



DIVISION OF
CORPORATION FINANCE

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

December 5, 2011

Via E-mail

R. Brooks Sherman, Jr.
Chief Financial Officer
Inergy Midstream, LLC
Two Brush Creek Boulevard, Suite 200
Kansas City, Missouri 64112

**Re: Inergy Midstream, LLC
Amendment No. 5 to
Registration Statement on Form S-1
Submitted December 2, 2011
File No. 333-176445**

Dear Mr. Sherman:

We have reviewed your filing and have the following comments. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure.

Please respond to this letter by amending your registration statement and providing the requested information. If you do not believe our comments apply to your facts and circumstances or do not believe an amendment is appropriate, please tell us why in your response.

After reviewing any amendment to your registration statement and the information you provide in response to these comments, we may have additional comments.

Summary, page 1

Formation Transactions and Partnership Structure, page 7

1. We note your disclosure on page 8 that you will issue \$50,000 of restricted units to each of your independent directors pursuant to your long-term incentive plan. We also note on page 12 that you have assumed you will grant 500,000 restricted units at the closing of the offering. In other locations in your filing, such as page 15, you state you may grant up to 500,000 restricted units. On page 50, you disclosed that you intend to grant \$50,000 of restricted units to each of your independent directors and may grant up to 500,000 restricted units to certain key employees. Please explain to us and clarify for your investors throughout your document, what portion, if any, of the 500,000 restricted units you have committed to issue and what portion of this issuance is still undecided. Please further explain to us how you considered including some or all of these 500,000

restricted units in your calculation of common units outstanding after the offering, in your pro forma capitalization, as part of your dilution disclosures, in your calculation of cash distributions on page 67, and in pro forma net income per unit.

Dilution, page 47

2. Please refer to footnote 3 to your dilution table. You indicate that each \$1.00 increase or decrease in the assumed offering price would change the dilution per common unit to investors in this offering to \$14.33 per common unit. It is unclear to us that this dilution per common unit amount is correct for both an increase in the offering price and a decrease in the offering price. If you continue to believe this amount is correct, please provide us with separate calculations for an increase in offering price and a decrease in offering price to support this dilution amount; otherwise, revise your disclosure to separately disclose the dilution per common unit resulting from a decrease in the offering price.

Estimated Cash Available for Distribution for the 12 Months Ending December 31, 2012, page 54

Assumptions and Considerations, page 56

3. Please refer to comment 28 in our letter dated September 23, 2011. Based on your disclosure in the last sentence of the first paragraph on page 54, it appears that your calculation of estimated cash available for distribution for the 12 months ending December 31, 2012 assumes that you have granted 500,000 restricted units. Since you have begun to issue stock compensation, and since you have the ability to issue additional stock compensation in the future under your long-term incentive plan, please clarify to your readers that your assumptions include an assumption that no additional stock compensation will be granted before December 31, 2012. Alternatively, if you expect to issue additional stock compensation, please modify your disclosures accordingly.

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

4. Please refer to your pro forma balance sheet on page F-3. To facilitate an investor's understanding of the various transactions that will impact total partners' capital, please consider separately presenting capital held by the public and capital held by NRGY, similar to the presentation in your Capitalization table on page 46.

Historical Consolidated Financial Statements, page F-6

Note 9. Pro Forma Balance Sheet and Net Income Per Unit (Unaudited), page F-21

5. We note that you revised your historical financial statements in response to comment 1 from our letter dated November 29, 2011. We have the following comments:

- You indicate in this footnote that pro forma net income per unit assumes that 58,325,000 units were issued to Inergy, L.P. in conjunction with the formation transactions. Please revise your disclosure to clarify, similar to the disclosures elsewhere in your document, that this assumes that the underwriters do not exercise their option to purchase 2,400,000 additional common units and those common units were issued to Inergy, L.P. instead.
- Given the total pro forma weighted average limited partner units outstanding as seen on page F-9, it appears that you added 11,230,148 pro forma units to comply with SAB Topic 1:B.3. Please provide us with your calculation of those 11,230,148 units, and explain how your calculation complies with the guidance in this SAB Topic.

You may contact Lisa 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 Angie Kim, Staff Attorney, at (202) 551-3535, Catherine Brown, Staff Attorney, at (202) 551-3513 or me, at (202) 551-3720 with any other questions.

Sincerely,

/s/ Jennifer Thompson for

Mara L. Ransom
Assistant Director

cc: Laura Ozenberger
Inergy, L.P.

Gillian Hobson
Vinson & Elkins LLP