Advanced Emissions Solutions, Inc.
Form 10-Q
November 06, 2017

United States
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

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FORM 10-Q

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x QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the quarterly period ended September 30, 2017

or

¨TRANSITION REPORT PURSUANT TO 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the transition period from to

Commission File Number: 001-37822

_____

Advanced Emissions Solutions, Inc.
(Exact name of registrant as specified in its charter)

_____

Delaware	27-5472457
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
640 Plaza Drive, Suite 270, Highlands Ranch, CO	80129
(Address of principal executive offices)	(Zip Code)

(720) 598-3500
(Registrant's telephone number, including area code)
Not Applicable
(Former name, former address and former fiscal year, if changed since last report)

_____

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes x No ¨

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes x No ¨

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer," and "smaller reporting company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	o	Accelerated filer	x
Non-accelerated filer	o	Smaller reporting company	¨
		Emerging growth company	¨

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ¨

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act).

Yes ¨ No x

Indicate the number of shares outstanding of each of the issuer's classes of common stock, as of the latest practicable date.

Class	Outstanding at November 1, 2017
Common stock, par value $0.001 per share	21,089,470

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Part I. – FINANCIAL INFORMATION
Item 1. Consolidated Financial Statements
Advanced Emissions Solutions, Inc. and Subsidiaries
Condensed Consolidated Balance Sheets
(Unaudited)

(in thousands, except share data)	As of September 30, 2017	December 31, 2016
ASSETS		
Current assets:		
Cash and cash equivalents	$26,823	$ 13,208
Restricted cash	—	13,736
Receivables, net	1,631	8,648
Receivables, related parties, net	2,803	1,934
Costs in excess of billings on uncompleted contracts	—	25
Prepaid expenses and other assets	1,759	1,357
Total current assets	33,016	38,908
Property and equipment, net of accumulated depreciation of $1,419 and $2,920, respectively	443	735
Equity method investments	3,070	3,959
Deferred tax assets	50,310	61,396
Other long-term assets	2,292	2,298
Total Assets	$89,131	$ 107,296
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$1,317	$ 1,920
Accrued payroll and related liabilities	1,296	2,121
Billings in excess of costs on uncompleted contracts	1,863	4,947
Legal settlements and accruals	4,482	10,706
Other current liabilities	3,318	4,017
Total current liabilities	12,276	23,711
Legal settlements and accruals, long-term	—	5,382
Other long-term liabilities	2,247	2,038
Total Liabilities	14,523	31,131
Commitments and contingencies (Note 5)		
Stockholders' equity:		
Preferred stock: par value of $.001 per share, 50,000,000 shares authorized, none outstanding	—	—
Common stock: par value of $.001 per share, 100,000,000 shares authorized, 22,464,566 and 22,322,022 shares issued, and 21,093,675 and 22,024,675 shares outstanding at September 30, 2017 and December 31, 2016, respectively	22	22
Treasury stock, at cost: 1,370,891 and -0- shares as of September 30, 2017 and December 31, 2016, respectively	(13,024)	—
Additional paid-in capital	110,073	119,494
Accumulated deficit	(22,463)	(43,351)
Total stockholders' equity	74,608	76,165
Total Liabilities and Stockholders' Equity	$89,131	$ 107,296

See Notes to the Condensed Consolidated Financial Statements.

Advanced Emissions Solutions, Inc. and Subsidiaries
Condensed Consolidated Statements of Operations
(Unaudited)

(in thousands, except per share data)	Three Months Ended September 30, 2017	2016	Nine Months Ended September 30, 2017	2016
Revenues:				
Equipment sales	$1,577	$14,869	$31,304	$44,788
Chemicals	717	670	3,844	1,717
Consulting services and other	—	171	—	492
Total revenues	2,294	15,710	35,148	46,997
Operating expenses:				
Equipment sales cost of revenue, exclusive of depreciation and amortization	1,467	12,704	28,260	35,175
Chemicals cost of revenue, exclusive of depreciation and amortization	574	469	2,977	865
Consulting services and other cost of revenue, exclusive of depreciation and amortization	—	86	—	299
Payroll and benefits	1,679	2,809	5,894	10,567
Rent and occupancy	255	508	555	1,534
Legal and professional fees	1,062	1,615	3,316	6,581
General and administrative	862	818	2,934	2,920
Research and development, net	252	(524)	30	(667)
Depreciation and amortization	87	138	687	593
Total operating expenses	6,238	18,623	44,653	57,867
Operating loss	(3,944)	(2,913)	(9,505)	(10,870)
Other income (expense):				
Earnings from equity method investments	12,120	10,735	36,089	30,066
Royalties, related party	2,804	2,064	6,425	3,922
Interest expense	(678)	(969)	(1,999)	(4,496)
Revision in estimated royalty indemnity liability	—	—	3,400	—
Other	(924)	1,278	(908)	3,960
Total other income	13,322	13,108	43,007	33,452
Income before income tax expense	9,378	10,195	33,502	22,582
Income tax expense	3,586	583	12,614	734
Net income	$5,792	$9,612	$20,888	$21,848
Earnings per common share (Note 1):				
Basic	$0.28	$0.44	$0.96	$0.99
Diluted	$0.28	$0.43	$0.96	$0.97
Weighted-average number of common shares outstanding:				
Basic	20,808	21,740	21,569	21,926
Diluted	20,854	22,098	21,598	22,209
Cash dividends declared per common share outstanding:	$0.25	$—	$0.50	$—

See Notes to the Condensed Consolidated Financial Statements.

Advanced Emissions Solutions, Inc. and Subsidiaries
Condensed Consolidated Statements of Cash Flows
(Unaudited)

(in thousands)	Nine Months Ended September 30, 2017	2016
Cash flows from operating activities		
Net income	$20,888	$21,848
Adjustments to reconcile net income to net cash used in operating activities:		
Depreciation and amortization	687	593
Debt prepayment penalty and amortization of debt issuance costs	109	1,379
Impairment of property, equipment, inventory, and cost method investment	464	517
Stock-based compensation expense	1,648	2,238
Earnings from equity method investments	(36,089)	(30,066)
Gain on sale of equity method investment	—	(2,078)
Gain on settlement of note payable and licensed technology	—	(1,910)
Other non-cash items, net	436	61
Changes in operating assets and liabilities:		
Receivables	7,027	(3,677)
Related party receivables	(869)	541
Prepaid expenses and other assets	(513)	831
Costs incurred on uncompleted contracts	27,081	28,575
Deferred tax asset, net	11,086	—
Other long-term assets	(766)	961
Accounts payable	(603)	(3,837)
Accrued payroll and related liabilities	(825)	(2,245)
Other current liabilities	(917)	(2,094)
Billings on uncompleted contracts	(30,140)	(32,469)
Other long-term liabilities	147	(2,967)
Legal settlements and accruals	(11,606)	1,454
Distributions from equity method investees, return on investment	3,675	6,850
Net cash used in operating activities	(9,080)	(15,495)

(in thousands)	Nine Months Ended September 30, 2017	2016
Cash flows from investing activities		
Distributions from equity method investees in excess of cumulative earnings	33,363	24,650
Maturity of investment securities, restricted	—	336
Acquisition of property and equipment, net	(343)	(147)
Purchases of and contributions to equity method investees	(61)	(223)
Proceeds from sale of equity method investment	—	1,773
Net cash provided by investing activities	32,959	26,389
Cash flows from financing activities		
Borrowings on Line of Credit	808	—
Repayments on Line of Credit	(808)	—
Repayments on short-term borrowings and notes payable, related party	—	(14,496)
Short-term borrowing loan costs and debt prepayment penalty	—	(807)
Repurchase of common shares to satisfy tax withholdings	(518)	(192)
Dividends paid	(10,458)	—
Repurchase of common shares	(13,024)	—
Net cash used in financing activities	(24,000)	(15,495)
Decrease in Cash and Cash Equivalents and Restricted Cash	(121)	(4,601)
Cash and Cash Equivalents and Restricted Cash, beginning of period	26,944	20,973
Cash and Cash Equivalents and Restricted Cash, end of period	$26,823	$16,372
Supplemental disclosure of cash flow information:		
Cash paid for interest	$2,391	$2,899
Cash paid for income taxes	$1,160	$46
Supplemental disclosure of non-cash investing and financing activities:		
Stock award reclassification (liability to equity)	$—	$899
Settlement of RCM6 note payable	$—	$13,234
Non-cash reduction of equity method investment	$—	$11,156
Dividends payable	$93	$—

See Notes to the Condensed Consolidated Financial Statements.

Advanced Emissions Solutions, Inc. and Subsidiaries
Notes to Condensed Consolidated Financial Statements
(Unaudited)

Note 1 - Basis of Presentation

Nature of Operations

Advanced Emissions Solutions, Inc. ("ADES" or the "Company") is a Delaware corporation with its principal office located in Highlands Ranch, Colorado. The Company is principally engaged in providing environmental and emissions control equipment, technologies and specialty chemicals to the coal-burning electric power generation industry. The Company generates substantial earnings and tax credits under Section 45 of the Internal Revenue Code ("IRC") from its equity investments in certain entities and royalty payment streams related to technologies that are licensed to Tinuum Group, LLC, a Colorado limited liability company ("Tinuum Group"). Such technologies allow Tinuum Group to provide various solutions to reduce mercury and nitrogen oxide ("NO_x") emissions at select coal-fired power generators through the burning of Refined Coal ("RC"). The Company’s sales occur principally throughout the United States. See Note 10 for additional information regarding the Company's operating segments.

Basis of Presentation

The accompanying Condensed Consolidated Financial Statements of ADES are unaudited and have been prepared in conformity with accounting principles generally accepted in the United States ("U.S. GAAP") and with Article 10 of Regulation S-X of the Securities and Exchange Commission. In compliance with those instructions, certain information and footnote disclosures normally included in annual consolidated financial statements prepared in accordance with U.S. GAAP have been condensed or omitted.

The unaudited Condensed Consolidated Financial Statements of ADES in this quarterly report ("Quarterly Report") are presented on a consolidated basis and include ADES and its direct and indirect, wholly-owned subsidiaries. Also included within the unaudited Condensed Consolidated Financial Statements are the Company's investments, Tinuum Group, Tinuum Services, LLC ("Tinuum Services"), and GWN Manager, LLC ("GWN Manager"), which are accounted for using the equity method of accounting. As discussed in Note 2, the Company sold its equity investment in RCM6, LLC ("RCM6") in March 2016, which was also accounted for using the equity method prior to the sale. Results of operations and cash flows for the interim periods are not necessarily indicative of the results that may be expected for the entire year. All significant intercompany transactions and accounts were eliminated for all periods presented in this Quarterly Report.

In the opinion of management, these Condensed Consolidated Financial Statements include all normal and recurring adjustments considered necessary for a fair presentation of the results of operations, financial position and cash flows for the interim periods presented. These Condensed Consolidated Financial Statements of ADES should be read in conjunction with the Company’s Annual Report on Form 10-K for the year ended December 31, 2016 (the "2016 Form 10-K"). Significant accounting policies disclosed therein have not changed.

Earnings Per Share

Basic earnings per share is computed using the two-class method, which is an earnings allocation formula that determines earnings per share for common stock and any participating securities according to dividend and participating rights in undistributed earnings. The Company's restricted stock awards ("RSA's") granted prior to December 31, 2016 contain non-forfeitable rights to dividends or dividend equivalents and are deemed to be participating securities. RSA's granted subsequent to December 31, 2016 do not contain non-forfeitable rights to dividends and are not deemed to be participating securities.

Under the two-class method, net income for the period is allocated between common stockholders and the holders of the participating securities based on the weighted-average number of common shares outstanding during the period, excluding participating, unvested RSA's ("common shares"), and the weighted-average number of participating unvested RSA's outstanding during the period, respectively. The allocated, undistributed income for the period is then divided by the weighted-average number of common shares and participating, unvested RSA's outstanding during the period to arrive at basic earnings per common share and participating security for the period, respectively. Because the participating, unvested RSA's possess substantially the same rights to undistributed earnings as common shares outstanding, there is no difference between the calculated basic earnings per share for common shares and

participating securities. Accordingly, and pursuant to U.S. GAAP, the Company has elected not to separately present basic or diluted earnings per share attributable to participating securities in the Consolidated Statements of Operations.

Diluted earnings per share is computed in a manner consistent with that of basic earnings per share, while considering other potentially dilutive securities. Potentially dilutive securities consist of both unvested, participating and non-participating RSA's, as well as outstanding options to purchase common stock ("Stock Options") and contingent performance stock units ("PSU's") (collectively, "Potential Dilutive Shares"). The dilutive effect, if any, for non-participating RSA's, Stock Options and PSU's is computed using the treasury stock method. For participating RSA's, the dilutive effect, if any, is determined using the greater of dilution as calculated under the treasury stock method or the two-class method. Potential Dilutive Shares are excluded from diluted earnings per share when their effect is anti-dilutive. When there is a net loss for a period, all Potential Dilutive Shares are anti-dilutive and are excluded from the calculation of diluted loss per share for that period.

Each PSU represents a contingent right to receive shares of the Company’s common stock, and the number of shares may range from zero to two times the number of PSU's granted on the award date depending upon the price performance of the Company's common stock as measured against a general index and a specific peer group index over requisite performance periods. The number of Potential Dilutive Shares related to PSU's is based on the number of shares of the Company's common stock, if any, that would be issuable at the end of the respective reporting period, assuming that the end of the reporting period is the end of the contingency period applicable to such PSU's. See Note 7 for additional information related to PSU's.

The following table sets forth the calculations of basic and diluted earnings per share:

	Three Months Ended September 30,		Nine Months Ended September 30,	
(in thousands, except per share amounts)	2017	2016	2017	2016
Net income	$5,792	$9,612	$20,888	$21,848
Less: Dividends and undistributed income allocated to participating securities	32	133	141	229
Income attributable to common stockholders	$5,760	$9,479	$20,747	$21,619
Basic weighted-average common shares outstanding	20,808	21,740	21,569	21,926
Add: dilutive effect of equity instruments	46	358	29	283
Diluted weighted-average shares outstanding	20,854	22,098	21,598	22,209
Earnings per share - basic	$0.28	$0.44	$0.96	$0.99
Earnings per share - diluted	$0.28	$0.43	$0.96	$0.97

For the three and nine months ended September 30, 2017 and 2016, options to purchase 0.2 million shares of common stock for each of the periods presented were outstanding, but were not included in the computation of diluted net income per share because the exercise price exceeded the average price of the underlying shares and the effect would have been anti-dilutive. For the three and nine months ended September 30, 2017 and 2016, options to purchase of 0.4 million, 0.2 million, 0.4 million and 0.2 million shares of common stock, respectively, which vest based on the Company achieving specified performance targets, were outstanding, but not included in the computation of diluted net income per share because they were determined not to be contingently issuable.

Use of Estimates

The preparation of financial statements in conformity with U.S. GAAP requires management to makes estimates and assumptions that affect the amounts reported in the financial statements and accompanying notes. There have been no changes in the Company’s critical accounting estimates from those that were disclosed in the 2016 Form 10-K. Actual results could differ from these estimates.

Reclassifications

Certain balances have been reclassified from the prior year to conform to the current year presentation.

New Accounting Guidance

In May 2014, the FASB issued ASU No. 2014-09, Revenue from Contracts with Customers (Topic 606) ("ASU 2014-09"), which provides a single comprehensive model for entities to use in accounting for revenue arising from contracts with customers and supersedes current revenue recognition guidance, including industry-specific guidance. The core principle of ASU 2014-09 is that “an entity recognizes revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. ASU 2014-09 and its related amendments are effective for reporting periods (including interim periods) beginning after December 31, 2017. Early application is permitted for annual reporting periods beginning after December 15, 2016, including interim reporting periods within that reporting period. The standard may be applied retrospectively to each prior period presented or retrospectively with the cumulative effect recognized as of the date of adoption ("modified retrospective method"). The Company will adopt the standard under the modified retrospective method effective January 1, 2018, which will be reflected in its financial statements as of and for the three months ended March 31, 2018.

As of the date of this filing, the Company has materially completed its assessment of ASU 2014-09 for the impact to the financial statements as of the adoption date, completed a detailed review of individual customer contracts, continued its review of controls and procedures that may need to be revised or added from the adoption of the standard, and updated its timeline for completion of the various phases of the implementation plan for the standard, including documentation of the standard's financial statement impact at adoption, financial statement presentation and disclosure changes and reviews over potential changes to existing revenue recognition policies, controls and procedures. As a result, the Company may revise its initial quantitative and qualitative assessments of the financial impacts on its current revenue streams and related costs.

Based on the Company's current assessment of ASU 2014-09, it has determined that the timing of revenue recognition for equipment sales will be accelerated and all deferred revenue and deferred project costs on all uncompleted equipment sales projects as of December 31, 2017 will be derecognized through a cumulative effect adjustment, which will reduce the Accumulated deficit as of the adoption date in the amount of approximately $2.2 million. In addition, as of the adoption date, the Company anticipates derecognizing deferred revenue and deferred project costs for a technology licensing arrangement through a cumulative effect adjustment, which will reduce the Accumulated deficit in the amount of approximately $1.7 million. The Company currently estimates that there will be no material financial statement impact as of the adoption date from either chemical sales or consulting services.

In January 2016, the FASB issued ASU 2016-01, Financial Instruments (Subtopic 825-10) - Overall: Recognition and Measurement of Financial Assets and Financial Liabilities ("ASU 2016-01"). This standard provides guidance on how entities measure certain equity investments and present changes in the fair value. This standard requires that entities measure certain equity investments that do not result in consolidation and are not accounted for under the equity method at fair value and recognize any changes in fair value in net income. ASU 2016-01 is effective for fiscal years beginning after December 31, 2017. The Company is currently evaluating the provisions of this guidance and assessing its impact on the Company's financial statements and disclosures. The Company does not believe this standard will have a material impact on the Company's financial statements and disclosures.

In February 2016, the FASB issued ASU 2016-02, Leases (Topic 842) ("ASU 2016-02"), which requires lessees to recognize a right of use asset and related lease liability for those leases classified as operating leases at the commencement date and have lease terms of more than 12 months. This topic retains the distinction between finance leases and operating leases. ASU 2016-02 is effective for fiscal years beginning after December 15, 2018, and interim periods within those years, and must be applied under a modified retrospective transition approach for leases existing at, or entered into after, the beginning of the earliest comparative period presented in the financial statements. The Company is currently evaluating the provisions of this guidance and assessing its impact on the Company's financial statements and disclosures.

In June 2016, the FASB issued ASU 2016-13, Financial Instruments - Credit Losses (Topic 326) Measurement of Credit Losses on Financial Instruments ("ASU 2016-13"). The main objective of ASU 2016-13 is to provide financial statement users with more decision-useful information about the expected credit losses on financial instruments and other commitments to extend credit held by a reporting entity at each reporting date. To achieve this objective, the

amendments in ASU 2016-13 replace the incurred loss impairment methodology in current U.S. GAAP with a methodology that reflects expected credit losses and requires consideration of a broader range of reasonable and supportable information to inform credit loss estimates. ASU 2016-13 is effective for fiscal years beginning after December 15, 2019, including interim periods within those years, and must be adopted under a modified retrospective method approach. Entities may adopt ASU 2016-13 earlier as of the fiscal years beginning after December 15, 2018, including interim periods within those years. The Company is currently evaluating the provisions of this guidance and assessing its impact on the Company's financial statements and disclosures. The Company does not believe this standard will have a material impact on the Company's financial statements and disclosures.

In May 2017, the FASB issued ASU 2017-09, Compensation - Stock Compensation (Topic 718) - Scope of Modification Accounting ("ASU 2017-09"). ASU 2017-09 provides guidance about which changes to the terms or conditions of a stock-based payment award require an entity to apply modification in Topic 718. Under the standard, an entity does not apply modification accounting if the fair value, vesting conditions, and classification of the stock-based awards are the same immediately before and after the modification. The current disclosure requirements in Topic 718 apply regardless of whether an entity is required to apply modification accounting under the amendments in this standard. ASU 2017-09 is effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2017. Early adoption is permitted, including adoption in any interim period, for public business entities for which financial statements have not yet been issued. The Company elected to adopt ASU 2017-09 effective with the beginning of its second fiscal quarter of 2017, April 1, 2017, and there was no material impact on the Company's financial statements or disclosures.

Note 2 - Equity Method Investments

Tinuum Group, LLC

The Company's ownership interest in Tinuum Group was 42.5% as of September 30, 2017 and December 31, 2016. Tinuum Group supplies technology equipment and technical services to cyclone-fired and other boiler users, but Tinuum Group's primary purpose is to put into operation facilities that produce and sell RC that lower emissions and therefore qualify for tax credits available under Section 45 of the IRC ("Section 45 tax credits"). Tinuum Group has been determined to be a variable interest entity ("VIE"); however, the Company does not have the power to direct the activities that most significantly impact Tinuum Group's economic performance and has therefore accounted for the investment under the equity method of accounting. The Company determined that the voting partners of Tinuum Group have identical voting rights, equity control interests and board control interests, and therefore, concluded that the power to direct the activities that most significantly impact Tinuum Group's economic performance was shared. The following table summarizes the results of operations of Tinuum Group:

	Three Months Ended September 30,		Nine Months Ended September 30,	
(in thousands)	2017	2016	2017	2016
Gross profit	$23,812	$22,645	$70,895	$70,325
Operating, selling, general and administrative expenses	5,174	4,996	14,975	15,464
Income from operations	18,638	17,649	55,920	54,861
Other expenses	(3,331)	(3,583)	(4,278)	(7,618)
Class B preferred return	(384)	(905)	(1,526)	(3,101)
Loss attributable to noncontrolling interest	11,953	8,881	29,240	14,788
Net income available to Class A members	$26,876	$22,042	$79,356	$58,930
ADES equity earnings from Tinuum Group	$11,050	$9,775	$33,363	$28,050

As of September 30, 2017 and December 31, 2016, the amount of Tinuum Group's temporary Class B preferred equity was $7.4 million and $18.3 million, respectively.

The difference between the Company's proportionate share of Tinuum Group's Net income available to Class A members (at its equity interest of 42.5%) as presented in the table below and the Company's earnings from its Tinuum Group equity method investment as reported in the Condensed Consolidated Statements of Operations relates to the Company receiving distributions in excess of the carrying value of the equity investment, and therefore recognizing such excess distributions as equity method earnings in the period the distributions occur, as discussed below.

As shown in the tables below, the Company’s carrying value in Tinuum Group was reduced to zero for the three and nine months ended September 30, 2017, as cumulative cash distributions received from Tinuum Group exceeded the Company's pro-rata share of cumulative earnings in Tinuum Group. The carrying value of the Company's investment in Tinuum Group shall remain zero as long as the cumulative amount of distributions received from Tinuum Group continues to exceed the Company's cumulative pro-rata share of Tinuum Group's Net income available to Class A members. For periods during which the ending balance of the Company's investment in Tinuum Group is zero, the Company only recognizes equity earnings from Tinuum Group to the extent that cash distributions are received from Tinuum Group during the period. For periods during which the ending balance of the Company's investment is greater than zero (e.g., when the cumulative earnings in Tinuum Group exceeds cumulative cash distributions received), the Company recognizes its pro-rata share of Tinuum Group's Net income available to Class A members for the period, less any amount necessary to recover the cumulative earnings short-fall balance as of the end of the immediately preceding period. During the three and nine months ended September 30, 2017, the Company's cumulative amount of distributions received from Tinuum Group exceeded the Company's cumulative pro-rata share of Tinuum Group's Net income available to Class A members. As such, the Company recognized equity earnings from Tinuum Group for the three and nine months ended September 30, 2017 of $11.1 million and $33.4 million, respectively. During the three and nine months ended September 30, 2016, the Company recognized equity earnings from Tinuum Group in the amount of $9.8 million and $28.1 million, respectively. As of September 30, 2017 and 2016, the Company's carrying value in Tinuum Group was zero and zero, respectively.

Thus, the amount of equity earnings or loss reported on the Company's Condensed Consolidated Statement of Operations may differ from a mathematical calculation of net income or loss attributable to the equity interest based upon the factor of the equity interest and the Net income or loss attributable to Class A members as shown on Tinuum Group’s statement of operations. Additionally, for periods during which the carrying value of the Company's investment in Tinuum Group is greater than zero, distributions from Tinuum Group are reported on the Condensed Consolidated Statements of Cash Flows as "Distributions from equity method investees, return on investment" within Operating cash flows. For periods during which the carrying value of the Company's investment in Tinuum Group is zero, such cash distributions are reported on the Condensed Consolidated Statements of Cash Flows as "Distributions from equity method investees in excess of investment basis" within Investing cash flows.

The following tables presents the Company's investment balance, equity earnings and cash distributions in excess of the investment balance for the three and nine months ended September 30, 2017 and 2016 (in thousands):

Description	Date(s)	Investment balance	ADES equity earnings (loss)	Cash distributions	Memorandum Account: Cash distributions and equity earnings in (excess) of investment balance
Beginning balance	12/31/2016	$ —	$ —	$ —	$ (9,894)
ADES proportionate share of income from Tinuum Group [1]	First Quarter	10,457	10,457	—	—
Recovery of prior cash distributions in excess of investment balance (prior to cash distributions)	First Quarter	(9,894)	(9,894)	—	9,894
Cash distributions from Tinuum Group	First Quarter	(13,175)		13,175	—
Adjustment for current year cash distributions in excess of investment balance	First Quarter	12,612	12,612	—	(12,612)
Total investment balance, equity earnings (loss) and cash distributions	3/31/2017	$ —	$ 13,175	$ 13,175	$ (12,612)
ADES proportionate share of income from Tinuum Group [1]	Second Quarter	$ 11,761	$ 11,761	$ —	$ —
Recovery of prior cash distributions in excess of investment balance (prior to cash distributions)	Second Quarter	(11,761)	(11,761)	—	11,761
Cash distributions from Tinuum Group	Second Quarter	(9,138)	—	9,138	—
Adjustment for current year cash distributions in excess of investment balance	Second Quarter	9,138	9,138	—	(9,138)
Total investment balance, equity earnings (loss) and cash distributions	6/30/2017	$ —	$ 9,138	$ 9,138	$ (9,989)
ADES proportionate share of income from Tinuum Group [1]	Third Quarter	$ 11,393	$ 11,393	$ —	$ —
Recovery of prior cash distributions in excess of investment balance (prior to cash distributions)	Third Quarter	(9,989)	(9,989)	—	9,989
Cash distributions from Tinuum Group	Third Quarter	(11,050)	—	11,050	—
Adjustment for current year cash distributions in excess of investment balance	Third Quarter	9,646	9,646	—	(9,646)
Total investment balance, equity earnings (loss) and cash distributions	9/30/2017	$ —	$ 11,050	$ 11,050	$ (9,646)

Description	Date(s)	Investment balance	ADES equity earnings (loss)	Cash distributions	Memorandum Account: Cash distributions and equity earnings in (excess) of investment balance
Beginning balance	12/31/2015	$ —	$—	$ —	$ (3,263)
ADES proportionate share of income from Tinuum Group [1]	First Quarter	8,706	8,706	—	—
Recovery of prior cash distributions in excess of investment balance (prior to cash distributions)	First Quarter	(3,263)	(3,263)	—	3,263
Cash distributions from Tinuum Group	First Quarter	(3,400)	—	3,400	—
Total investment balance, equity earnings (loss) and cash distributions	3/31/2016	$ 2,043	$5,443	$ 3,400	$ —
ADES proportionate share of income from Tinuum Group [1]	Second Quarter	$ 6,758	$6,758	$ —	$ —
Recovery of prior cash distributions in excess of investment balance (prior to cash distributions)	Second Quarter	—	—	—	—
Cash distributions from Tinuum Group	Second Quarter	(14,875)	—	14,875	—
Adjustment for current year cash distributions in excess of investment balance	Second Quarter	6,074	6,074	—	(6,074)
Total investment balance, equity earnings (loss) and cash distributions	6/30/2016	$ —	$12,832	$ 14,875	$ (6,074)
ADES proportionate share of income from Tinuum Group [1]	Third Quarter	$ 9,300	$9,300	$ —	$ —
Recovery of prior cash distributions in excess of investment balance (prior to cash distributions)	Third Quarter	(6,074)	(6,074)	—	6,074
Cash distributions from Tinuum Group	Third Quarter	(9,775)	—	9,775	—
Adjustment for current year cash distributions in excess of investment balance	Third Quarter	6,549	6,549	—	(6,549)
Total investment balance, equity earnings (loss) and cash distributions	9/30/2016	$ —	$9,775	$ 9,775	$ (6,549)

(1) For the three and nine months ended September 30, 2017 and 2016, the amounts of the Company's 42.5% proportionate share of Net Income available to Class A members as shown in the table above differ from mathematical calculations of the Company’s 42.5% equity interest in Tinuum Group multiplied by the amounts of Net Income available to Class A members as shown in the table above of Tinuum Group results of operations due to adjustments related to the Redeemable Class B preferred return and, for the three months ended March 31, 2016, the elimination of Tinuum Group's earnings attributable to RCM6, of which the Company sold its 24.95% equity interest on March 3, 2016.

Tinuum Services, LLC

The Company has a 50% voting and economic interest in Tinuum Services, which is equivalent to the voting and economic interest of NexGen Refined Coal, LLC ("NexGen"). The Company has determined that Tinuum Services is not a VIE and has evaluated its consolidation analysis under the Voting Interest Model. Because the Company does

not own greater than 50% of the outstanding voting shares, either directly or indirectly, it has accounted for its investment in Tinuum Services under the equity method of accounting. The Company's investment in Tinuum Services as of September 30, 2017 and December 31, 2016 was $3.0 million and $4.0 million, respectively.

The following table summarizes the results of operations of Tinuum Services:

	Three Months Ended September 30,		Nine Months Ended September 30,	
(in thousands)	2017	2016	2017	2016
Gross loss	$(17,344)	$(15,848)	$(47,472)	$(42,946)
Operating, selling, general and administrative expenses	34,872	34,278	106,825	101,687
Loss from operations	(52,216)	(50,126)	(154,297)	(144,633)
Other income (expenses)	34	27	103	(13)
Loss attributable to noncontrolling interest	54,305	52,019	159,627	149,792
Net income	$2,123	$1,920	$5,433	$5,146
ADES equity earnings from Tinuum Services	$1,061	$960	$2,717	$2,573

Included within the Consolidated Statements of Operations of Tinuum Services for the three and nine months ended September 30, 2017 and 2016, respectively, were losses related to VIE's of Tinuum Services. These losses do not impact the Company's equity earnings from Tinuum Services as 100% of those losses are removed from the net losses of Tinuum Services as they are losses attributable to a noncontrolling interest.

Other

On March 3, 2016, the Company sold its 24.95% membership interest in RCM6 for a cash payment of $1.8 million and the assumption, by the buyer, of an outstanding note payable made by the Company in connection with its purchase of RCM6 membership interests from Tinuum Group. In doing so, the Company recognized a gain on the sale of $2.1 million for the nine months ended September 30, 2016, which is included within the Other line item in the Condensed Consolidated Statements of Operations. As a result of the sale of its ownership interest, the Company ceased to be a member of RCM6 and, as such, is no longer subject to any quarterly capital calls and variable payments to RCM6. In addition, the Company has no future obligations related to the previously recorded note payable. However, the Company still receives its pro-rata share of income and cash distributions through its ownership in Tinuum Group based on the RCM6 lease payments made to Tinuum Group.

Prior to the sale of its ownership interest, the Company recognized equity losses related to its investment in RCM6 of $0.6 million for the three months ended March 31, 2016.

On July 27, 2017, the Company purchased a 50% membership interest in GWN Manager from Tinuum Group for an upfront payment of $0.1 million. GWN Manager owns a 0.2% membership interest in a subsidiary of Tinuum Group, which owns a single RC facility that produces RC that qualifies for Section 45 tax credits. Tinuum Group sold 49.9% of the subsidiary that owns the RC facility to an unrelated third party and retained ownership of the remaining 49.9%. GWN Manager is subject to monthly capital calls based on estimated working capital needs.

The Company has determined that GWN Manager is not a VIE and has evaluated the consolidation analysis under the Voting Interest Model. Because the Company does not own greater than 50% of the outstanding voting shares, either directly or indirectly, it has accounted for its investment in GWN Manager under the equity method of accounting. As September 30, 2017, the Company's ownership in GWN Manager was 50%. The Company's investment in GWN Manager as of September 30, 2017, was $0.1 million.

The following table details the components of the Company's respective equity method investments included within the Earnings from equity method investments line item on the Condensed Consolidated Statements of Operations:

	Three Months Ended September 30,		Nine Months Ended September 30,	
(in thousands)	2017	2016	2017	2016
Earnings from Tinuum Group	$11,050	$9,775	$33,363	$28,050
Earnings from Tinuum Services	1,061	960	2,717	2,573
Earnings (losses) from other	9	—	9	(557)
Earnings from equity method investments	$12,120	$10,735	$36,089	$30,066

The following table details the components of the cash distributions from the Company's respective equity method investments included in the Condensed Consolidated Statements of Cash Flows. Distributions from equity method investees are reported on the Condensed Consolidated Statements of Cash Flows as "Distributions from equity method investees, return on investment" within Operating cash flows until such time as the carrying value in an equity method investee company is reduced to zero; thereafter, such distributions are reported as "Distributions from equity method investees in excess of cumulative earnings" within Investing cash flows.

	Nine Months Ended September 30,	
(in thousands)	2017	2016
Distributions from equity method investees, return on investment		
Tinuum Group	$—	$3,400
Tinuum Services	3,675	3,450
	$3,675	$6,850
Distributions from equity method investees in excess of investment basis		
Tinuum Group	$33,363	$24,650
	$33,363	$24,650

Note 3 - Borrowings

Line of Credit

On November 30, 2016, ADA-ES, Inc., a wholly-owned subsidiary of the Company ("ADA"), as borrower, the Company, as guarantor, and a bank (the "Lender") entered into an amendment (the "Tenth Amendment") to the 2013 Loan and Security Agreement (the "Line of Credit" or "LOC"). The Tenth Amendment increased the Line of Credit to $15 million, extended the maturity date of the Line of Credit to September 30, 2017 and permitted the Line of Credit to be used as collateral (in place of restricted cash) for letters of credit ("LC's") related to equipment projects, the Royalty Award, as defined in Note 5, and certain other agreements. Additionally, this amendment secured the Line of Credit with amounts due to the Company from an additional existing Refined Coal facility lease, which amounts also factor into the borrowing base limitation, and amended certain financial covenants. Pursuant to the Tenth Amendment, the Company was required to maintain a deposit account with the Lender, initially with a minimum balance of $6.0 million, which was reduced to $3.0 million based on the Company meeting certain conditions and maintaining minimum trailing twelve month EBITDA (earnings before interest, taxes, depreciation and amortization as defined in the Tenth Amendment) of $24.0 million. The minimum deposit balance was classified as Restricted Cash on the Condensed Consolidated Balance Sheets as of December 31, 2016.

On September 30, 2017, ADA, as borrower, the Company, as guarantor, and the Lender entered into an amendment (the "Eleventh Amendment") to the LOC. The Eleventh Amendment decreased the LOC to $10 million due to decreased collateral requirements for the Company's outstanding LC's, extended the maturity date of the LOC to September 30, 2018, and permitted the LOC to be used as collateral (in place of restricted cash) for LC's up to $8 million related to equipment projects, the Royalty Award and certain other agreements. Additionally, under the Eleventh Amendment there is no minimum balance requirement based on the Company meeting certain conditions and maintaining minimum trailing twelve-month EBITDA (earnings before interest, taxes, depreciation and amortization as defined in the Eleventh Amendment) of $24.0 million.

As of September 30, 2017, there were no outstanding borrowings under the Line of Credit, however, LC's in the aggregate amount of $4.5 million were secured under the Line of Credit, resulting in borrowing availability of $5.5 million and LC availability of $3.5 million.

Letters of Credit

The Company has LC's related to equipment projects, the Royalty Award and certain other agreements. During March 2017, a customer drew on an LC related to an equipment system in the amount of $0.8 million, which was funded by borrowing availability under the LOC. The Company subsequently repaid this amount to the Lender as of March 31, 2017. The Company is contesting the draw on this LC and is pursuing actions to recover this amount from the customer. This amount is included in Other long-term assets on the Condensed Consolidated Balance Sheets.

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The following tables summarize the LC's outstanding and collateral, by asset type, reported on the Condensed Consolidated Balance Sheets:

	As of September 30, 2017		
(in thousands)	LC Outstanding	Utilization of LOC Availability	Restricted Cash
Royalty Award	$4,500	$ 4,500	$ —
Total LC outstanding	$4,500	$ 4,500	$ —

	As of December 31, 2016		
(in thousands)	LC Outstanding	Utilization of LOC Availability	Restricted Cash
Contract performance - equipment systems	$1,855	$ 1,776	$ 86
Royalty Award	7,150	—	7,150
Total LC outstanding	$9,005	$ 1,776	$ 7,236

Credit Agreement

On June 30, 2016, the Company, the required lenders and the administrative lender under a $15.0 million short-term loan (the "Credit Agreement") agreed to terminate the Credit Agreement prior to the maturity date of July 8, 2016, effective upon the Company’s prepayment on June 30, 2016 of $9.9 million, which was comprised of the total principal balance of the loan and advances made to or for the benefit of the Company, together with all accrued but unpaid interest, and the total amount of all fees, costs, expenses and other amounts owed by the Company thereunder, including a prepayment premium.

Tinuum Group - RCM6 Note Payable

The Company acquired a 24.95% membership interest in RCM6 from Tinuum Group in February 2014 through an up-front payment and a note payable (the "RCM6 Note Payable"). Due to the payment terms of the note purchase agreement, the RCM6 Note Payable periodically added interest to the outstanding principal balance. The stated rate associated with the RCM6 Note Payable was 1.65% and the effective rate of the RCM6 Note Payable at inception was 20%. As discussed in Note 2, on March 3, 2016, the Company sold its 24.95% membership interest in RCM6 and, as a result, the Company has no future obligations related to the previously recorded RCM6 Note Payable.

DSI Business Owner

In February 2016, the Company entered into an agreement to settle an outstanding note payable of approximately $1.1 million for $0.3 million with the former owner of a business ("DSI Business Owner") acquired by the Company in 2012, which was paid during the first quarter of 2016. The Company recognized a gain related to the settlement of $0.9 million, which is included in the Other line item in the Condensed Consolidated Statements of Operations for the nine months ended September 30, 2016.

Note 4 - Fair Value Measurements

Fair value of financial instruments

The carrying amounts of financial instruments, including cash and cash equivalents, restricted cash, accounts receivable, accounts payable, deposits and accrued expenses, approximate fair value due to the short maturity of these instruments. Accordingly, these instruments are not presented in the table below. The following table provides the estimated fair values of the remaining financial instruments:

	As of September 30, 2017		As of December 31, 2016	
(in thousands)	Carrying Value	Fair Value	Carrying Value	Fair Value
Financial Instruments:				
Cost method investment [1]	$ 552	$ 552	$1,016	$1,016
Highview technology license payable	$ 210	$ 210	$207	$207

(1) Fair value is based on the investee's equity raise at £1.00 per share that commenced during the three months ended September 30, 2017 and the equity raise at £2.00 per share as of December 31, 2016. Refer to Note 9 for further discussion of this investment. The fair value measurement represents a Level 3 measurement as it is based on significant inputs not observable in the market.

Concentration of credit risk

The Company's financial instruments that are exposed to concentrations of credit risk consist primarily of cash and cash equivalents and restricted cash, which were held at one and two financial institutions as of September 30, 2017 and December 31, 2016, respectively. If those institutions were to be unable to perform their obligations, the Company would be at risk regarding the amount of cash and investments in excess of the Federal Deposit Insurance Corporation limits (currently $250 thousand) that would be returned to the Company.

Assets and Liabilities Measured at Fair Value on a Recurring Basis

As of September 30, 2017 and December 31, 2016, the Company had no financial instruments carried and measured at fair value on a recurring basis.

Note 5 - Commitments and Contingencies

Legal Proceedings

The Company is from time to time subject to, and is presently involved in, various pending or threatened legal actions and proceedings, including those that arise in the ordinary course of its business. Such matters are subject to many uncertainties and to outcomes, the financial impacts of which are not predictable with assurance and that may not be known for extended periods of time. The Company records a liability in its consolidated financial statements for costs related to claims, settlements, and judgments where management has assessed that a loss is probable and an amount can be reasonably estimated. The Company’s significant legal proceedings are discussed below.

Securities class action lawsuit: United Food and Commercial Workers Union v. Advanced Emissions Solutions, Inc., No. 14-cv-01243-CMA-KMT (U.S. District Court, D. Colo.)

As of December 31, 2016, the Company had a recorded liability and insurance receivable of $4.0 million in connection with this lawsuit as the losses in connection with this matter were probable and reasonably estimable under U.S. GAAP. The liability was originally recorded as of June 30, 2016 in the Legal settlements and accruals line item of the Consolidated Balance Sheet. On February 10, 2017, the Company received an order and final judgment that the lawsuit was settled, and the entire case had been dismissed with prejudice. The Company's insurance carriers funded the full settlement in November 2016. As of March 31, 2017, the Company no longer had any amounts impacting its consolidated financial statements as the order and judgment related to the lawsuit was received during the first quarter of 2017.

Stockholder derivative lawsuits: In Re Advanced Emissions Solutions, Inc. Shareholder Derivative Litigation, No. 2014CV-30709 (District Court, Douglas County, Colorado) (consolidated actions).

As of December 31, 2016, the Company had a recorded liability and insurance receivable of $0.6 million in connection with this lawsuit as the losses in connection with this matter were probable and reasonably estimable under U.S. GAAP. The liability was originally recorded as of June 30, 2016 in the Legal settlements and accruals line item of the Consolidated Balance Sheet. A settlement for this lawsuit was approved and the case was closed on January 4, 2017, and the Company's insurance carriers funded the full settlement in January 2017. As of March 31, 2017, the Company no longer had any amounts impacting its consolidated financial statements as the order and judgment related to the lawsuit was received during the first quarter of 2017.

SEC Inquiry

On March 29, 2017, the Company and the Securities and Exchange Commission reached a settlement to resolve a previously disclosed investigation into certain accounting issues, as described in the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2014. Without admitting or denying the SEC’s allegations, the Company agreed to the terms of the settlement and agreed to pay a civil monetary penalty of $0.5 million. The Company had fully reserved for this penalty as of June 30, 2016. The penalty was paid in the first quarter of 2017.

Settlement and royalty indemnity

In August 2008, Norit International N.V. f/k/a Norit N.V. ("Norit") filed a lawsuit against the Company asserting claims for misappropriation of trade secrets and other claims related to the Company's ADA Carbon Solutions, LLC joint venture ("Carbon Solutions") that built an activated carbon manufacturing plant (the “Red River Plant”). In August 2011, the Company and Norit entered into a settlement agreement whereby the Company paid amounts related to the non-solicitation breach of contract claim, and ADA was also required to pay additional damages related to certain future revenues generated from the Red River Plant through the second quarter of 2018 (the "Royalty Award").

Payments of amounts due under the Royalty Award for each quarter are payable three months after such quarter ends. In October 2011, an arbitration panel endorsed and confirmed the terms of the settlement agreement.

Additionally, during November 2011, the Company entered into an Indemnity Settlement Agreement whereby the Company agreed to settle certain indemnity obligations asserted against the Company related to the Norit litigation and relinquished all of its equity interest in Carbon Solutions to Carbon Solutions and amended the Intellectual Property License Agreement dated October 1, 2008 between the Company and Carbon Solutions. Under a provision of the Royalty Award, in the event that the Company declares or otherwise issues a dividend to any or all of its stockholders prior to January 1, 2018, other than repurchases of common stock under employee stock plans, the Company must increase its LC amounts as collateral for payments due to Norit, equal to 50% of the aggregate fair market value of such dividends (the "Dividends Provision"). Additionally, the first time that the Company achieves earnings in excess of $20.0 million for a fiscal year ended prior to January 1, 2018, the Company would be required increase its LC amounts as collateral by $5.0 million for payments due to Norit (the "Earnings Provision"). Any increase due to the Dividends Provision or the Earnings Provision should not cause the outstanding LC's to exceed the remaining estimated Royalty Award. Based on the Company's achievement of $97.7 million of net income for the fiscal year ended December 31, 2016, in March 2017 and pursuant to the Earnings Provision, the Company provided an additional LC of $5.0 million that is secured under the Line of Credit as of September 30, 2017. Although the Company executed a stock repurchase and declared dividends during the nine months ended September 30, 2017, the Company was not required to increase its outstanding LC amounts as the existing LC’s are of a sufficient amount to support future estimated payments due related to the Royalty Award.

During the nine months ended September 30, 2017, the Company revised its estimate for future Royalty Award payments based in part on an updated forecast provided to the Company from Carbon Solutions. This forecast included a material reduction in estimated future revenues generated at the Red River Plant. Based primarily on the updated forecast, the Company recorded a $3.4 million reduction to the Royalty Award accrual.

As of September 30, 2017 and December 31, 2016, the Company carried the components of the Royalty Award in Legal settlements and accruals in the Condensed Consolidated Balance Sheets of $4.5 million and $5.7 million, respectively, and in Legal settlements and accruals, long-term of zero and $5.4 million, respectively. Future amounts to be paid related to the Royalty Award may differ from current estimates due to future adjusted sales of activated carbon from the Red River Plant.

The following table summarizes the Company's legal settlements and accruals as described above, which are presented in the Condensed Consolidated Balance Sheets:

(in thousands)	As of September 30, 2017	December 31, 2016
Settlement and Royalty Indemnification	$4,482	$ 5,656
Legal settlements	—	5,050
Legal settlements and accruals	4,482	10,706
Settlement and Royalty Indemnification, long-term	—	5,382
Legal settlements and accruals, long-term	—	5,382
Total legal settlements and accruals	$4,482	$ 16,088

Advanced Emission Solutions, Inc. Profit Sharing Retirement Plan

The Advanced Emissions Solutions, Inc. Profit Sharing Retirement Plan (the “Plan”) is subject to the jurisdiction of the Internal Revenue Service ("IRS") and the Department of Labor ("DOL"). The DOL opened an investigation into the Plan, and the Company is responding to all requests for documents and information from the DOL. The DOL has not issued any formal findings as of the date of this report. Although the Company believes there has been no breach of fiduciary duty with respect to the Plan, the Company believes that it is probable that the DOL will require some payment to the Plan in order to close the investigation. The Company determined that this amount is reasonably estimable and, as such, the Company has accrued $0.5 million as of September 30, 2017. The liability was recorded in the Other current liabilities line item on the Condensed Consolidated Balance Sheets. The expense recognized related to this accrual was included in the Other line item in the Condensed Consolidated Statements of Operations for the three and nine months ended September 30, 2017. The estimate is based on information currently available and

involves elements of judgment and significant uncertainties. As additional information becomes available and the resolution of the uncertainties becomes more apparent, it is possible that actual payment may exceed the accrued amount.

Other Commitments and Contingencies

Tinuum Group

The Company also has certain limited obligations contingent upon future events in connection with the activities of Tinuum Group. The Company, NexGen and two entities affiliated with NexGen have provided an affiliate of the Goldman Sachs Group, Inc. with limited guaranties (the "Tinuum Group Party Guaranties") related to certain losses it may suffer as a result of inaccuracies or breach of representations and covenants. The Company also is a party to a contribution agreement with NexGen under which any party called upon to pay on a Tinuum Group Party Guaranty is entitled to receive contributions from the other party equal to 50% of the amount paid. No liability or expense provision has been recorded by the Company related to this contingent obligation as the Company believes that it is not probable that a loss will occur with respect to Tinuum Group Party Guaranties.

Performance Guarantee on Equipment Systems

In the normal course of business related to ACI and DSI systems, the Company may guarantee certain performance thresholds during a discrete performance testing period that do not extend beyond six months from the initial test date, the commencement of which is determined by the customer. Performance thresholds include such matters as the achievement of a certain level of mercury removal and other emissions based upon the injection of a specified quantity of a qualified activated carbon or other chemical at a specified rate given other plant operating conditions, and availability of equipment and electric power usage. In the event the equipment fails to perform as specified during the testing period, the Company may have an obligation to correct or replace the equipment. In the event the performance thresholds are not achieved, the Company may have a “make right” obligation within the contract limits. During the three and nine months ended September 30, 2017, the Company was not presented with any performance guarantees nor did it incur any additional claims. Additional performance guarantee claims, if incurred, are included within the Equipment sales cost of revenue line in the Condensed Consolidated Statements of Operations.

Note 6 - Stockholders' Equity

Stock Repurchase

On May 5, 2017, the Company’s Board of Directors ("Board") authorized the commencement of a modified Dutch Auction tender offer ("Tender Offer") to purchase for cash up to 925,000 shares of the Company's common stock at a price per share of not less than $9.40 nor greater than $10.80, for a maximum aggregate purchase price of $10.0 million, with an option to purchase an additional 2% of the outstanding shares of common stock if the Tender Offer was oversubscribed. The Tender Offer expired on June 6, 2017 and a total of 2,858,425 shares were validly tendered and not properly withdrawn at or below the final purchase price of $9.40 per share.

Because the tender offer was oversubscribed, the Company purchased a prorated portion of the shares properly tendered by each tendering stockholder (other than "odd lot" holders whose shares were purchased on a priority basis) at the final per share purchase price. Accordingly, the Company acquired 1,370,891 shares of its common stock ("Tendered Shares") at a price of $9.40 per share, for a total cost of approximately $12.9 million, excluding fees and other expenses related to the tender offer. The Tendered Shares represented approximately 6.2% of the Company's outstanding shares prior to the tender offer. The Tendered Shares include the 925,000 shares the Company initially offered to purchase and 445,891 additional shares that the Company elected to purchase pursuant to its right to purchase up to an additional 2% of its outstanding shares of common stock. The Company recorded the Tendered Shares at cost, which included fees and expenses related to the Tender Offer, and reported the Tendered Shares as Treasury Stock on the Condensed Consolidated Balance Sheet as of September 30, 2017.

The Company’s Board and executive officers did not participate in the Tender Offer, except for one director of the Board, who is a manager of a financial institution and holds dispositive powers over the shares of the Company's common stock held by the financial institution that tendered 70,178 of its shares of the Company's common stock in order to continue to own less than 4.99% of the outstanding shares of the Company's common stock upon the expiration of the Tender Offer.

Quarterly Cash Dividend

The Company declared cash dividends (the "Dividends") of $0.25 per common share on each of June 14, 2017 and August 7, 2017, payable to stockholders of record as of the close of business on June 28, 2017 and August 21, 2017, respectively, which were paid on July 17, 2017 and September 7, 2017, respectively. The total amount of quarterly cash dividends paid by the Company during the three and nine months ended September 30, 2017 was $10.5 million. A portion of the Dividends remains accrued subsequent to the payment dates and represents dividends accumulated on nonvested shares of common stock held by employees of the Company that contain forfeitable dividend rights that are not payable until the underlying shares of common stock vest. These amounts are included in both Other current liabilities and Other long-term liabilities on the Condensed Consolidated Balance Sheet as of September 30, 2017,

Tax Asset Protection Plan

On May 5, 2017, the Board approved a Tax Asset Protection Plan designed to protect the Company's ability to utilize its net operating losses and tax credits, which totaled approximately $113 million as of December 31, 2016.

United States federal income tax rules, and Section 382 of the Internal Revenue Code in particular, could substantially limit the use of net operating losses and other tax assets if ADES experiences an "ownership change" (as defined in the Internal Revenue Code). In general, an ownership change occurs if there is a cumulative change in the ownership of ADES by "5 percent stockholders" that exceeds 50 percentage points over a rolling three-year period.

The Tax Asset Protection Plan is intended to act as a deterrent to any person acquiring beneficial ownership of 4.99% or more of the Company's outstanding common stock and will expire on the earlier of (a) May 4, 2018, or (b) the date of the 2018 Annual Meeting of Stockholders. The Tax Asset Protection Plan may also be terminated earlier in accordance with the terms thereof.

Note 7 - Stock-Based Compensation

The Company grants equity based awards to employees and non-employee directors. Equity based awards include RSA's, Stock Options, PSU's and Stock Appreciation Rights ("SAR's"). Stock-based compensation expense related to employees is included within the Payroll and benefits line item in the Condensed Consolidated Statements of Operations. Stock-based compensation expense related to non-employee directors is included within the General and administrative line item in the Condensed Consolidated Statements of Operations.

Total stock-based compensation expense for the three and nine months ended September 30, 2017 and 2016 was as follows:

	Three Months Ended September 30,		Nine Months Ended September 30,	
(in thousands)	2017	2016	2017	2016
Restricted stock award expense	$298	$633	$1,103	$1,615
Stock option expense	143	(21)	443	118
PSU expense	34	83	102	399
SAR expense	—	—	—	106
Total stock-based compensation expense	$475	$695	$1,648	$2,238

The amount of unrecognized compensation cost as of September 30, 2017, and the expected weighted-average period over which the cost will be recognized is as follows:

	As of September 30, 2017	
(in thousands)	Unrecognized Compensation Cost	Expected Weighted-Average Period of Recognition (in years)
Restricted stock award expense	$ 1,985	2.16
Stock option expense	288	0.22
PSU expense	35	0.26
Total unrecognized stock-based compensation expense	$ 2,308	1.89

Restricted Stock Awards

Restricted stock is typically granted with vesting terms of three years. The fair value of restricted stock awards is determined based on the closing price of the Company's common stock on the authorization date of the grant multiplied by the number of shares subject to the stock award. Compensation expense for restricted stock awards is recognized over the entire vesting period on a straight-line basis. A summary of restricted stock award activity under the Company's various stock compensation plans for the nine months ended September 30, 2017 is presented below:

	Shares	Weighted-Average Grant Date Fair Value
Non-vested at January 1, 2017	297,347	$ 8.03
Granted	185,616	$ 9.52
Vested	(190,524)	$ 7.99
Forfeited	(1,687)	$ 9.17
Non-vested at September 30, 2017	290,752	$ 9.00

Stock Options

Stock options generally vest over three years and have a contractual limit of five years from the date of grant to exercise. The fair value of stock options granted is determined on the date of grant using the Black-Scholes option pricing model and the related expense is recognized on a straight-line basis over the entire vesting period.

A summary of option activity for the nine months ended September 30, 2017 is presented below:

	Number of Options Outstanding and Exercisable	Weighted-Average Exercise Price	Aggregate Intrinsic Value	Weighted-Average Remaining Contractual Term (in years)
Options outstanding, January 1, 2017	632,446	$ 11.61		
Options granted	—	—		
Options exercised	—	—		
Options expired / forfeited	—	—		
Options outstanding, September 30, 2017	632,446	$ 11.61	$ 648	2.45
Options exercisable as of September 30, 2017	254,448	$ 13.48	$ 124	2.58

Performance Share Units

Compensation expense is recognized for PSU awards on a straight-line basis over the applicable service period, which is generally three years, based on the estimated fair value at the date of grant using a Monte Carlo simulation model. There were no PSU's granted during the nine months ended September 30, 2017.

A summary of PSU activity for the nine months ended September 30, 2017 is presented below:

	Units	Weighted-Average Grant Date Fair Value
Non-vested at January 1, 2017	49,516	$ 25.20
Granted	—	—
Vested / Settled [1]	(30,110)	$ (28.59)
Forfeited / Canceled	—	—
Non-vested at September 30, 2017	19,406	$ 19.95

(1) The number of units shown in the table above are based on target performance. The final number of shares of common stock issued may vary depending on the achievement of market conditions established within the awards, which could result in the actual number of shares issued ranging from zero to a maximum of two times the number of units shown in the above table. The following table shows the PSU's that were settled by issuing shares of the Company's common stock relative to a broad stock index and a peer group performance index.

	Year of Grant	Net Number of Issued Shares upon Vesting	Shares Withheld to Settle Tax Withholding Obligations	TSR Multiple Range		Russell 3000 Multiple	
				Low	High	Low	High
Nine Months Ended September 30, 2017							
	2014	6,476	3,573	0.75	1.00	—	—
	2015	3,869	2,310	0.60	0.60	—	—
Nine Months Ended September 30, 2016							
	2013	38,706	1,572	0.63	1.00	—	—
	2014	11,487	—	0.63	0.63	—	—
	2015	13,529	—	0.50	0.50	—	—

Note 8 - Income Taxes

For the three and nine months ended September 30, 2017, the Company recorded income tax expense of $3.6 million and $12.6 million, respectively, compared to income tax expense of $0.6 million and $0.7 million for the three and nine months ended September 30, 2016, respectively. The income tax expense recorded for the three and nine months ended September 30, 2017 was comprised of estimated federal income tax expense of $3.2 million and $11.9 million, respectively, and estimated state income tax expense of $0.4 million and $0.7 million, respectively. The income tax expense recorded for the three and nine months ended September 30, 2016 was comprised of estimated state income tax expense.

For the three and nine months ended September 30, 2017 and 2016, the Company's income tax expense and effective tax rates based on forecasted pretax income were:

	Three Months Ended September 30,		Nine Months Ended September 30,	
(in thousands, except for rate)	2017	2016	2017	2016
Income tax expense	$3,586	$583	$12,614	$734
Effective tax rate	38 %	6 %	38 %	3 %

The effective tax rate for the three and nine months ended September 30, 2017 was different from the federal statutory rate primarily due to state income tax expense, net of federal benefit.

The effective tax rate for the three and nine months ended September 30, 2016 was different from the statutory rate primarily due to the utilization of a portion of the federal operating losses and the Company's full valuation allowances against federal and state net operating losses and federal tax credits, offset by estimated state income tax expense.

The Company assesses the valuation allowance recorded against deferred tax assets at each reporting date. The determination of whether a valuation allowance for deferred tax assets is appropriate requires the evaluation of positive and negative evidence that can be objectively verified. Consideration must be given to all sources of taxable income available to realize the deferred tax asset, including, as applicable, the future reversal of existing temporary differences, future taxable income forecasts exclusive of the reversal of temporary differences and carryforwards, taxable income in carryback years and tax planning strategies. In estimating income taxes, the Company assesses the relative merits and risks of the appropriate income tax treatment of transactions taking into account statutory, judicial, and regulatory guidance.

Note 9 - Supplemental Financial Information

Supplemental Balance Sheet Information

The following table summarizes the components of Prepaid expenses and other assets and Other long-term assets as presented in the Condensed Consolidated Balance Sheets:

(in thousands)	As of September 30, 2017	December 31, 2016
Prepaid expenses and other assets:		
Prepaid expenses	$1,635	$ 1,169
Other	124	188
	$1,759	$ 1,357
Other long-term assets:		
Deposits	$223	$ 263
Intangibles	788	696
Cost method investment	552	1,016
Other	729	323
	$2,292	$ 2,298

Included within Other long-term assets is the Company's cost method investment. In November 2014, the Company acquired 411,765 shares of common stock, representing approximately an 8% ownership interest, in Highview Enterprises Limited ("Highview"), a London, England based developmental stage company specializing in power storage, for $2.8 million in cash (the "Highview Investment"). The Company evaluated the Highview Investment and determined that it should account for the investment under the cost method. The Highview Investment is evaluated for impairment upon an indicator of impairment such as an event or change in circumstances that may have a significant adverse effect on the fair value of the investment. As of December 31, 2016, the Company recorded an impairment charge of $1.8 million based on an estimated fair value of £2.00 per share, compared to the carrying value prior to the impairment charge of £4.25 per share. The estimated fair value as of December 31, 2016 was based on an equity raise that was completed during the first quarter of 2017 at a price of £2.00 per share.

As of September 30, 2017, the Company recorded an impairment charge of $0.5 million, which is included in the Other line item in the Condensed Consolidated Statement of Operations, based on an estimated fair value of £1.00 per share, compared to the carrying value prior to the impairment charge of £2.00 per share. The estimated fair value as of September 30, 2017 was based on an equity raise that commenced during the third quarter of 2017 at a price of £1.00 per share.

The following table details the components of Other current liabilities and Other long-term liabilities as presented in the Condensed Consolidated Balance Sheets:

(in thousands)	As of September 30, 2017	December 31, 2016
Other current liabilities:		
Taxes payable	$1,064	$ 244
Estimated Company contribution to the Plan [1]	500	—
Accrued losses on revenue contracts	124	183
Accrued interest	63	618
Dividends payable	31	—
Warranty liabilities	374	287
Deferred rent	—	369
Asset retirement obligation	—	1,312
Other	1,162	1,004
	$3,318	$ 4,017
Other long-term liabilities:		
Deferred rent	185	38
Deferred revenue, related party	2,000	2,000
Dividends payable	62	—
	$2,247	$ 2,038

(1) See Note 5 for further discussion on the Plan.

The tables below detail additional components of Other current liabilities as presented above:

The changes in the carrying amount of the Company’s warranty obligations from December 31, 2016 through September 30, 2017 are as follows:

(in thousands)	As of September 30, 2017
Balance, beginning of period	$ 287
Warranties accrued, net	580
Consumption of warranty obligations accrued	(524)
Change in estimate related to previous warranties accrued	31
Balance, end of period	$ 374

Included within Other current liabilities as of December 31, 2016 is the Company's asset retirement obligation. Changes in the Company's asset retirement obligations are as follows:

(in thousands)	As of September 30, 2017
Asset retirement obligation, beginning of period	$ 1,312
Accretion	37
Liabilities settled	(527)
Changes due to amount and timing of reclamation	(822)
Asset retirement obligations, end of period	$ —

The Company's estimate for its asset retirement obligation was reduced during the nine months ended September 30, 2017 as the scope of the asset retirement obligation was reduced. The change in estimate was recorded within the Research and development, net line item of the Condensed Consolidated Statements of Operations as the asset retirement obligation related to a research project of which expenses were originally recorded within the same line item.

Supplemental Condensed Consolidated Statements of Operations Information

The following table details the components of Interest expense in the Condensed Consolidated Statements of Operations:

	Three Months Ended September 30,		Nine Months Ended September 30,	
(in thousands)	2017	2016	2017	2016
453A interest	$614	$889	$1,646	$2,034
Interest on RCM6 note payable, related party	—	—	—	263
Credit agreement interest	64	—	137	2,112
Other	—	80	216	87
	$678	$969	$1,999	$4,496

The following table details the components of the Other line item of the Condensed Consolidated Statements of Operations:

	Three Months Ended September 30,		Nine Months Ended September 30,	
(in thousands)	2017	2016	2017	2016
Impairment of cost method investment	$(464)	$—	$(464)	$—
Gain on sale of equity method investment	—	—	—	2,078
Gain on settlement of note payable and licensed technology	—	—	—	869
Gain on termination of sales-type lease	—	900	—	900
Other (expense) income	(460)	378	(444)	113
	$(924)	$1,278	$(908)	$3,960

Note 10 - Business Segment Information

Operating segments are defined as components of an enterprise about which separate financial information is available that is evaluated regularly by a company's chief operating decision maker ("CODM"), or a decision making group, in deciding how to allocate resources and in assessing financial performance. As of September 30, 2017, the Company's CODM was the Company's CEO. The Company's operating and reportable segments are organized by products and services provided.

As of September 30, 2017, the Company has two reportable segments: (1) Refined Coal ("RC"); and (2) Emissions Control ("EC").

The business segment measurements provided to and evaluated by the CODM are computed in accordance with the principles listed below:

- The accounting policies of the operating segments are the same as those described in the summary of significant accounting policies in the 2016 Form 10-K, except as described below.
- RC segment revenue includes the Company's equity method earnings and losses from the Company's equity method investments. RC segment revenue also includes the Company's royalty earnings from Tinuum Group.
- Segment operating income (loss) includes the Company's equity method earnings and losses from the Company's equity method investments, royalty earnings from Tinuum Group, gains related to sales of equity method investments and allocation of certain "Corporate general and administrative expenses," which include Payroll and benefits, Rent and occupancy, Legal and professional fees, and General and administrative.

•All items not included in operating income are excluded from the RC and EC segments.

As of September 30, 2017 and December 31, 2016, substantially all of the Company's material assets are located in the U.S. and all significant customers are either U.S. companies or the U.S. Government. The following table presents the Company's operating segment results for the three and nine months ended September 30, 2017 and 2016:

	Three Months Ended September 30,		Nine Months Ended September 30,	
(in thousands)	2017	2016	2017	2016
Revenues:				
Refined Coal:				
Earnings in equity method investments	$12,120	$10,735	$36,089	$30,066
Royalties	2,804	2,064	6,425	3,922
	14,924	12,799	42,514	33,988
Emissions Control:				
Equipment sales	1,577	14,869	31,304	44,788
Chemicals	717	670	3,844	1,717
Consulting services	—	171	—	492
	2,294	15,710	35,148	46,997
Total segment reporting revenues	17,218	28,509	77,662	80,985
Adjustments to reconcile to reported revenues:				
Refined Coal:				
Earnings in equity method investments	(12,120)	(10,735)	(36,089)	(30,066)
Royalties	(2,804)	(2,064)	(6,425)	(3,922)
	(14,924)	(12,799)	(42,514)	(33,988)
Total reported revenues	$2,294	$15,710	$35,148	$46,997
Segment operating income (loss):				
Refined Coal [1]	$13,991	$11,913	$40,149	$33,974
Emissions Control	(895)	2,956	1,265	9,656
Total segment operating income	$13,096	$14,869	$41,414	$43,630

(1) Included within the RC segment operating income for the three months ended September 30, 2017 and 2016 is 453A interest expense of $0.6 million and $0.9 million, respectively. Included within the RC segment operating income for the nine months ended September 30, 2017 and 2016 are 453A interest expense of $1.6 million and $2.0 million, respectively, and interest expense related to the RCM6 note payable of zero and $0.3 million, respectively. Additionally, included within the RC segment operating income for the nine months ended September 30, 2016 is a $2.1 million gain on the sale of RCM6.

A reconciliation of reportable segment operating income to the Company's consolidated net income is as follows:

(in thousands)	Three Months Ended September 30, 2017	2016	Nine Months Ended September 30, 2017	2016
Segment operating income	$13,096	$14,869	$41,414	$43,630
Adjustments to reconcile to net income attributable to ADES				
Corporate payroll and benefits	(1,222)	(2,034)	(4,375)	(7,946)
Corporate rent and occupancy	(91)	(306)	(208)	(807)
Corporate legal and professional fees	(964)	(1,606)	(3,091)	(6,515)
Corporate general and administrative	(857)	(818)	(2,513)	(2,965)
Corporate depreciation and amortization	(38)	(93)	(296)	(351)
Corporate interest (expense) income, net	(46)	(78)	(329)	(2,200)
Other (expense) income, net	(500)	261	2,900	(264)
Income tax expense	(3,586)	(583)	(12,614)	(734)
Net income	$5,792	$9,612	$20,888	$21,848

Corporate general and administrative expenses listed above include certain costs that benefit the business as a whole but are not directly related to one of the Company's segments. Such costs include, but are not limited to, accounting and human resources staff, information systems costs, legal fees, facility costs, audit fees and corporate governance expenses.

Segment assets were as follows as of the dates presented:

(in thousands)	As of September 30, 2017	December 31, 2016
Refined Coal	$6,352	$ 6,310
Emissions Control	3,936	24,551
All Other and Corporate	78,843	76,435
Consolidated	$89,131	$ 107,296

Note 11 - Restructuring

The Company recorded restructuring charges during the three and nine months ended September 30, 2016 in connection with a reduction in force, the departure of certain executive officers and management's further alignment of the business with strategic objectives. These charges related to severance arrangements with departing employees and executives, as well as non-cash charges related to the acceleration of vesting of certain stock awards. There were no material restructuring charges during the three and nine months ended September 30, 2017.

A summary of the net pretax charges, incurred by segment, excluding facility charges shown below, is as follows:

(in thousands, except employee data)	Approximate Number of Employees	Pretax Charge			
		Refined Coal	Emissions Control	All Other and Corporate	Total
Three Months Ended September 30, 2016					
Restructuring charges	17	$—	$ 700	$ 290	$990
Changes in estimates		—	—	(276)	(276)
Total pretax charge, net of reversals		$—	$ 700	$ 14	$714
Nine Months Ended September 30, 2016					
Restructuring charges	39	$—	$ 1,169	$ 889	$2,058
Changes in estimates		—	—	(276)	(276)
Total pretax charge, net of reversals		$—	$ 1,169	$ 613	$1,782

The following table summarizes the Company's change in restructuring accruals for the nine months ended September 30, 2017:

(in thousands)	Employee Severance	Facility Closures
Remaining accrual as of December 31, 2016	$ 452	$ 247
Expense provision	81	—
Cash payments and other	(498)	(250)
Change in estimates	(25)	3
Remaining accrual as of September 30, 2017	$ 10	$ —

Restructuring accruals are included within the Accrued payroll and related liabilities line item in the Condensed Consolidated Balance Sheets. Restructuring expenses are included within the Payroll and benefits line item in the Condensed Consolidated Statements of Operations.

Note 12 - Subsequent Events

Unless disclosed elsewhere within the notes to the Condensed Consolidated Financial Statements, the following are the significant matters that occurred subsequent to September 30, 2017.

Dividends

On November 6, 2017, the Company's Board of Directors declared a quarterly dividend of $0.25 per share of common stock, which is payable on December 6, 2017 to stockholders of record at the close of business on November 17, 2017.

Other

On November 6, 2017, the Company entered into a settlement agreement with a former third-party service provider to the Company in the amount of $3.5 million. The settlement amount is expected to be paid to the Company during the fourth quarter of 2017.

Item 2. Management’s Discussion and Analysis of Financial Condition and Results of Operations

The following discussion and analysis of the financial condition and results of our operations should be read together with the unaudited Condensed Consolidated Financial Statements and notes of Advanced Emissions Solutions, Inc. ("ADES" or the "Company") included elsewhere in Item 1 of Part I of this Quarterly Report on Form 10-Q and with the audited consolidated financial statements and the related notes of ADES included in the Company's 2016 Form 10-K.

Overview

ADES serves as the holding entity for a family of companies that provide emissions solutions to customers in the coal-fired power generation and industrial boiler industries. Through our subsidiaries and equity investments, we are a leader in emissions control ("EC") technologies and associated equipment, chemicals and services. Our proprietary environmental technologies enable our customers to reduce emissions of mercury and other pollutants, maximize utilization levels and improve operating efficiencies to meet the challenges of existing and pending EC regulations.

Our major activities include:

- Development and sale of equipment, specialty chemicals and other products designed to reduce emissions of mercury, acid gases, metals and other pollutants, and the providing of technology services in support of our customers' emissions compliance strategies;
- Through Tinuum Group LLC ("Tinuum Group"), an unconsolidated entity, the reduction of mercury and nitrogen oxide ("NO_X") emissions at select coal-fired power generators through the burning of refined coal ("RC") produced by RC facilities placed in service by Tinuum Group. We benefit from Tinuum Group's production and sale of RC, which lowers emissions and generates tax credits, as well as the revenue from selling or leasing RC facilities to tax equity investors. See the separately filed financial statements of Tinuum Group within the 2016 Form 10-K; and
- Development and sale of technology, through a licensing arrangement with Tinuum Group, to reduce emissions and improve operations of coal-fired boilers used for power generation and industrial processes.

Results of Operations

For the three and nine months ended September 30, 2017, we recognized net income of $5.8 million and $20.9 million, respectively, compared to net income of $9.6 million and $21.8 million, respectively, for the three and nine months ended September 30, 2016.

Generally, this performance during the three and nine months ended September 30, 2017 as compared to the three and nine months ended September 30, 2016 is attributable to a combination of factors, including:

- Continued performance in our RC business segment, principally related to distributions, equity earnings and royalties from our Tinuum Group and Tinuum Services, LLC ("Tinuum Services") equity investments;
- Growth in revenue from our chemical offerings;
- Reduction in revenues and margin contribution for equipment systems in 2017 compared to 2016 due to the completion of the most significant portion of equipment systems occurring during prior periods;
- Reductions in various categories of expenses, driven by restructuring activities in April and July 2016, a reduction in resources to complete the re-audit and restatement of prior financial statements (the "Restatement"), with such activities related to the Restatement being substantially completed by April 2016, the elimination of debt from the balance sheet, and our move to a smaller corporate headquarters location; and
- During the three and nine months ended September 30, 2017, we recognized an increase in income tax expense due to the partial release of the deferred tax asset valuation allowance as of December 31, 2016.

The following sections provide additional information regarding these comparative periods. For comparability purposes, the following tables set forth our results of operations for the periods presented in the Condensed Consolidated Financial Statements included in Item 1 of this Quarterly Report. The period-to-period comparison of financial results may not be indicative of financial results to be achieved in future periods.

Comparison of the Three Months Ended September 30, 2017 and 2016

Total Revenue and Cost of Revenue

A summary of the components of our revenues and cost of revenue for the three months ended September 30, 2017 and 2016 is as follows:

(in thousands, except percentages)	Three Months Ended September 30, 2017	2016	Change ($)	(%)
Revenues:				
Equipment sales	$1,577	$14,869	$(13,292)	(89)%
Chemicals	717	670	47	7 %
Consulting services and other	—	171	(171)	(100)%
Total revenues	$2,294	$15,710	$(13,416)	(85)%
Operating expenses:				
Equipment sales cost of revenue, exclusive of depreciation and amortization	$1,467	$12,704	$(11,237)	(88)%
Chemicals cost of revenue, exclusive of depreciation and amortization	$574	$469	$105	22 %
Consulting services and other cost of revenue, exclusive of depreciation and amortization	$—	$86	$(86)	(100)%

Equipment sales and Equipment sales cost of revenue, exclusive of items shown separately below

During the three months ended September 30, 2017 and 2016, we did not enter into any long-term (six months or longer) fixed price contracts to supply Activated Carbon Injection ("ACI") systems. During the three months ended September 30, 2016, we completed two ACI systems, recognizing revenues $6.6 million and cost of revenue of $5.7 million. During the three months ended September 30, 2016, change orders on ACI systems positively impacted contract revenue by $0.9 million. We did not recognize any loss provisions, included within costs of revenue, for contracts related to ACI systems during the three months ended September 30, 2016. All contracted ACI systems outstanding at December 31, 2016 were completed prior to the three months ended September 30, 2017.

During the three months ended September 30, 2017 and 2016, we did not enter into any long-term (six months or longer) fixed price contracts to supply Dry Sorbent Injection ("DSI") systems. During the three months ended September 30, 2016, change orders on DSI systems positively impacted contract revenue by $0.8 million. The aggregate contract values on existing contracts may change due to the relative sizes of DSI systems and the contracts related thereto. During the three months ended September 30, 2017, we completed one DSI system, recognizing revenue of $1.6 million and cost of revenue of $1.5 million. During the three months ended September 30, 2016, we completed four DSI systems, recognizing revenue of $8.0 million and cost of revenue of $6.9 million. Certain of the DSI system long-term fixed price contracts were expected to be completed with losses. During the three months ended September 30, 2016, we recorded $0.1 million in loss provisions included in cost of revenue related to DSI system contracts.

Demand for ACI and DSI system contracts historically was driven by coal-fired power plant utilities that need to comply with Federal Mercury and Air Toxics Standards ("MATS") and Maximum Achievable Control Technology Standards ("MACT"). As the deadline for these standards has passed, we do not expect to enter into any future long-term fixed price contracts for ACI and DSI systems.

Chemicals and Chemicals cost of revenue

During the three months ended September 30, 2017 and 2016, revenues increased quarter over quarter primarily due to an overall increase in pounds of our chemicals sold. Gross margins on sales of chemicals for the three months ended September 30, 2017 were lower than the comparable period in 2016 due to price compression and ongoing field testing with multiple customers that did not occur in the comparable period in 2016. Future period revenues are expected to be negatively impacted as a major customer discussed in previous filings is not expected to purchase chemicals going forward as well as the effects of continued price compression compared to historical periods. As we continue to expand our customer base and attempt to increase the volume, size and duration of chemical sale

arrangements, we are faced with the challenge of a competitive market with a long lead-to-sale cycle. Increasing future sales of chemicals is our primary focus of the EC business at this time.

Consulting services and Consulting services cost of revenue

We also may provide consulting services related to emissions regulations but reported no revenue for the three months ended September 30, 2017. Due to diminishing market demand related to historical services provided, we do not believe this revenue component will be material in the near term.

Additional information related to revenue concentrations and contributions by class and reportable segment can be found within the segment discussion below and in Note 10 to the Condensed Consolidated Financial Statements.

Other Operating Expenses

A summary of the components of our operating expenses, exclusive of cost of revenue items (presented above), for the three months ended September 30, 2017 and 2016 is as follows:

	Three Months Ended September 30,		Change	
(in thousands, except percentages)	2017	2016	($)	(%)
Operating expenses:				
Payroll and benefits	$1,679	$2,809	$(1,130)	(40)%
Rent and occupancy	255	508	(253)	(50)%
Legal and professional fees	1,062	1,615	(553)	(34)%
General and administrative	862	818	44	5 %
Research and development, net	252	(524)	776	(148)%
Depreciation and amortization	87	138	(51)	(37)%
	$4,197	$5,364	$(1,167)	(22)%

Payroll and benefits

Payroll and benefits expenses decreased during the three months ended September 30, 2017 compared to the same quarter in 2016 primarily due to a reduction in restructuring expenses in connection with the departure of certain executive officers and employees impacted by management's alignment of the business with strategic objectives during 2016. During the three months ended September 30, 2017 and September 30, 2016, we recorded net restructuring charges of zero and $0.7 million, respectively. Stock-based compensation also decreased by $0.2 million during the three months ended September 30, 2017 compared to the same quarter in 2016. Additionally, the remaining decrease is attributable to a decrease in average headcount of approximately 27% between the applicable periods.

Rent and occupancy

Rent and occupancy expense decreased during the three months ended September 30, 2017 compared to the same quarter in 2016 primarily due to lower rent and occupancy expense from relocating our corporate office in the first quarter of 2017.

Legal and professional fees

Legal and professional fees expenses decreased during the three months ended September 30, 2017 compared to the same quarter in 2016 as a result of a decrease in costs related to outsourced shared service costs, including accounting consultants, legal fees and audit fees.

General and administrative

General and administrative expenses remained relatively flat during the three months ended September 30, 2017 compared to the same quarter in 2016 due to decreases in general operating expenses, including a decrease in outsourced IT costs. These decreases were offset by $0.1 million incurred during the three months ended September 30, 2017 for expenses associated with a new enterprise resource planning ("ERP") system.

Research and development, net

Research and development expenses, net increased during the three months ended September 30, 2017 compared to the same quarter in 2016 primarily due to an increase in research and development activities related to continued product development for our ongoing business. In addition, research and development expenses, net during the three months ended September 30, 2016 were positively impacted by a final billing to the Department of Energy ("DOE") for one R&D contract.

Depreciation and amortization

Depreciation and amortization expense decreased during the three months ended September 30, 2017 compared to the same quarter in 2016 due to a reduction in certain assets, including leasehold improvements and office furniture, which were subject to acceleration of depreciation and disposed of in connection with our office relocation in the first

quarter of 2017.

Other Income (Expense), net

A summary of the components of our other income (expense), net for the three months ended September 30, 2017 and 2016 is as follows:

(in thousands, except percentages)	Three Months Ended September 30, 2017	2016	Change ($)	Change (%)
Other income (expense):				
Earnings from equity method investments	$12,120	$10,735	$1,385	13 %
Royalties, related party	2,804	2,064	740	36 %
Interest expense	(678)	(969)	291	(30)%
Other	(924)	1,278	(2,202)	(172)%
Total other income	$13,322	$13,108	$214	2 %

Earnings from equity method investments

The following table details the components of our respective equity method investments included within the Earnings from equity method investments line item on the Condensed Consolidated Statements of Operations:

(in thousands)	Three Months Ended September 30, 2017	2016
Earnings from Tinuum Group	$11,050	$9,775
Earnings from Tinuum Services	1,061	960
Earnings from other	9	—
Earnings from equity method investments	$12,120	$10,735

Earnings from equity method investments, and changes related thereto, are impacted by our most significant equity method investees: Tinuum Group and Tinuum Services. Earnings from equity method investments increased during the three months ended September 30, 2017 compared to the same quarter in 2016 primarily due to an increase in cash distributions from Tinuum Group in excess of our investment balance.

During the three months ended September 30, 2017, we recognized $11.1 million in equity earnings from Tinuum Group compared to our proportionate share of Tinuum Group's net income of $11.4 million for the quarter. During the three months ended September 30, 2016, we recognized $9.8 million in equity earnings from Tinuum Group compared to our proportionate share of Tinuum Group's net income of $9.3 million for the quarter. The difference between our pro-rata share of Tinuum Group's net income and our earnings from our Tinuum Group equity method investment as reported on the Condensed Consolidated Statements of Operations is the result of cumulative distributions received from Tinuum Group being in excess of the carrying value of the investment, and therefore we recognize such excess distributions as equity method earnings in the period the distributions occur, as discussed in more detail below.

The carrying value of our investment in Tinuum Group was zero as of September 30, 2017, as cumulative cash distributions received from Tinuum Group exceeded our pro-rata share of cumulative earnings in Tinuum Group. The carrying value of our investment in Tinuum Group will remain zero as long as the cumulative amount of distributions received from Tinuum Group continues to exceed our cumulative pro-rata share of Tinuum Group's net income. For quarterly periods during which the ending balance of our investment in Tinuum Group is zero, we only recognize equity earnings from Tinuum Group to the extent that cash distributions are received from Tinuum Group during the period. For quarterly periods during which the ending balance of our investment is greater than zero (e.g., when the cumulative earnings in Tinuum Group exceeds cumulative cash distributions received), we recognize our pro-rata

share of Tinuum Group's net income for the period, less any amount necessary to recover the cumulative earnings short-fall balance as of the end of the immediately preceding quarter. See additional information related to our investment balance, equity earnings (losses) and cash distributions in Note 2 of the Condensed Consolidated Financial Statements.

As of September 30, 2017 and 2016, Tinuum Group had 15 and 13 invested RC facilities, respectively, that were generating rental income. There were no 100% retained RC facilities as of September 30, 2017 or December 31, 2016, except for temporary operations of a retained RC facility prior to its lease/sale or as discussed below related to GWN Manager, LLC ("GWN Manager").

Equity earnings from our interest in Tinuum Services increased by $0.1 million during the three months ended September 30, 2017 compared to the three months ended September 30, 2016, and for those quarters, Tinuum Services provided operating and maintenance services to 14 and 13 operating RC facilities, respectively. Tinuum Services derives earnings both from fixed-fee arrangements as well as fees that are based on actual RC production, depending upon the specific RC facility operating and maintenance agreement.

On July 27, 2017, we purchased a 50% membership interest in GWN Manager from Tinuum Group for an upfront payment of $0.1 million. GWN Manager owns a 0.2% membership interest in a subsidiary of Tinuum Group, which owns a single RC facility that produces RC that qualifies for Internal Revenue Code Section 45 tax credits ("Section 45 tax credits"). Tinuum Group sold 49.9% of the subsidiary that owns the RC facility to an unrelated third party and retained ownership of the remaining 49.9%. We are subject to monthly capital calls to GWN Manager based on estimated working capital needs.

Our investment in GWN Manager as of September 30, 2017, was $0.1 million. Equity earnings from our interest in GWN Manager included our share of net income from inception to September 30, 2017.

We earned the following Section 45 tax credits related to the production of RC that may be available for future benefit:

	Three Months Ended September 30,	
(in thousands)	2017	2016
Section 45 tax credits earned	$1,044	$ 93

The increase in Section 45 tax credits earned during the three months ended September 30, 2017 compared to the three months ended September 30, 2016 was primarily due to the Company's investment in GWN Manager and Tinuum Group's ongoing retained RC facility operations that commenced during the three months ended September 30, 2017. During the three months ended September 30, 2016, we only generated Section 45 tax credits from the temporary operations of a retained RC facility prior to its lease/sale to a tax investor. Additional information related to our equity method investees is included in Note 2 of the Condensed Consolidated Financial Statements.

Royalties, related party

During the three months ended September 30, 2017 and 2016, there were 6.9 million tons and 5.9 million tons, respectively, of RC produced using M-45™ and M-45-PC™ technologies ("M-45 Technology"), which Tinuum Group licenses from us ("M-45 License"). The increase in royalty income was primarily due to obtaining additional third-party investors for two new RC facilities during the first and third quarters of 2017, both of which use our M-45 License. Therefore, this resulted in an increase in rent payments to Tinuum Group and the related tons subject to the M-45 License.

Interest expense

During the three months ended September 30, 2017, interest expense decreased $0.3 million compared to the three months ended September 30, 2016 primarily due to a reduction in the deferred balance related to the Internal Revenue Code section 453A ("453A"), which requires taxpayers using the installment method for income tax purposes to pay an interest charge on the portion of the tax liability that is deferred under the installment method.

Other

The Advanced Emissions Solutions, Inc. Profit Sharing Retirement Plan (the “Plan”) is subject to the jurisdiction of the Internal Revenue Service ("IRS") and the Department of Labor ("DOL"). The DOL opened an investigation into the Plan, and we are responding to all requests for documents and information from the DOL. The DOL has not issued

any findings as of the date of this report. Although, we believe there has been no breach of fiduciary duty, we believe a liability for contributions to the Plan is probable and reasonably estimable and, as such, we have accrued $0.5 million as September 30, 2017. The estimate of this amount is based on information currently available and involves elements of judgment and significant uncertainties. As additional information becomes available and the resolution of the uncertainties becomes more apparent, it is possible that actual payment to the Plan may exceed the accrued amount.

Income tax expense

For the three months ended September 30, 2017, we recorded income tax expense of $3.6 million compared to income tax expense of $0.6 million for three months ended September 30, 2016. The income tax expense recorded for the three months ended September 30, 2017 was comprised of estimated federal income tax expense of $3.2 million and estimated state income tax expense of $0.4 million.

For the three months ended September 30, 2016, we did not record any federal income tax expense primarily due to the utilization of federal net operating losses and the Company's full valuation allowance against federal net operating losses and federal tax credits. Income tax expense for three months ended September 30, 2016 included only state income tax expense.

We concluded that, as of December 31, 2016, it is more likely than not we will generate sufficient taxable income within the applicable NOL and tax credit carry-forward periods to realize a significant portion of our net deferred tax assets and, therefore, reversed a portion of the valuation allowance as of December 31, 2016. As a result, for periods in which we report income before tax, we will recognize federal and state income tax expense.

Comparison of the Nine Months Ended September 30, 2017 and 2016

Total Revenue and Cost of Revenue

A summary of the components of our revenues and cost of revenue for the nine months ended September 30, 2017 and 2016 is as follows:

(in thousands, except percentages)	Nine Months Ended September 30, 2017	2016	Change ($)	Change (%)
Revenues:				
Equipment sales	$31,304	$44,788	$(13,484)	(30)%
Chemicals	3,844	1,717	2,127	124 %
Consulting services and other	—	492	(492)	(100)%
Total revenues	$35,148	$46,997	$(11,849)	(25)%
Operating expenses:				
Equipment sales cost of revenue, exclusive of depreciation and amortization	$28,260	$35,175	$(6,915)	(20)%
Chemicals cost of revenue, exclusive of depreciation and amortization	$2,977	$865	$2,112	244 %
Consulting services and other cost of revenue, exclusive of depreciation and amortization	$—	$299	$(299)	(100)%

Equipment sales and Equipment sales cost of revenue, exclusive of items shown separately below

During the nine months ended September 30, 2017 and 2016, we entered into zero and five long-term (six months or longer) fixed price contracts to supply ACI systems with aggregate contract values, net of change orders during the period, of zero and $2.9 million, respectively. During the nine months ended September 30, 2017, change orders on ACI systems negatively impacted contract revenue by $0.1 million. During the nine months ended September 30, 2017 and 2016, we completed four and 15 ACI systems, recognizing revenues of $3.4 million and $26.1 million and cost of revenue of $2.3 million and $19.8 million, respectively. The ACI systems completed during the nine months ended September 30, 2017 represented all contracted ACI systems that were outstanding as of December 31, 2016.

During the nine months ended September 30, 2017 and 2016, we did not enter into any long-term (six months or longer) fixed price contracts to supply DSI systems. During the nine months ended September 30, 2016, change orders on DSI systems negatively impacted contract revenue by $1.4 million. The aggregate contract values on existing contracts may change due to the relative sizes of DSI systems and the contracts related thereto. During the nine months ended September 30, 2017 and 2016, we completed five and ten DSI systems, recognizing revenues of $27.8 million and $14.8 million, respectively, and cost of revenue of $25.9 million and $13.9 million, respectively. Certain of the DSI system long-term fixed price contracts were expected to be completed with losses. During the nine months ended September 30, 2017 and 2016, we recorded zero in loss provisions and a reduction of $0.2 million to previously recorded loss provisions, respectively, which are included in cost of revenue related to DSI system contracts.

Demand for ACI and DSI system contracts has historically been driven by coal fired power plant utilities that need to comply with Federal MATS and MACT. As the deadline for these standards has passed, we do not expect to enter into any future long-term fixed price contracts for ACI and DSI systems.

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Chemicals and Chemicals cost of revenue

During the nine months ended September 30, 2017 and 2016, revenues increased period over period primarily due to an overall increase in pounds of our chemicals sold. Gross margins on sales of chemicals for the nine months ended September 30, 2017 were lower than the comparable period in 2016 due to price compression and ongoing field testing with multiple customers that did not occur in the comparable period in 2016. Future period revenues are expected to be negatively impacted as a major customer discussed in previous filings is not expected to purchase chemicals going forward as well as the effects of continued price compression compared to historical periods. As we continue to expand our customer base and attempt to increase the volume, size and duration of chemical sale arrangements, we are faced with the challenge of a competitive market with a long lead-to-sale cycle. Increasing future sales of chemicals is our primary focus of the EC business at this time.

Consulting services and Consulting services cost of revenue

We reported no revenue related to consulting services for the nine months ended September 30, 2017. Due to diminishing market demand related to historical services provided, we do not believe this revenue component will be material in the near term.

Additional information related to revenue concentrations and contributions by class and reportable segment can be found within the segment discussion below and in Note 10 to the Condensed Consolidated Financial Statements.

Other Operating Expenses

A summary of the components of our operating expenses, exclusive of cost of revenue items (presented above), for the nine months ended September 30, 2017 and 2016 is as follows:

	Nine Months Ended September 30,		Change	
(in thousands, except percentages)	2017	2016	($)	(%)
Operating expenses:				
Payroll and benefits	$5,894	$10,567	$(4,673)	(44)%
Rent and occupancy	555	1,534	(979)	(64)%
Legal and professional fees	3,316	6,581	(3,265)	(50)%
General and administrative	2,934	2,920	14	— %
Research and development, net	30	(667)	697	(104)%
Depreciation and amortization	687	593	94	16 %
	$13,416	$21,528	$(8,112)	(38)%

Payroll and benefits

Payroll and benefits expenses decreased during the nine months ended September 30, 2017 compared to the same period in 2016 primarily due to a decrease in average headcount of approximately 45% to approximately 25 employees as of September 30, 2017. Additionally, restructuring expenses decreased during the nine months ended September 30, 2017 compared to the same period in 2016 in connection with the departure of certain executive officers and employees impacted by management's alignment of the business with strategic objectives during 2016. During the nine months ended September 30, 2017 and September 30, 2016, we recorded net restructuring charges of zero and $1.8 million, respectively. In addition, bonuses and stock-based compensation decreased by $1.2 million for the nine months ended September 30, 2017 compared to the same period in 2016.

Rent and occupancy

Rent and occupancy expense decreased during the nine months ended September 30, 2017 compared to the same period in 2016 primarily due to the acceleration of deferred rent and tenant improvement allowances in connection with the termination of the lease agreement of our former corporate office. Effective during the first quarter of 2017, we relocated our corporate office, which resulted in lower rent and occupancy expense during the nine months ended September 30, 2017.

Legal and professional fees

Legal and professional fees expenses decreased during the nine months ended September 30, 2017 compared to the same period in 2016 as a result of the conclusion of the Restatement of our consolidated financial statements, which was substantially completed in April of 2016 and required significant professional resources. Expenses related to the Restatement during the nine months ended September 30, 2016 were $1.9 million. Additional decreases for the nine months ended September 30, 2017 were driven by a decrease in costs related to outsourced shared services costs, including accounting consultants, legal fees and audit fees.

General and administrative

General and administrative expenses remained relatively flat during the nine months ended September 30, 2017 compared to the same period in 2016 primarily due to decreases in general operating expenses, including travel and professional expenses and impairment charges recognized on property and equipment and inventory of $0.5 million during the nine months ended September 30, 2016. Offsetting the decrease in General and administrative expenses period over period was an allowance recorded against a long-term receivable during the nine months ended September 30, 2017.

Research and development, net

Research and development expenses, net increased during the nine months ended September 30, 2017 compared to the same period in 2016 primarily due to an increase in research and development activities related to continued product development for our ongoing business. The net increase in 2017 was offset by a decrease in our asset retirement obligation estimate during the nine months ended September 30, 2017, which was driven by a reduction in the scope of the obligation, whereas the nine months ended September 30, 2016 was positively impacted by final billings to the DOE for one R&D contract.

Depreciation and amortization

Depreciation and amortization expense increased during the nine months ended September 30, 2017 compared to the same period in 2016 due to the acceleration of depreciation related to certain assets, including leasehold improvements and office furniture, which were disposed of in connection with our office relocation in the first quarter of 2017.

Other Income (Expense), net

A summary of the components of our other income (expense), net for the nine months ended September 30, 2017 and 2016 is as follows:

	Nine Months Ended September 30,		Change	
(in thousands, except percentages)	2017	2016	($)	(%)
Other income (expense):				
Earnings from equity method investments	$36,089	$30,066	$6,023	20 %
Royalties, related party	6,425	3,922	2,503	64 %
Interest expense	(1,999)	(4,496)	2,497	(56)%
Revision in estimated royalty indemnity liability	3,400	—	3,400	*
Other	(908)	3,960	(4,868)	(123)%
Total other income	$43,007	$33,452	$9,555	29 %

* Calculation not meaningful

Earnings from equity method investments

The following table details the components of our respective equity method investments included within the Earnings from equity method investments line item on the Condensed Consolidated Statements of Operations:

	Nine Months Ended September 30,	
(in thousands)	2017	2016
Earnings from Tinuum Group	$33,363	$28,050
Earnings from Tinuum Services	2,717	2,573
Earnings (losses) from other	9	(557)
Earnings from equity method investments	$36,089	$30,066

Earnings from equity method investments, and changes related thereto, are impacted by our most significant equity method investees: Tinuum Group and Tinuum Services. Earnings from equity method investments increased during the nine months ended September 30, 2017 compared to the same period in 2016 primarily due to an increase in cash

distributions from Tinuum Group in excess of our investment balance.

During the nine months ended September 30, 2017, we recognized $33.4 million in equity earnings from Tinuum Group compared to our proportionate share of Tinuum Group's net income of $33.6 million for the period. During the nine months ended September 30, 2016, we recognized $28.1 million in equity earnings from Tinuum Group compared to our proportionate share of Tinuum Group's net income of $24.8 million for the period. The difference between our pro-rata share of Tinuum Group's net income and our earnings from our Tinuum Group equity method investment as reported on the Condensed Consolidated Statements of Operations is the result of cumulative distributions received from Tinuum Group being in excess of the carrying value of the investment, and therefore we recognize such excess distributions as equity method earnings in the period the distributions occur, as discussed in more detail below.

Equity earnings from our interest in Tinuum Services increased during the nine months ended September 30, 2017 compared to the nine months ended September 30, 2016. Tinuum Services provided operating and maintenance services to 14 and 13 operating RC facilities, respectively. Tinuum Services derives earnings both from fixed-fee arrangements as well as fees that are based on actual RC production, depending upon the specific RC facility operating and maintenance agreement.

On March 3, 2016, we sold our 24.95% membership interest in RCM6 for a cash payment of $1.8 million and assumption of the outstanding note payable made by us in connection with our purchase of the RCM6 membership interest from Tinuum Group in February 2014. Through March 3, 2016, we recognized equity losses related to our investment in RCM6 of $0.6 million.

On July 27, 2017, we purchased a 50% membership interest in GWN Manager from Tinuum Group for an upfront payment of $0.1 million. GWN Manager owns a 0.2% membership interest in a subsidiary of Tinuum Group, which owns a single RC facility that produces RC that qualifies for Section 45 tax credits. Tinuum Group sold 49.9% of the subsidiary that owns the RC facility to an unrelated third party and retained ownership of the remaining 49.9%. We are subject to monthly capital calls to GWN Manager based on estimated working capital needs.

Our investment in GWN Manager as of September 30, 2017, was $0.1 million. Equity earnings from our interest in GWN Manager included our share of net income from inception to September 30, 2017.

We earned the following Section 45 tax credits related to the production of RC that may be available for future benefit:

	Nine Months Ended September 30,	
(in thousands)	2017	2016
Section 45 tax credits earned	$1,141	$2,920

The decrease in Section 45 tax credits earned during the nine months ended September 30, 2017 compared to the nine months ended September 30, 2016 was due to suspending operations on retained facilities in 2016, as well as the sale of RCM6 in March 2016. This was offset by our investment in GWN Manager, which generates Section 45 tax credits and commenced operations during the three months ended September 30, 2017. Additional information related to our equity method investees is included in Note 2 of the Condensed Consolidated Financial Statements.

Royalties, related party

During the nine months ended September 30, 2017 and 2016, there were 14.5 million tons and 12.2 million tons, respectively, of RC produced using our M-45 Technology. The increase in royalty income was primarily due to obtaining additional third party investors for two new RC facilities during the first and third quarter of 2017, both of which use our M-45 License. Therefore, this resulted in an increase in rent payments to Tinuum Group and the related tons subject to the M-45 License.

Interest expense

During the nine months ended September 30, 2017, interest expense decreased $2.5 million compared to the nine months ended September 30, 2016 primarily due to interest expense incurred during 2016 related to the Credit Agreement that was terminated in June 2016. Additional decreases in interest expense related to section 453A, which requires taxpayers using the installment method for income tax purposes to pay an interest charge on the portion of the tax liability that is deferred under the installment method, and the elimination of the RCM6 note payable in March 2016. The decreases in interest expense related to 453A and RCM6 were $0.4 million and $0.3 million, respectively, for the nine months ended September 30, 2017 compared to the nine months ended September 30, 2016.

Revision in estimated royalty indemnity liability

During the nine months ended September 30, 2017, management revised its estimate for future Royalty Award payments based in part on an updated forecast provided to us by a former equity method investment. As discussed in Note 5 to the Condensed Consolidated Financial Statements, we are required to pay additional damages related to certain future revenues generated from the former equity method investment. This forecast included a material reduction in estimated future revenues generated at the specific activated carbon plant from which the royalties are generated. Based primarily on the updated forecast, management recorded a $3.4 million reduction to its Royalty Award accrual during the nine months ended September 30, 2017.

Other

Gain on sale of equity method investment

On March 3, 2016, we sold our 24.95% membership interest in RCM6 for a cash payment of $1.8 million and the assumption by the buyer of a note payable, which we entered into in connection with our purchase of RCM6 membership interests from Tinuum Group in February 2014. The outstanding balance on the note payable at the time of the sale was $13.2 million. With the sale of our membership interest in RCM6, we recognized a gain on the sale of $2.1 million for the nine months ended September 30, 2016, which is included within the Other line item in the Condensed Consolidated Statements of Operations.

Gain on settlement of note payable

During the first quarter of 2016, we entered into an agreement to settle the remaining amounts owed to the DSI Business Owner, resulting in a gain of approximately $0.9 million.

Advanced Emission Solutions, Inc. Profit Sharing Retirement Plan

As discussed above, as of September 30, 2017, the Company has accrued $0.5 million for contribution to the Plan related to the DOL investigation of the Plan.

Income tax expense

For the nine months ended September 30, 2017, we recorded income tax expense of $12.6 million compared to income tax expense of $0.7 million for nine months ended September 30, 2016. The income tax expense recorded for the nine months ended September 30, 2017 was comprised of estimated federal income tax expense of $11.9 million and estimated state income tax expense of $0.7 million.

For the nine months ended September 30, 2016, we did not record any federal income tax expense primarily due to the utilization of federal net operating losses and the Company's full valuation allowance against federal net operating losses and federal tax credits. Income tax expense for the nine months ended September 30, 2016 included only state income tax expense.

We concluded that, as of December 31, 2016, it is more likely than not we will generate sufficient taxable income within the applicable NOL and tax credit carry-forward periods to realize a significant portion of our net deferred tax assets and, therefore, reversed a portion of the valuation allowance. As a result, for periods in which we report income before tax, we will recognize federal and state income tax expense.

Business Segments

As of September 30, 2017, we have two reportable segments: (1) RC and (2) EC. The business segment measurements provided to and evaluated by our chief operating decision maker are computed in accordance with the principles listed below:

- The accounting policies of the operating segments are the same as those described in the summary of significant accounting policies except as described below.
- Segment revenue includes our equity method earnings and losses from our equity method investments. Segment revenue also includes our royalty earnings from Tinuum Group and income related to sales-type leases.
- Segment operating income (loss) includes our equity method earnings and losses from our equity method investments, royalty earnings from Tinuum Group, gains related to sales of equity method investments and an allocation of certain "Corporate general and administrative expenses," which include Payroll and benefits, Rent and occupancy, Legal and professional fees, and General and administrative.
- All items not included in operating income are excluded from the RC and EC segments.

The principal products and services of our segments are:

1. RC - Our RC segment derives its earnings from equity method investments as well as royalty payment streams and other revenues related to enhanced combustion of and reduced emissions of both NO_X and mercury from the burning of coals. Our equity method investments related to the RC segment include Tinuum Group, Tinuum Services as well as other immaterial equity method investments. Segment revenues include our equity method earnings (losses) from our equity method investments and royalty earnings from Tinuum Group. These earnings are included within the Earnings from equity method investments and Royalties, related party line items in the Condensed Consolidated Statements of Operations. Key drivers to RC segment performance are operating and retained produced and sold RC, royalty-bearing tonnage, and the number of operating (leased or sold) and retained RC facilities. These key drivers impact our earnings and cash distributions from equity method investments.
2. EC - Our EC segment includes revenues and related expenses from the sale of ACI and DSI equipment systems, chemical sales, consulting services and other sales related to the reduction of emissions in the coal-fired electric generation process and the electric utility industry. These amounts are included within the respective revenue and cost of revenue line items in the Condensed Consolidated Statements of Operations.

Management uses segment operating income (loss) to measure profitability and performance at the segment level. Management believes segment operating income (loss) provides investors with a useful measure of our operating performance and underlying trends of the businesses. Segment operating income (loss) may not be indicative of our overall consolidated performance and therefore, should be read in conjunction with our Condensed Consolidated Statements of Operations.

The following table presents our operating segment results for the three and nine months ended September 30, 2017 and 2016:

	Three Months Ended September 30,		Nine Months Ended September 30,	
(in thousands)	2017	2016	2017	2016
Revenues:				
Refined Coal:				
Earnings in equity method investments	$12,120	$10,735	$36,089	$30,066
Royalties	2,804	2,064	6,425	3,922
	14,924	12,799	42,514	33,988
Emissions Control:				
Equipment sales	1,577	14,869	31,304	44,788
Chemicals	717	670	3,844	1,717
Consulting services	—	171	—	492
	2,294	15,710	35,148	46,997
Total segment reporting revenues	17,218	28,509	77,662	80,985
Adjustments to reconcile to reported revenues:				
Refined Coal:				
Earnings in equity method investments	(12,120)	(10,735)	(36,089)	(30,066)
Royalties	(2,804)	(2,064)	(6,425)	(3,922)
	(14,924)	(12,799)	(42,514)	(33,988)
Total reported revenues	$2,294	$15,710	$35,148	$46,997
Segment operating income (loss):				
Refined Coal [1]	$13,991	$11,913	$40,149	$33,974
Emissions Control	(895)	2,956	1,265	9,656
Total segment operating income	$13,096	$14,869	$41,414	$43,630

(1) Included within the RC segment operating income for the three months ended September 30, 2017 and 2016 is 453A interest expense of $0.6 million and $0.9 million, respectively. Included within the RC segment operating income for the nine months ended September 30, 2017 and 2016, are 453A interest expense of $1.6 million and $2.0 million, respectively, and interest expense related to the RCM6 note payable of zero and $0.3 million, respectively. Additionally, included within the RC segment operating income for the nine months ended September 30, 2016 is a $2.1 million gain on the sale of RCM6.

RC

The following table details the segment revenues of our respective equity method investments:

	Three Months Ended September 30,		Nine Months Ended September 30,	
(in thousands)	2017	2016	2017	2016
Earnings from Tinuum Group	$11,050	$9,775	$33,363	$28,050
Earnings from Tinuum Services	1,061	960	2,717	2,573
Earnings (losses) from other	9	—	9	(557)
Earnings from equity method investments	$12,120	$10,735	$36,089	$30,066

For the three months ended September 30, 2017 and September 30, 2016

RC earnings increased primarily due to increased equity earnings in Tinuum Group during the three months ended September 30, 2017 compared to the same quarter in 2016, as presented above. For the three months ended September 30, 2017, Tinuum Group consolidated earnings increased $4.8 million compared to the same quarter in 2016 primarily due to an increase in operating RC facilities. Distributions received from Tinuum Group for the three months ended September 30, 2017 and 2016 were recorded directly to earnings, as our investment was in a memo account as discussed in Note 2.

As discussed above and in Note 2 of the Condensed Consolidated Financial Statements, our earnings in Tinuum Group may not equal our pro-rata share due to the accounting related to our equity method investment. As such, our earnings in Tinuum Group increased by $1.3 million during the three months ended September 30, 2017 compared to the same quarter in 2016 due to $11.1 million of cash distributions received that were in excess of our pro-rate share of cumulative earnings in Tinuum Group.

Earnings from Tinuum Services for the three months ended September 30, 2017 were relatively consistent compared to the same period in 2016.

RC earnings were positively impacted during the three months ended September 30, 2017 by an increase in royalties related to Tinuum Group's use of our M-45 License. During the three months ended September 30, 2017 and 2016, there were 6.9 million tons and 5.9 million tons, respectively, of RC produced using the M-45 Technology. The increase in Royalty revenue was driven by the increase in rent payments to Tinuum Group and the related tons subject to the M-45 License.

For the nine months ended September 30, 2017 and September 30, 2016
RC earnings increased primarily due to increased equity earnings in Tinuum Group during the nine months ended September 30, 2017 compared to the same period in 2016, as presented above. For the nine months ended September 30, 2017, Tinuum Group's consolidated earnings increased $20.4 million compared to the same period in 2016 due to an increase in both coal sales and lease revenues as well as a decrease in operating expenses related to the suspension of operations of all retained RC facilities in 2016. Distributions received from Tinuum Group for the nine months ended September 30, 2017 were recorded as earnings, as our investment was in a memo account during this period as discussed in Note 2. During the same period in 2016, a portion of the distributions were recorded as a reduction of the investment balance, resulting in lower earnings for that period.

As discussed above and in Note 2 of the Condensed Consolidated Financial Statements, our earnings in Tinuum Group may not equal our pro-rata share due to the accounting related to our equity method investment. As such, our earnings in Tinuum Group increased by $5.3 million during the nine months ended September 30, 2017 compared to the same period in 2016 due to $33.4 million of cash distributions received that were in excess of our pro-rata share of cumulative earnings in Tinuum Group.

RC earnings were positively impacted during the nine months ended September 30, 2017 due to lower operating losses associated with our RCM6 equity method investment, which was sold during the first quarter of 2016. Earnings from Tinuum Services for the nine months ended September 30, 2017 were consistent compared to the same period in 2016.

RC earnings were also positively impacted during the nine months ended September 30, 2017 by an increase in royalties related to Tinuum Group's use of our M-45 License. During the nine months ended September 30, 2017 and 2016, there were 14.5 million tons and 12.2 million tons, respectively, of RC produced using the M-45 Technology. The increase in Royalty revenue was driven by the increase in rent payments to Tinuum Group and the related tons subject to the M-45 License.
Additional discussion of our equity method investments is included above within our consolidated results and in Note 2 of the Condensed Consolidated Financial Statements.
EC
Discussion of revenues derived from our EC segment and costs related thereto are included above within our consolidated results.
For the three months ended September 30, 2017 and September 30, 2016
EC segment operating income decreased during the three months ended September 30, 2017 compared to the three months ended September 30, 2016 primarily due to the decrease in revenue, as discussed above within the

consolidated results. The decrease in EC operating income was offset by decreases in operating expenses quarter over quarter. Specifically, Payroll and benefits decreased quarter over quarter by $0.4 million. This decrease was due to decreased headcount quarter over quarter, which was largely due to management restructuring during 2016.

For the nine months ended September 30, 2017 and September 30, 2016
EC segment operating income decreased during the nine months ended September 30, 2017 compared to the nine months ended September 30, 2016 primarily due to the decrease in revenue, as discussed above within the consolidated results. The decrease in EC operating income was offset by decreases in operating expenses period over period. Specifically, Payroll and benefits decreased period over period by $1.2 million. This decrease was due to decreased headcount, which was largely due to management restructuring in 2016. Offsetting these expense decreases period over period was the settlement in 2016 of the remaining amounts owed to the former DSI Business Owner, resulting in a reduction of EC segment expenses of $0.9 million during the nine months ended September 30, 2016 as well as an impairment charge of $0.5 million recorded during 2017 related to our cost method investment.

Liquidity and Capital Resources

Overview of Factors Affecting Our Liquidity

During the nine months ended September 30, 2017, our liquidity position was positively affected primarily due to distributions from Tinuum Group and Tinuum Services and borrowing availability under our bank ("Lender") line of credit ("Line of Credit" or "LOC").

Our principal sources of liquidity include:

- cash on hand;
- cash provided by our operations, including the release of restricted cash;
- distributions from Tinuum Group and Tinuum Services;
- royalty payments from Tinuum Group; and
- our Line of Credit

Our principal uses of liquidity during the nine months ended September 30, 2017 included:

- repurchases of shares of common stock pursuant to a modified Dutch Auction tender offer ("Tender Offer");
- payment of dividends;
- our business operating expenses, including federal and state tax payments;
- delivering on our existing contracts and customer commitments; and
- repayments on our Line of Credit.

On May 5, 2017, our Board authorized the commencement of a Tender Offer to purchase for cash up to 925,000 shares of our common stock at a price per share of not less than $9.40 nor greater than $10.80, for a maximum aggregate purchase price of $10.0 million, with an option to purchase an additional 2% of the outstanding shares of common stock if the Tender Offer was oversubscribed. The Tender Offer expired on June 6, 2017 and a total of 2,858,425 shares were validly tendered and not properly withdrawn at or below the final purchase price of $9.40 per share.

Because the tender offer was oversubscribed, we purchased a prorated portion of the shares properly tendered by each tendering stockholder (other than "odd lot" holders whose shares were purchased on a priority basis) at the final per share purchase price. Accordingly, we acquired 1,370,891 shares of our common stock ("Tendered Shares") at a price of $9.40 per share, for a total cost of approximately $12.9 million, excluding fees and other expenses related to the Tender Offer. The Tendered Shares represented approximately 6.2% of our outstanding shares of our common stock prior to the Tender Offer. The Tendered Shares include the 925,000 shares we initially offered to purchase and 445,891 additional shares that we elected to purchase pursuant to our right to purchase up to an additional 2% of our outstanding shares of common stock.

Our Board declared quarterly cash dividends (the "Dividends") of $0.25 per share on the outstanding shares of our common stock on each of June 14, 2017 and August 7, 2017, payable to stockholders of record as of the close of business on June 28, 2017 and August 21, 2017, respectively. The payments of $5.2 million and $5.3 million were subsequently made in July and September 2017, respectively. The total amount of Dividends paid by the Company during the three and nine months ended September 30, 2017 was $10.5 million. A portion of the Dividends remains accrued and represents dividends accumulated on nonvested shares of our common stock held by our employees and directors that contain dividend rights that are forfeitable and not payable until the underlying shares vest.

During the third quarter of 2017, we amended our Line of Credit ("Eleventh Amendment") with the Lender. The Eleventh Amendment decreased the LOC to $10 million due to decreased collateral requirements for the Company's outstanding letters of credit ("LC's"), extended the maturity date of the LOC to September 30, 2018, and permitted the LOC to be used as collateral (in place of restricted cash) for LC's up to $8 million related to equipment projects, the Royalty Award and certain other agreements. Additionally, under the Eleventh Amendment there is no minimum balance requirement based on the Company meeting certain conditions and maintaining minimum trailing twelve-month EBITDA (earnings before interest, taxes, depreciation and amortization as defined in the Eleventh Amendment) of $24.0 million.

As of September 30, 2017, there were no outstanding borrowings under the LOC, however, LC's in the aggregate amount of $4.5 million were secured under the LOC, resulting in borrowing availability of $5.5 million. As of September 30, 2017, pursuant to amendments contained in the Eleventh Amendment, we provided LC's ("Royalty Award LC's") totaling $4.5 million, related to obligations due under the Royalty Award that were secured under the LOC, resulting in remaining LC availability of $3.5 million. As of December 31, 2016, we had Royalty Award LC's totaling $7.2 million collateralized by restricted cash as the LOC was not available to secure LC’s as of that date.

During March 2017, a customer drew on an LC related to an equipment system in the amount of $0.8 million, which was funded by borrowing availability under the Line of Credit. We subsequently repaid this amount to the Lender during the three months ended March 31, 2017. We are contesting the draw on this LC and are pursuing actions to recover this amount from the customer.

Our ability to continue to generate sufficient cash flow required to meet ongoing operational needs and obligations, as well as future expected dividend payments and potential future share repurchases, depends upon several factors, including executing on our contracts and initiatives, receiving royalty payments from Tinuum Group and distributions from Tinuum Group and Tinuum Services, and increasing our share of the market for EC products, and, in particular EC chemicals sales. Increased distributions from Tinuum Group will likely be dependent upon both preserving existing contractual relationships and the securing of additional tax equity investors for those Tinuum Group facilities that are currently not operating.

Sources and Uses of Cash

Nine Months Ended September 30, 2017 vs. Nine Months Ended September 30, 2016

Cash and cash equivalents increased from $13.2 million as of December 31, 2016 to $26.8 million as of September 30, 2017. Restricted cash decreased from $13.7 million as of December 31, 2016 to zero as of September 30, 2017. The following table summarizes our cash flows for the nine months ended September 30, 2017 and 2016, respectively:

	Nine Months Ended September 30,		
(in thousands)	2017	2016	Change
Cash and cash equivalents and restricted cash provided by (used in):			
Operating activities	$(9,080)	$(15,495)	$6,415
Investing activities	32,959	26,389	6,570
Financing activities	(24,000)	(15,495)	(8,505)
Net change in cash and cash equivalents and restricted cash	$(121)	$(4,601)	$4,480

Additionally, the following table summarizes the cash flows of Tinuum Group, whose cash distributions most significantly impact our consolidated cash flow results, for the nine months ended September 30, 2017 and 2016, respectively:

	Nine Months Ended September 30,	
(in thousands)	2017	2016
Tinuum Group cash and cash equivalents, beginning of year	$10,897	$6,183
Cash provided by (used in):		
Operating activities	45,868	52,447
Investing activities	(4,456)	(2,473)
Financing activities	(40,024)	(47,590)
Net change in cash and cash equivalents	1,388	2,384
Tinuum Group cash and cash equivalents, end of period	$12,285	$8,567

Cash flow from operating activities

Cash flows used in operating activities reflect operating losses as well as the timing of our working capital requirements, in addition to other items discussed herein.

Deferred revenue and project costs resulted in a change in providing of operating cash flows on a net basis of $0.8 million due to production and completion of ACI and DSI equipment systems.

Our operating cash flows may also be significantly impacted by distributions from our equity method investees, which are classified as either a return on investment within operating cash flows or a return in excess of investment basis within investing cash flows. For the nine months ended September 30, 2017, we received $5.5 million more in total cash distributions from equity method investees than we did for the nine months ended September 30, 2016 due to the suspension of operations of retained RC facilities that began in 2016, a decrease in RC facility installations by Tinuum Group that began in 2016 and an increase in invested facilities that commenced during the second half of 2016. Distributions received from our equity method investees reported as return on investment within operating cash flows decreased by $3.2 million for the nine months ended September 30, 2017 compared to the nine months ended September 30, 2016 as a result of all distributions received from Tinuum Group being reported under investing cash flows for the nine months ended September 30, 2017. All distributions received from Tinuum Services were reported as return on investment within operating cash flows for the nine months ended September 30, 2017 and 2016.

Our cash spend for legal and professional fees for the nine months ended September 30, 2017 decreased by $2.2 million compared to the same period in 2016 as a result of the conclusion of the Restatement of our consolidated financial statements in April 2016.

Cash flow from investing activities

Distributions from equity method investees

Distributions received from our equity method investees reported as return in excess of investment basis within investing cash flows increased by $8.7 million for the nine months ended September 30, 2017 compared to the nine months ended September 30, 2016. This increase was due to an increase in distributions received from Tinuum Group, all of which were reported under investing cash flows for the nine months ended September 30, 2017, compared to only $3.4 million of the total $28.1 million of distributions in the nine months ended September 30, 2016 being reported within operating cash flows.

Purchases of and contributions to equity method investees

On July 27, 2017, we purchased a 50% membership interest in GWN Manager from Tinuum Group for an upfront payment of $0.1 million.

Proceeds from sale of equity method investment

In March 2016, we sold our investment in RCM6. Proceeds from the sale included $1.8 million in cash and the assumption by the buyer of all unpaid amounts outstanding under the original note payable.

Cash flow from financing activities

Borrowings and repayments on Line of Credit

During March 2017, a customer drew on an LC related to an equipment system in the amount of $0.8 million, which was funded by borrowing availability under the Line of Credit. We subsequently repaid this amount to the Lender as of March 31, 2017.

Short-term borrowings

On June 30, 2016, we, the required lenders under the Credit Agreement and the Administrative Agent agreed to terminate the Credit Agreement, and on June 30, 2016, we paid the payoff amount of $9.9 million. Additionally, during the nine months ended September 30, 2016, we repaid $0.6 million in debt issuance costs related to the Second Amendment of the Credit Agreement. Additionally, during the nine months ended September 30, 2016, we used $1.2 million of cash for repayments of principal on the RCM6 and the DSI Business Owner notes payable, as described in Note 3 of the Condensed Consolidated Financial Statements.

Equity award activity

During the nine months ended September 30, 2017 and 2016, we used $0.5 million and $0.2 million, respectively, for the repurchase of shares to satisfy tax withholdings upon the vesting of equity based awards.

Cash dividends paid

During the nine months ended September 30, 2017, we made payments of $10.5 million related to dividends declared on our common stock.

Repurchase of common stock

As described in Note 6 of the Condensed Consolidated Financial Statements, on May 5, 2017, the Board authorized the commencement of the Tender Offer. We acquired 1,370,891 shares of our common stock at a price of $9.40 per share, for a total cost of approximately $13.0 million, including fees and other expenses related to the Tender Offer.

Contractual Obligations

During the nine months ended September 30, 2017, there were no material changes to our contractual obligations outside of the ordinary course of business from those reported as of December 31, 2016, except for a reduction in the estimated obligations due under the Royalty Award, as described in Note 5 of the Condensed Consolidated Financial Statements, and the quarterly dividend program that commenced during the June 2017 quarter.

Off-Balance Sheet Arrangements

During the nine months ended September 30, 2017, we did not engage in any off-balance sheet arrangements except those discussed in "Management's Discussion and Analysis of Financial Condition and Results of Operations" in the 2016 10-K, which included operating leases, LC's and future 453A interest obligations.

Critical Accounting Policies and Estimates

Our significant accounting policies and estimates have not changed from those reported in Item 7 "Management's Discussion and Analysis of Financial Condition and Results of Operations" in the 2016 10-K.

Recently Issued Accounting Standards

Refer to Note 1 of the Condensed Consolidated Financial Statements, included in Item 1 of this Quarterly Report for new accounting guidance issued during the nine months ended September 30, 2017 and subsequent thereto through the date of this Quarterly Report.

Forward-Looking Statements Found in this Report

This Quarterly Report contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act, that involve risks and uncertainties. In particular, such forward-looking statements are found in this Part I, Item 2 above. Words or phrases such as "anticipates," "believes," "expects," "intends," "plans," "estimates," "predicts," the negative expressions of such words, or similar expressions are used in this Quarterly Report to identify forward-looking statements, and such forward-looking statements include, but are not limited to, statements or expectations regarding:

(a) the scope and impact of mercury and other regulations or pollution control requirements, including the impact of the final MATS, and how it may affect demand for ACI and DSI systems, as well as chemical products;
(b) one of our major customer's purchase of chemicals in the future;
(c) the continuity of dividend;
(d) DOL investigation of our Plan;
(e) the expected lack of liability in connection with the Tinuum Group Party Guarantees;
(f) expected demand for our consulting services.

Our expectations are based on certain assumptions, including without limitation, that:

(a) coal will continue to be a major source of fuel for electrical generation in the United States;
(b) the IRS will allow the production and sale of RC to qualify for Section 45 tax credits;
(c) we will continue as a key supplier of equipment, chemicals and services to the coal-fired power generation industry as it seeks to implement reduction of mercury emissions;
(d) current environmental laws and regulations requiring reduction of mercury from coal-fired boiler flue gases will not be materially weakened or repealed by courts or legislation in the future;
(e) we will be able to meet any performance guarantees we make and continue to meet our other obligations under contracts;
(f) we will be able to obtain adequate capital and personnel resources to meet our operating needs and to fund anticipated growth and our indemnity obligations;
(g) we will be able to establish and retain key business relationships with other companies;
(h) orders we anticipate receiving will be received;
(i) governmental audits of our costs incurred under DOE contracts will not result in material adjustments to amounts we have previously received under those contracts;
(j) we will be able to formulate new chemicals and blends that will be useful to, and accepted by, the coal-fired boiler power generation business;
(k) we will be able to effectively compete against others;

(l) we will be able to meet any technical requirements of projects we undertake;

(m) Tinuum Group will be able to sell or lease the remaining RC facilities, including RC facilities that may be returned to Tinuum Group, to third party investors; and

(n) we will be able to utilize our portion of the Section 45 tax credits generated by production and sale of RC from retained facilities.

The forward-looking statements included in this Quarterly Report involve risks and uncertainties. Actual events or results could differ materially from those discussed in the forward-looking statements as a result of various factors including, but not limited to, timing of new and pending regulations and any legal challenges to or extensions of compliance dates of them; the US government's failure to promulgate regulations or appropriate funds that benefit our business; changes in laws and regulations, accounting rules, prices, economic conditions and market demand; impact of competition; availability, cost of and demand for alternative energy sources and other technologies; technical, start up and operational difficulties; failure of the RC facilities to produce RC or such RC to qualify for Section 45 tax credits; termination of or amendments to the contracts for sale or lease of RC facilities; decreases in the production of RC; inability to commercialize our technologies on favorable terms; our inability to ramp up our operations to effectively address recent and expected growth in our business; loss of key personnel; potential claims from any terminated employees, customers or vendors; failure to satisfy performance guarantees; availability of materials and equipment for our businesses; intellectual property infringement claims from third parties; pending litigation; identification of additional material weaknesses or significant deficiencies; as well as other factors relating to our business, as described in our filings with the SEC, with particular emphasis on the risk factor disclosures contained in those filings. You are cautioned not to place undue reliance on the forward-looking statements made in this Report and to consult filings we have made and will make with the SEC for additional discussion concerning risks and uncertainties that may apply to our business and the ownership of our securities. The forward-looking statements contained in this Report are presented as of the date hereof, and we disclaim any duty to update such statements unless required by law to do so.

Item 3. Quantitative and Qualitative Disclosures about Market Risk

Interest Rate Risk

We are most significantly exposed to interest rate risk related to our obligations to pay 453A interest to the IRS. Additionally, we are currently exposed to interest rate risk related to cash equivalents and restricted cash subject to variable interest rates. There have been no material changes from those reported in our 2016 Form 10-K.

Foreign Currency Risk

There have been no material changes from those reported in our 2016 Form 10-K.

Commodity Price Risk

There have been no material changes from those reported in our 2016 Form 10-K.

Item 4. Controls and Procedures

Evaluation of Disclosure Controls and Procedures

As required by Rule 13a 15(b) under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), we have evaluated, under the supervision of and with the participation of our management, including our principal executive officer and principal financial officer, the effectiveness of the design and operation of our disclosure controls and procedures (as defined in Rules 13a 15(e) and 15d 15(e) under the Exchange Act) as of the end of the period covered by this report. Our disclosure controls and procedures are designed to ensure that information required to be disclosed in the reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms. Based upon this evaluation, our principal executive officer and principal financial officer concluded that our disclosure controls and procedures were effective as of September 30, 2017.

Changes in Internal Control Over Financial Reporting

There has been no change in our internal control over financial reporting (as defined in Rules 13a 15(f) and 15d 15(f) under the Exchange Act) during the fiscal quarter ended September 30, 2017 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

PART II. OTHER INFORMATION

Item 1. Legal Proceedings

From time to time, we are involved in litigation, claims and other proceedings related to the conduct of our business. Litigation and other disputes are inherently unpredictable and subject to substantial uncertainties and unfavorable resolutions could occur. None of these matters, either individually or in the aggregate, currently is material to us.

Item 1A. Risk Factors

Except as noted below, there are no material updates to our risk factors as disclosed in our Annual Report on Form 10-K for the year ended December 31, 2016 and those disclosed in our Form 10-Q filing for the quarterly period ended June 30, 2017.

Item 2. Unregistered Sales of Equity Securities and Use of Proceeds

None.

Item 3. Defaults Upon Senior Securities

None.

Item 4. Mine Safety Disclosures

Not applicable.

Item 5. Other Information

On November 6, 2017, the Company entered into a settlement agreement with a former third-party service provider to the Company in the amount of $3.5 million. The settlement amount is expected to be paid to the Company during the fourth quarter of 2017.

Item 6. Exhibits

Exhibit No.	Description	Form	File No.	Incorporated by Reference Exhibit	Filing Date
10.1	Eleventh Amendment to 2013 Loan and Security Agreement by and among ADA-ES, Inc., Advanced Emissions Solutions, Inc., and CoBiz Bank d/b/a Colorado Business Bank in the State of Colorado dated as of September 30, 2017*				
31.1	Certification of Chief Executive Officer and Principal Financial Officer of Advanced Emissions Solutions, Inc. Pursuant to 17 CFR 240.13a-14(a) or 17 CFR 240.15d-14(a)*				
32.1	Certification of Chief Executive Officer and Principal Financial Officer of Advanced Emissions Solutions, Inc. Pursuant to 18 U.S.C Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002*				
101. INS	XBRL Instance Document				
101.SCH	XBRL Schema Document				
101.CAL	XBRL Calculation Linkbase Document				
101.LAB	XBRL Label Linkbase Document				
101.PRE	XBRL Presentation Linkbase Document				
101.DEF	Taxonomy Extension Definition Linkbase Document				

Notes:
*– Filed herewith.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

Advanced Emissions Solutions, Inc.
(Registrant)

November 6, 2017 By: /s/ L. Heath Sampson
L. Heath Sampson
President, Chief Executive Officer and Treasurer
(Principal Executive and Financial Officer)

November 6, 2017 By: /s/ Greg P. Marken
Greg P. Marken
Chief Accounting Officer and Secretary
(Principal Accounting Officer)