand that is available for distribution to unitholders.

Risk Factors, page 23

11. In the risk factor, “We are a subsidiary of PAA under its debt instruments...” please clearly state whether your ability to take certain actions, including incurring certain types of indebtedness, is prohibited and under what circumstances such actions will be prohibited. Your indication that there “may be prohibit[ions]” is vague.

Dilution, page 51

12. Please provide disclosures to give a dilutive effect to the underwriters' 30-day option to purchase additional common units.

Our Cash Distribution Policy and Restrictions on Distributions, page 52

General, page 52

13. Please explain to us why your tables of Unaudited Pro Forma Distributable Cash Flow for the Year Ended December 31, 2009 and Minimum Estimated Distributable Cash Flow for the Twelve Months Ending June 30, 2011 are focused on Distributable Cash Flow as opposed to Available Cash.
14. Please revise note (7) to the table on page 57 to make it transparent to readers how you arrived at pro forma cash interest expense. In doing so, clarify that the pro forma amount was calculated based on historical borrowings at current interest rates or, if calculated differently, explain to us why your calculation is appropriate.
15. Please revise note (10) to the table on page 57 and note (5) to the table on page 60 to disclose the material covenants you expect to be included in your new credit agreement, including the amount or limit required for compliance with the covenants, if known.

Unaudited Minimum Estimated Distributable Cash Flow, page 60

Assumptions and Considerations, page 61

Our Capital Expenditures, page 63

16. Please reconcile for us your disclosure that expansion capital expenditures were \$90 million for the year ended December 31, 2009 to the audited statements of cash flows for the periods of January 1, 2009 to September 2, 2009 and September 3, 2009 to December 31, 2009.

Our Financing, page 63

17. Please disclose the basis for the interest rate used in computing estimated interest expense, i.e., committed or current interest rates.

Management's Discussion and Analysis of Financial Condition and Results of Operations, page 78

Results of Operations, page 83

18. Please tell us your consideration of whether the discussion of the results of operations and financial condition set forth in the audited financial statements for the predecessor period of January 1, 2009 through September 2, 2009 and the successor period of September 3, 2009 through December 31, 2009 should be supplemented by a discussion based upon pro forma financial information for the year ended December 31, 2009 giving effect to the PAA Ownership Transaction. We believe such additional discussion would be meaningful to investors, but do not believe the supplemental discussions based on S-X Article 11 pro forma financial information should be presented with greater prominence than the discussion of the audited historical financial statements.

Liquidity and Capital Resources, page 90

19. Item 303(A)(1) and (2) of Regulation S-K state that you should discuss known trends or any known demands, commitments, events or uncertainties that will result in or are reasonably likely to impact your liquidity in any material way, as well as any material changes in the mix or relative cost of your capital resources. Given recent economic trends and conditions, including recent trends in the credit markets, please expand your disclosure to address the current and potential future impact of these trends and conditions on your liquidity and capital resources. Please also discuss the impact that the price of natural gas will have on your operations.

Commitments, page 93

20. Please add a note to the table of contractual obligations explaining why repayment of the PAA Note and related interest is not shown as payable until 2014. In this regard, we note your disclosure on pages F-20 and F-21 that the PAA Note is a demand note with a waiver stating that PAA will not demand payment during the year ended December 31, 2010.

Natural Gas Storage Industry, page 97

21. Please provide independent supplemental materials, with appropriate markings and page references in your response, supporting the statements you make here and elsewhere in your prospectus that are attributable to the EIA.

Management, page 122

22. Please provide the disclosure required by Item 407(a) with respect to the directors of your general partner.

Directors and Executive Officers of Our General Partner, page 123

23. We note the first full paragraph on page 125. Please discuss the specific qualifications for each director on an individual, as opposed to on an aggregate, basis. Refer to Item 401(e)(1) of Regulation S-K.

24. Please provide the disclosure required by Item 402(s) of Regulation S-K.

Compensation Discussion and Analysis, page 127

25. You mention that your reimbursement for the compensation of your executive officers is governed by the omnibus agreement. Clarify whether you expect you will have your own executive officers and, if not, whether your general partner's executive officers will devote time to you and your general partner and, if so, how much.

Security Ownership of Certain Beneficial Owners and Management, page 129

26. In the second table please include the disclosure required by Item 403 of Regulation S-K with respect to beneficial owners of more than 5% of the outstanding voting securities of PAA.

Certain Relationships and Related Party Transactions, page 130

Related Party Transactions, page 132

27. Please revise to discuss the \$451 million of intercompany indebtedness that is outstanding to PAA to which you make reference elsewhere in your registration statement.

28. Please provide the disclosure required by Item 404(b) of Regulation S-K.

Conflicts of Interest and Fiduciary Duties, page 134

29. The disclosures on pages 134-139 of situations in which conflicts of interest could arise appear to constitute additional risk factors. To the extent these disclosures constitute material risk factors of the company, please move them to the Risk Factors section and provide a cross-reference to them as necessary to facilitate your discussion of potential conflicts of interest.

Financial Statements, page F-1

PAA Natural Gas Storage, LLC Financial Statements, page F-4

Consolidated Statements of Cash Flows, page F-7

30. With reference to FASB ASC 230, please explain why cash paid for base gas is presented as cash used in investing as opposed to operating activities.

31. Please disclose information about the financing activities during 2009 that affected the debt balances on the balance sheet but did not result in cash receipts or payments during the period. Refer to FASB ASC 230-10-50-3 (paragraph 32 of SFAS 95).

Notes to Consolidated Financial Statements, page F-8

Note 2. Summary of Significant Accounting Policies, page F-8

Goodwill and Other Intangible Assets, page F-10

32. Please tell us why the customer contracts and relationships and the NPI acquisition intangible assets were assigned no fair value in the PAA Ownership Transaction.

Note 5. Related Party Transactions, page F-19

33. Please explain the extent to which costs reimbursed by you to PAA are specifically related to your operations. For all other expenses, please disclose the allocation method used along with management's assertion that the method used is reasonable. Refer to Question 2 of SAB Topic 1:B1.

Note 8. Commitments and Contingencies, page F-21

Pine Prairie Project Sale and Lease, page F-22

34. Please explain how you are accounting for all aspects of the Pine Prairie Project sale and leaseback and related bond issuance, including your accounting for the retirement of the school bond previously issued by the counterparty in an unrelated transaction. Please be sure to address the basis in GAAP for the net presentation of amounts related to the revenue bond and lease obligations. Additionally, please tell us how you determined the fair value of the related tax abatement intangible asset that was recorded in conjunction with the PAA Ownership Transaction.

Item 13. Other Expenses of Issuance and Distribution, page II-1

35. Please specify, if true, that you will pay the expenses associated with the issuance and distribution contemplated by the registration statement.

Item 15. Recent Sales of Unregistered Securities, page II-1

36. Please confirm that the issuances described in this section were not made pursuant to a subscription, contribution or similar agreement or, if they were, file that agreement as an exhibit.

Item 17. Undertakings, page II-2

37. Please provide the undertaking required by Item 512(a)(6) of Regulation S-K.

Exhibits

38. We note that you have not filed most of your exhibits in connection with the Form S-1. We request that you file these exhibits as early in the process as possible so that we may have time to review them before you request that your registration statement become effective.
39. Please file the 15-year agreement that commenced in January 2008, pursuant to which you leased back a portion of the Pine Prairie facility from the Industrial Development Board, as an exhibit to your registration statement, or tell us why you do not think you are required to do so.
40. We note that several of the exhibits that you plan to file by amendment are “form of” agreements. Please confirm that the “form of” agreements that you plan to file will be consistent with Instruction 1 to Item 601 of Regulation S-K, and that any “form of” agreement that deviates from the final agreement in any way will be re-filed accordingly.

* * * *

As appropriate, please amend your filing in response to these comments. You may wish to provide us with marked copies of the amendment to expedite our review. Please furnish a cover letter with your amendment that keys your responses to our comments and provides any requested information. Detailed cover letters greatly facilitate our review. Please understand that we may have additional comments after reviewing your amendment and responses to our comments.

We urge all persons who are responsible for the accuracy and adequacy of the disclosure in the filings to be certain that the filings includes all information required

under the Securities Act of 1933 and that they have provided all information investors require for an informed investment decision. Since the company and its management are in possession of all facts relating to a company's disclosure, they are responsible for the accuracy and adequacy of the disclosures they have made.

Notwithstanding our comments, in the event the company requests acceleration of the effective date of the pending registration statement, it should furnish a letter, at the time of such request, acknowledging that:

- should the Commission or the staff, acting pursuant to delegated authority, declare the filing effective, it does not foreclose the Commission from taking any action with respect to the filing;
- the action of the Commission or the staff, acting pursuant to delegated authority, in declaring the filing effective, does not relieve the company from its full responsibility for the adequacy and accuracy of the disclosure in the filing; and
- the company may not assert staff comments and the declaration of effectiveness as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

In addition, please be advised that the Division of Enforcement has access to all information you provide to the staff of the Division of Corporation Finance in connection with our review of your filings or in response to our comments on your filings.

We will consider a written request for acceleration of the effective date of the registration statement as confirmation of the fact that those requesting acceleration are aware of their respective responsibilities under the Securities Act of 1933 and the Securities Exchange Act of 1934 as they relate to the proposed public offering of the securities specified in the above registration statement. We will act on the request and, pursuant to delegated authority, grant acceleration of the effective date.

We direct your attention to Rules 460 and 461 regarding requesting acceleration of a registration statement. Please allow adequate time after the filing of any amendment for further review before submitting a request for acceleration. Please provide this request at least two business days in advance of the requested effective date.

Greg L. Armstrong
PNGS GP LLC
February 23, 2010
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You may contact Adam Phippen, Staff Accountant, at (202) 551-3336 or Robyn Manuel, Staff Accountant, at (202) 551-3823 if you have any questions regarding the financial statements and related matters. Please contact Lilyanna L. Peyser, Attorney Advisor, at (202) 551-3222, Mara Ransom, Legal Branch Chief, at (202) 551-3264, or me at (202) 551-3725 with any other questions.

Sincerely,

H. Christopher Owings
Assistant Director

cc: Tim Moore, General Counsel
Alan Beck, Vinson & Elkins L.L.P.
David Oleman, Vinson & Elkins L.L.P.
Via Facsimile