

July 10, 2015

VIA EDGAR

Pamela Long
Assistant Director
U.S. Securities and Exchange Commission
Division of Corporation Finance
100 F Street, North East
Washington, D.C. 20549

**Re: CECO Environmental Corp.
Registration Statement on Form S-4
Form 10-K for the Year Ended December 31, 2014
File June 9, 2015
File No. 333-204816**

Dear Ms. Long:

On behalf of CECO Environmental Corp. (“CECO” or the “Company”), set forth below are responses to the comments provided by the Staff of the Division of Corporation Finance (the “Staff”) of the Securities and Exchange Commission (the “Commission”) in a letter dated July 6, 2015, relating to the above-captioned registration statement on Form S-4 filed with the Commission on June 9, 2015 (the “Registration Statement”) and Form 10-K for the year ended December 31, 2014. The headings and paragraph numbers of this letter correspond to the headings and paragraph numbers contained in the letter from the Staff. For your convenience, we have set forth the Staff’s comments in bold typeface followed by our response in regular font.

With this letter, CECO is filing Amendment No. 1 (“Amendment No. 1”) to the Registration Statement. We are providing supplementally to the Staff four copies of a version of Amendment No. 1 that have been marked by the financial printer to show the changes from the initial filing of the Registration Statement. All page references in the responses set forth below are to the pages of Amendment No. 1. All capitalized terms not herein defined have the meanings ascribed to them in Amendment No. 1.

Registration Statement, filed June 9, 2015

General

- 1. Please supplementally provide us with copies of all board books and other materials prepared by Jefferies and Stifel that were shared with the CECO and PMFG boards and their representatives.**

Response: In response to the Staff's comment, presentation materials that were prepared and shared by Jefferies LLC ("Jefferies") with the Board of Directors of CECO are being provided to the Staff under separate cover by counsel for Jefferies on a confidential and supplemental basis pursuant to Rule 418 under the Securities Act of 1933, as amended, and Rule 12b-4 under the Securities Exchange Act of 1934, as amended. In accordance with such Rules, counsel for Jefferies has requested that these materials be returned promptly following completion of the Staff's review thereof. By separate letter, counsel for Jefferies also has requested confidential treatment of these materials pursuant to the provisions of 17 C.F.R. § 200.83. CECO has been further advised by PMFG, Inc. ("PMFG") that the presentation materials prepared by Stifel, Nicolaus & Company, Incorporated ("Stifel") and shared with the PMFG Board of Directors are being provided to the Staff under separate cover by Latham & Watkins LLP, counsel for Stifel, on a confidential and supplemental basis pursuant to Rule 418 of the Securities Act and Rule 12b-4 of the Exchange Act. PMFG has been advised by Stifel that, in accordance with such Rules, it has requested that these materials be returned promptly following completion of the Staff's review thereof, and that by separate letter, counsel for Stifel also has requested confidential treatment of these materials pursuant to the provisions of 17 C.F.R. § 200.83.

Cover Page

- 2. Please disclose the estimated value of the PMFG restricted stock units, options, and restricted stock that will be settled in cash from the \$66.2 million consideration to be paid in cash.**

Response: In response to the Staff's comment, the disclosures in the Registration Statement on the cover page and on pages 14, 16, 24, 38, 65 and 131 of Amendment No. 1 have been revised to include the estimated value of the Cash Consideration to be paid for PMFG restricted stock units and options.

The Company respectfully notes that PMFG restricted stock will be treated in the same manner as any other outstanding share of PMFG common stock and will have the right to elect for each share whether to receive the Cash Consideration or the Stock Consideration. The Company has revised the disclosure on the cover page to remove any ambiguity on this treatment.

Summary, page 23

- 3. Please avoid repeating information in the Q&As and the Summary. These sections should fulfill distinct purposes. Currently, we note disclosure on the following items in both sections:**
 - **details about the special meetings;**

- **what PMFG stockholders will receive in the transaction; and**
- **tax consequences of the transaction.**

Response: In response to the Staff's comment, the disclosure in the Registration Statement in the Q&As section and the Summary section of Amendment No. 1 has been revised. The Company respectfully notes that it has preserved some discussion of what the PMFG shareholders will receive in the Mergers in both the PMFG Q&A and the Summary as we viewed this information as material to both sections; however, the information in the PMFG Q&A has been reduced.

4. **Please add a section describing the additional indebtedness that will result from this transaction, including the amount of PMFG debt that will be assumed, the total outstanding indebtedness of the combined company following the merger, and the total amount of financing CECO needs to complete the transaction.**

Response: In response to the Staff's comment, the disclosures in the Registration Statement on pages 34, 164 and 173-174 of Amendment No. 1 have been revised.

Opinion of CECO's Financial Advisor, page 28

5. **Please disclose here that CECO will pay Jeffries [sic] \$3.25 million, including \$2.75 million payable contingent upon the closing of the first merger.**

Response: In response to the Staff's comment, the disclosure in the Registration Statement on page 28 of Amendment No. 1 has been revised.

Interests of PMFG Directors and Executive Officers in the Mergers, page 30

6. **Please quantify the aggregate value of the benefits that the PMFG directors and executive officers will receive as a result of their interests in the merger. Please also discuss financial interests that CECO's directors and executive officers will have in the merger, if any. We note the penultimate bullet point on page 36.**

Response: In response to the Staff's comment, the disclosures in the Registration Statement on pages 29, 36 and 135 of Amendment No. 1 have been revised.

Risk Factors, page 38

The Mergers may not be accretive..., page 45

7. **Please disclose the anticipated amount of accretion per share.**

Response: In response to the Staff's comment, the disclosure in the Registration Statement on page 45 of Amendment No. 1 has been revised.

The Mergers, page 81

Background of the Mergers, page 81

8. Please revise your disclosure throughout this section to include a materially complete description of the discussions and/or negotiations relating the merger consideration, particularly the structure of the consideration. For example, please elaborate on the following:
- why the percentage of consideration payable in cash decreased from a high of 80% to 45%;
 - why CECO insisted that outstanding PMFG equity awards be paid in cash;
 - why CECO originally proposed an asymmetrical collar that focused more on protecting the upside potential of its stock; and
 - why CECO was consistently willing to pay a high premium, even in an “underperforming market.”

Response: In response to the Staff’s comment, the disclosures in the Registration Statement on pages 82, 84, 87-88 and 90-91 of Amendment No. 1 have been revised.

9. Please briefly discuss the strategic alternatives, other than “a broader sale process” that were discussed during the PMFG board meetings on March 10, 2014, March 26, 2014, and January 16, 2015. We note your disclosure on page 104 that the PMFG board considered its standalone prospects.

Response: In response to the Staff’s comment, the disclosures in the Registration Statement on pages 82 and 84 of Amendment No. 1 have been revised.

10. Please elaborate on PMFG’s changes in personnel and operational initiatives, as well as recent financial results, that contributed to CECO management’s preference to “devote its efforts to pursuing a strategic transaction with PMFG” in early December 2014.

Response: In response to the Staff’s comment, the disclosure in the Registration Statement on page 83 of Amendment No. 1 has been revised.

11. Please identify the synergies and performance metrics that the CECO board discussed on April 1, 2015.

Response: In response to the Staff’s comment, the disclosure in the Registration Statement on page 87 of Amendment No. 1 has been revised.

CECO Board’s Reasons for the Mergers, page 92

12. Please elaborate, either here or in the Background section, on the items that supported and detracted from the CECO board’s recommendation of the mergers. The significance of many of these items is unclear without additional context. Please review the disclosure throughout this section to provide the CECO board’s analysis of each factor and clearly explain how each particular factor is positive or negative, as the current disclosure is often conclusive in nature or unclear. For example, and not by way of limitation, it is unclear:
- what about PMFG’s financial condition, competitive position, and future prospects supported the board’s decision to recommend the transaction;

- **what were CECO's standalone prospects, and how these compared to the transaction;**
- **what about the nature of the industries that CECO and PMFG operate supported the board's decision; and**
- **how the mergers will diversify CECO's revenue across new business lines and geographies.**

Response: In response to the Staff's comment, the disclosures in the Registration Statement on pages 93-97 of Amendment No. 1 have been revised.

13. **Please discuss the board's consideration of the merger consideration, including the composition and premium paid. Please address how it determined that such consideration was advisable, fair to, and in the best interests of CECO and its stockholders.**

Response: In response to the Staff's comment, the disclosures in the Registration Statement on pages 95-96 of Amendment No. 1 have been revised.

Opinion of CECO's Financial Advisor, page 94

14. **We note that Jefferies [sic] and Stiffel [sic] each performed comparable companies analyses for PMFG and CECO, as well as precedent transactions analyses. Please revise the disclosure in this section to provide the following:**

- **disclose whether any companies meeting this criteria were excluded from the analysis and the reasons for doing so; and**
- **disclose the size of each transaction, or the range of each transaction in the precedent transactions analysis.**

Response: In response to the Staff's comment, the disclosures in the Registration Statement on pages 100-103 of Amendment No. 1 have been revised with respect to the selected companies and selected transactions reviewed by Jefferies in connection with its selected public companies analysis and selected precedent transactions analysis and to reflect the overall range of enterprise values of the selected transactions reviewed by Jefferies in its selected precedent transactions analysis as requested. The Company supplementally advises the Staff that Jefferies believes it did not exclude companies or transactions from its selected public companies and selected precedent transactions analyses that in its professional judgment fit its selected criteria; however, since the selection of relevant companies and transactions involves professional judgment, the disclosure appearing on page 100 of Amendment No. 1 has been revised to indicate that the selected companies and selected transactions reviewed for purposes of Jefferies' selected public companies and selected precedent transactions analyses may not necessarily include all companies and transactions that could be deemed relevant for comparative purposes with CECO, PMFG or the Mergers.

In response to the Staff's comment as it relates to the opinion of Stifel, the disclosures in the Registration Statement on pages 117-120 of Amendment No. 1 have been revised.

Certain PMFG and CECO Financial Projections, page 119

15. **Please confirm that you have disclosed all of the material financial projections exchanged between PMFG and CECO under this section, and revise the proxy statement/prospectus, if necessary, to disclose all material financial projections.**

Response: In response to the Staff's comment, the Company supplementary confirms for the Staff that it believes it has disclosed all of the material financial projections exchanged between PMFG and CECO under this section.

Summary of Certain Financial Projections Prepared by CECO and Provided to PMFG, page 122

16. **In the Background section, please disclose when CECO provided unaudited financial projections regarding its future operations for calendar years 2015 through 2019 to PMFG.**

Response: In response to the Staff's comment, the disclosure in the Registration Statement on page 88 of Amendment No. 1 has been revised.

Legal Proceedings Related to the Mergers, page 140

17. **Please provide any material updates regarding the pending class action suits that are challenging the merger.**

Response: In response to the Staff's comment, the disclosures in the Registration Statement on pages 27, 41 and 144 of Amendment No. 1 have been revised.

The Merger Agreement, page 143

18. **We note that the representations and warranties of CECO and PMFG are qualified by disclosure schedules. Please provide us supplementally with a list that briefly identifies the contents of the disclosure schedules. In addition, please file an agreement to furnish the staff with a copy of any omitted schedule upon request. The agreement to furnish the staff with copies of omitted schedules may be included in the exhibit index to the registration statement.**

Response: In response to the Staff's comment regarding the brief description of disclosure schedules, please find below a list identifying the contents of all omitted disclosure schedules. In response to the Staff's request regarding the filing of an agreement to furnish omitted schedules, CECO respectfully submits that such an agreement has previously been included on the exhibit index found on page II-5 of the Registration Statement and is further included on the exhibit index found on page II-5 of Amendment No. 1.

PMFG Disclosure Schedules:

Section 4.1	Subsidiaries
Section 4.3	Capitalization, Etc.
Section 4.5	No Conflict; Required Filings and Consents
Section 4.6	Compliance with Law
Section 4.8	Certain Changes or Events
Section 4.9	Undisclosed Liabilities
Section 4.10(a)	Material Contracts
Section 4.11	Absence of Litigation
Section 4.13	Company Employee Plans; Employment Agreements
Section 4.14	Labor Matters
Section 4.15	Title to Property
Section 4.17	Real Property
Section 4.18	Tax Returns
Section 4.19	Environmental Matters
Section 4.20	Intellectual Property
Section 4.23	Import and Export Control Laws
Section 6.1	Conduct of Business
Section 7.8	Indemnification Agreements
Section 7.9	Employee Matters
Section 10.4(l)	Material Company Subsidiaries

CECO Disclosure Schedules:

Section 5.1	Organization and Qualification; Subsidiaries
Section 5.3	Capitalization
Section 5.5(a)	No Conflict
Section 5.6(a)	Compliance
Section 5.10(a)	Parent Material Contracts
Section 5.13	Labor Matters
Section 5.14(b)	Tax Returns Subject to Audit

Adjusted Unaudited PMFG Information..., page 54

19. **Please revise your explanation of footnotes (4) and (6) to specifically address how you derived your basic and diluted income per share amounts as well as the weighted average number of common shares outstanding for the six months ended June 28, 2014 and the twelve months ended December 27, 2014.**

Response: In response to the Staff's comment, the disclosures in the Registration Statement on page 55 of Amendment No. 1 have been revised.

Unaudited Pro Forma Condensed Combined Financial Statements, page 173 Unaudited Pro Forma Condensed Combined Statement of Income, page 176

20. **Please revise your disclosures to provide a reconciliation of your historical basic and diluted net income (loss) per share to your pro forma basic and diluted net income (loss) per share for the year ended December 31, 2014 and for the period ended March 31, 2015.**

Response: In response to the Staff's comment, the disclosure in the Registration Statement on page 187-188 of Amendment No. 1 has been revised.

21. **In footnote (2) on page 176, you indicate that the share number was calculated based on pro forma equity of \$80,850 divided by the 15 day average share price of**

CECO common stock at May 28, 2015. Please revise your footnote to provide a more robust discussion of how these share amounts were calculated including but not limited to disclosing the actual 15-day average share price and disclosing the exchange ratio used to determine the shares issued as merger consideration for the purchase of PMFG. Please also tell us why you used the 15-day average share price of CECO common stock at May 28, 2015 for your calculation.

Response: In response to the Staff's comment, the disclosures in the Registration Statement on pages 181 and 186 of Amendment No. 1 have been revised.

- 22. With regards to notes H and O on page 181, please explain how you determined the tax rate used to calculate your adjustments.**

Response: In response to the Staff's comment, the disclosure in the Registration Statement on page 186 of Amendment No. 1 has been revised.

Notes To Unaudited Pro Forma Condensed Combined Financial Information, page 178

2. Assets Acquired and Liabilities Assumed, page 179

- 23. We note that you have subtracted historical noncontrolling interest from your book value of net assets acquired to determine your adjusted book value of net tangible assets acquired. Please tell us what consideration you gave to measuring the non-controlling interest in PMFG at its acquisition date fair value in accordance with ASC 805-20-30-1.**

Response: In response to the Staff's comment, CECO respectfully submits the following: Peerless is the majority owner of Peerless Propulsys China Holdings LLC ("Peerless Propulsys"). Peerless Propulsys is the sole owner of Peerless China Manufacturing Co. Ltd. ("PCMC"). The noncontrolling interest of Peerless Propulsys was \$5,817,000 as of March 28, 2015. Under the terms of the Peerless Propulsys Limited Liability Company Operating Agreement ("LLC Operating Agreement"), Peerless has the right to purchase the minority interest using a formulaic equation stated in the LLC Operating Agreement. While CECO has no current intent to purchase the minority interest, the value derived by applying the formulaic approach based on historical and forecasted financial results of PCMC ranged from \$5,677,000 to \$6,353,000. As the book value of the noncontrolling interest approximates the range of value under the buy-out option, the book value was assumed to approximate the fair value.

Exhibits 99.3 and 99.4

- 24. Please ensure that the proxy card is marked is "preliminary" until the time that you file a definitive proxy statement. See Rule 14a-6(b).**

Response: In response to the Staff's comment, the forms of proxy card filed with Amendment No. 1 as Exhibit 99.3 and Exhibit 99.4 have been marked as "preliminary."

Exhibit 99.7

25. We note the statement “...nor is the Opinion to be filed with, included in or referred to, in whole or in part in any registration statement (including any subsequent amendments to the Registration Statement), proxy statement or any other document, except in accordance with our prior written consent.” Please provide the basis for the consent not applying to amendments or confirm for us that a consent will be filed with each amendment.

Response: In response to the Staff’s comment, Stifel confirms that it will provide a consent to be filed with each amendment to the Registration Statement.

CECO Environmental Corp. Form 10-K for the Year Ended December 31, 2014

Management’s Discussion and Analysis of Financial Condition and Results of Operations, page 32

26. You indicate on page F-18 that your analysis of qualitative factors for four reporting units with total goodwill of \$105.4 million as of December 31, 2014 led to the conclusion that it was not more likely than not that the fair value for these reporting units exceeded the carrying value. In addition, you indicated that the aggregate excess of fair value of the reporting units over their carrying value was not significant. In order for investors to more fully understand your assessment and to better assess the likelihood of impairment charges in the future, please tell us and revise your critical accounting policies on page 50 or your footnote on page F-18 to address the following:

- Quantify and discuss the most significant assumptions you used to estimate the fair values of those reporting units where aggregate excess of fair value over carrying value was not significant;
- Provide sensitivity analyses that indicate the potential impact of changes in significant assumptions; and
- Quantify and discuss the nature of any other material intangible assets or long-lived assets related to those reporting units that may also be at risk for impairment. Please also provide sensitivity analyses, if applicable.

Response: In response to the Staff’s comment, the Company respectfully requests that its expanded disclosures, as set forth below, be included in its future filings starting with Q2 2015, which will be filed no later than August 10, 2015. The additional information to be included is underlined below.

In Note 1 – Nature of Business and Summary of Significant Accounting Policies beginning on page F-11:

Long-lived assets—Property, plant and equipment and finite life intangible assets are reviewed whenever events or changes in circumstances occur that indicate possible impairment. If events or changes in circumstances occur that indicate possible impairment, our impairment review is based on an undiscounted cash flow analysis at the lowest level at which cash flows of the long-lived assets are largely independent of other groups of our assets and liabilities. This analysis requires management judgment with respect to changes in technology, the continued success of product lines, and future volume, revenue and expense growth rates. We conduct annual reviews for idle and underutilized equipment, and review business plans for possible impairment. Impairment occurs when the carrying value of the assets exceeds the future undiscounted cash flows expected to be earned by the use of the asset or asset group. When impairment is indicated, the estimated future cash flows are then discounted to determine the estimated fair value of the asset or asset group and an impairment charge is recorded for the difference between the carrying value and the estimated fair value.

Additionally, the Company also evaluates the remaining useful life each reporting period to determine whether events and circumstances warrant a revision to the remaining period of depreciation or amortization. If the estimate of a long lived asset's remaining useful life is changed, the remaining carrying amount of the asset is amortized prospectively over that revised remaining useful life.

The Company completes an annual (or more often if circumstances require) impairment assessment of its indefinite life intangible assets. As a part of its annual assessment, the Company first qualitatively assesses whether current events or changes in circumstances lead to a determination that it is more likely than not (defined as a likelihood of more than 50 percent) that the fair value of an asset is less than its carrying amount. Absent a qualitative determination that the fair value of an asset is more likely than not to be less than its carrying value, we do not need to proceed to the traditional estimated fair value test for that asset. If this qualitative assessment indicates a more likely than not potential that the asset may be impaired, the estimated fair value is calculated by the relief from royalty method. The significant assumptions used under the relief from royalty method are projected revenue, royalty rates, terminal growth rates, and the cost of capital. If the estimated fair value of an asset is less than its carrying value, an impairment charge is recorded for the amount by which the carrying value of the asset exceeds its calculated implied fair value.

Goodwill—The Company completes an annual (or more often if circumstances require) impairment assessment of its goodwill on a reporting unit level, at or below the operating segment level. In performing the goodwill impairment assessment, the carrying values of the Company's reporting units are compared to their estimated fair values, as calculated by the discounted cash flow method. As a part of its annual assessment, the Company first qualitatively assesses whether current events or changes in circumstances lead to a determination that it is more likely than not (defined as a likelihood of more than 50 percent) that the fair value of a reporting unit is less than its carrying amount. Absent a qualitative determination that the fair value of a particular reporting unit is more likely than not to be less than its carrying value, the Company does not need to proceed to the traditional two-step goodwill test for that reporting unit. If this qualitative assessment indicates a more likely than not potential that the asset may be impaired, the estimated fair value is calculated by the discounted cash flow method. The significant assumptions used under the discounted cash flow method are projected revenue, projected operational profit, terminal growth rates, and the cost of capital. If the estimated fair value of a reporting unit is less than its carrying value, an impairment charge is recorded for the amount by which the carrying value of the goodwill exceeds its calculated implied fair value.

In Note 7 – Goodwill and Intangible Asset beginning on page F-18:

A qualitative analysis, which included reviewing current year results for revenue and profit, was done for all reporting units and for four of our reporting units with total goodwill of \$105.4 million as of December 31, 2014, the analysis led to the conclusion that it was not more likely than not that the fair value for these reporting units exceeded the carrying value. Accordingly, the first step of the two step goodwill impairment test as described in FASB ASC 350-20-35 was performed. The resultant estimated fair value of the reporting units exceeded its carrying value as of December 31, 2014 and no goodwill impairment charges were recorded. For two of the reporting units tested under the first step, which carried combined goodwill of \$90.9 million, the aggregate excess of fair value over their carrying value was only 3%. These two reporting units were acquired in the second half of fiscal 2013, and therefore the Company did not expect the fair value to be significantly in excess of the carrying value. Furthermore, there were no fundamental changes in the business or market that would indicate a significant decline in the fair value since the acquisition date. Management's projections used to estimate the undiscounted cash flows included increasing sales volumes and operational improvements designed to reduce costs. Changes in any of the significant assumptions used, including if the Company does not successfully achieve its 2015 operating plan, can materially affect the expected cash flows, and such impacts can result in the requirement to proceed to a step 2 test and potentially a material non-cash impairment charge could result.

This same qualitative analysis was done for five reporting units which had indefinite life intangible assets totaling \$13.5 million as of December 31, 2014 which led to the conclusion that it was not more likely than not that the fair value for these indefinite life intangible assets exceeded their carrying value. Accordingly, the Company estimated the fair value of the indefinite life intangible assets. The resultant estimated fair value of the indefinite life intangible assets exceeded their carrying value as of December 31, 2014 and no impairment charges were recorded. For three of the reporting units, which carried combined indefinite life intangible assets of \$10.0 million, the aggregate excess of fair value over their carrying value was only 5%. These three reporting units were acquired in the second half of fiscal 2013, and therefore the Company did not expect the fair value to be significantly in excess of the carrying value. Furthermore, there were no fundamental changes in the businesses or markets that would indicate a significant decline in the fair value since the acquisition date. Management's projections used to estimate the fair values included increasing sales volumes and operational improvements designed to reduce costs. Changes in any of the significant assumptions used, including if the Company does not successfully achieve its 2015 operating plan, can materially affect the expected cash flows, and such impacts can result in the requirement to proceed to a step 2 test and potentially can result in material non-cash impairment charges.

Two of the reporting units where the fair value was not significantly in excess of the carrying value had definite live intangible assets of \$24 million as of December 31, 2014 which could be at risk of impairment if the Company does not successfully achieve its 2015 operating plan as described above. The Company will continue to assess the potential for impairment on a quarterly basis in fiscal 2015.

Pamela Long
July 10, 2015

We hope that you will find our response to the comments of the Commission's Staff satisfactory. If further information regarding any aspect of this response letter is required, please contact the undersigned at (513) 361-1229.

Sincerely,

Squire Patton Boggs (US) LLP

/s/ Toby D. Merchant

Toby D. Merchant

CECO Environmental Corp.:

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