

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

May 14, 2018

Patrick DeCourcy Chief Financial Officer ALLEGHENY TECHNOLOGIES INC 1000 Six PPG Place Pittsburgh, PA. 15222

> Re: ALLEGHENY TECHNOLOGIES INC Form 10-K as of December 31, 2017 Filed February 20, 2018 File No. 001-12001

Dear Mr. DeCourcy:

We have limited our review of your filing to the financial statements and related disclosures 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 these comments within ten business days by providing the requested information or advise us as soon as possible when you will respond. If you do not believe our comments apply to your facts and circumstances, please tell us why in your response.

After reviewing your response to these comments, we may have additional comments.

Form 10-K for the period ended December 31, 2017

Note 2. Inventories, page 57

1. We note your disclosure that due to deflationary impacts primarily related to raw materials, the carrying value of your inventory as valued on LIFO exceeds current replacement cost, and as such a net realizable value (NRV) inventory reserve was required. Based on your tabular disclosure, it appears you recorded this reserve in fiscal year 2015. Please clarify the nature of the NRV benefit reflected in fiscal years 2016 and 2017. If they represent reversals of previously recognized write downs, please tell us how you considered the guidance in ASC 330-10-35-14 and SAB Topic 5.BB.

Note 16. Restructuring Charges, page 85

2. Please expand your disclosures for your restructuring actions to also provide the expected

Patrick DeCourcy ALLEGHENY TECHNOLOGIES INC May 14, 2018 Page 2

completion date, the total amount expected to be incurred by each major type of cost, and for each reportable segment the total amount of cost expected to be incurred in connection with the activity, the amount incurred in the period and the cumulative amount incurred to date as required by ASC 420-10-50-1. Please expand your MD&A to also include the amount of the anticipated future cost savings for these activities, and whether the actual results were in line with the anticipated cost savings. If the anticipated cost savings were not achieved as expected or will be achieved in periods other than as expected, please disclose the reasons for the differences, and the likely effects on future operating results and liquidity. Please refer to SAB Topic 5:P.4 for guidance.

In closing, 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.

You may contact Ameen Hamady, Staff Accountant at (202)-551-3891, or in his absence, Jeanne Baker at (202)-551-3691 with any questions.

Division of Corporation Finance Office of Manufacturing and Construction