



UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
WASHINGTON, D.C. 20549-3561

July 15, 2010

J. Mike Stice  
Chief Executive Officer  
Chesapeake Midstream Partners, L.P.  
777 NW Grand Boulevard  
Oklahoma City, Oklahoma 73118

**Re: Chesapeake Midstream Partners, L.P.  
Amendment No. 4 to the Registration Statement on Form S-1  
Filed July 6, 2010  
File No. 333-164905**

Dear Mr. Stice:

We have reviewed your amended 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 supplemental information so we may better understand your disclosure.

Prospectus Cover Page

1. We note your response to comment 1 in our letter dated June 7, 2010. Please delete the reference to Structuring Agent. We would not object if you included this information and other information relating to Joint Book Running Managers, etc. on the back cover page.

Use of Proceeds, page 48

2. We note your response to comment 5 in our letter dated June 7, 2010 and your revised disclosure that you expect to receive \$393.3 million in net proceeds, and use the proceeds to repay \$112 million of borrowings, pay related fees of \$5.5 million, and fund expansion capital expenditures for approximately \$223.5 million. Please clarify how you intend to use the remaining \$52.3 million in net proceeds.

Dilution, page 50

3. We read in the first paragraph under this heading that your net tangible book value excludes \$778.1 million of net intangible assets. Please explain to us what these intangible assets are and where they are included in your historical Balance Sheet.
4. Please provide us with your calculation of net tangible book value per unit before the offering.

Partnership Statement of Estimated Adjusted EBITDA, page 57

Assumptions and Considerations, page 58

Revenue, page 58

Minimum Volume Commitment Payment, page 59

5. We read that your forecast assumes that you recognize revenue of \$59 million during the twelve months ending June 30, 2011 as a result of projected volumes being less than the minimum volume commitments. In your Amendment No. 3 to your S-1 that was filed on May 24, 2010, this estimate was \$34 million. Please explain to us this increase in your forecasted revenue from minimum volume commitments.

Management's Discussion and Analysis of Financial Condition and Results of Operations, page 80

Liquidity and Capital Resources, page 96

Our Predecessor's Liquidity and Capital Resources, page 99

6. Please revise your narrative analysis of predecessor cash flows for 2009 to better explain the underlying reasons for the net cash provided by operating activities during this period. Stating that operating cash flows are attributable to cash flow from operating activities offset by changes in working capital accounts merely describes how the net cash flow number is calculated without providing any information that is specific to your particular company. Refer to Section IV of our Release 33-8350.

Unaudited Pro forma Balance Sheet as of March 31, 2010, page F-3

7. Please refer to pro forma adjustment (e). We note that you have offset \$5.5 million of expenses in connection with the amendment of your revolving credit facility against your equity accounts in your pro forma balance sheet as of March 31, 2010. We note a similar disclosure in your pro forma capitalization numbers presented on page 49. Please explain to us why you believe this is appropriate. Please refer to SAB Topic 5A Expenses of Offering and ASC 470-50.

Chesapeake Midstream Partners, L.P. Balance Sheet, page F-36

8. Please update the financial statements and related financial information included in the filing, as necessary, to comply with Rule 3-12 of Regulation S-X at the effective date. Please also apply this comment to the Balance Sheet of Chesapeake Midstream GP, L.L.C on page F-39.

Exhibit 5.1 – Opinion of Vinson & Elkins L.L.P.

9. Please revise the first paragraph to include the 3,187,500 common units to cover the over-allotment option in the definition of Common Units.

Exhibit 10.1 – Credit Agreement

10. We note that the credit agreement dated September 30, 2009 was not filed in its entirety. Please refile the complete exhibit, including all of the schedules and exhibits thereto. We note that while Item 601(b)(2) of Regulation S-K permits you to omit schedules (or similar attachments) if they do not contain information which is material to an investment decision or which is already disclosed in the agreement or disclosure document, there is not a similar provision in Item 601(b)(4) or Item 601(b)(10) of Regulation S-K.

As appropriate, please amend your registration statement in response to these comments. Please provide us with marked copies of the amendment to expedite our review. Please furnish a cover letter with your amendment that keys your response to our comments and provides any requested supplemental 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.

J. Mike Stice  
Chesapeake Midstream Partners, L.P.  
July 15, 2010  
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You may contact Elizabeth Sellars, Staff Accountant, at (202) 551-3348 or Jennifer Thompson, Accounting Branch Chief, at (202) 551-3737, if you have questions regarding comments on the financial statements and related matters. Please contact Ronald E. Alper, Staff Attorney, at (202) 551-3329, Brigitte Lippmann, Special Counsel, at (202) 551-3713 or me, at (202) 551-3720, with any other questions.

Sincerely,

H. Christopher Owings  
Assistant Director

cc: D. Alan Beck, Jr., Esq.  
Vinson & Elkins L.L.P.  
*Via facsimile to (713) 615-5620*