



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

DIVISION OF
CORPORATION FINANCE

Mailstop 4631

March 2, 2017

Ian Rhodes
Chief Executive Officer
GlyEco, Inc.
230 Gill Way
Rock Hill, SC 29730

**Re: GlyEco, Inc.
Registration Statement on Form S-1
Filed February 8, 2017
File No. 333-215941**

Dear Mr. Rhodes:

We have limited our review of your registration statement to those issues we have addressed in our 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.

Coverpage

1. Please clarify whether shares will first be offered to the public or to the standby purchasers after existing shareholders have subscribed.
2. Please disclose whether this registration statement will cover the best efforts public offering or whether you intend to file a new registration statement. If you intend for this registration statement to cover a best efforts offering of any shares remaining after the subscription expiration date, please be aware that Rule 415(a)(1)(x), which covers delayed offerings, is only available for securities registered or qualified to be registered on Form S-3.
3. Please clarify how the standby purchase agreements, including both the sale of shares that are offered but not subscribed for by shareholders in this offering as well as shares that

are part of the minimum guarantee amount, may affect the over-subscription privilege, if at all.

4. Please file the standby purchase agreements with your next amendment. Please clarify whether these purchasers have committed to purchase shares in this offering or are purchasing shares in a private transaction. If this registration statement will cover the shares of the standby purchasers, please provide your analysis as to how the transactions are consistent with Section 5 of the Securities Act. We note the standby purchasers will receive a “minimum guarantee amount” of the offering, which appears to be a private sale of securities in connection with this offering.

What is the over-subscription privilege?, page 1

5. So that we can better understand how your offering will work, please tell us why you do not expect all of your rights holders will exercise all of their subscription rights. Please also clarify how many shares you believe you would need to issue upon exercise of rights if they were fully subscribed, and whether it might be necessary to prorate subscriptions if all shareholders fully exercised their subscription rights. In this regard, we would also like to understand how you determined to register 50 million shares of common stock, based on the number of shares you currently have outstanding and the 0.418 subscription rights per share ratio you will use in this rights offering.

What effects will the rights offering have on our outstanding common stock?, page 5

6. Disclosure in this section does not appear to include the minimum guarantee amount of shares you have agreed to sell to the standby purchasers. We understand that you have agreed to issue these shares in exchange for the commitments of the standby purchasers, and as such, they appear to be separate from and in addition to the number of shares the standby purchasers will purchase from amounts offered but not subscribed for by your shareholders in the rights offering. Please revise to show impact of the issuance of the minimum guarantee amount. This comment also applies to disclosure on page 15 and elsewhere in the prospectus that states the number of shares outstanding after the completion of the rights offering.

Executive Compensation, p. 64

7. Please update executive compensation and director compensation to reflect data for the last completed fiscal year. Please refer to Question 117.05 of the Compliance and Disclosure Interpretations for Regulation S-K.

Ian Rhodes
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Exhibit Index, page 96

8. Please file all remaining exhibits with your next amendment, including the subscription rights agreement, the legality opinion, and the tax opinion.

We remind you that the company and its management are responsible for the accuracy and adequacy of their disclosures, notwithstanding any review, comments, action or absence of action by the staff.

Refer to Rules 460 and 461 regarding requests for acceleration. Please allow adequate time for us to review any amendment prior to the requested effective date of the registration statement.

Please contact Kate McHale, Staff Attorney, at (202) 551-3464 or me at (202) 551-3765 with any questions.

Sincerely,

/s/ Pamela A. Long

Pamela A. Long
Assistant Director
Office of Manufacturing and
Construction