

Mail Stop 3561

March 24, 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.
Amendment No. 1 to Registration Statement on Form S-1
Filed March 3, 2010
File No. 333-164492**

Dear Mr. Armstrong:

We have reviewed your amendment 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 comments are 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.

Registration Statement on Form S-1

General

1. We note your responses to comments 1, 38 and 39 of our letter dated February 23, 2010 that certain omitted information and exhibits will be provided in a future amendment to Form S-1.
2. We reviewed the supplemental materials provided in response to comments four and 21 of our letter dated February 23, 2010. Please revise the disclosure on page 104 to clarify that your estimates that depleted natural gas or oil reserves, natural aquifers and salt caverns comprise approximately 85%, 9% and 6%, respectively, of total working gas storage capacity in the United States are based on your review of publicly available information. In addition, it is not clear how the supplemental materials support the following statements on page 107: "In recent years, U.S. and Canadian LNG imports have averaged an aggregate of

approximately 1 to 3 Bcf per day, while the total LNG import capacity of U.S. and Canadian infrastructure is approximately 16 Bcf per day. In addition, total worldwide liquefaction capacity for LNG has been increasing over the last several years and additional U.S. and Canadian capacity is scheduled to come online over the next few years.” Please clarify. Finally, on page 7 please revise your disclosure to clarify the source of the “industry data” regarding equity market capitalization upon which you relied in making the statement that Plains All American Pipeline, L.P. is the fourth largest publicly traded master limited partnership.

Prospectus Summary, page 1

3. We note your response to comment six of our letter dated February 23, 2010. The information presented, however, continues to be duplicative of information that is properly presented in the latter parts of the prospectus or is not related to the key aspects of the offering. Please revise to provide a brief overview of the key aspects of the offering. You may wish to include cross references to such further portions of the prospectus.

Our Cash Distribution Policy and Restrictions on Distributions, page 53

General, page 53

4. We reviewed your response to comment 13 in our letter dated February 23, 2010 and your revised disclosure. Please address in your disclosure how the following items are considered in the calculation of cash available from distributable cash flow in the pro forma historical table and in the forward looking table: cash settlement of derivative instruments; cash settled capitalized interest; and actual acquisition related expenditures. Please also tell us why the pro forma historical table does not include separate line items for expansion capital expenditures and borrowings to fund expansion capital expenditures while the forward-looking table includes these line items.

Unaudited Pro Forma Available Cash from Distributable Cash Flow, page 58

5. Please tell us your consideration of beginning this table with pro forma net income, as per your Article 11 pro forma financial statements, rather than using a net income amount based on the mathematical sum of net income in the predecessor and successor periods.
6. We would expect pro forma cash interest expense to represent pro forma cash interest expense inclusive of debt issuance costs and commitment fees related to your anticipated credit agreement. Please confirm these amounts have been considered or otherwise tell us why not.

7. We note that you removed the interest coverage ratio and leverage ratio line items. Please add these line items back to the table along with footnote disclosure similar to footnote (5) on page 62 or explain in detail why you believe such line items should not be included in the table.

Management, page 127

8. We note your response to comment 22 of our letter dated February 23, 2010. Please revise your disclosure to clarify, if true, that currently none of the directors of your general partner are independent.

Directors and Executive Officers of Our General Partner page 128

9. We note your response to comment 23 of our letter dated February 23, 2010. However it does not appear that you have discussed the specific experience, qualifications, attributes or skills that led to the conclusion that each director should serve as a director of your general partner, aside from Mr. Pefanis. Please revise your disclosure accordingly and refer to Item 401(e)(1) of Regulation S-K.

Compensation of Our Officers, page 130

10. We note your response to prior comment 25 of our letter dated February 23, 2010. In light of your indication that certain of your general partner's officers are dedicated to managing your business and will devote a substantial majority of their time to your business, tell us what consideration you have given to disclosing the historical compensation that has been paid to any named executive officers of your general partner that will be devoting a substantial majority of their time to your business. As a related matter, in your Compensation Discussion and Analysis, please disclose to what extent, if any, the compensation of any of your general partners' officers will be determined based upon your performance.

Certain Relationships and Related Party Transactions, page 137

Related Party Transactions, page 139

Intercompany Note with PAA, page 140

11. Please revise your disclosure to include the principal amount of the note, as well as the due date of the note.

Financial Statements, page F-1

Unaudited Pro Forma Condensed Combined Financial Statements, page F-2

Unaudited Pro Forma Condensed Combined Balance Sheets, page F-3

12. Please show the pro forma number of common units, series A subordinated units, series B subordinated units and general partner units outstanding.

Unaudited Pro Forma Condensed Combined Statement of Operations, page F-4

13. Please revise note (d) to disclose how you computed the \$2.252 million adjustment to general and administrative expenses for PAA personnel costs that would have been allocated to PNGS if the PAA Ownership Transaction had occurred on January 1, 2009. Also explain the basis for the allocation of the costs.
14. Please revise note (f) to disclose how you computed pro forma interest expense, including how you determined the amount of pro forma capitalized interest. Indicate the percentage of overall interest capitalized in the pro forma presentation. To the extent this percentage is materially different than the percentage of overall interest capitalized in the historical financial statements for the periods January 1 through September 2, 2009 and September 3 through December 31, 2009, please explain why.
15. Please present pro forma basic and diluted per unit data on the face of the pro forma statement of operations. Also present the number of units used to compute earning per unit data. Please note that the denominator in computing pro forma earnings per unit should include only those units whose proceeds are being reflected in pro forma adjustments in the statement of operations, such as proceeds used for debt repayment. In addition, please add a footnote making the computation of pro forma earnings per unit transparent to investors.

PAA Natural Gas Storage, LLC Consolidated Financial Statements, page F-8

Notes to Consolidated Financial Statements, page F-12

Note 2. Summary of Significant Accounting Policies, page F-12

Property, Plant and Equipment, page F-17

16. Please tell us the reasons for lengthening the useful lives of the natural gas storage facilities and equipment and the basis for the 50 to 70 year useful life. Tell us the useful lives of these assets prior to the PAA Ownership Transaction, how the

useful lives were originally determined, and why it is reasonable that your estimate of useful lives changed so significantly.

Item 17. Undertakings, page II-2

17. We note your response to comment 37 of our letter dated February 23, 2010. However, please note that due, in part, to the language of Securities Act Rule 430(C)(d), the undertaking included in Item 512(a)(6) of Regulation S-K should be included in filings for initial public offerings. Please revise your filing to include this undertaking.

* * * *

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.

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