



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

Mail Stop 3561

June 7, 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. 3 to the Registration Statement on Form S-1  
Filed May 24, 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. The text on your cover page is dense and the type appears to be a small point size. Please remove the references to "Joint Book Running Managers," "Senior Co-Managers," and "Junior Co-Managers" on the cover page, since this information is not required by Item 501 and is not key to an investment decision. Refer to Item 501 of Regulation S-K and Rules 420(a) and 421(d) of Regulation C.
2. We note that you have deleted the risk factor that investors will be required to pay taxes on their share of your income even if they do not receive any cash distributions from you. However, since this appears to be a material risk factor, please add this risk factor to the cover page and the Summary.

Summary, page 1

3. We note your response to comment 1 in our letter dated May 10, 2010 and have the following comments:
  - We note your references to “RigData.” If you funded or were otherwise affiliated with any of the studies or reports you cite, please disclose this. Note that if any of this information was prepared by a third party for inclusion in this registration statement, you should file the consent of such party as an exhibit. Otherwise, please confirm that these sources are widely available to the public.
  - We note your references to industry data that is “based on the most recent publicly available quarterly data reported” and your reference on page 106 to information “based on public data well counts for wells spud after November 1, 2005.” Please revise this language to make clear that this is based on your analysis of this public data, if true.

Use of Proceeds, page 47

4. We note your revisions in response to comment 4 from our letter dated May 10, 2010. We remind you that Item 504 of Regulation S-K requires you to disclose the approximate amount of net proceeds intended to be used for each purpose. Since you have quantified the estimated cash on hand to be used to fund expansion capital expenditures for the following 12 months, along with the amount of that cash that will come from this offering, within your Partnership Statement of Estimated Adjusted EBITDA on page 56, it is unclear to us why you cannot provide the same quantification here. We do not believe that saying you will use “a substantial majority” of the remaining net proceeds to fund expansion capital expenditures conveys the same information to your investors as quantifying the amount expected to be used. Please revise.
5. We note your response to comment 5 in our letter dated May 10, 2010. However, it is still unclear whether you have a current specific plan for the proceeds to fund expansion capital expenditures, which appear to be a significant portion of the proceeds. If you have a specific plan, please describe in greater detail the expansion capital expenditures.

Our Cash Distribution Policy and Restrictions on Distributions, page 48

6. We note your response to comment 6 in our letter dated May 10, 2010. However, as stated in Release 33-6900 (Section II(B)(2)(h)): “[i]t is often unclear whether the distributions represent a return of investors’ capital or a return on investors’ capital. Whenever cash distributions are discussed on a historical basis, the disclosure should make clear the nature of the distribution. When distributions are discussed on a prospective basis, the disclosure also should make clear, to the extent known, the nature of the distribution.” We also note your disclosure on page 72, that “[o]ur partnership agreement treats a distribution of capital surplus as the repayment of the initial unit price from this initial public offering, which is a return of capital.” Therefore, please also clarify whether the operating surplus distributions paid by the Partnership in excess of the income it generates will be classified as a “return of capital” and will be tax deferred. Alternatively, please advise why this disclosure is not appropriate.

Estimated Adjusted EBITDA for Twelve Months Ending June 30, 2011, page 55

Assumptions and Considerations, page 57

Revenue, page 57

7. Comment 9 from our letter dated May 10, 2010 requested that you disclose the progress made towards the expected increase in the average operated rig count in your Barnett Shale acreage dedication as of a recent practicable date to provide more insight into when this increase will occur. We note that you revised your disclosures to state that Chesapeake’s average operated rig count in your Barnett Shale region increased approximately 28% in the first quarter of 2010. However, this does not fully convey the progress made towards the expected increase because you have not indicated whether this is the full amount of the expected increase or only a portion, and if a portion, you have not indicated the amount or timing of the remaining expected increase. Please revise to better explain this matter.

General and Administrative Expenses, page 59

8. We read your response and updates based on comment 11 from our letter dated May 10, 2010. We note your statement that you attribute approximately \$2 million of the expected \$11 million increase to the establishment of a dedicated management team and \$9 million to the growth in general and administrative headcount consistent with the growth in your business. Previously, you had stated \$2 million of the expected increase was related to the incremental expenses that you expect to incur as a result of being a publicly traded partnership. It is unclear to us why the expenses related to being a publicly traded partnership are no longer listed as a factor that explains this

increase. It also is unclear to us how a \$9 million increase in your general and administrative headcount is consistent with the growth in your business given that your volumes are expected to increase by less than 10% as compared to the 12 months ended December 31, 2009 and March 31, 2010. Please further explain these matters to us, and revise your disclosures as necessary.

Liquidity and Capital Resources, page 95

9. We note your discussion on page 95 of the successor's working capital, added in response to comment 13 from our letter dated May 10, 2010. Based on a review of your interim financial statements, it appears that your working capital decreased primarily due to a \$120 million decrease in accounts receivable, partially offset by a \$15 million increase in cash and a \$63 million reduction in accrued liabilities. It is unclear to us that these changes in working capital accounts are conveyed by your current disclosure. It is also unclear to us how your current disclosure explains the underlying factors that drove the significant changes in these working capital accounts. Please revise to provide a more meaningful explanation of the change in your working capital.
10. We note your revisions in response to comment 14 from our letter dated May 10, 2010. Please revise your narrative analysis of successor cash flows to explain the underlying reasons for changes in your cash flows and to better explain the variability in your cash flows, rather than merely reciting the information seen on the face of your cash flow statement. For example, we note that your accounts receivable increased in the fourth quarter of 2009 and then significantly decreased in the first quarter of 2010, but it is unclear why. We also note that your net accounts payable and accrued liabilities increased slightly in the fourth quarter of 2009 and then significantly decreased in the first quarter of 2010, but it is unclear why. Refer to Section IV of our Release 33-8350.
11. We note that your analysis of predecessor cash flows compares the year ended December 31, 2008 to the nine months ended September 30, 2009. If you wish to continue to provide this comparison, please quantify the impact of the shorter period on each of the three subtotals discussed to allow your investors better insight into how much of the differences are caused by the fourth quarter of 2008 and how much of the differences are caused by other factors.

J. Mike Stice  
Chesapeake Midstream Partners, L.P.  
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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.

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*