



DIVISION OF
CORPORATION FINANCE

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549-7010

Mail Stop 7010

July 13, 2006

Via U.S. mail and facsimile

Mr. Christopher d'Arnaud-Taylor
Chief Executive Officer
Xethanol Corporation
1185 Avenue of the Americas, 20th Floor
New York, NY 10036

Re: Xethanol Corporation
Registration Statement on Form SB-2
Filed June 16, 2006
File No. 333-135121

Dear Mr. d'Arnaud-Taylor:

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 filing. 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.

General

1. We note the references throughout your registration statement and prospectus to disclosure that is contained in your current reports on Form 8-K. Please remove all of these references, as you are not permitted to incorporate by reference, and include the referenced disclosure in your registration statement or prospectus, as applicable.

2. We note that you did not file your registration statement within the time period required by the terms of your registration rights agreement. Please disclose the consequences, if any, for having failed to timely file your registration statement.
3. We note that certain shares and warrants were issued with registration rights. Under an appropriately titled heading in the body of your prospectus, please disclose the material terms of your registration rights agreements. Please also provide a comprehensive discussion of the potential consequences if the shares and warrants are not registered. Finally, please ensure that each agreement is filed as an exhibit to your registration statement.
4. We note the comparative and factual assertions throughout your prospectus as to information related to your industries. Please advise us as to whether your basis for these assertions is based on the most recently available data and, therefore, is reliable. In addition, if you funded or were otherwise affiliated with any sources that you cite, please disclose this fact. Otherwise, please confirm to us that your sources are widely available to the public. If any of the sources are not publicly available, please either file consents or explain to us why you are not required to do so under Rule 436 of Regulation C and Section 7 of the Securities Act.
5. Please provide to us a detailed legal analysis as to why you believe you are eligible to file on Form SB-2. We note from your Form 10-KSB filed for the fiscal year ended December 31, 2005 that the aggregate market value of the voting and non-voting common equity held by non-affiliates was \$73,038,854 on March 24, 2006.

Front of Registration Statement

6. Please disclose the "approximate date of proposed sale to the public."
7. Please provide a Rule 415 legend as you are registering an offering on a delayed or continuous basis pursuant to Rule 415 under the Securities Act.

Front Cover of Prospectus

8. Please ensure that the front cover of your prospectus is limited to one page. See Item 501(a) of Regulation S-B.
9. We note the disclosure in the first sentence of the first paragraph. Please clarify here and throughout your prospectus that your prospectus relates to the "resale" of the shares, rather than the "sale" of the shares.

10. We note the disclosure in the third paragraph that your common stock has been approved for listing on the AMEX, but that it has not begun trading. It appears that your common stock began trading on the AMEX under the symbol "XNL." Please revise here and throughout your prospectus accordingly to update your disclosure.
11. We note the cross-reference to your "Risk Factors" section. Please highlight the cross-reference by prominent type or in another manner. See Item 501(a)(5) of Regulation S-B.

Summary, page 6

12. The disclosure set forth in this section is very detailed and lengthy and provides too much information for summary disclosure. In this regard, we note that your disclosure includes a detailed description of your recent developments, which is better suited for disclosure in your Business section. We also note that you have included a detailed discussion of your recent equity issuances, which discussion merely repeats the disclosure contained in the section entitled "Recent Sales and Issuances of Unregistered Securities" beginning on page 24. A summary should provide a brief overview of the most important aspects of your business. If you believe that the detailed disclosure is necessary, reduce the disclosure to a bullet point presentation and provide your more detailed disclosure in the body of your prospectus. Please revise accordingly.

Our Business, page 6

13. We note your disclosure in the third paragraph that you temporarily ceased the operation of your Permeate facility in April 2005. Please disclose whether you have re-started operations at this facility. In this regard, we note the disclosure in the third sentence of that paragraph that Permeate has a "current" production capacity of 1.6 million gallons of ethanol per year. We also note the disclosure under the heading "Sales" on page 32 that indicates that you had no sales from your Permeate facility in the first quarter of 2006.
14. Please disclose the fact that all of your revenues for the quarter ended March 31, 2006 were derived from your Blairstown facility.
15. Please revise to briefly disclose here with more detail and in your business section the reasons for your entry into the ethanol industry. We note your disclosure concerning the development of your business.

Recent Developments, page 7

Investment in H2Diesel, Inc., page 7

16. We note the disclosure in the fourth and fifth sentences of the second paragraph on page 8. We have the following comments:
 - Please disclose whether the Trigger Date has occurred.
 - Please disclose the actual amount of the minimum royalties that you must pay during the initial 12-month period following the trigger date and each successive 12-month period thereafter.
17. We note that effective April 14, 2006, you entered into an Investment Agreement with two institutional investors and H2Diesel. Please address the following here and in the notes to your interim financial statements:
 - Disclose the amount the Investors paid for the 3,250,000 shares of H2Diesel common stock that they purchased;
 - Disclose how you valued and accounted for the 2,600,000 shares of H2Diesel common stock that you received;
 - If there is a difference between the amount the Investors paid for the 3,250,000 shares of H2Diesel common stock and the value of the common stock you issued to them as a result of their exercise of the Put Right, disclose how you accounted for the difference and explain the basis for your accounting;
 - Address your subsequent accounting for H2Diesel, including how you assess potential impairments;
 - Demonstrate to us whether your acquisition of an equity interest in H2Diesel is significant. If applicable, provide historical and pro forma financial statements as required under Items 310(c) and (d) of Regulation S-B;
 - If you provide updated interim financial statements, include the disclosures required by Item 310(b)(2)(iii) of Regulation S-B, to the extent applicable; and
 - Provide a comprehensive explanation of why this agreement was structured in this manner.

CoastalXethanol, LLC, page 8

18. We note you own 80% of the membership interest in CoastalXethanol. Please disclose how you will account for your investment in this entity. In addition, disclose the amount that CoastalXethanol will pay for the facilities to be acquired from Pfizer.
19. Please file each of the agreements and licenses discussed in this section as an exhibit to your registration statement or explain why you are not required to file them under Item 601(b)(2) or Item 601(b)(10) of Regulation S-B.

NewEnglandXethanol, LLC, page 9

20. We note you own 50% of the membership interest in NewEnglandXethanol. Please disclose how you will account for your investment in this entity.
21. Please file each of the agreements and licenses discussed in this section as an exhibit to your registration statement or explain why you are not required to file them under Item 601(b)(2) or Item 601(b)(10) of Regulation S-B.

Advanced Biomass Gasification Technologies, Inc., page 10

22. We note the disclosure in the second paragraph of this section. Please describe in greater detail the royalty terms of the license.
23. We note your purchase of ABGT in exchange for 136,838 shares of your Common Stock. Please disclose how you have accounted for this purchase and provide the disclosures required by SFAS 141 in the notes to your interim financial statements. Please also demonstrate to us if this acquisition is significant acquisition and if historical and pro forma financial statements are required under Items 310(c) or (d) of Regulation S-B.
24. Please file each of the agreements and licenses discussed in this section as an exhibit to your registration statement or explain why you are not required to file them under Item 601(b)(2) or Item 601(b)(10) of Regulation S-B.

Risk Factors, page 14

25. We note the statements in the second and third sentences of the introductory paragraph that “the risks described below are not the only ones we face” and “together with additional risks and uncertainties not currently known to us or that we currently deem to be immaterial.” You must disclose all risks which you believe are material at this time and you may not qualify your disclosure

with references to unknown risks or risks that may become material. Please delete this language from your introductory paragraph. Refer to Staff Legal Bulletin No. 7A, sample comment #30.

26. Please add a risk factor that addresses the risks related to the shares of common stock that are currently issuable under your equity compensation plan, warrants, and Fusion Capital transaction. In addition, please illustrate this risk by stating the total number of issuable shares as of the most recent practicable date.
27. Please add a risk factor that addresses the risk discussed in the third paragraph of Note 2 to your audited financial statements.
28. It appears that you are including more than one risk under one subheading. For example and without limitation, see the last sentence of risk factor one and risk factor two. Many of these risks appear to be significant risks to your company that should be highlighted under their own explanatory subheading. In order to give prominence to each risk you present, we suggest that you assign it its own explanatory subheading. Please revise accordingly.
29. It appears that you currently have only one operational facility. If material, please add risk factor disclosure regarding your reliance on this single facility.
30. Please add a risk factor addressing the risks associated with your indebtedness. In responding to this comment, please discuss the total amount of your annual debt obligations and the impact of a 1% increase in the interest rates on these obligations.
31. Please revise your disclosure to discuss recent legislative proposals calling for the repeal or suspension of the imported ethanol tariff. To the extent known or reasonably knowable, please include a risk factor discussing the possible consequences of changes in the imported ethanol tariff to your business.

Strategic acquisitions could have a dilutive effect..., page 15

32. Please illustrate the risk discussed in the fifth sentence of the first paragraph by disclosing the total number of shares issued or issuable in connection with your strategic transactions. In this regard, we note your disclosure under the heading "Recent Sales and Issuances of Unregistered Securities" beginning on page 24.

Our business employs proprietary technology..., page 15

33. It appears that the risk discussed in this risk factor could apply to nearly any issuer in your industries and in many other industries. Please clearly explain

how this risk specifically applies to your company. Please also comply with this comment in risk factors seven and eight.

We are dependent upon Christopher..., page 16

34. All companies rely on their key personnel. Please explain how this specific risk applies to your company. For example, do you lack employment contracts with Mr. d'Arnaud-Taylor? Is he planning to retire or nearing retirement age?

Federal regulations concerning tax incentives..., page 17

35. Please quantify the impact of the federal tax credits on your business.
36. We note the statement in the last sentence of this risk factor. Please explain in greater detail why demand will decrease.

Costs of compliance with burdensome or changing environmental..., page 18

37. Please quantify your environmental compliance costs. See Item 101(b)(11) of Regulation S-B.

We may not be able to attract the attention of major..., page 18

38. Please revise this risk factor to state the risk to investors. In this regard, we note that the subheading and discussion in this risk factor merely state potential facts about your business without conveying the risk.

We could issue "blank check" preferred stock..., page 20

39. Please describe in greater detail the anti-takeover provisions of your charter in an appropriate part of your prospectus.
40. Please revise to disclose the actual risk to an investor, namely the risk that these anti-takeover provisions may prevent or frustrate attempts to effect a transaction that is in the best interests of your minority security holders.

Market For Our Common Stock And Related Stockholder Matters, page 22

Dividend Policy, page 23

41. Please disclose the information required by Item 201(c)(2) of Regulation S-B.

Management's Discussion and Analysis, page 32

Results of Operations, page 32

42. Where there is more than one business reason for a change in a line item, please quantify the incremental impact of each individual business reason discussed on the overall change in the line item. For example, you list several reasons for the change in the "Cost of Sales" line item on page 32, but you do not indicate how much each reason contributed to the overall change.
43. We note your negative gross margins and operating losses. Please address your expectations regarding future operating results, including if and when you believe profitable results are expected.
44. We note that you have written off \$3.6M of unamortized costs of acquiring license agreements after considering the uncertainties surrounding the timing of their commercialization. In light of this significant write off: disclose why the technologies were acquired; discuss the significant assumptions you used in your impairment analysis; address why there is uncertainty regarding the timing of their commercialization; address if and how this uncertainty is expected to impact your future results; provide additional information regarding UTEK and your relationship with them. In addition, revise the notes to your financial statements to provide all the disclosures required by paragraph 26 of SFAS 144.

Three Months Ended March 31, 2006 Compared to Three Months Ended..., page 32

45. Please explain how higher operating expenses decreased your net loss.

Liquidity and Capital Resources, page 34

46. Please discuss your indebtedness, including the principal amounts, interest rates, and other material terms, including any restrictive covenants. Please also ensure that all of the agreements and promissory notes relating to your indebtedness are filed as exhibits to your registration statement.
47. We note the disclosure in the last paragraph of this section. Please describe in greater detail your planned capital expenditures and how you intend to finance these capital expenditures. In responding to this comments, please discuss the intended means of financing the new ethanol plant at your Blairstown, IA site.
48. Please provide a comprehensive discussion of how you intend to use the cash you have raised as a result of the recent equity offerings. Address how long the cash you have raised to date is expected to sustain your operations, quantify any

additional amounts you believe you will be required to raise, and disclose and discuss the potential risks and consequences if the additional funding is not obtained.

Description of Business, page 37

49. Please disclose the information required by Items 101(b)(5) and 101(b)(6) of Regulation S-B.

Expansion of Board of Directors, page 38

50. Please briefly explain Section 14(f) of the Exchange Act and Rule 14f-1 under the Exchange Act, as investors may not be familiar with these provisions.

Company Overview, page 41

51. We note the disclosure in the fifth through ninth paragraphs. Please discuss in greater detail each of these transactions and how they further the business plan. In this regard, we note the disclosure under the heading "Recent Developments" beginning on page 7.

First Prong – Iowa Expansion Strategy, page 45

52. We note the disclosure in your press release, dated July 5, 2006, regarding the new ethanol plant you intend to build in Blairstown, IA. Please update and/or reconcile the disclosure in this section accordingly.

Technology Platform, page 47

53. We note the disclosure in the second paragraph regarding the strategic alliances. Please describe the purpose of each alliance and disclose the material terms of each alliance. In addition, please file each agreement relating to the alliances as an exhibit to your registration statement. Please also comply with this comment with respect to the last paragraph of this section.
54. We note the licenses discussed in the section entitled "Recent Developments" beginning on page 7. Please describe in your Business section these licenses and disclose the material terms of these licenses, including any royalty provisions.
55. We note the disclosure in the third through sixth paragraphs. We also note the disclosure in Note 3 to your audited financial statements regarding the licenses

held by these companies. Please describe the licenses and disclose the material terms of the licenses, including any royalty provisions.

Sales and Marketing, page 49

56. Please disclose in more detail the material terms of the marketing agreement with Aventine, including the amount you sell to Aventine.
57. Please file the marketing agreements as exhibits to your registration statement.

Directors, Executive Officers, Promoters and Control Persons, page 50

Directors and Executive Officers, page 50

58. We note the disclosure in the last paragraph of this section. Please revise to describe what you mean by "independent" and identify your independent directors

Advisory Board, page 53

59. We note the disclosure in the first sentence of the second paragraph. If material, please disclose the material terms of the consulting agreements.

Employment Agreements, page 58

60. We note Section 7 of Mr. d'Arnaud Taylor's employment agreement. Please advise us as to the status of the new agreement. Please also advise us as to the consequences of not having executed the new agreement within 30 days of the original employment agreement.
61. Please describe the material terms of each of your agreements with an executive officer. In this regard, we note that it appears that you have also entered into an employment agreement with Mr. Skryanz.

Certain Relationships and Related Transactions, page 62

Management and Consulting Services Agreements, page 62

62. Please disclose the total payments you made to Mr. Langberg in 2005. In this regard, we note your disclosure in the last sentence of the fourth paragraph of Note 14 to your audited financial statements.

Selling Stockholders, page 64

63. We note the disclosure in the second sentence of the second paragraph. It does not appear that there is disclosure in this section regarding selling stockholders that are either a broker-dealer or an affiliate of a broker-dealer. Please confirm that no selling stockholder is a broker-dealer or an affiliate of a broker-dealer.
64. It does not appear that the column entitled "Beneficial Shares after this offering – Number of Shares" reflects the beneficial ownership after the offering. In this regard, we note that it appears that the selling stockholders will beneficially own 548,780 shares following the offering, yet the disclosure in this column includes only 31,000 shares. Please revise accordingly.
65. Please disclose the natural persons with dispositive voting or investment control of each selling stockholder that is not a natural person.

Description of Securities, page 69

66. We note the disclosure in the sentence below the bullet points on page 69 and have the following comments:
 - Please clarify that your disclosure in this section summarizes the material terms of your common stock and not merely the "principal characteristics" of your common stock.
 - Please delete the statement that your summary is qualified by reference to your certificate of incorporation, as this statement is inconsistent with Rule 411 of Regulation C.
67. Please disclose the information required by Item 202(a)(4) of Regulation S-B.

Common Stock, page 69

68. The disclosure in this section appears to discuss both your common stock and your outstanding warrants. Please revise to discuss these securities separately. In addition, please discuss your authorized preferred stock.

Legal Proceedings, page 71

69. We note the disclosure in the second paragraph. Please describe in reasonable detail the facts underlying the dispute. See Item 103(a)(4) of Regulation S-B.
70. We note the disclosure in the third paragraph. Please describe the license and disclose the material terms of this license, including the royalty terms, in your

“Description of Business” section on page 37. Please also file the agreement with DDS Technologies USA, Inc. as an exhibit to your registration statement.

Controls and Procedures, page 72

Limitation on the Effectiveness of Controls, page 72

71. Please delete these sections, as they appear to be based on disclosure required in your Exchange Act reports pursuant to Items 307 and 308 of Regulation S-B.

Description of Property, page 73

72. Please describe the condition of your properties. See Item 102(a) of Regulation S-B.
73. Please disclose the information required by the second sentence of Item 102(a) of Regulation S-B.

Financial Statements

Consolidated Statement of Changes in Stockholder's Equity, page F-5

74. We note your adjustment to outstanding shares as a result of the recapitalization transaction. It appears to us that as of the date the recapitalization your outstanding shares should be equal to the number of shares that Zen issued to your shareholders such that an adjustment should not be necessary. Please be advised that the shares retained by the former Zen shareholders should continue to be reflected as being issued by you on the date the recapitalization.

Note 3 – Acquisitions

75. We note the disclosures related to your acquisition of Permeate. Please clarify if the former owners of Permeate were related parties or shareholders prior to the 2003 acquisitions. In addition, in light of the fact that you have temporarily ceased operations at this facility, please disclose its carrying value and address if and how you have assessed it for potential impairment. Refer to SFAS 144.

Note 6 – Property and Equipment, page F-15

76. Based on your disclosure in Note 2 – Summary of Significant Accounting Policies, we note that depreciation is computed using straight-line and accelerated methods over the estimated useful lives of the assets ranging from

five to twenty years. Please further identify the range of useful lives for each category of fixed assets in Note 6.

Note 15 – Legal Proceedings, page F-21

77. Please update the status of the Roll vs. Xethanol proceedings as of the date of your amended filing in the notes to the financial statements and under Legal Proceedings.

Note 16 – Subsequent Events, page F-22

78. Please fully explain why the noteholders agreed to exchange the \$1,125,000 promissory note for a new note and stock worth \$675,000. In light of the fact that the initial promissory note was secured by a mortgage related to facilities you acquired from Permeate, address if and how you determined that the facilities are not impaired.

Warrants

79. For all currently outstanding warrants, tell us if there are any circumstances that could require you to settle them in cash or any circumstances that could result in you paying liquidating damages. To the extent applicable, tell us if and how you have considered the provisions of EITF 00-19.

Part II – Information Not Required In Prospectus, page 105

Item 26. Recent Sales of Unregistered Securities, page 106

2006, page 106

80. With respect to each transaction listed in this section, please describe in greater detail the facts you relied upon to make the exemption available. Refer to Item 701(d) of Regulation S-B.

Item 27. Exhibits, page 110

81. We note the merger agreement referenced in the second paragraph of the section entitled "Historical Overview" beginning on page 37. Please file this agreement as an exhibit to your registration statement. See Item 601(b)(2) of Regulation S-B.
82. Please file each of the agreements and licenses discussed in Note 3 to your audited financial statements as an exhibit to your registration statement or

explain why you are not required to file them under Rule 601(b)(2) or Rule 601(b)(10) of Regulation S-B.

* * * *

As appropriate, please amend your registration statement 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 that is filed on EDGAR 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 filing to be certain that the filing includes all information required under the Securities Act 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 its registration statement, it should furnish a letter, at the time of such request, acknowledging the following:

- 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.
- 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 filing or in response to our comments on your filing.

We will consider a written request for acceleration of the effective date of your registration statement as confirmation of the fact that those requesting acceleration are

Mr. Christopher d'Arnaud-Taylor
Xethanol Corporation
July 13, 2006
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aware of their respective responsibilities under the Securities Act and the Exchange Act as they relate to the proposed public offering of the securities specified in your 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.

You may contact Melinda Hooker, Staff Accountant, at (202) 551-3732 or, in her absence, Anne McConnell, Senior Staff Accountant, at (202) 551-3709 if you have questions regarding comments on the financial statements and related matters. Please contact Andrew Schoeffler, Staff Attorney, at (202) 551-3748 or, in his absence, Lesli Sheppard, Senior Staff Attorney, at (202) 551-3708, with any other questions.

Sincerely,

Pamela A. Long
Assistant Director

cc: Mr. Robert F. Mechur, Esq.
Boylan, Brown, Code, Vigdor & Wilson, LLP
2400 Chase Square
Rochester, NY 14604