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

FORM 10-Q

(Mark One)

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

For the quarterly period ended June 30, 2023

or

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

For the transition period from to

Commission file number 001-39729

SOTERA HEALTH COMPANY

(Exact name of registrant as specified in its charter)

Delaware	**47-3531161**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
9100 South Hills Blvd, Suite 300	
Broadview Heights, Ohio	**44147**
(Address of principal executive offices)	(Zip Code)
Registrant’s telephone number, including area code	**(440) 262-1410**

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, $0.01 par value per share	**SHC**	**The Nasdaq Stock Market LLC**

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 ☐ No

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted 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 such files). ☒ Yes ☐ No

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

Large accelerated filer	☒	Accelerated filer	☐
Non-accelerated filer	☐	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

As of July 27, 2023, there were 282,615,723 shares of the registrant’s common stock, $0.01 par value per share, outstanding.

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CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This Quarterly Report on Form 10-Q includes “forward-looking statements” within the meaning of the Private Securities Litigation Reform Act of 1995. Forward-looking statements are often characterized by the use of words such as “believes,” “estimates,” “expects,” “projects,” “may,” “intends,” “plans” or “anticipates,” or by discussions of strategy, plans or intentions. Such forward-looking statements involve known and unknown risks, uncertainties and other important factors that could cause our actual results, performance, achievements, or industry results, to differ materially from historical results or any future results, performance or achievements expressed, suggested or implied by such forward-looking statements. Such risks and uncertainties include, but are not limited to:

- any disruption in the availability or supply of, or increases in the price of, ethylene oxide (“EO”), Cobalt-60 (“Co-60”) or our other direct materials, services and supplies, including as a result of geopolitical instability and sanctions arising from United States, Canadian, United Kingdom or European Union relations with Russia;
- foreign currency exchange rates and changes in those rates;
- changes in environmental, health and safety regulations or preferences, and general economic, social and business conditions;
- health and safety risks associated with the use, storage, transportation and disposal of potentially hazardous materials such as EO and Co-60;
- the impact and outcome of current and future legal proceedings and liability claims, including litigation related to purported exposure to emissions of EO from our facilities in Illinois, Georgia and New Mexico and the possibility that other claims will be made in the future relating to these or other facilities;
- allegations of our failure to properly perform services and potential product liability claims, recalls, penalties and reputational harm;
- compliance with the extensive regulatory requirements to which we are subject, the related costs, and any failures to receive or maintain, or delays in receiving, required clearance or approvals;
- adverse changes in industry trends;
- competition we face;
- market changes, including inflationary trends, that impact our long-term supply contracts with variable price clauses and increase our cost of revenues;
- business continuity hazards, including supply chain disruptions and other risks associated with our operations;
- the risks of doing business internationally, including global and regional economic and political instability and compliance with numerous laws and regulations in multiple jurisdictions;
- our ability to increase capacity at existing facilities, build new facilities in a timely and cost-effective manner and renew leases for our leased facilities;
- our ability to attract and retain qualified employees;
- severe health events, such as the COVID-19 pandemic, or environmental events;
- cyber security breaches, unauthorized data disclosures, and our dependence on information technology systems;
- any inability to pursue strategic transactions or find suitable acquisition targets, or our failure to integrate strategic acquisitions successfully into our business;
- our ability to maintain effective internal controls over financial reporting;
- our reliance on intellectual property to maintain our competitive position and the risk of claims from third parties that we infringe or misappropriate their intellectual property rights;
- our ability to comply with rapidly evolving data privacy and security laws and regulations and any ineffective compliance efforts with such laws and regulations;
- our ability to maintain profitability in the future;
- impairment charges on our goodwill and other intangible assets with indefinite lives, as well as other long-lived assets and intangible assets with definite lives;
- the effects of unionization efforts and labor regulations in certain countries in which we operate;
- adverse changes to our tax positions in U.S. or non-U.S. jurisdictions, the interpretation and application of recent U.S. tax legislation or other changes in U.S. or non-U.S. taxation of our operations; and
- our significant leverage and how this significant leverage could adversely affect our ability to raise additional capital, limit our ability to react to changes in the economy or our industry, limit our flexibility in operating our business through restrictions contained in our debt agreements and/or prevent us from meeting our obligations under our existing and future indebtedness.

These statements are based on current plans, estimates and projections, and therefore you should not place undue reliance on them. Forward-looking statements speak only as of the date they are made, and we undertake no obligation to update them publicly in light of new information or future events, except as required by law. The inclusion of this forward-looking information should not be regarded as a representation by us or any other person that the future plans, estimates or expectations contemplated by us will be achieved.

You should carefully consider the above factors, as well as the factors discussed elsewhere in this Quarterly Report on Form 10-Q, including under Part II, Item 1A, "Risk Factors," as well as Part I, Item 1A, "Risk Factors" of our Annual Report on Form 10-K for the year ended December 31, 2022 (the "2022 Form 10-K"). If any of these trends, risks or uncertainties actually occur or continue, our business, financial condition or operating results could be materially adversely affected, the trading prices of our securities could decline and you could lose all or part of your investment. All forward-looking statements attributable to us or persons acting on our behalf are expressly qualified in their entirety by this cautionary statement.

Unless expressly indicated or the context requires otherwise, the terms "Sotera Health," "Company," "we," "us," and "our" in this document refer to Sotera Health Company, a Delaware corporation, and, where appropriate, its subsidiaries on a consolidated basis.

Part I—FINANCIAL INFORMATION

Item 1. Financial Statements

Sotera Health Company

Consolidated Balance Sheets
(in thousands, except per share amounts)

	As of	
	June 30, 2023	**December 31, 2022**
Assets	*(Unaudited)*	
Current assets:		
Cash and cash equivalents	**$ 262,700**	$ 395,214
Restricted cash short-term	**7,790**	1,080
Accounts receivable, net of allowance for uncollectible accounts of $1,965 and $1,871, respectively	**117,307**	118,482
Inventories, net	**42,102**	37,145
Prepaid expenses and other current assets	**90,910**	80,995
Income taxes receivable	**25,883**	12,094
Total current assets	**546,692**	645,010
Property, plant, and equipment, net	**859,138**	774,527
Operating lease assets	**25,179**	26,481
Deferred income taxes	**4,157**	4,101
Post-retirement assets	**39,004**	35,570
Other assets	**34,082**	38,983
Other intangible assets, net	**456,120**	491,265
Goodwill	**1,110,498**	1,101,768
Total assets	**$ 3,074,870**	$ 3,117,705
Liabilities and equity		
Current liabilities:		
Accounts payable	**$ 55,580**	$ 74,139
Accrued liabilities	**103,450**	490,130
Deferred revenues	**13,840**	12,140
Current portion of long-term debt	**5,225**	197,119
Current portion of finance lease obligations	**8,605**	1,722
Current portion of operating lease obligations	**7,111**	7,554
Current portion of asset retirement obligations	**793**	2,896
Income taxes payable	**5,726**	5,867
Total current liabilities	**200,330**	791,567
Long-term debt	**2,221,987**	1,747,115
Finance lease obligations, less current portion	**61,283**	56,955
Operating lease obligations, less current portion	**20,538**	21,577
Noncurrent asset retirement obligations	**44,492**	42,586
Deferred lease income	**19,045**	18,902
Post-retirement obligations	**8,008**	7,910
Noncurrent liabilities	**12,626**	12,831
Deferred income taxes	**68,194**	68,024
Total liabilities	**2,656,503**	2,767,467
See Commitments and contingencies note		
Equity:		
Common stock, with $0.01 par value, 1,200,000 shares authorized; 286,037 shares issued at June 30, 2023 and December 31, 2022	**2,860**	2,860
Preferred stock, with $0.01 par value, 120,000 authorized; no shares issued at June 30, 2023 and December 31, 2022	**—**	—
Treasury stock, at cost (3,493 and 3,616 shares at June 30, 2023 and December 31, 2022, respectively)	**(28,700)**	(29,775)
Additional paid-in capital	**1,202,972**	1,189,622
Retained deficit	**(679,461)**	(705,816)
Accumulated other comprehensive loss	**(79,304)**	(106,653)
Total equity	**418,367**	350,238
Total liabilities and equity	**$ 3,074,870**	$ 3,117,705

See notes to consolidated financial statements.

Sotera Health Company

Consolidated Statements of Operations and Comprehensive Income (Loss)
(in thousands, except per share amounts)
(Unaudited)

	Three Months Ended June 30,		Six Months Ended June 30,	
	2023	**2022**	**2023**	**2022**
Revenues:				
Service	**$ 226,050**	$ 221,529	**$ 440,560**	$ 427,747
Product	**29,232**	45,110	**35,312**	75,646
Total net revenues	**255,282**	266,639	**475,872**	503,393
Cost of revenues:				
Service	**103,900**	98,407	**208,110**	192,983
Product	**11,794**	17,836	**16,671**	31,139
Total cost of revenues	**115,694**	116,243	**224,781**	224,122
Gross profit	**139,588**	150,396	**251,091**	279,271
Operating expenses:				
Selling, general and administrative expenses	**60,287**	63,132	**122,197**	122,674
Amortization of intangible assets	**16,097**	15,769	**32,324**	31,610
Total operating expenses	**76,384**	78,901	**154,521**	154,284
Operating income	**63,204**	71,495	**96,570**	124,987
Interest expense, net	**30,728**	14,044	**59,598**	24,448
Impairment of investment in unconsolidated affiliate	**—**	9,613	**—**	9,613
Foreign exchange loss (gain)	**465**	(755)	**812**	33
Other (income) expense, net	**(2,474)**	485	**(3,727)**	(2,482)
Income before income taxes	**34,485**	48,108	**39,887**	93,375
Provision for income taxes	**10,972**	17,690	**13,532**	32,316
Net income	**23,513**	30,418	**26,355**	61,059
Other comprehensive income (loss) net of tax:				
Pension and post-retirement benefits (net of taxes of $6, $179, $(11), and $87, respectively)	**18**	532	**(33)**	258
Interest rate derivatives (net of taxes of $1,036, $1,241, $(2,360) and $3,350, respectively)	**4,002**	3,178	**(5,249)**	9,357
Foreign currency translation	**21,374**	(46,038)	**32,631**	(31,063)
Comprehensive income (loss)	**$ 48,907**	$ (11,910)	**$ 53,704**	$ 39,611
Earnings per share:				
Basic	**$ 0.08**	$ 0.11	**$ 0.09**	$ 0.22
Diluted	**0.08**	0.11	**0.09**	0.22
Weighted average number of shares outstanding:				
Basic	**280,893**	279,990	**280,793**	279,910
Diluted	**283,147**	280,171	**283,040**	280,038

See notes to consolidated financial statements.

Sotera Health Company

Consolidated Statements of Cash Flows
(in thousands)
(Unaudited)

	Six Months Ended June 30,	
	2023	2022
Operating activities:		
Net income	**$ 26,355**	$ 61,059
Adjustments to reconcile net income to net cash provided by (used in) operating activities:		
Depreciation	**37,920**	31,611
Amortization of intangible assets	**41,108**	41,378
Impairment of investment in unconsolidated affiliate	**—**	9,613
Deferred income taxes	**315**	10,416
Share-based compensation expense	**15,661**	10,339
Accretion of asset retirement obligations	**1,127**	1,118
Unrealized foreign exchange losses	**4,601**	1,274
Unrealized gains on derivatives not designated as hedging instruments	**(747)**	(8,029)
Amortization of debt issuance costs	**4,112**	2,836
Other	**(2,623)**	(4,043)
Changes in operating assets and liabilities:		
Accounts receivable	**2,549**	(13,921)
Inventories	**(3,877)**	14,012
Other current assets	**(9,220)**	(6,683)
Accounts payable	**(20,325)**	(9,993)
Accrued liabilities	**22,273**	(11,869)
Illinois EO litigation settlement	**(407,712)**	—
Income taxes payable / receivable, net	**(14,067)**	(15,968)
Other liabilities	**(512)**	(468)
Other long-term assets	**358**	(4,426)
Net cash provided by (used in) operating activities	**(302,704)**	108,256
Investing activities:		
Purchases of property, plant and equipment	**(98,134)**	(71,642)
Adjustment to purchase of Regulatory Compliance Associates Inc.	**—**	450
Other investing activities	**32**	—
Net cash used in investing activities	**(98,102)**	(71,192)
Financing activities:		
Proceeds from long-term borrowings	**500,000**	—
Payment of revolving credit facility	**(200,000)**	—
Payments of debt issuance costs and debt discount	**(24,672)**	(27)
Other financing activities	**(2,122)**	(1,056)
Net cash provided by (used in) financing activities	**273,206**	(1,083)
Effect of exchange rate changes on cash and cash equivalents	**1,796**	(2,287)
Net increase (decrease) in cash and cash equivalents, including restricted cash	**(125,804)**	33,694
Cash and cash equivalents, including restricted cash, at beginning of period	**396,294**	106,924
Cash and cash equivalents, including restricted cash, at end of period	**$ 270,490**	$ 140,618
Supplemental disclosures of cash flow information:		
Cash paid during the period for interest	**$ 78,352**	$ 42,057
Cash paid during the period for income taxes, net of tax refunds received	**27,590**	37,340
Purchases of property, plant and equipment included in accounts payable	**16,986**	17,923

See notes to consolidated financial statements.

Sotera Health Company

Consolidated Statements of Equity
(in thousands)
(Unaudited)

	Three Months Ended June 30, 2023						
	Common Stock						
	Shares	Amount	Treasury Stock	Additional Paid-In Capital	Retained Earnings / (Accumulated Deficit)	Accumulated Other Comprehensive (Loss) Income	Total Equity
Balance at March 31, 2023	**282,516**	**$ 2,860**	**$ (29,420)**	**$ 1,195,357**	**$ (702,974)**	**$ (104,698)**	**$ 361,125**
Share-based compensation plans	28	—	720	7,615	—	—	**8,335**
Comprehensive income (loss):							**—**
Pension and post-retirement plan adjustments, net of tax	—	—	—	—	—	18	**18**
Foreign currency translation	—	—	—	—	—	21,374	**21,374**
Interest rate derivatives, net of tax	—	—	—	—	—	4,002	**4,002**
Net income	—	—	—	—	23,513	—	**23,513**
Balance at June 30, 2023	**282,544**	**$ 2,860**	**$ (28,700)**	**$ 1,202,972**	**$ (679,461)**	**$ (79,304)**	**$ 418,367**

	Six Months Ended June 30, 2023						
	Common Stock						
	Shares	Amount	Treasury Stock	Additional Paid-In Capital	Retained Earnings / (Accumulated Deficit)	Accumulated Other Comprehensive (Loss) Income	Total Equity
Balance at December 31, 2022	**282,421**	**$ 2,860**	**$ (29,775)**	**$ 1,189,622**	**$ (705,816)**	**$ (106,653)**	**$ 350,238**
Share-based compensation plans	123	—	1,075	13,350	—	—	**14,425**
Comprehensive income (loss):							
Pension and post-retirement plan adjustments, net of tax	—	—	—	—	—	(33)	**(33)**
Foreign currency translation	—	—	—	—	—	32,631	**32,631**
Interest rate derivatives, net of tax	—	—	—	—	—	(5,249)	**(5,249)**
Net income	—	—	—	—	26,355	—	**26,355**
Balance at June 30, 2023	**282,544**	**$ 2,860**	**$ (28,700)**	**$ 1,202,972**	**$ (679,461)**	**$ (79,304)**	**$ 418,367**

See notes to consolidated financial statements.

Sotera Health Company

Consolidated Statements of Equity (continued)
(in thousands)
(Unaudited)

	Three Months Ended June 30, 2022												
	Common Stock												
	Shares		Amount		Treasury Stock		Additional Paid-In Capital		Retained Earnings / (Accumulated Deficit)		Accumulated Other Comprehensive (Loss) Income		Total Equity
Balance at March 31, 2022	282,930	$	2,860	$	(33,536)	$	1,177,097	$	(441,605)	$	(62,686)	$	642,130
Share-based compensation plans	(28)		—		882		4,898		—		—		5,780
Comprehensive income (loss):													
Pension and post-retirement plan adjustments, net of tax	—		—		—		—		—		532		532
Foreign currency translation	—		—		—		—		—		(46,038)		(46,038)
Interest rate derivatives, net of tax	—		—		—		—		—		3,178		3,178
Net income	—		—		—		—		30,418		—		30,418
Balance at June 30, 2022	282,902	$	2,860	$	(32,654)	$	1,181,995	$	(411,187)	$	(105,014)	$	636,000

	Six Months Ended June 30, 2022												
	Common Stock												
	Shares		Amount		Treasury Stock		Additional Paid-In Capital		Retained Earnings / (Accumulated Deficit)		Accumulated Other Comprehensive (Loss) Income		Total Equity
Balance at December 31, 2021	282,985	$	2,860	$	(33,545)	$	1,172,593	$	(472,246)	$	(83,566)	$	586,096
Share-based compensation plans	(83)		—		891		9,402		—		—		10,293
Comprehensive income (loss):													
Pension and post-retirement plan adjustments, net of tax	—		—		—		—		—		258		258
Foreign currency translation	—		—		—		—		—		(31,063)		(31,063)
Interest rate derivatives, net of tax	—		—		—		—		—		9,357		9,357
Net income	—		—		—		—		61,059		—		61,059
Balance at June 30, 2022	282,902	$	2,860	$	(32,654)	$	1,181,995	$	(411,187)	$	(105,014)	$	636,000

See notes to consolidated financial statements.

1. Basis of Presentation

Principles of Consolidation – Sotera Health Company (also referred to herein as the “Company,” “we,” “our,” “us” or “its”), is a leading global provider of mission-critical end-to-end sterilization solutions, lab testing and advisory services for the healthcare industry with operations primarily in the Americas, Europe and Asia.

We operate and report in three segments, Sterigenics, Nordion and Nelson Labs. We describe our reportable segments in Note 17, “Segment Information”. All significant intercompany balances and transactions have been eliminated in consolidation.

In July 2020, we acquired a 60% equity ownership interest in a joint venture to construct an E-beam facility in Alberta, Canada in connection with our acquisition of Iotron Industries Canada, Inc. (“Iotron”). Our equity ownership interest in the joint venture was determined to be an investment in a variable interest entity (“VIE”). The investment was not consolidated as the Company concluded that it was not the primary beneficiary of the VIE. The Company accounted for the joint venture using the equity method.

During the year ended December 31, 2022, we identified certain events and circumstances that indicated a decline in value of our investment in this joint venture that was other-than-temporary. Consequently, in the second quarter of 2022, we wrote down the investment in the joint venture to its fair value of $0, resulting in an impairment charge of approximately $9.6 million. In February 2023, we entered into a Share Purchase Agreement to transfer our equity ownership interest to the joint venture partner, thereby terminating our equity ownership interest.

Use of Estimates – In preparing our consolidated financial statements in conformity with U.S. Generally Accepted Accounting Principles (“GAAP”), we make estimates and assumptions that affect the amounts reported and the accompanying notes. We regularly evaluate the estimates and assumptions used and revise them as new information becomes available. Actual results may vary from those estimates.

Interim Financial Statements – The accompanying consolidated financial statements include the assets, liabilities, operating results, and cash flows of the Company and its wholly owned subsidiaries. These financial statements are prepared in accordance with GAAP for interim financial information, the instructions to the Quarterly Report on Form 10-Q and Rule 10-01 of Regulation S-X. Accordingly, they do not include all of the information and footnotes required by GAAP for complete financial statements. In the opinion of management, all adjustments (consisting of normal recurring adjustments) considered necessary for a fair presentation have been included. These unaudited interim financial statements should be read in conjunction with the Company's annual consolidated financial statements and accompanying notes in our 2022 Form 10-K.

2. Recent Accounting Standards

Adoption of Accounting Standard Updates

Effective January 1, 2023, we adopted *ASU 2021-08 - Business Combinations (Topic 805): Accounting for Contract Assets and Contract Liabilities from Contracts with Customers* (“ASU 2021-08”). The amendments in ASU 2021-08 require that an acquiring entity recognize and measure contract assets and contract liabilities acquired in a business combination in accordance with Accounting Standards Codification (“ASC”) Topic 606, Revenue from Contracts with Customers (“ASC Topic 606”). At the acquisition date, an acquirer should account for the related revenue contracts in accordance with ASC Topic 606 as if it had originated the contracts. The adoption of this standard did not have a material impact on our consolidated financial statements and disclosures.

3. Revenue Recognition

The following table shows disaggregated net revenues from contracts with external customers by timing of revenue and by segment for the three and six months ended June 30, 2023 and 2022:

(thousands of U.S. dollars)	Three Months Ended June 30, 2023			
	Sterigenics	Nordion	Nelson Labs	Consolidated
Point in time	$ 166,590	$ 30,653	$ —	$ 197,243
Over time	—	1,322	56,717	58,039
Total	**$ 166,590**	**$ 31,975**	**$ 56,717**	**$ 255,282**

(thousands of U.S. dollars)	Three Months Ended June 30, 2022			
	Sterigenics	Nordion	Nelson Labs	Consolidated
Point in time	$ 157,792	$ 46,386	$ —	$ 204,178
Over time	—	4,092	58,369	62,461
Total	**$ 157,792**	**$ 50,478**	**$ 58,369**	**$ 266,639**

(thousands of U.S. dollars)	Six Months Ended June 30, 2023			
	Sterigenics	Nordion	Nelson Labs	Consolidated
Point in time	$ 326,587	$ 38,241	$ —	$ 364,828
Over time	—	2,285	108,759	111,044
Total	**$ 326,587**	**$ 40,526**	**$ 108,759**	**$ 475,872**

(thousands of U.S. dollars)	Six Months Ended June 30, 2022			
	Sterigenics	Nordion	Nelson Labs	Consolidated
Point in time	$ 307,254	$ 79,671	$ —	$ 386,925
Over time	—	4,809	111,659	116,468
Total	**$ 307,254**	**$ 84,480**	**$ 111,659**	**$ 503,393**

Contract Balances

As of June 30, 2023, and December 31, 2022, contract assets included in “Prepaid expenses and other current assets” on the Consolidated Balance Sheets totaled approximately $18.8 million and $19.8 million, respectively, resulting from revenue recognized over time in excess of the amount billed to the customer.

When we receive consideration from a customer prior to transferring goods or services under the terms of a sales contract, we record deferred revenue, which represents a contract liability. Deferred revenue totaled $13.8 million and $12.1 million at June 30, 2023 and December 31, 2022, respectively. We recognize deferred revenue after we have transferred control of the goods or services to the customer and all revenue recognition criteria are met.

4. Acquisitions

Acquisition of Regulatory Compliance Associates Inc.

On November 4, 2021, we acquired Regulatory Compliance Associates Inc. (“RCA”) for approximately $30.6 million, net of $0.6 million of cash acquired. RCA is an industry leader in providing life sciences consulting focused on quality, regulatory, and technical advisory services for the pharmaceutical, medical device and combination device industries. Headquartered in Pleasant Prairie, Wisconsin, RCA expands and further strengthens our technical consulting and expert advisory capabilities within our Nelson Labs segment.

The purchase price of RCA was allocated to the underlying assets acquired and liabilities assumed based upon management's estimated fair values at the date of acquisition. As of June 30, 2023, approximately $25.3 million of goodwill was recorded related to the RCA acquisition, representing the excess of the purchase price over the estimated fair values of all of the assets acquired and liabilities assumed. We also recorded $6.4 million of finite-lived intangible assets, primarily related to customer relationships. We funded this acquisition using available cash. The acquisition price and the results of operations for this acquired entity are not material in relation to our consolidated financial statements.

5. Inventories

Inventories consisted of the following:

(thousands of U.S. dollars)	June 30, 2023	December 31, 2022
Raw materials and supplies	**$ 36,600**	$ 36,402
Work-in-process	**881**	584
Finished goods	**4,739**	276
	42,220	37,262
Reserve for excess and obsolete inventory	**(118)**	(117)
Inventories, net	**$ 42,102**	$ 37,145

6. Prepaid Expenses and Other Current Assets

Prepaid expenses and other current assets consisted of the following:

(thousands of U.S. dollars)	June 30, 2023	December 31, 2022
Prepaid taxes	**$ 27,814**	$ 26,598
Prepaid business insurance	**4,904**	9,964
Prepaid rent	**1,083**	998
Customer contract assets	**18,800**	19,777
Insurance and indemnification receivables	**2,039**	3,724
Current deposits	**422**	660
Prepaid maintenance contracts	**683**	324
Value added tax receivable	**3,561**	1,640
Prepaid software licensing	**2,873**	1,832
Stock supplies	**3,640**	3,656
Embedded derivatives	**1,551**	2,721
Interest receivable - interest rate cap settlement	**7,596**	—
Interest receivable - Illinois EO litigation settlement funds[a]	**1,319**	—
Other	**14,625**	9,101
Prepaid expenses and other current assets	**$ 90,910**	$ 80,995

(a) Represents interest receivable on funds on deposit in a settlement escrow fund that was used to pay all settlement fees and expenses and cash payments to the Eligible Claimants participating in the Illinois EO litigation settlement. Refer to Note 15, “Commitments and Contingencies”.

7. Goodwill and Other Intangible Assets

Changes to goodwill during the six months ended June 30, 2023 were as follows:

(thousands of U.S. dollars)	Sterigenics	Nordion	Nelson Labs	Total
Goodwill at December 31, 2022	$ 657,458	$ 270,966	$ 173,344	$ 1,101,768
Changes due to foreign currency exchange rates	2,156	6,014	560	8,730
Goodwill at June 30, 2023	**$ 659,614**	**$ 276,980**	**$ 173,904**	**$ 1,110,498**

Other intangible assets consisted of the following:

(thousands of U.S. dollars) **As of June 30, 2023**	**Gross Carrying Amount**	**Accumulated Amortization**
Finite-lived intangible assets		
Customer relationships	**$ 656,345**	**$ 454,212**
Proprietary technology	**84,710**	**53,332**
Trade names	**2,568**	**965**
Land-use rights	**8,542**	**1,705**
Sealed source and supply agreements	**208,958**	**101,347**
Other	**4,518**	**2,453**
Total finite-lived intangible assets	**965,641**	**614,014**
Indefinite-lived intangible assets		
Regulatory licenses and other[(a)]	**78,699**	**—**
Trade names / trademarks	**25,794**	**—**
Total indefinite-lived intangible assets	**104,493**	**—**
Total	**$ 1,070,134**	**$ 614,014**

As of December 31, 2022	**Gross Carrying Amount**	**Accumulated Amortization**
Finite-lived intangible assets		
Customer relationships	$ 652,811	$ 422,277
Proprietary technology	86,054	50,952
Trade names	2,553	701
Land-use rights	8,986	1,683
Sealed source and supply agreements	204,391	93,034
Other	4,469	1,979
Total finite-lived intangible assets	959,264	570,626
Indefinite-lived intangible assets		
Regulatory licenses and other[(a)]	76,978	—
Trade names / trademarks	25,649	—
Total indefinite-lived intangible assets	102,627	—
Total	$ 1,061,891	$ 570,626

(a) Includes certain transportation certifications, a class 1B nuclear license and other intangibles related to obtaining such licensure. These assets are considered indefinite-lived as the decision for renewal by the Canadian Nuclear Safety Commission is highly based on a licensee's previous assessments, reported incidents, and annual compliance and inspection results. New applications for license can take a significant amount of time and cost; whereas an existing licensee with a historical record of compliance and current operating conditions more than likely ensures renewal for another 10-year license period as Nordion has demonstrated over its 75 years of history.

Amounts include the impact of foreign currency translation. Fully amortized amounts are written off.

Amortization expense for other intangible assets was $20.5 million ($4.4 million is included in "Cost of revenues" and $16.1 million in "Amortization of intangible assets") and $41.1 million ($8.8 million is included in "Cost of revenues" and $32.3 million in "Amortization of intangible assets") in the Consolidated Statements of Operations and Comprehensive Income (Loss) for the three and six months ended June 30, 2023, respectively.

Amortization expense for other intangible assets was $21.2 million ($5.4 million is included in “Cost of revenues” and $15.8 million in “Amortization of intangible assets”) and $41.4 million ($9.8 million is included in “Cost of revenues” and $31.6 million in “Amortization of intangible assets”) in the Consolidated Statements of Operations and Comprehensive Income (Loss) for the three and six months ended June 30, 2022, respectively.

The estimated aggregate amortization expense for finite-lived intangible assets for each of the next five years and thereafter is as follows:

(thousands of U.S. dollars)		
For the remainder of 2023	$	**40,372**
2024		**80,050**
2025		**42,671**
2026		**22,492**
2027		**21,416**
Thereafter		**144,626**
Total	$	**351,627**

The weighted-average remaining useful life of the finite-lived intangible assets was approximately nine years as of June 30, 2023.

8. Accrued Liabilities

Accrued liabilities consisted of the following:

(thousands of U.S. dollars)		June 30, 2023		December 31, 2022
Accrued employee compensation	**$**	**32,385**	$	32,936
Illinois EO litigation settlement reserve		**288**		408,000
Legal reserves		**2,954**		3,776
Accrued interest expense		**30,591**		23,291
Embedded derivatives		**1,613**		3,508
Professional fees		**23,259**		6,436
Accrued utilities		**1,998**		1,906
Insurance accrual		**2,253**		2,392
Accrued taxes		**3,070**		2,567
Other		**5,039**		5,318
Accrued liabilities	**$**	**103,450**	$	490,130

9. Long-Term Debt

Long-term debt consisted of the following:

(thousands of U.S. dollars)

As of June 30, 2023	Gross Amount	Unamortized Debt Issuance Costs	Unamortized Debt Discount	Net Amount
Term loan, due 2026	**$ 1,763,100**	**$ (1,911)**	**$ (12,013)**	1,749,176
Term loan B, due 2026	**500,000**	**(8,354)**	**(14,059)**	477,587
Other long-term debt	**450**	**(1)**	**—**	449
	2,263,550	**(10,266)**	**(26,072)**	2,227,212
Less current portion	**5,450**	**(84)**	**(141)**	5,225
Long-term debt	**$ 2,258,100**	**$ (10,182)**	**$ (25,931)**	$ 2,221,987

(thousands of U.S. dollars)

As of December 31, 2022	Gross Amount	Unamortized Debt Issuance Costs	Unamortized Debt Discount	Net Amount
Term loan, due 2026	$ 1,763,100	$ (2,140)	$ (13,845)	1,747,115
Revolving credit facility	200,000	(3,328)	$ —	196,672
Other long-term debt	450	(3)	$ —	447
	1,963,550	(5,471)	(13,845)	1,944,234
Less current portion	$ 200,450	$ (3,331)	$ —	$ 197,119
Long-term debt	$ 1,763,100	$ (2,140)	$ (13,845)	$ 1,747,115

Debt Facilities

Senior Secured Credit Facilities

On December 13, 2019, Sotera Health Holdings, LLC (“SHH”), our wholly owned subsidiary, entered into senior secured first lien credit facilities (the “Senior Secured Credit Facilities”), consisting of both a prepayable senior secured first lien term loan (the “Term Loan”) and a senior secured first lien revolving credit facility (the “Revolving Credit Facility”) pursuant to a first lien credit agreement (the “Credit Agreement”). The Term Loan matures on December 13, 2026. After giving effect to the Revolving Credit Facility Amendment (defined below), the total borrowing capacity under the Revolving Credit Facility is $423.8 million. The Senior Secured Credit Facilities also provide SHH the right at any time and under certain conditions to request incremental term loans or incremental revolving credit commitments based on a formula defined in the Senior Secured Credit Facilities. As of June 30, 2023 and December 31, 2022, total borrowings under the Term Loan were $1,763.1 million. The weighted average interest rate on borrowings under the Term Loan for the three months ended June 30, 2023 and June 30, 2022 was 7.89% and 3.53%, respectively, and 7.66% and 3.39% for the six months ended June 30, 2023 and June 30, 2022, respectively.

On February 23, 2023, we entered into the First Lien Credit Agreement (the “2023 Credit Agreement”), which provides for, among other things, a new Term Loan B facility (the “2023 Term Loan”) in an aggregate principal amount of $500.0 million and bears interest, at the Company’s option, at a variable rate per annum equal to either (x) the Term Secured Overnight Financing Rate (“Term SOFR”) (as defined in the 2023 Credit Agreement) plus an applicable margin of 3.75% or (y) an alternative base rate (“ABR”) plus an applicable margin of 2.75%. The 2023 Credit Agreement is secured on a first priority basis on substantially all of our assets and is guaranteed by certain of our subsidiaries. It is prepayable without premium or penalty at any time six months after the closing date. The principal balance shall be paid at 1% of the aggregate principal amount ($5.0 million) per year, with the balance due at the end of 2026. The Company used the proceeds of the 2023 Term Loan to fund a previously announced $408.0 million EO litigation settlement in Cook County, Illinois and pay down the $200.0 million of existing borrowings under the Revolving Credit Facility concurrent with the funding of the 2023 Term Loan on February 23, 2023. In addition, the Company plans to use the remaining proceeds to further enhance liquidity and for general corporate purposes. The weighted average interest rate on borrowings under the 2023 Term Loan for the three and six months ended June 30, 2023 was 8.82%.

On March 21, 2023, the Company entered into an Incremental Facility Amendment to the Credit Agreement (“Revolving Credit Facility Amendment”), which provides for an increase in the commitments under the existing Revolving Credit Facility in an aggregate principal amount of $76.3 million. In addition, certain of the lenders providing revolving credit commitments provided additional commitments for the issuance of the letters of credit under the Revolving Credit Facility in an aggregate principal amount of $165.1 million. The Revolving Credit Facility Amendment also provides for the replacement of the reference interest rate option for Revolving Loans from London Interbank Offered Rate (“LIBOR”) to SOFR plus an applicable credit spread adjustment of 0.10% (subject to a minimum floor of 0.00%). After giving effect to the Revolving Credit Facility Amendment, the aggregate amount of the Lenders’ Revolving Commitments is $423.8 million. The maturity date of the Revolving Credit Facility remains June 13, 2026. The Company borrowed $200.0 million under the Revolving Credit Facility during the fourth quarter of 2022, which was repaid in the first quarter of 2023, as noted above. As of June 30, 2023, there were no borrowings outstanding under the Revolving Credit Facility.

The Senior Secured Credit Facilities and 2023 Credit Agreement contain additional covenants that, among other things, restrict, subject to certain exceptions, our ability and the ability of our restricted subsidiaries to engage in certain activities, such as incur indebtedness or permit to exist any lien on any property or asset now owned or hereafter acquired, as specified in the Senior Secured Credit Facilities and 2023 Credit Agreement. The Senior Secured Credit Facilities and 2023 Credit Agreement also contain certain customary affirmative covenants and events of default, including upon a change of control. An event of default under the Senior Secured Credit Facilities and 2023 Credit Agreement would occur if the Company or certain of its subsidiaries received one or more enforceable judgment for payment in an aggregate amount in excess of $100.0 million, which judgment or judgments are not stayed or remain undischarged for a period of 60 consecutive days or if, in order to enforce such a judgment, a judgment creditor attached or levied upon assets that are material to the business and operations, taken as a whole,
of the Company and certain of its subsidiaries. As of June 30, 2023, we were in compliance with all of the Senior Secured Credit Facilities and 2023 Credit Agreement covenants.

All of SHH’s obligations under the Senior Secured Credit Facilities and 2023 Credit Agreement are unconditionally guaranteed by the Company and each existing and subsequently acquired or organized direct or indirect wholly-owned domestic restricted subsidiary of the Company, with customary exceptions including, among other things, where providing such guarantees is not permitted by law, regulation or contract or would result in material adverse tax consequences. All obligations under the Senior Secured Credit Facilities and 2023 Credit Agreement, and the guarantees of such obligations, are secured by substantially all assets of the borrower and guarantors, subject to permitted liens and other exceptions and exclusions, as outlined in the Senior Secured Credit Facilities and 2023 Credit Agreement.

Outstanding letters of credit are collateralized by encumbrances against the Revolving Credit Facility and the collateral pledged thereunder, or by cash placed on deposit with the issuing bank. As of June 30, 2023, the Company had $51.7 million of letters of credit issued against the Revolving Credit Facility, resulting in total availability under the Revolving Credit Facility of $372.1 million.

Term Loan Interest Rate Risk Management

The Company utilizes interest rate derivatives to eliminate the variability of cash flows in the interest payments associated with our variable rate debt due to changes in LIBOR (up to June 22, 2023) and Term SOFR. For additional information on the derivative instruments described above, refer to Note 16, “Financial Instruments and Financial Risk”, *“Derivative Instruments.”*

LIBOR Transition

Publication of all U.S. LIBOR tenors ceased after June 30, 2023. To align with the market phaseout of LIBOR, SHH entered into an amendment to the Senior Secured Credit Facilities to replace the LIBOR-based reference interest rate option under the Term Loan with a reference interest rate option based on Term SOFR plus an applicable credit spread adjustment of 0.11448% (for one-month interest periods), 0.26161% (for three-month interest periods) and 0.42826% (for six-month interest periods) (in all cases, subject to a minimum floor of 0.50%).

In accordance with ASC 848 *Reference Rate Reform*, we have elected to apply certain optional expedients for contract modifications and hedging relationships for derivative instruments impacted by the benchmark interest rate transition. The optional expedients remove the requirement to remeasure contract modifications or dedesignate hedging relationships impacted by reference rate reform.

Aggregate Maturities

Aggregate maturities of the Company's long-term debt, excluding debt discounts, as of June 30, 2023, are as follows:

(thousands of U.S. dollars)		
2023	$	**2,950**
2024		**5,000**
2025		**5,000**
2026		**2,250,600**
2027		**—**
Thereafter		**—**
Total	**$**	**2,263,550**

10. Income Taxes

Income tax expense is provided on an interim basis based upon our estimate of the annual effective income tax rate. In determining the estimated annual effective income tax rate, we analyze various factors, including projections of our annual earnings and the taxing jurisdictions where the earnings will occur, the impact of state and local taxes, our ability to utilize tax credits and net operating loss carryforwards and available tax planning alternatives. Our effective tax rates were 31.8% and 33.9% for the three and six months ended June 30, 2023, respectively, compared to 36.8% and 34.6% for the three and six months ended June 30, 2022, respectively.

Income tax expense for the three months ended June 30, 2023 differed from the statutory rate primarily due to the impact of the foreign rate differential, the valuation allowance attributable to the limitation on the deductibility of interest expense, and global intangible low-tax income ("GILTI"). Income tax expense for the three months ended June 30, 2022 differed from the statutory rate primarily due to a net increase in the valuation allowance attributable to the limitation on the deductibility of interest expense, the impact of the foreign rate differential, and GILTI.

Income tax expense for the six months ended June 30, 2023 differed from the statutory rate primarily due to the impact of the foreign rate differential, the valuation allowance attributable to the limitation on the deductibility of interest expense and GILTI, partially offset by a benefit for state income taxes. Income tax expense for the six months ended June 30, 2022 differed from the statutory rate primarily due to a net increase in the foreign rate differential and GILTI.

11. Employee Benefits

The Company sponsors various post-employment benefit plans including, in certain countries outside the U.S., defined benefit and defined contribution pension plans, retirement compensation arrangements, and plans that provide extended health care coverage to retired employees, the majority of which relate to Nordion.

Defined benefit pension plan

The following defined benefit pension plan disclosure relates to Nordion. Certain immaterial foreign defined benefit pension plans have been excluded from the table below. The interest cost, expected return on plan assets and amortization of net actuarial gain are recorded in "Other expense (income), net" and the service cost component is included in the same financial statement line item as the applicable employee's wages in the Consolidated Statements of Operations and Comprehensive

Income (Loss). The components of net periodic pension benefit for the defined benefit plan for the three and six months ended June 30, 2023 and 2022 were as follows:

	Three Months Ended June 30,		Six Months Ended June 30,	
(thousands of U.S. dollars)	**2023**	**2022**	**2023**	**2022**
Service cost	**$ 132**	$ 247	**$ 263**	$ 496
Interest cost	**2,742**	1,889	**5,466**	3,792
Expected return on plan assets	**(4,046)**	(3,676)	**(8,065)**	(7,380)
Net periodic benefit	**$ (1,172)**	$ (1,540)	**$ (2,336)**	$ (3,092)

Other benefit plans

Other benefit plans disclosed below relate to Nordion and include a supplemental retirement arrangement, a retirement and termination allowance, and post-retirement benefit plans, which include contributory health and dental care benefits and contributory life insurance coverage. Certain immaterial other foreign benefit plans have been excluded from the table below. All but one non-pension post-employment benefit plans are unfunded. The components of net periodic benefit cost for the other benefit plans for the three and six months ended June 30, 2023 and 2022 were as follows:

	Three Months Ended June 30,		Six Months Ended June 30,	
(thousands of U.S. dollars)	**2023**	**2022**	**2023**	**2022**
Service cost	**$ 2**	$ 4	**$ 4**	$ 8
Interest cost	**90**	65	**180**	130
Amortization of net actuarial gain	**(44)**	(2)	**(88)**	(4)
Net periodic benefit cost	**$ 48**	$ 67	**$ 96**	$ 134

We currently expect funding requirements of approximately $0.3 million in each of the next five years to fund the regulatory solvency deficit, as defined by Canadian federal regulation, which requires solvency testing on defined benefit pension plans.

The Company may obtain a qualifying letter of credit for solvency payments, up to 15% of the market value of solvency liabilities as determined on the valuation date, instead of paying cash into the pension fund. As of June 30, 2023, and December 31, 2022, we had letters of credit outstanding relating to the defined benefit plans totaling $43.7 million and $44.1 million, respectively. The actual funding requirements over the five-year period will be dependent on subsequent annual actuarial valuations. These amounts are estimates, which may change with actual investment performance, changes in interest rates, any pertinent changes in Canadian government regulations and any voluntary contributions.

12. Other Comprehensive Income (Loss)

Amounts in accumulated other comprehensive income (loss) are presented net of the related tax. Foreign currency translation is not adjusted for income taxes.

Changes in our accumulated other comprehensive income (loss) balances, net of applicable tax, were as follows:

(thousands of U.S. dollars)	Defined Benefit Plans	Foreign Currency Translation	Interest Rate Derivatives	Total
Beginning balance – April 1, 2023	**$ 3,158**	**$ (119,948)**	**$ 12,092**	**$ (104,698)**
Other comprehensive income (loss) before reclassifications	**62**	**21,374**	**10,950**	**32,386**
Amounts reclassified from accumulated other comprehensive income (loss)	**(44)** (a)	**—**	**(6,948)** (b)	**(6,992)**
Net current-period other comprehensive income (loss)	**18**	**21,374**	**4,002**	**25,394**
Ending balance – June 30, 2023	**$ 3,176**	**$ (98,574)**	**$ 16,094**	**$ (79,304)**
Beginning balance – January 1, 2023	**$ 3,209**	**$ (131,205)**	**$ 21,343**	**(106,653)**
Other comprehensive income (loss) before reclassifications	**55**	**32,631**	**8,555**	**41,241**
Amounts reclassified from accumulated other comprehensive income (loss)	**(88)** (a)	**—**	**(13,804)** (b)	**(13,892)**
Net current-period other comprehensive income (loss)	**(33)**	**32,631**	**(5,249)**	**27,349**
Ending balance – June 30, 2023	**$ 3,176**	**$ (98,574)**	**$ 16,094**	**$ (79,304)**

(thousands of U.S. dollars)	Defined Benefit Plans	Foreign Currency Translation	Interest Rate Derivatives	Total
Beginning balance – April 1, 2022	$ (17,855)	$ (51,414)	$ 6,583	$ (62,686)
Other comprehensive income (loss) before reclassifications	534	(46,038)	3,178	(42,326)
Amounts reclassified from accumulated other comprehensive income (loss)	(2) (a)	—	—	(2)
Net current-period other comprehensive income (loss)	532	(46,038)	3,178	(42,328)
Ending balance – June 30, 2022	$ (17,323)	$ (97,452)	$ 9,761	$ (105,014)
Beginning balance – January 1, 2022	$ (17,581)	$ (66,389)	$ 404	$ (83,566)
Other comprehensive income (loss) before reclassifications	262	(31,063)	9,357	(21,444)
Amounts reclassified from accumulated other comprehensive income (loss)	(4) (a)	—	—	(4)
Net current-period other comprehensive income (loss)	258	(31,063)	9,357	(21,448)
Ending balance – June 30, 2022	$ (17,323)	$ (97,452)	$ 9,761	$ (105,014)

(a) For defined benefit pension plans, amounts reclassified from accumulated other comprehensive income (loss) are recorded to “Other expense (income), net” within the Consolidated Statements of Operations and Comprehensive Income (Loss).

(b) For interest rate derivatives, amounts reclassified from accumulated other comprehensive income (loss) are recorded to “Interest expense, net” within the Consolidated Statements of Operations and Comprehensive Income (Loss).

13. Share-Based Compensation

Pre-IPO Awards

Restricted stock distributed in respect of pre-IPO Class B-1 time vesting units vests on a daily basis pro rata over a five-year vesting period (20% per year) beginning on the original vesting commencement date of the corresponding Class B-1 time vesting units, subject to the grantee's continued services through each vesting date. Upon the occurrence of a change in control of the Company, all then outstanding unvested shares of our common stock distributed in respect of Class B-1 Units will become vested as of the date of consummation of such change in control, subject to the grantee's continued services through the consummation of the change in control.

Restricted stock distributed in respect of pre-IPO Class B-2 Units (which were considered performance vesting units) are scheduled to vest only upon satisfaction of certain thresholds. These units generally vest as of the first date on which (i) our Sponsors have received actual cash proceeds in an amount equal to or in excess of at least two and one-half times their invested capital in Sotera Health Topco Parent, L.P. (of which the Company was a direct wholly owned subsidiary prior to the IPO) and (ii) the Sponsors' internal rate of return exceeds 20%, subject to such grantee's continued services through such date. In the event of a change in control of the Company, any outstanding shares of our common stock distributed in respect of Class B-2 Units that remain unvested immediately following the consummation of such a change in control of the Company shall be immediately canceled and forfeited without compensation. Stock based compensation expense attributed to the pre-IPO Class B-2 awards was recorded in the fourth quarter of 2020 as the related performance conditions were considered probable of achievement and the implied service conditions were met. As of June 30, 2023, these awards remain unvested.

We recognized $0.5 million and $0.5 million of share-based compensation expense related to the pre-IPO Class B-1 awards for the three months ended June 30, 2023 and 2022, respectively, and $1.0 million and $1.1 million for the six months ended June 30, 2023 and 2022, respectively.

A summary of the activity for the six months ended June 30, 2023 related to the restricted stock awards distributed in respect of the pre-IPO awards (Class B-1 and B-2 Units) is presented below:

	Restricted Stock - Pre-IPO B-1	**Restricted Stock - Pre-IPO B-2**
Unvested at December 31, 2022	716,091	1,098,415
Forfeited	(5,378)	(80,051)
Vested	(172,654)	—
Unvested at June 30, 2023	**538,059**	**1,018,364**

2020 Omnibus Incentive Plan

We maintain a long-term incentive plan (the "2020 Omnibus Incentive Plan" or the "2020 Plan") that allows for grants of incentive stock options to employees (including employees of any of our subsidiaries), nonstatutory stock options, restricted stock awards ("RSAs"), restricted stock units ("RSUs") and other cash-based, equity-based or equity-related awards to employees, directors, and consultants, including employees or consultants of our subsidiaries.

We recognized $7.9 million ($3.7 million for stock options and $4.2 million for RSUs) and $5.3 million ($2.2 million for stock options and $3.1 million for RSUs) of share-based compensation expense for these awards for the three months ended June 30, 2023 and 2022, respectively. We recognized $14.7 million ($6.8 million for stock options and $7.9 million for RSUs) and $9.2 million ($3.7 million for stock options and $5.5 million for RSUs) for the six months ended June 30, 2023 and 2022, respectively, in our Consolidated Statements of Operations and Comprehensive Income (Loss), in "Selling, general and administrative expenses."

Stock Options

Stock options generally vest ratably over a period of two to four years. They have an exercise price equal to the fair market value of a share of common stock on the date of grant, and a contractual term of 10 years. The following table summarizes our stock option activity for the six months ended June 30, 2023:

	Number of Shares	Weighted-average Exercise Price
At December 31, 2022	5,990,470	$ 14.84
Granted	1,059,769	17.55
Forfeited	(61,571)	20.93
Exercised	—	—
At June 30, 2023	**6,988,668**	**$ 15.20**

As of June 30, 2023, there were 1.4 million vested and exercisable stock options.

RSUs

RSUs generally vest ratably over a period of one to four years and are valued based on our market price on the date of grant. The following table summarizes our unvested RSUs activity for the six months ended June 30, 2023:

	Number of Shares	Weighted-average Grant Date Fair Value
Unvested at December 31, 2022	2,482,435	$ 13.09
Granted	821,673	16.97
Forfeited	(112,634)	12.47
Vested	(280,557)	20.48
Unvested at June 30, 2023	**2,910,917**	**$ 13.50**

14. Earnings Per Share

Basic earnings per share represents the amount of income attributable to each common share outstanding. Diluted earnings per share represents the amount of income attributable to each common share outstanding adjusted for the effects of potentially dilutive common shares. Potentially dilutive common shares include stock options and other stock-based awards. In the periods where the effect would be antidilutive, potentially dilutive common shares are excluded from the calculation of diluted earnings per share.

In periods in which the Company has net income, earnings per share is calculated using the two-class method. This method is required as unvested restricted stock distributed in respect of pre-IPO Class B-1 and B-2 awards have the right to receive non-forfeitable dividends or dividend equivalents if the Company were to declare dividends on its common stock. Pursuant to the two-class method, earnings for each period are allocated on a pro-rata basis to common stockholders and unvested pre-IPO Class B-1 and B-2 restricted stock awards. Diluted earnings per share is computed using the more dilutive of (a) the two-class method, or (b) treasury stock method, as applicable, to the potentially dilutive instruments.

Our basic and diluted earnings per common share are calculated as follows:

in thousands of U.S. dollars and share amounts (except per share amounts)	Three Months Ended June 30, 2023	Three Months Ended June 30, 2022	Six Months Ended June 30, 2023	Six Months Ended June 30, 2022
Earnings:				
Net income	**$ 23,513**	$ 30,418	**$ 26,355**	$ 61,059
Less: Allocation to participating securities	**137**	308	**159**	645
Net income attributable to Sotera Health Company common shareholders	**$ 23,376**	$ 30,110	**$ 26,196**	$ 60,414
Weighted Average Common Shares:				
Weighted-average common shares outstanding - basic	**280,893**	279,990	**280,793**	279,910
Dilutive effect of potential common shares	**2,254**	181	**2,247**	128
Weighted-average common shares outstanding - diluted	**283,147**	280,171	**283,040**	280,038
Earnings per Common Share:				
Net income per common share attributable to Sotera Health Company common shareholders - basic	**$ 0.08**	$ 0.11	**$ 0.09**	$ 0.22
Net income per common share attributable to Sotera Health Company common shareholders - diluted	**0.08**	0.11	**0.09**	0.22

Diluted earnings per share does not consider the following potential common shares as the effect would be anti-dilutive:

in thousands of share amounts	Three Months Ended June 30, 2023	Three Months Ended June 30, 2022	Six Months Ended June 30, 2023	Six Months Ended June 30, 2022
Stock options	4,283	3,780	3,928	3,337
RSUs	1,308	11	1,138	17
Total anti-dilutive securities	5,591	3,791	5,066	3,354

15. Commitments and Contingencies

From time to time, we may be subject to various lawsuits and other claims, as well as gain contingencies, in the ordinary course of our business. In addition, from time to time, we receive communications from government or regulatory agencies concerning investigations or allegations of noncompliance with laws or regulations in jurisdictions in which we operate.

We establish reserves for specific liabilities in connection with regulatory and legal actions that we determine to be both probable and reasonably estimable. As of June 30, 2023 no material amounts have been accrued in our consolidated financial statements with respect to any loss contingencies. If a potentially material loss contingency is not probable, but is reasonably possible, or is probable but cannot be estimated, then the nature of the contingent liability, together with an estimate of the range of possible loss if determinable and material, would be disclosed. In certain of the matters described below, we are not able to make a reasonable estimate of any liability because of the uncertainties related to the outcome and/or the amount or range of loss. While it is not possible to determine the ultimate disposition of each of these matters, we do not expect that the ultimate resolution of pending regulatory and legal matters in future periods, including the matters described below, will have a material effect on our financial condition, results of operations or liquidity. Despite the above, the Company may incur material defense and settlement costs, diversion of management resources and other adverse effects on our business, financial condition, or results of operations.

Ethylene Oxide Tort Litigation

Sterigenics U.S., LLC ("Sterigenics") and other medical supply sterilization companies have been subjected to tort lawsuits alleging various injuries caused by low-level environmental exposure to EO emissions from sterilization facilities. Those lawsuits, as detailed further below, are individual claims, as opposed to class actions.

Illinois

More than 854 plaintiffs filed lawsuits, and approximately 28 individuals threatened to file lawsuits, against subsidiaries of the Company and other parties, alleging personal injuries (including cancer and other diseases) or wrongful death resulting from purported emissions and releases of EO from Sterigenics' former Willowbrook facility. Additional derivative claims were alleged on behalf of relatives of some of these personal injury plaintiffs. The lawsuits were consolidated for pre-trial purposes by the Circuit Court of Cook County, Illinois (the "Consolidated Case"). Jury trials were conducted during 2022 in two of the individual cases included in the Consolidated Case, and 12 individual cases were scheduled for trials in 2023. The first trial began on August 12, 2022, and on September 19, 2022, the jury rendered a verdict in favor of the plaintiff and awarded damages in the amount of $358.7 million, including $36.1 million of compensatory damages, $320.0 million of punitive damages and $2.6 million of prejudgment interest against Sterigenics and Sotera Health LLC (the "Defendant Subsidiaries"). Post-judgment interest accrued on the compensatory and punitive damages awards from September 20, 2022, the date of the judgment order. The Defendant Subsidiaries filed a Motion for Post Trial Relief, which was denied on December 19, 2022. On January 9, 2023 the Defendant Subsidiaries filed a Notice of Appeal to the First District Appellate Court in Illinois, appealing the September 20, 2022 adverse judgment. The deadline for posting an appellate bond for the appeal was extended to February 8, 2023. The second individual trial began on October 6, 2022, and on November 18, 2022, the jury returned a defense verdict on all counts. On January 4, 2023, the plaintiff in the second trial filed a motion for post-trial relief seeking an order reversing and/or vacating the verdict, granting a new trial, and/or entering judgment in the plaintiff's favor notwithstanding the verdict.

On November 1, 2022 certain plaintiffs in the Consolidated Case filed a lawsuit in the Circuit Court of Cook County against the Company and certain affiliates, subsidiaries and current and former officers, alleging that certain transfers of assets occurring after December 2016 were intended to make assets unavailable to satisfy judgments the plaintiffs might win in future trials in their individual personal injury cases included in the Consolidated Case (the "Asset Transfer Case"). On November 10, 2022, the Asset Transfer Case was removed to the United States District Court for the Northern District of Illinois and all defendants filed answers and affirmative defenses.

On January 9, 2023, the Defendant Subsidiaries (the "Settling Defendants") entered into binding term sheets (the "Term Sheets") with the "Plaintiffs' Executive Committee" (the "PEC") appointed to act on behalf of the more than 20 law firms ("Plaintiffs' Counsel") representing the plaintiffs in the Consolidated Case, the Asset Transfer Case, and other clients with personal injury claims that had not yet been filed (each an "Eligible Claimant" and collectively, the "Eligible Claimants"). Upon entering into the Term Sheets, and based on our assessment that it was probable that the conditions to the Term Sheets would be satisfied or waived, we recorded a charge of $408.0 million for the year ended December 31, 2022. The Term Sheets provided an agreed path to final settlement of the Eligible Claimants' claims, subject to the satisfaction or waiver of certain conditions, including but not limited to the negotiation and execution of full settlement agreements in accordance with the Term Sheets.

On January 11, 2023 and January 13, 2023, the Circuit Court of Cook County entered orders staying all proceedings and deadlines and vacating all trial dates in the Consolidated Case, and staying all enforcement proceedings relating to the September 20, 2022 adverse judgment. On January 16, 2023 the United States District Court for the Northern District of Illinois entered an order staying all proceedings in the Asset Transfer Case. On January 23, 2023 the First District Appellate Court in Illinois entered an order staying the Settling Defendants' appeal of the September 20, 2022 adverse judgment.

On March 28, 2023, the Settling Defendants and the PEC entered into full settlement agreements (the "Settlement Agreements"). The Settlement Agreements provided a pathway to resolve the claims that were or could have been alleged by 882 Eligible Claimants related to or arising from alleged emissions of EO from Sterigenics' operations in or around Willowbrook and related claims that were or could have been alleged by Eligible Claimants seeking to challenge any transfer of assets to or from the Company, its subsidiaries and certain affiliates to any other entity or person (the "Covered Claims"). The Company and Settling Defendants deny any liability for the Covered Claims and, per their express terms, the Settlement Agreements are not to be construed as an admission of liability or that the Company or Settling Defendants engaged in any wrongful, tortious, or unlawful activity or that use and/or emissions of EO from Sterigenics' operations in or around Willowbrook posed any safety hazard to the surrounding communities.

The Settlement Agreements provided that final settlement was conditioned, among other things, on successful completion of a claims administration process and satisfaction (or waiver by the Settling Defendants) of specific participation requirements, the dismissal with prejudice of the Covered Claims of all Eligible Claimants participating in the settlement, and court approval of the settlement as a good faith settlement under the Illinois Joint Contribution Among Tortfeasors Act.

On May 1, 2023, Sterigenics contributed $408.0 million to settlement escrow funds (the “Settlement Funds”) to be used, if the conditions of the Settlement Agreements were satisfied or waived, to pay all settlement fees and expenses and cash payments to the Eligible Claimants participating in the settlement.

The claims administration process concluded with 879 of 882 Eligible Claimants providing opt-in consent to participate in the settlement (the “Settling Claimants”). Pursuant to the Settlement Agreements, the three Eligible Claimants who did not opt in (each a “Non-Settling Claimant,” and collectively the “Non-Settling Claimants”) created an option for the Settling Defendants to exercise walkaway rights. On June 22, 2023, after evaluating the available information about the claims of the Non-Settling Claimants, the Settling Defendants waived their walkaway rights and chose to proceed to final settlement with the Settling Claimants (the “Willowbrook Settlement”).

On June 23, 2023 the Circuit Court of Cook County entered an order confirming that the Willowbrook Settlement was a good-faith settlement under the Illinois Contribution Among Joint Tortfeasors Act. On June 30, 2023, the Settlement Funds were released from escrow to the PEC’s Qualified Settlement Funds. The amounts allocated by the PEC to the Non-Settling Claimants represent an immaterial fraction of the Settlement Funds and will remain in escrow until December 31, 2023, at which point, absent an opt-in election by a Non-Settling Claimant, the funds allocated to that Non-Settling Claimant will revert to Sterigenics. On July 6, 2023, the claims of the Settling Claimants against the Settling Defendants were dismissed with prejudice, with the Circuit Court of Cook County retaining jurisdiction to adjudicate disputes over liens on the settlement proceeds to be paid to the Settling Claimants and to oversee the administration of the settlements of the wrongful death cases.

The three Non-Settling Claimants’ cases will proceed in the Circuit Court of Cook County, Illinois. In June 2023, six new personal injury lawsuits relating to the Willowbrook facility were filed in the Circuit Court of Cook County against Sterigenics, Sotera Health Services, LLC and other parties (the “Post-Settlement Cases”). One Post-Settlement Case has been removed to the United States District Court for the Northern District of Illinois, and a motion to remand is pending. The remaining Post-Settlement Cases will proceed in the Circuit Court of Cook County.

Georgia

Subsidiaries of the Company and other parties are defendants in lawsuits in the State Court of Cobb County, Georgia and the State Court of Gwinnett County, Georgia in which plaintiffs allege personal injury and property devaluation resulting from emissions or releases of EO from or at Sterigenics’ Atlanta facility, and seek damages and other forms of relief.

One personal injury lawsuit pending in Gwinnett County is scheduled for trial in October 2023. Approximately 300 personal injury lawsuits pending in Cobb County have been consolidated for pretrial purposes (the “Consolidated Personal Injury Cases”). The Consolidated Personal Injury Cases are proceeding under a case management order pursuant to which a “pool” of ten personal injury cases will proceed to determination of general causation issues in Phase 1 and, specific causation issues in Phase 2; the remaining Consolidated Personal Injury Cases are stayed. One personal injury lawsuit pending in Cobb County has not been consolidated and is proceeding independently. Nine lawsuits pending in Cobb County include both personal injury and property claims (the “Dual Injury Cases”). By agreement of the parties, the Dual Injury Cases will be included in the Consolidated Personal Injury Cases and stayed.

Our subsidiaries are also defendants in approximately 366 property devaluation lawsuits. One property lawsuit is pending in Gwinnett County and the parties are conducting discovery. The remaining property lawsuits are pending in Cobb County and have been consolidated for pretrial purposes (the “Consolidated Property Cases”). The Consolidated Property Cases are proceeding under a case management order pursuant to which ten cases will proceed with dispositive motions and discovery, and the remaining cases are stayed.

New Mexico

On December 22, 2020, the New Mexico Attorney General filed a lawsuit in the Third Judicial District Court, Doña Ana County, New Mexico against the Company and certain subsidiaries alleging that emissions and releases of EO from Sterigenics' facility in Santa Teresa, New Mexico have deteriorated the air quality in Santa Teresa and surrounding communities and materially contributed to increased health risks suffered by residents of those communities. The Complaint asserts claims for public nuisance, negligence, strict liability, violations of New Mexico's Public Nuisance Statute and Unfair Practices Act and seeks various forms of relief including a temporary restraining order, preliminary injunctive relief and damages. On June 29, 2021, the Court entered an Order Granting Preliminary Injunction (the "Order") prohibiting Sterigenics from allowing any uncontrolled emission or release of EO from the facility. On December 20, 2021 the Court entered an order establishing a protocol to monitor Sterigenics' compliance with the Order. Operations at the facility continue to be in compliance with the June 2021 and December 2021 orders. A motion challenging the Court's jurisdiction over Sotera Health Company and another defendant, and a motion for summary judgment by Sterigenics and Sotera Health LLC are pending. A Scheduling Order was entered on September 13, 2022, including a June 3, 2024 trial date. The Company expects the Court to issue rulings on the pending motions and address the schedule for the remainder of the case in August 2023.

On April 24, 2023, a lawsuit was filed in the Third Judicial District Court, Doña Ana County, New Mexico against the Company, Sterigenics and certain other subsidiaries alleging wrongful death caused by exposure to emissions and releases of EO from Sterigenics' facility in Santa Teresa, New Mexico while the decedent was working at a different company's facility approximately one mile away. Sterigenics removed the case to the United States District Court for the District of New Mexico on April 27, 2023, and filed a partial motion to dismiss on June 2, 2023.

* * *

Additional EO tort lawsuits may be filed in the future against the Company and/or its subsidiaries relating to Sterigenics' Willowbrook, Atlanta, Santa Teresa or other EO facilities. The Company denies allegations that its EO operations could or have caused the harms alleged in such lawsuits, and does not believe that the facts and law justify the September 20, 2022 adverse judgment in the first trial in Illinois or that the verdict and damage awards in that case or the Willowbrook Settlement are predictive of potential future verdicts in other EO tort cases in Illinois or other jurisdictions. The Company intends to defend itself vigorously in all such litigation, which will be presided over by different judges, tried by different counsel presenting different evidence and fact and expert witness testimony at trial, and decided by different juries. Each plaintiff's claim involves unique facts and evidence, including but not limited to, the circumstances of the plaintiff's alleged exposure, the type and severity of the plaintiff's disease and the plaintiff's medical history and course of treatment. As a result, we believe that losses in such subsequent cases are not probable and that it is not possible to estimate the range of loss. Due to the uncertainties associated with the amount of any such liability and/or the nature of any other remedy which may be imposed in such litigation, any potential liability determined to be attributable to the Company or any of its subsidiaries arising out of such litigation may have a material adverse effect on the Company's results of operations, liquidity or financial condition. An estimate of the potential impact on the Company's results of operations, liquidity or financial condition cannot be made to a reasonable or meaningful degree of certainty due to the aforementioned uncertainties.

Insurance Coverage for Environmental Liabilities

Our insurance for litigation related to alleged environmental liabilities, like the litigation pending in Illinois, Georgia and New Mexico described above, has limits of $10.0 million per occurrence and $20.0 million in the aggregate. The per occurrence limit related to the Willowbrook, Illinois litigation was fully utilized by June 30, 2020. The remaining $10.0 million was fully utilized by March 31, 2023 for occurrences related to the EO litigation in Georgia and New Mexico described above. Our insurance for future alleged environmental liabilities excludes coverage for EO claims.

In addition, we are pursuing other insurance coverage for our legal expenses related to litigation like the Illinois, Georgia and New Mexico matters described above. In 2021, Sterigenics filed an insurance coverage lawsuit in the U.S. District Court for the Northern District of Illinois relating to two commercial general liability policies issued in the 1980s (the "No. Dist. of IL Coverage Lawsuit"). The court has issued orders declaring that the defendant insurer owes Sterigenics and another insured party a duty to defend the EO tort litigation relating to the Willowbrook facility and owes Sterigenics approximately $75.5 million in defense costs through September 30, 2022. Sterigenics is also a party in insurance coverage lawsuits, pending in the Delaware Superior Court and the Circuit Court of Cook County, seeking insurance coverage from various historical commercial general liability policies for certain EO litigation settlement amounts and defense costs the insurer in the No. Dist. of IL Coverage Lawsuit may fail to fund. It is unknown how much, if any, of the insurance proceeds sought will be recovered.

Sotera Health Company Securities Litigation & Related Matters

On January 24, 2023, a putative stockholder class action was filed in the U.S. District Court for the Northern District of Ohio against the Company, its directors, certain senior executives, the Company's private equity stockholders and the underwriters of the Company's initial public offering ("IPO") in November 2020 and the Company's secondary public offering ("SPO") in March 2021 (the "Michigan Funds Litigation"). On April 17, 2023 the court appointed the Oakland County Employees' Retirement System, Oakland County Voluntary Employees' Beneficiary Association, and Wayne County Employees' Retirement System (the "Michigan Funds") to serve as lead plaintiff to prosecute claims on behalf of a proposed class of stockholders who acquired shares of the Company in connection with our IPO or SPO or between November 20, 2020 and September 19, 2022 (the "Proposed Class"). The Michigan Funds allege that statements made regarding the safety of the Company's use of EO and/or the litigation and other risks of its EO operations violated Sections 11, 12(a)(2) and 15 of the Securities Act of 1933 (when made in the registration statements for the IPO and SPO) and violated Sections 10(b), Section 20(a) and Rule 10b-5 of the Securities Exchange Act of 1934 (when made in subsequent securities filings and other contexts). On June 1, 2023 the Michigan Funds filed an Amended Complaint seeking damages and other relief on behalf of the Proposed Class. Defendants' motion to dismiss the Amended Complaint was filed on August 2, 2023. In addition, on May 15, 2023 and July 25, 2023 the Company received demands pursuant to 8 Del. C. §220 for inspection of its books and records from individual shareholders purporting to be investigating the Company's internal operations, disclosure practices and other matters alleged and at issue in the Michigan Funds Litigation (the "220 Demands"). The Company believes that the allegations and claims by the Michigan Funds and in the 220 Demands are without merit, and plans to vigorously defend the Michigan Funds Litigation.

16. Financial Instruments and Financial Risk

Derivative Instruments

We do not use derivatives for trading or speculative purposes and are not a party to leveraged derivatives.

Derivatives Designated in Hedge Relationships

From time to time, the Company utilizes interest rate derivatives designated in hedge relationships to manage interest rate risk associated with our variable rate borrowings. These instruments are measured at fair value with changes in fair value recorded as a component of "Accumulated other comprehensive income (loss)" on our Consolidated Balance Sheets.

In March 2023, we entered into an interest rate swap agreement with a notional amount of $400.0 million. The interest rate swap has a forward start date of August 23, 2023 and expires on August 23, 2025. We have designated the interest rate swap as a cash flow hedge designed to hedge the variability of cash flows attributable to changes in the SOFR benchmark interest rate of our 2023 Term Loan. We receive interest at the one-month Term SOFR rate and pay a fixed interest rate under the terms of the swap agreement.

In May 2022, we entered into two interest rate cap agreements with a combined notional amount of $1,000.0 million for a total option premium of $4.1 million. The interest rate caps have a forward start date of July 31, 2023 and expire on July 31, 2024. We have designated these interest rate caps as cash flow hedges designed to hedge the variability of cash flows attributable to changes in the benchmark interest rate of our Term Loan. Under the current terms of the loan agreement, the benchmark interest rate index transitioned from LIBOR to Term SOFR on June 30, 2023. Accordingly, the interest rate cap agreements hedge the variability of cash flows attributable to changes in SOFR by limiting our cash flow exposure related to Term SOFR under a portion of our variable rate borrowings to 3.5%.

In October 2021, we entered into two interest rate cap agreements with a combined notional amount of $1,000.0 million for a total option premium of $1.8 million. Both interest rate caps were effective on December 31, 2022 and expire on July 31, 2023. These interest rate caps are designated as cash flow hedges and are designed to hedge the variability of cash flows attributable to changes in LIBOR (or its successor), the benchmark interest rate being hedged, by limiting our cash flow exposure related to the LIBOR base rate under a portion of our variable rate borrowings to 1.0%.

Derivatives Not Designated in Hedge Relationships

Additionally, from time to time, the Company enters into interest rate derivatives to manage economic risks associated with our variable rate borrowings that are not designated in hedge relationships. These instruments are recorded at fair value on the Consolidated Balance Sheets, with any changes in the value recorded in “Interest expense, net” in the Consolidated Statements of Operations and Comprehensive Income (Loss).

The Company also routinely enters into foreign currency forward contracts to manage foreign currency exchange rate risk of our intercompany loans in certain of our international subsidiaries. The foreign currency forward contracts expire on a monthly basis.

Embedded Derivatives

We have embedded derivatives in certain of our customer and supply contracts as a result of the currency of the contract being different from the functional currency of the parties involved. Changes in the fair value of the embedded derivatives are recognized in “Other expense (income), net” in the Consolidated Statements of Operations and Comprehensive Income (Loss).

The following table provides a summary of the notional and fair values of our derivative instruments:

(in U.S. Dollars; notional in millions, fair value in thousands)	**June 30, 2023**			**December 31, 2022**		
		Fair Value			**Fair Value**	
	Notional Amount	**Derivative Assets**	**Derivative Liabilities**	**Notional Amount**	**Derivative Assets**	**Derivative Liabilities**
Derivatives designated as hedging instruments						
Interest rate caps	**$ 2,000.0** (a)	**$ 20,939**	**$ —**	$ 2,000.0	$ 34,764	$ —
Interest rate swaps	**400.0** (b)	**4,777**	**—**	—	—	—
Derivatives not designated as hedging instruments						
Foreign currency forward contracts	**$ 157.3**	**$ 24**	**$ 14**	$ 151.5	$ —	$ 272
Embedded derivatives	**167.9** (c)	**1,551**	**1,613**	179.9	2,721	3,508
Total	**$ 2,325.6**	**$ 27,291**	**$ 1,627**	$ 2,331.4	$ 37,485	$ 3,780

(a) $1,000.0 million notional amount of interest rate caps designated as hedging instruments have a forward start date beginning on July 31, 2023.
(b) The notional amount of interest rates swaps designated as hedging instruments reflected in the table above has a forward start date beginning on August 23, 2023.
(c) Represents the total notional amounts for certain of the Company’s supply and sales contracts accounted for as embedded derivatives.

Embedded derivatives and foreign currency forward contracts are included in “Prepaid expenses and other current assets” and “Accrued liabilities” on our Consolidated Balance Sheets depending upon their position at period end. Interest rate swaps and interest rate caps are included in “Other assets,” and “Noncurrent liabilities” on the Consolidated Balance Sheets depending upon their position at period end.

The following tables summarize the activities of our derivative instruments for the periods presented, and the line item they are recorded in the Consolidated Statements of Operations and Comprehensive Income (Loss):

(thousands of U.S. dollars)	Three Months Ended June 30,		Six Months Ended June 30,	
	2023	**2022**	**2023**	**2022**
Unrealized gain on interest rate derivatives recorded in interest expense, net	**$ —**	$ (3,100)	**$ —**	$ (9,446)
Realized gain on interest rate derivatives recorded in interest expense, net[(a)]	**(9,400)**	(1,279)	**(18,571)**	(1,279)
Unrealized loss (gain) on embedded derivatives recorded in other expense (income), net	**(973)**	2,435	**(747)**	1,417
Realized loss (gain) on foreign currency forward contracts recorded in foreign exchange (gain) loss	**(2,393)**	1,035	**(1,944)**	(495)
Unrealized loss (gain) on foreign currency forward contracts recorded in foreign exchange (gain) loss	**—**	—	**(282)**	—

(a) For the three and six months ended June 30, 2023, amounts primarily represent quarterly settlement of interest rate caps.

We expect to reclassify approximately $19.3 million of net gains on derivative instruments from accumulated other comprehensive income (loss) to income during the next 12 months associated with our cash flow hedges. Refer to Note 12,“Other Comprehensive Income (Loss)” for unrealized gains on interest rate derivatives recorded in other comprehensive income (loss) and amounts reclassified from accumulated other comprehensive income to interest expense during the three and six months ended June 30, 2023.

Credit Risk

Certain of our financial assets, including cash and cash equivalents, are exposed to credit risk.

We are also exposed, in our normal course of business, to credit risk from our customers. As of June 30, 2023 and December 31, 2022, accounts receivable was net of an allowance for uncollectible accounts of $2.0 million and $1.9 million, respectively.

Credit risk on financial instruments arises from the potential for counterparties to default on their contractual obligations to us. We are exposed to credit risk in the event of non-performance, but do not anticipate non-performance by any of the counterparties to our financial instruments. We limit our credit risk by dealing with counterparties that are considered to be of high credit quality. In the event of non-performance by counterparties, the carrying value of our financial instruments represents the maximum amount of loss that would be incurred.

Our credit team evaluates and regularly monitors changes in the credit risk of our customers. We routinely assess the collectability of accounts receivable and maintain an adequate allowance for uncollectible accounts to address potential credit losses. The process includes a review of customer financial information and credit ratings, current market conditions as well as the expected future economic conditions that may impact the collection of trade receivables. We regularly review our customers’ past due amounts through an analysis of aged accounts receivables, specific customer past due aging amounts, and the history of trade receivables written off. Upon concluding that a receivable balance is not collectible, the balance is written off against the allowance for uncollectible accounts.

Fair Value Hierarchy

The fair value of our financial instruments is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. The valuation techniques we would use to determine such fair values are described as follows: Level 1—fair values determined by inputs utilizing quoted prices in active markets for identical assets or liabilities; Level 2—fair values based on observable inputs other than quoted prices included in Level 1, such as quoted prices for similar assets and liabilities in active markets, quoted prices for identical or similar assets and liabilities in markets that are not active, or other inputs that are observable; Level 3—fair values determined by unobservable inputs reflecting our own assumptions, consistent with reasonably available assumptions made by other market participants.

The following table discloses the fair value of our financial assets and liabilities:

As of June 30, 2023 *(thousands of U.S. dollars)*	**Carrying Amount**	**Fair Value**		
		Level 1	**Level 2**	**Level 3**
Derivatives designated as hedging instruments[a]				
Interest rate caps	**$ 20,939**	**$ —**	**$ 20,939**	**$ —**
Interest rate swaps	**4,777**	—	**4,777**	—
Derivatives not designated as hedging instruments[b]				
Foreign currency forward contract assets	**24**	**—**	**24**	**—**
Foreign currency forward contract liabilities	**14**	**—**	**14**	**—**
Embedded derivative assets	**1,551**	**—**	**1,551**	**—**
Embedded derivative liabilities	**1,613**	**—**	**1,613**	**—**
Current portion of long-term debt[c]				
Term loan B, due 2026	**4,776**	**—**	**4,982**	**—**
Other long-term debt[c]	**449**	**—**	**449**	**—**
Long-Term Debt[d]				
Term loan, due 2026	**1,749,176**	**—**	**1,710,207**	**—**
Term loan B, due 2026	**472,811**	**—**	**493,169**	**—**
Finance Lease Obligations (with current portion)[e]	**69,888**	**—**	**69,888**	**—**

As of December 31, 2022 *(thousands of U.S. dollars)*	**Carrying Amount**	**Fair Value**		
		Level 1	**Level 2**	**Level 3**
Derivatives designated as hedging instruments[a]				
Interest rate caps	$ 34,764	$ —	$ 34,764	$ —
Derivatives not designated as hedging instruments[b]				
Foreign currency forward contracts	272	—	272	—
Embedded derivative assets	2,721	—	2,721	—
Embedded derivative liabilities	3,508	—	3,508	—
Current portion of long-term debt[c]				
Revolving credit facility	196,672	—	$ 196,672	—
Other long-term debt	447	—	$ 447	—
Long-Term Debt[d]				
Term loan, due 2026	1,747,115	—	1,626,460	—
Finance Lease Obligations (with current portion)[e]	58,677	—	58,677	—

(a) Derivatives designated as hedging instruments are measured at fair value with changes in fair value recorded as a component of accumulated other comprehensive income (loss). Interest rate caps and swaps are valued using pricing models that incorporate observable market inputs including interest rate and yield curves.

(b) Derivatives that are not designated as hedging instruments are measured at fair value with gains or losses recognized immediately in the Consolidated Statements of Operations and Comprehensive Income (Loss). Embedded derivatives are valued using internally developed models that rely on observable market inputs, including foreign currency forward curves. Foreign currency forward contracts are valued by reference to changes in the forward foreign currency exchange rate over the life of the contract.

(c) Carrying value of other long-term debt and revolving credit facility approximates fair value.

(d) Carrying amounts of long-term debt instruments are reported net of discounts and debt issuance costs. The estimated fair value of these instruments is based on quoted prices for the term loans due in 2026 in inactive markets as provided by an independent fixed income security pricing service. Fair value approximates carrying value for "Other long-term debt."

(e) Fair value approximates carrying value.

17. Segment Information

We identify our operating segments based on the way we manage, evaluate and internally report our business activities for purposes of allocating resources and assessing performance. We have three reportable segments: Sterigenics, Nordion and Nelson Labs. We have determined our reportable segments based upon an assessment of organizational structure, service types, and internally prepared financial statements. Our chief operating decision maker evaluates performance and allocates resources based on net revenues and segment income after the elimination of intercompany activities. The accounting policies of our reportable segments are the same as those described in Note 1, “Significant Accounting Policies” of the Company’s annual consolidated financial statements and accompanying notes in our 2022 Form 10-K.

Sterigenics

Sterigenics provides outsourced terminal sterilization and irradiation services for the medical device, pharmaceutical, food safety and advanced applications markets using three major technologies: gamma irradiation, EO processing and E-beam irradiation.

Nordion

Nordion is a leading global provider of Co-60 used in the sterilization and irradiation processes for the medical device, pharmaceutical, food safety, and high-performance materials industries, as well as in the treatment of cancer. In addition, Nordion is a leading global provider of gamma irradiation systems.

Nelson Labs

Nelson Labs provides outsourced microbiological and analytical chemistry testing and advisory services for the medical device and pharmaceutical industries.

For the three months ended June 30, 2023, five customers reported within the Nordion segment individually represented 10% or more of the segment’s total net revenues. These customers represented 31.3%, 13.4%, 12.5%, 10.7%, and 10.7% of the total segment’s external net revenues for the three months ended June 30, 2023. For the three months ended June 30, 2022, four customers reported within the Nordion segment individually represented 10% or more of the segment’s total net revenues. These customers represented 21.7%, 15.4%, 13.2%, and 15.9% of the total segment’s external net revenues for the three months ended June 30, 2022.

For the six months ended June 30, 2023, four customers reported within the Nordion segment individually represented 10% or more of the segment’s total net revenues. These customers represented 26.3%, 17.5%, 10.7%, and 10.1% of the total segment’s external net revenues for the six months ended June 30, 2023. For the six months ended June 30, 2022, four customers reported within the Nordion segment individually represented 10% or more of the segment’s total net revenues. These customers represented 18.8%, 12.8%, 15.5%, and 10.6% of the total segment's external net revenues for the six months ended June 30, 2022.

Financial information for each of our segments is presented in the following table:

(thousands of U.S. dollars)	Three Months Ended June 30, 2023	Three Months Ended June 30, 2022	Six Months Ended June 30, 2023	Six Months Ended June 30, 2022
Segment revenues[(a)]				
Sterigenics	**$ 166,590**	$ 157,792	**$ 326,587**	$ 307,254
Nordion	**31,975**	50,478	**40,526**	84,480
Nelson Labs	**56,717**	58,369	**108,759**	111,659
Total net revenues	**$ 255,282**	$ 266,639	**$ 475,872**	$ 503,393
Segment income[(b)]				
Sterigenics	**$ 91,450**	$ 85,098	**$ 174,290**	$ 164,501
Nordion	**17,784**	29,982	**19,310**	48,885
Nelson Labs	**19,251**	21,055	**33,353**	38,098
Total segment income	**$ 128,485**	$ 136,135	**$ 226,953**	$ 251,484

(a) Revenues are reported net of intersegment sales. Our Nordion segment recognized $14.7 million and $15.8 million in revenues from sales to our Sterigenics segment for the three months ended June 30, 2023 and 2022, respectively, and $17.6 million and $31.3 million in revenues from sales to our Sterigenics segment for the six months ended June 30, 2023 and 2022, respectively, that is not reflected in net revenues in the table above. Intersegment sales for Sterigenics and Nelson Labs are immaterial for these periods.

(b) Segment income is only provided on a net basis to the chief operating decision maker and is reported net of intersegment profits.

Corporate operating expenses for executive management, accounting, information technology, legal, human resources, treasury, investor relations, corporate development, tax, purchasing, and marketing not directly incurred by a segment are allocated to the segments based on total net revenue. Corporate operating expenses that are directly incurred by a segment are reflected in each segment's income.

Capital expenditures by segment for the six months ended June 30, 2023 and 2022 were as follows:

(thousands of U.S. dollars)	Six Months Ended June 30, 2023	Six Months Ended June 30, 2022
Sterigenics	**$ 73,725**	$ 55,065
Nordion	**16,283**	10,741
Nelson Labs	**8,126**	5,836
Total capital expenditures	**$ 98,134**	$ 71,642

Total assets and depreciation and amortization expense by segment are not readily available and are not reported separately to the chief operating decision maker.

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A reconciliation of segment income to consolidated income before taxes is as follows:

(thousands of U.S. dollars)	Three Months Ended June 30,		Six Months Ended June 30,	
	2023	**2022**	**2023**	**2022**
Segment income	**$ 128,485**	$ 136,135	**$ 226,953**	$ 251,484
Less adjustments:				
Interest expense, net[(a)]	**25,271**	17,144	**51,811**	33,894
Depreciation and amortization[(b)]	**39,490**	36,939	**79,028**	72,988
Share-based compensation[(c)]	**8,409**	5,801	**15,757**	10,339
Gain on foreign currency and derivatives not designated as hedging instruments, net[(d)]	**(409)**	(1,430)	**126**	(7,982)
Acquisition and divestiture related charges, net[(e)]	**153**	691	**745**	531
Business optimization project expenses[(f)]	**3,322**	470	**5,856**	574
Plant closure expenses[(g)]	**129**	478	**(766)**	1,149
Impairment of investment in unconsolidated affiliate[(h)]	**—**	9,613	**—**	9,613
Professional services and other expenses relating to EO sterilization facilities[(i)]	**17,080**	17,678	**33,382**	35,737
Accretion of asset retirement obligation[(j)]	**555**	598	**1,127**	1,118
COVID-19 expenses[(k)]	**—**	45	**—**	148
Consolidated income before taxes	**$ 34,485**	$ 48,108	**$ 39,887**	$ 93,375

(a) The three and six months ended June 30, 2023 exclude $5.5 million and $7.8 million, respectively, of interest expense, net, on Term Loan B attributable to the loan proceeds that were used to fund the $408.0 million Illinois EO litigation settlement. The three and six months ended June 30, 2022 exclude $3.1 million and $9.4 million, respectively, of unrealized gains on interest rate derivatives not designated as hedging instruments.

(b) Includes depreciation of Co-60 held at gamma irradiation sites.

(c) Represents share-based compensation expense to employees and non-employee directors.

(d) Represents the effects of (i) fluctuations in foreign currency exchange rates, (ii) non-cash mark-to-fair value of embedded derivatives relating to certain customer and supply contracts at Nordion, and (iii) unrealized gains on interest rate caps not designated as hedging instruments.

(e) Represents (i) certain direct and incremental costs related to the acquisitions of RCA and BioScience Labs and certain related integration efforts as a result of those acquisitions, (ii) the earnings impact of fair value adjustments (excluding those recognized within amortization expense) resulting from the businesses acquired, and (iii) transition services income and non-cash deferred lease income associated with the terms of the divestiture of the Medical Isotopes business in 2018.

(f) Represents professional fees, exit costs, severance and other payroll costs, and other costs associated with business optimization and cost savings projects relating to the integration of acquisitions, operating structure realignment and other process enhancement projects.

(g) Represents professional fees, severance and other payroll costs, and other costs including ongoing lease and utility expenses associated with the closure of the Willowbrook, Illinois facility. The six months ended June 30, 2023 also includes a $1.0 million cancellation fee received from a tenant in connection with the termination of an office space lease at the Nordion facility.

(h) Represents an impairment charge on our equity method investment in a joint venture. Refer to Note 1, "Basis of Presentation".

(i) Represents litigation and other professional fees associated with our EO sterilization facilities. This includes $5.5 million and $7.8 million of interest expense, net for the three and six months ended June 30, 2023, respectively, associated with Term Loan B that was issued to finance the $408.0 million cost to settle approximately 880 pending and threatened EO claims against the Settling Defendants in Illinois under Settlement Agreements entered into on March 28, 2023. See Note 15, "Commitments and Contingencies."

(j) Represents non-cash accretion of asset retirement obligations related to Co-60 and gamma processing facilities, which are based on estimated site remediation costs for any future decommissioning of these facilities (without regard for whether the decommissioning services would be performed by employees of Nordion, instead of by a third party) and are accreted over the life of the asset.

(k) Represents non-recurring costs associated with the COVID-19 pandemic, including incremental costs to implement workplace health and safety measures.

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

You should read the following discussion and analysis in conjunction with our consolidated financial statements and related notes included in Part I, Item 1 of this Quarterly Report on Form 10-Q, as well as the audited consolidated financial statements and notes and Management’s Discussion and Analysis of Financial Condition and Results of Operations contained in our 2022 Form 10-K. This discussion and analysis contains forward-looking statements that are based on management’s current expectations, estimates and projections about our business and operations. Our actual results may differ materially from those currently anticipated and expressed in such forward-looking statements as a result of various factors, including the factors we describe in the section entitled Part II, Item 1A, “Risk Factors” in this Quarterly Report on Form 10-Q, as well as Part I, Item 1A, “Risk Factors” in our 2022 Form 10-K.

OVERVIEW

We are a leading global provider of mission-critical end-to-end sterilization solutions, lab testing and advisory services for the healthcare industry. We are driven by our mission: Safeguarding Global Health®. We provide end-to-end sterilization as well as microbiological and analytical lab testing and advisory services to help ensure that medical, pharmaceutical and food products are safe for healthcare practitioners, patients and consumers in the United States and around the world. Our services are an essential aspect of our customers’ manufacturing process and supply chains, helping to ensure sterilized medical products reach healthcare practitioners and patients. Most of these services are necessary for our customers to satisfy applicable government requirements.

We serve our customers throughout their product lifecycles, from product design to manufacturing and delivery, helping to ensure the sterility, effectiveness and safety of their products for the end user. We operate across two core businesses: sterilization services and lab services. The combination of Sterigenics, our terminal sterilization business, and Nordion, our Co-60 supply business, makes us the only vertically integrated global gamma sterilization provider in the sterilization industry. For financial reporting purposes, our sterilization services business consists of two reportable segments, Sterigenics and Nordion, and our lab services business consists of one reportable segment, Nelson Labs.

For the three and six months ended June 30, 2023, respectively, we recorded net revenues of $255.3 million and $475.9 million, net income of $23.5 million and $26.4 million, Adjusted Net Income of $59.3 million and $97.3 million, and Adjusted EBITDA of $128.5 million and $227.0 million. For the definition of Adjusted Net Income and Adjusted EBITDA and the reconciliation of these non-GAAP measures from net income, please see “Non-GAAP Financial Measures.”

STRATEGIC DEVELOPMENTS AND KEY FACTORS AFFECTING OUR RESULTS OF OPERATIONS

The following summarizes strategic developments and key factors that impacted our operating results for the three and six months ended June 30, 2023 and may continue to affect our performance and financial condition in future periods.

- **Business and market conditions**. Consolidated revenue and net income for the three and six months ended June 30, 2023 declined from the same periods of the prior year, mainly driven by expected Nordion Co-60 harvest schedule timing combined with unfavorable volume and change in mix at Nelson Labs and Sterigenics. Notwithstanding these headwinds, Sterigenics sustained favorable revenue growth for the three and six months ended June 30, 2023 compared to the same periods in the prior year, fueled mainly by the benefits of favorable pricing. As previously disclosed, we continue to expect Nordion Co-60 harvest schedules to improve in the second half of the year.

  As discussed in more detail in our 2022 Form 10-K, a portion of our supply of Co-60 is generated by Russian nuclear reactors. We continue to monitor the potential for disruption in the supply of Co-60 from Russian nuclear reactors but we do not expect a material impact for the remainder of 2023 on our supply or revenue.

- **Investment initiatives.** We remain focused on our investments in capacity expansions and facility improvements as well as in our efforts to strengthen our Co-60 supply chain. For the six months ended June 30, 2023, we increased capital expenditures by $26.5 million compared to the six months ended June 30, 2022.

- **Disciplined and strategic M&A activity**. We remain committed to our highly disciplined acquisition strategy and continue to seek suitable acquisition targets.

- **Litigation costs**. We are currently the subject of tort lawsuits alleging personal injury by purported exposure to EO emitted by our former facility in Willowbrook, Illinois and our current facilities in Atlanta, Georgia and Santa Teresa, New Mexico. In addition, we are defendants in a lawsuit brought by the State of New Mexico Attorney General alleging that emissions of EO from our Santa Teresa facility constitute a public nuisance and materially contributed to increased health risks suffered by residents in the area. We maintain that these facilities did not pose and do not pose any safety risk to their surrounding communities. We deny the allegations in these lawsuits and are vigorously defending against these claims.

  In connection with the ongoing litigation related to our Willowbrook, Illinois, Atlanta, Georgia and Santa Teresa, New Mexico facilities, as described in Note 15, "Commitments and Contingencies", we recorded costs of $17.1 million and $33.4 million for the three and six months ended June 30, 2023, respectively. On January 9, 2023, Sterigenics U.S., LLC and Sotera Health LLC (the "Settling Defendants") entered into binding term sheets and on March 28, 2023 the Settling Defendants entered into full agreements to settle 879 pending and threatened EO claims against the Defendant Subsidiaries in the Circuit Court of Cook County, Illinois, and U.S. District Court for the Northern District of Illinois (the "Settlement Agreements"). On May 1, 2023, pursuant to the Settlement Agreements, the Company paid $408.0 million into a settlement escrow fund to settle the claims, subject to the satisfaction or waiver of certain conditions, including but not limited to substantially all of the plaintiffs providing opt-in consents to their individual settlement allocations and dismissing their claims with prejudice.

  On June 22, 2023, the opt-in process was completed for the January 2023 settlements of the EO claims against the Settling Defendants in the Circuit Court of Cook County, Illinois and the Settling Defendants elected to proceed with settlements with the 879 eligible claimants who opted in. On June 30, 2023, all but an immaterial fraction of the settlement funds were released from escrow. The claims of the Settling Claimants against the Settling Defendants were dismissed with prejudice. An immaterial fraction of the settlement funds remains in escrow with respect to three claimants who did not opt in; these funds will revert to Sterigenics U.S., LLC if these claimants do not opt in before December 31, 2023.

  The Settlement Agreements provided a pathway to comprehensively resolve the claims pending and threatened against the Company in Illinois and thereby enable the Company to focus its attention on operating the business. The Company denies any liability and maintains that its Willowbrook, Illinois operations did not pose a safety risk to the community in which it operated and believes the evidence ultimately would have compelled the rejection of the plaintiffs' claims. See Note 15, "Commitments and Contingencies" to our consolidated financial statements.

- **Borrowings, financing costs and financial leverage**. On February 23, 2023 the Company successfully closed on a new senior secured Term Loan B facility in an aggregate principal amount of $500.0 million. The Company used the proceeds of this debt to pay down existing borrowings under the Company's revolving credit facility and fund the $408.0 million EO litigation settlement in Cook County, Illinois. In addition, the Company plans to use the remaining proceeds to further enhance liquidity and for other general corporate purposes.

  On March 21, 2023, the Company also entered into an Incremental Facility Amendment to the First Lien Credit Agreement ("Revolving Credit Facility Amendment"), which provides for an increase in the commitments under the existing revolving credit facility in an aggregate principal amount of $76.3 million. The Revolving Credit Facility Amendment also provides additional commitments for the issuance of letters of credit under the Revolving Credit Facility in an aggregate principal amount of $165.1 million. After giving effect to the Revolving Credit Facility Amendment, the aggregate amount of the revolving commitments under the Revolving Credit Facility is $423.8 million.

CONSOLIDATED RESULTS OF OPERATIONS

Three Months Ended June 30, 2023 as compared to Three Months Ended June 30, 2022

The following table sets forth the components of our results of operations for the three months ended June 30, 2023 and 2022.

(thousands of U.S. dollars)	2023	2022	$ Change	% Change
Total net revenues	**$ 255,282**	$ 266,639	$ (11,357)	(4.3)%
Total cost of revenues	**115,694**	116,243	(549)	(0.5)%
Total operating expenses	**76,384**	78,901	(2,517)	(3.2)%
Operating income	**63,204**	71,495	(8,291)	(11.6)%
Net income	**23,513**	30,418	(6,905)	(22.7)%
Adjusted Net Income[(a)]	**59,295**	75,825	(16,530)	(21.8)%
Adjusted EBITDA[(a)]	**128,485**	136,135	(7,650)	(5.6)%

(a) Adjusted Net Income and Adjusted EBITDA are non-GAAP financial measures. For more information regarding our calculation of Adjusted Net Income and Adjusted EBITDA, including information about their limitations as tools for analysis and a reconciliation of net income, the most directly comparable financial measure calculated and presented in accordance with GAAP, to Adjusted Net Income and Adjusted EBITDA, please see the reconciliation included below in "Non-GAAP Financial Measures."

Total Net Revenues

The following table compares our revenues by type for the three months ended June 30, 2023 to the three months ended June 30, 2022.

(thousands of U.S. dollars)

Net revenues for the three months ended June 30,	2023	2022	$ Change	% Change
Service	**$ 226,050**	$ 221,529	$ 4,521	2.0 %
Product	**29,232**	45,110	(15,878)	(35.2)%
Total net revenues	**$ 255,282**	$ 266,639	$ (11,357)	(4.3)%

Net revenues were $255.3 million in the three months ended June 30, 2023, a decrease of $11.4 million, or 4.3%, as compared with the three months ended June 30, 2022. Excluding the impact of foreign currency exchange rates, net revenues in the three months ended June 30, 2023 decreased approximately 4.1% compared with the three months ended June 30, 2022.

Service revenues

Service revenues increased $4.5 million, or 2.0%, to $226.1 million in the three months ended June 30, 2023 as compared to $221.5 million in the three months ended June 30, 2022. The growth in net service revenue was driven by favorable pricing of $10.6 million and $2.1 million in the Sterigenics and Nelson Labs segments, respectively, coupled with a $1.0 million favorable impact from changes in foreign currency exchange rates across all segments. Partially offsetting these growth factors was a decline in service revenue volume and change in mix of $4.1 million, $2.7 million, and $2.4 million in the Nelson Labs, Sterigenics and Nordion segments, respectively.

Product revenues

Product revenues decreased $15.9 million, or 35.2%, to $29.2 million in the three months ended June 30, 2023 as compared to $45.1 million in the three months ended June 30, 2022. The decrease in product revenues was mainly driven by expected volume decline and change in mix of $17.2 million due to Co-60 harvest schedule timing in the Nordion segment and an unfavorable impact from changes in foreign currency exchange rates of $1.6 million. Partially offsetting this decline was a favorable pricing impact of $2.9 million.

Total Cost of Revenues

The following table compares our cost of revenues by type for the three months ended June 30, 2023 to the three months ended June 30, 2022.

(thousands of U.S. dollars)

Cost of revenues for the three months ended June 30,	2023	2022	$ Change	% Change
Service	**$ 103,900**	$ 98,407	$ 5,493	5.6 %
Product	**11,794**	17,836	(6,042)	(33.9)%
Total cost of revenues	**$ 115,694**	$ 116,243	$ (549)	(0.5)%

Total cost of revenues accounted for approximately 45.3% and 43.6% of our consolidated net revenues for the three months ended June 30, 2023 and 2022, respectively.

Cost of service revenues

Cost of service revenues increased $5.5 million, or 5.6%, for the three months ended June 30, 2023 as compared to the three months ended June 30, 2022. The growth in cost of service revenues was partially driven by $3.6 million of depreciation related to capital assets recently placed in service and higher energy costs. In addition, cost of service revenue increased by $2.1 million as a result of higher labor costs, largely stemming from both the addition of new personnel and higher compensation costs.

Cost of product revenues

Cost of product revenues decreased $6.0 million, or 33.9%, for the three months ended June 30, 2023 as compared to the three months ended June 30, 2022. The decrease was primarily a result of lower direct material and material transportation costs of $5.5 million due to expected Co-60 harvest schedule timing in the Nordion segment coupled with a $0.7 million impact due to changes in foreign currency exchange rates.

Operating Expenses

The following table compares our operating expenses for the three months ended June 30, 2023 to the three months ended June 30, 2022:

(thousands of U.S. dollars)

Operating expenses for the three months ended June 30,	2023	2022	$ Change	% Change
Selling, general and administrative expenses	**$ 60,287**	$ 63,132	$ (2,845)	(4.5)%
Amortization of intangible assets	**16,097**	15,769	328	2.1 %
Total operating expenses	**$ 76,384**	$ 78,901	$ (2,517)	(3.2)%

Operating expenses accounted for approximately 29.9% and 29.6% of our consolidated net revenues for the three months ended June 30, 2023 and 2022, respectively.

Selling, general and administrative expenses (“SG&A”)

SG&A decreased $2.8 million, or 4.5%, for the three months ended June 30, 2023 as compared to the three months ended June 30, 2022. The decrease was driven primarily by a $6.0 million decrease in litigation and other professional services expense associated with EO sterilization facilities. Partially offsetting this decrease was a $2.6 million increase in share-based compensation expense attributable to awards granted under the 2020 Omnibus Incentive Plan and $1.0 million in incremental SG&A personnel in support of various business enhancement and compliance efforts.

Amortization of intangible assets

Amortization of intangible assets increased $0.3 million to $16.1 million, or 2.1%, for the three months ended June 30, 2023 as compared to the three months ended June 30, 2022 due mainly to changes in foreign currency exchange rates.

Interest Expense, Net

Interest expense, net increased $16.7 million, or 118.8%, for the three months ended June 30, 2023 as compared to the three months ended June 30, 2022. The variance was driven by an increase in the variable interest rate driving increased interest expense of $16.7 million on borrowings previously outstanding in the same period of the prior year coupled with interest expense of $11.1 million on incremental borrowings. Partially offsetting the increase was a $6.8 million increase in interest income on cash and cash equivalents on deposit at financial institutions and a $5.0 million net favorable change due to interest rate derivative activity. The weighted average interest rate on our outstanding debt was 8.20% and 3.81% at June 30, 2023 and 2022, respectively.

Impairment of Investment in Unconsolidated Affiliate

During the three months ended June 30, 2022, we recorded an impairment charge of $9.6 million related to a joint venture investment in Auralux Enterprises Ltd. (“Auralux”) which was acquired as part of the 2020 Iotron acquisition. Due to a shift in business strategy, the joint venture will not proceed, and our joint venture partner will continue to rely on our other existing operating facilities. Based on these facts and circumstances, we concluded that the investment was impaired as of June 30, 2022.

Foreign Exchange Loss (Gain)

Foreign exchange loss was $0.5 million for the three months ended June 30, 2023 as compared to a gain of $0.8 million in the three months ended June 30, 2022. The change in foreign exchange loss (gain) in our Consolidated Statements of Operations and Comprehensive Income (Loss) mainly relates to short-term losses (offset by short-term gains) on sales denominated in currencies other than the functional currency of our operating entities. As described in Note 16, “Financial Instruments and Financial Risk”, we enter into monthly U.S. dollar-denominated foreign currency forward contracts to manage foreign currency exchange rate risk related to our international subsidiaries.

Other Expense (Income), Net

Other income, net was $2.5 million for the three months ended June 30, 2023 compared to other expense of $0.5 million for the three months ended June 30, 2022. The majority of the variance stemmed from an increase in the fair value of Nordion’s embedded derivative assets in the three months ended June 30, 2023, resulting in an increase in other income of $3.4 million from the three months ended June 30, 2023.

Provision for Income Taxes

Provision for income tax decreased $6.7 million to a net provision of $11.0 million for the three months ended June 30, 2023 as compared to $17.7 million in the three months ended June 30, 2022. The change was primarily attributable to lower pre-tax income for the three months ended June 30, 2023 compared to the three months ended June 30, 2022, partially offset by an increase in the valuation allowance, which was a direct result of the $408.0 million Illinois EO litigation settlement as described in Note 15, “Commitments and Contingencies”. This expense will eliminate a current deduction of 2023 U.S. interest and increase the valuation allowance against our excess interest expense carryforward balance.

Provision for income taxes for the three months ended June 30, 2023 differed from the statutory rate primarily to the impact of the foreign rate differential, the valuation allowance attributable to the limitation on the deductibility of interest expense, and global intangible low-tax income (“GILTI”). Provision for income taxes for the three months ended June 30, 2022 differed from the statutory rate primarily due to a net increase in the valuation allowance attributable to the limitation on the deductibility of interest expense, the impact of the foreign rate differential, and GILTI.

Net Income, Adjusted Net Income and Adjusted EBITDA

Net income for the three months ended June 30, 2023 was $23.5 million, as compared to net income of $30.4 million for the three months ended June 30, 2022 due to the factors described above. Adjusted Net Income was $59.3 million for the three months ended June 30, 2023, as compared to $75.8 million for the three months ended June 30, 2022, and Adjusted EBITDA was $128.5 million for the three months ended June 30, 2023, as compared to $136.1 million for the three months ended June 30, 2022. Please see “Non-GAAP Financial Measures” below for a reconciliation of Adjusted Net Income and Adjusted EBITDA to their most directly comparable financial measure calculated and presented in accordance with GAAP.

Six Months Ended June 30, 2023 as compared to Six Months Ended June 30, 2022

The following table sets forth the components of our results of operations for the six months ended June 30, 2023 and 2022.

(thousands of U.S. dollars)	2023	2022	$ Change	% Change
Total net revenues	**$ 475,872**	$ 503,393	$ (27,521)	(5.5)%
Total cost of revenues	**224,781**	224,122	659	0.3 %
Total operating expenses	**154,521**	154,284	237	0.2 %
Operating income	**96,570**	124,987	(28,417)	(22.7)%
Net income	**26,355**	61,059	(34,704)	(56.8)%
Adjusted Net Income[a]	**97,340**	136,079	(38,739)	(28.5)%
Adjusted EBITDA[a]	**226,953**	251,484	(24,531)	(9.8)%

(a) Adjusted Net Income and Adjusted EBITDA are non-GAAP financial measures. For more information regarding our calculation of Adjusted Net Income and Adjusted EBITDA, including information about their limitations as tools for analysis and a reconciliation of net income, the most directly comparable financial measure calculated and presented in accordance with GAAP, to Adjusted Net Income and Adjusted EBITDA, please see the reconciliation included below in "Non-GAAP Financial Measures."

Total Net Revenues

The following table compares our revenues by type for the six months ended June 30, 2023 to the six months ended June 30, 2022.

(thousands of U.S. dollars)

Net revenues for the six months ended June 30,	2023	2022	$ Change	% Change
Service	**$ 440,560**	$ 427,747	$ 12,813	3.0 %
Product	**35,312**	75,646	(40,334)	(53.3)%
Total net revenues	**$ 475,872**	$ 503,393	$ (27,521)	(5.5)%

Net revenues were $475.9 million in the six months ended June 30, 2023, a decrease of $27.5 million, or 5.5%, as compared with the six months ended June 30, 2022. Excluding the impact of foreign currency exchange rates, net revenues in the six months ended June 30, 2023 decreased approximately 4.6% compared with the six months ended June 30, 2022.

Service revenues

Service revenues increased $12.8 million, or 3.0%, to $440.6 million in the six months ended June 30, 2023 as compared to $427.7 million in the six months ended June 30, 2022. The growth in net service revenues was driven by favorable pricing of $19.8 million and $4.2 million in the Sterigenics and Nelson Labs segments, respectively. Partially offsetting the favorable price increases was a decline in service revenue volume and change in mix of $6.9 million and $3.3 million in the Nelson Labs and Nordion segments, respectively, coupled with a $1.2 million unfavorable impact from changes in foreign currency exchange rates across all segments.

Product revenues

Product revenues decreased $40.3 million, or 53.3%, to $35.3 million in the six months ended June 30, 2023 as compared to $75.6 million in the six months ended June 30, 2022. The decrease in product revenues was mainly driven by expected volume decline and change in mix of $40.3 million due to Co-60 harvest schedule timing in the Nordion segment and an unfavorable impact from changes in foreign currency exchange rates of $2.9 million. Partially offsetting this decline was a favorable pricing impact of $2.9 million.

Total Cost of Revenues

The following table compares our cost of revenues by type for the six months ended June 30, 2023 to the six months ended June 30, 2022.

(thousands of U.S. dollars)

Cost of revenues for the six months ended June 30,	2023	2022	$ Change	% Change
Service	**$ 208,110**	$ 192,983	$ 15,127	7.8 %
Product	**16,671**	31,139	(14,468)	(46.5)%
Total cost of revenues	**$ 224,781**	$ 224,122	$ 659	0.3 %

Total cost of revenues accounted for approximately 47.2% and 44.5% of our consolidated net revenues for the six months ended June 30, 2023 and 2022, respectively.

Cost of service revenues

Cost of service revenues increased $15.1 million, or 7.8%, for the six months ended June 30, 2023 as compared to the six months ended June 30, 2022. The growth in cost of service revenues was partially driven by $8.7 million of higher energy costs and depreciation related to capital assets recently placed in service. In addition, cost of service revenue increased by $6.2 million and $1.0 million, respectively, as a result of higher employee compensation and professional service costs. Partially offsetting this increase was a $1.0 million impact from changes in foreign currency exchange rates.

Cost of product revenues

Cost of product revenues decreased $14.5 million, or 46.5%, for the six months ended June 30, 2023 as compared to the six months ended June 30, 2022. The decrease was primarily a result of lower direct material and material transportation costs of $12.5 million due to expected Co-60 harvest schedule timing in the Nordion segment coupled with a $1.6 million impact due to changes in foreign currency exchanges rates.

Operating Expenses

The following table compares our operating expenses for the six months ended June 30, 2023 to the six months ended June 30, 2022:

(thousands of U.S. dollars)

Operating expenses for the six months ended June 30,	2023	2022	$ Change	% Change
Selling, general and administrative expenses	**$ 122,197**	$ 122,674	$ (477)	(0.4)%
Amortization of intangible assets	**32,324**	31,610	714	2.3 %
Total operating expenses	**$ 154,521**	$ 154,284	$ 237	0.2 %

Operating expenses accounted for approximately 32.5% and 30.6% of our consolidated net revenues for the six months ended June 30, 2023 and 2022, respectively.

SG&A

SG&A decreased $0.5 million, or 0.4%, for the six months ended June 30, 2023 as compared to the six months ended June 30, 2022. The decrease was driven primarily by a $10.0 million decrease in litigation and other professional services expense associated with EO sterilization facilities. This decrease was partially offset by the following factors:

- $5.4 million increase in share-based compensation expense attributable to awards granted under the 2020 Omnibus Incentive Plan;
- $2.5 million in professional fees and other costs associated with business optimization and cost savings projects relating to the integration of recent acquisitions; and
- $1.7 million of incremental SG&A personnel costs in support of various business enhancement and compliance efforts.

Amortization of intangible assets

Amortization of intangible assets increased $0.7 million to $32.3 million, or 2.3%, for the six months ended June 30, 2023 as compared to the three months ended June 30, 2022 due mainly to changes in foreign currency exchange rates.

Interest Expense, Net

Interest expense, net increased $35.2 million, or 143.8%, for the six months ended June 30, 2023 as compared to the six months ended June 30, 2022. The variance was driven by an increase in the variable interest rate driving increased interest expense of $33.5 million on borrowings previously outstanding in the same period of the prior year coupled with interest expense of $17.7 million on incremental borrowings. Partially offsetting the increase was a $9.4 million increase in interest income on cash and cash equivalents on deposit at financial institutions and a $7.9 million net favorable change due to interest rate derivative activity. The weighted average interest rate on our outstanding debt was 8.20% and 3.81% at June 30, 2023 and 2022, respectively.

Impairment of Investment in Unconsolidated Affiliate

During the six months ended June 30, 2022, we recorded an impairment charge of $9.6 million related to a joint venture investment in Auralux, which was acquired as part of the 2020 Iotron acquisition. Due to a shift in business strategy, the joint venture will not proceed, and our joint venture partner will continue to rely on our other existing operating facilities. Based on these facts and circumstances, we concluded that the investment was impaired as of June 30, 2022.

Foreign Exchange Loss

Foreign exchange loss was $0.8 million for the six months ended June 30, 2023 as compared to an immaterial loss in the six months ended June 30, 2022. The change in foreign exchange loss in our Consolidated Statements of Operations and Comprehensive Income (Loss) mainly relates to short-term losses (offset by short-term gains) on sales denominated in currencies other than the functional currency of our operating entities. As described in Note 16, “Financial Instruments and Financial Risk”, we enter into monthly U.S. dollar-denominated foreign currency forward contracts to manage foreign currency exchange rate risk related to our international subsidiaries.

Other Expense (Income), Net

Other income, net was $3.7 million for the six months ended June 30, 2023 compared to $2.5 million for the six months ended June 30, 2022. The majority of the variance stemmed from an increase in the fair value of Nordion’s embedded derivatives in the six months ended June 30, 2023, resulting in an increase in other income of $2.2 million compared to the same the period in the prior year.

Provision for Income Taxes

Provision for income taxes decreased $18.8 million to a net provision of $13.5 million for the six months ended June 30, 2023 as compared to $32.3 million in the six months ended June 30, 2022. The change was primarily attributable to lower pre-tax income for the six months ended June 30, 2023 compared to the six months ended June 30, 2022, partially offset by an increase in the the foreign rate differential and valuation allowance against our excess interest expense carryforward balance. The increase in the valuation allowance was a direct result of the $408.0 million Illinois EO litigation settlement, as described in Note 15, “Commitments and Contingencies”. This expense will eliminate a current deduction of 2023 U.S. interest and increases the valuation allowance against our excess interest expense carryforward balance.

Provision for income taxes for the six months ended June 30, 2023 differed from the statutory rate due to the impact of the foreign rate differential, the valuation allowance attributable to the limitation on the deductibility of interest expense and global GILTI, partially offset by a benefit for state income taxes. Provision for income taxes for the six months ended June 30, 2022 differed from the statutory rate primarily due to a net increase in the foreign differential, and GILTI.

Net Income, Adjusted Net Income and Adjusted EBITDA

Net income for the six months ended June 30, 2023 was $26.4 million, as compared to net income of $61.1 million for the six months ended June 30, 2022 due to the factors described above. Adjusted Net Income was $97.3 million for the six months ended June 30, 2023, as compared to $136.1 million for the six months ended June 30, 2022, and Adjusted EBITDA was $227.0 million for the six months ended June 30, 2023, as compared to $251.5 million for the six months ended June 30, 2022. Please see “Non-GAAP Financial Measures” below for a reconciliation of Adjusted Net Income and Adjusted EBITDA to their most directly comparable financial measure calculated and presented in accordance with GAAP.

SEGMENT RESULTS OF OPERATIONS

We have three reportable segments: Sterigenics, Nordion and Nelson Labs. Our chief operating decision maker evaluates performance and allocates resources within our business based on Segment Income, which excludes certain items which are included in income before tax as determined in our Consolidated Statements of Operations and Comprehensive Income (Loss). The accounting policies for our reportable segments are the same as those for the consolidated Company.

Our Segments

Sterigenics

Our Sterigenics business provides outsourced terminal sterilization and irradiation services for the medical device, pharmaceutical, food safety and advanced applications markets using three major technologies: gamma irradiation, EO processing and E-beam irradiation.

Nordion

Nordion is a leading global provider of Co-60 used in the sterilization and irradiation processes for the medical device, pharmaceutical, food safety, and high-performance materials industries, as well as in the treatment of cancer. In addition, Nordion is a leading global provider of gamma irradiation systems.

As a result of the time required to meet regulatory and logistics requirements for delivery of radioactive products, combined with accommodations made to our customers to minimize disruptions to their operations during the installation of Co-60, Nordion sales patterns can often vary significantly from one quarter to the next. However, timing-related impacts on our sales performance tend to be resolved within several quarters, resulting in more consistent performance over longer periods of time. In addition, sales of gamma irradiation systems occur infrequently and tend to be for larger amounts.

Results for our Nordion segment are also impacted by Co-60 mix, harvest schedules, as well as customer, product and service mix.

Nelson Labs

Our Nelson Labs business provides outsourced microbiological and analytical chemistry testing and advisory services for the medical device and pharmaceutical industries.

For more information regarding our reportable segments please refer to Note 17, “Segment Information” to our consolidated financial statements.

Segment Results for the Three Months Ended June 30, 2023 and 2022

The following tables compare segment net revenue and segment income for the three months ended June 30, 2023 to the three months ended June 30, 2022:

	Three Months Ended June 30,			
(thousands of U.S. dollars)	**2023**	**2022**	**$ Change**	**% Change**
Net Revenues				
Sterigenics	**$ 166,590**	$ 157,792	$ 8,798	5.6 %
Nordion	**31,975**	50,478	(18,503)	(36.7 %)
Nelson Labs	**56,717**	58,369	(1,652)	(2.8) %
Segment Income				
Sterigenics	**$ 91,450**	$ 85,098	$ 6,352	7.5 %
Nordion	**17,784**	29,982	(12,198)	(40.7) %
Nelson Labs	**19,251**	21,055	(1,804)	(8.6) %
Segment Income margin				
Sterigenics	**54.9 %**	53.9 %		
Nordion	**55.6 %**	59.4 %		
Nelson Labs	**33.9 %**	36.1 %		

Net Revenues by Segment

Sterigenics net revenues were $166.6 million for the three months ended June 30, 2023, an increase of $8.8 million, or 5.6%, as compared to the three months ended June 30, 2022. The increase reflects favorable impacts from pricing of 6.7% as well as favorable changes in foreign currency exchange rates. The increase in segment revenue was partially offset by an unfavorable impact from volume and change in mix compared to the same period in the prior year.

Nordion net revenues were $32.0 million for the three months ended June 30, 2023, a decrease of $18.5 million, or 36.7%, as compared to the three months ended June 30, 2022. The decrease was driven by an expected volume decline and change in mix of 38.8%, due mainly to Co-60 harvest schedule timing, and an unfavorable impact of 3.6% from changes in foreign currency exchange rates. Partially offsetting this decrease was a favorable impact from pricing of 5.7%.

Nelson Labs net revenues were $56.7 million for the three months ended June 30, 2023, a decrease of $1.7 million, or 2.8%, as compared to the three months ended June 30, 2022. The decrease was attributable to volume decline and change in mix of 6.9%. Partially offsetting this decline was a favorable impact from pricing and foreign currency exchange rates of 3.6% and 0.5%, respectively.

Segment Income

Sterigenics segment income was $91.5 million for the three months ended June 30, 2023, an increase of $6.4 million, or 7.5%, as compared to the three months ended June 30, 2022. The increase in segment income and segment income margin was primarily a result of favorable customer pricing, partially offset by unfavorable volume and change in mix, as well as inflation.

Nordion segment income was $17.8 million for the three months ended June 30, 2023, a decrease of $12.2 million, or 40.7%, as compared to the three months ended June 30, 2022. The decrease in segment income and segment income margin was driven by expected volume decline and change in mix stemming from Co-60 harvest schedule timing, partially offset by favorable pricing.

Nelson Labs segment income was $19.3 million for the three months ended June 30, 2023, a decrease of $1.8 million, or 8.6%, as compared to the three months ended June 30, 2022. The decrease in segment income and segment income margin was primarily a result of volume decline and change in mix as well as inflation, partially offset by favorable pricing, as referenced above.

Segment Results for the Six Months Ended June 30, 2023 and 2022

The following tables compare segment net revenue and segment income for the six months ended June 30, 2023 to the six months ended June 30, 2022:

	Six Months Ended June 30,			
(thousands of U.S. dollars)	**2023**	**2022**	**$ Change**	**% Change**
Net Revenues				
Sterigenics	**$ 326,587**	$ 307,254	$ 19,333	6.3 %
Nordion	**40,526**	84,480	(43,954)	(52.0 %)
Nelson Labs	**108,759**	111,659	(2,900)	(2.6) %
Segment Income				
Sterigenics	**$ 174,290**	$ 164,501	$ 9,789	6.0 %
Nordion	**19,310**	48,885	(29,575)	(60.5) %
Nelson Labs	**33,353**	38,098	(4,745)	(12.5) %
Segment Income margin				
Sterigenics	**53.4 %**	53.5 %		
Nordion	**47.6 %**	57.9 %		
Nelson Labs	**30.7 %**	34.1 %		

Net Revenues by Segment

Sterigenics net revenues were $326.6 million for the six months ended June 30, 2023, an increase of $19.3 million, or 6.3%, as compared to the six months ended June 30, 2022. The increase was primarily attributable to the favorable impacts from pricing of 6.4%, partially offset by unfavorable impacts from changes in foreign currency exchange rates of 0.2%.

Nordion net revenues were $40.5 million for the six months ended June 30, 2023, a decrease of $44.0 million, or 52.0%, as compared to the six months ended June 30, 2022. The decrease was driven by an expected volume decline and change in mix of 51.6% due to Co-60 harvest schedule timing, and an unfavorable impact of 3.8% from changes in foreign exchange rates. Partially offsetting this decrease was a favorable impact from pricing of 3.4%.

Nelson Labs net revenues were $108.8 million for the six months ended June 30, 2023, a decrease of $2.9 million, or 2.6%, as compared to the six months ended June 30, 2022. The decrease was attributable to volume decline and change in mix of 6.2% coupled with a 0.2% impact from changes in foreign currency exchanges rates. Partially offsetting this decline was a favorable impact from pricing of 3.8%.

Segment Income

Sterigenics segment income was $174.3 million for the six months ended June 30, 2023, an increase of $9.8 million, or 6.0%, as compared to the six months ended June 30, 2022. The increase in segment income was fueled mainly by favorable customer pricing, as referenced above, partially offset by unfavorable volume and change in mix, as well as inflation.

Nordion segment income was $19.3 million for the six months ended June 30, 2023, a decrease of $29.6 million, or 60.5%, as compared to the six months ended June 30, 2022. The decrease in segment income and segment income margin was driven by expected volume decline and change in mix stemming from Co-60 harvest schedule timing, as referenced above.

Nelson Labs segment income was $33.4 million for the six months ended June 30, 2023, a decrease of $4.7 million, or 12.5%, as compared to the six months ended June 30, 2022. The decrease in segment income and segment income margin was primarily a result of volume decline and change in mix as well as inflation, partially offset by favorable pricing, as referenced above.

NON-GAAP FINANCIAL MEASURES

To supplement our consolidated financial statements presented in accordance with GAAP, we consider Adjusted Net Income and Adjusted EBITDA, financial measures that are not based on any standardized methodology prescribed by GAAP.

We define Adjusted Net Income as net income before amortization and certain other adjustments that we do not consider in our evaluation of our ongoing operating performance from period to period as discussed further below. We define Adjusted EBITDA as Adjusted Net Income before interest expense, depreciation (including depreciation of Co-60 used in our operations) and income tax provision applicable to Adjusted Net Income.

We use Adjusted Net Income and Adjusted EBITDA, non-GAAP financial measures, as the principal measures of our operating performance. Management believes Adjusted Net Income and Adjusted EBITDA are useful because they allow management to more effectively evaluate our operating performance and compare the results of our operations from period to period without the impact of certain non-cash items and non-routine items that we do not expect to continue at the same level in the future and other items that are not core to our operations. We believe that these measures are useful to our investors because they provide a more complete understanding of the factors and trends affecting our business than could be obtained absent this disclosure. In addition, we believe Adjusted Net Income and Adjusted EBITDA will assist investors in making comparisons to our historical operating results and analyzing the underlying performance of our operations for the periods presented. Our management also uses Adjusted Net Income and Adjusted EBITDA in their financial analysis and operational decision-making, and Adjusted EBITDA serves as the basis for the metric we utilize to determine attainment of our primary annual incentive program. Adjusted Net Income and Adjusted EBITDA may be calculated differently from, and therefore may not be comparable to, a similarly titled measure used by other companies.

Adjusted Net Income and Adjusted EBITDA should not be considered in isolation from, or as a substitute for, financial information prepared in accordance with GAAP. There are a number of limitations related to the use of Adjusted Net Income and Adjusted EBITDA rather than net income, the nearest GAAP equivalent. For example, Adjusted Net Income and Adjusted EBITDA primarily exclude:

- certain recurring non-cash charges such as depreciation of fixed assets, although these assets may have to be replaced in the future, as well as amortization of acquired intangible assets and asset retirement obligations;
- costs of acquiring and integrating businesses, which will continue to be a part of our growth strategy;
- non-cash gains or losses from fluctuations in foreign currency exchange rates and the mark-to-fair value of derivatives not designated as hedging instruments, which includes the embedded derivatives relating to certain customer and supply contracts at Nordion;
- impairment charges on long-lived assets, intangible assets and investments accounted for under the equity method;
- loss on extinguishment of debt incurred in connection with refinancing or early extinguishment of long-term debt;
- expenses and charges related to the litigation, settlement agreements, and other activities associated with our EO sterilization facilities, including those in Willowbrook, Illinois, Atlanta, Georgia and Santa Teresa, New Mexico, even though that litigation remains ongoing;
- in the case of Adjusted EBITDA, interest expense or the cash requirements necessary to service interest or principal payments on our indebtedness; and
- share-based compensation expense, which has been, and will continue to be for the foreseeable future, a significant recurring expense and an important part of our compensation strategy.

In evaluating Adjusted Net Income and Adjusted EBITDA, you should be aware that in the future, we will incur expenses similar to the adjustments in the table below. Our presentations of Adjusted Net Income and Adjusted EBITDA should not be construed as suggesting that our future results will be unaffected by these expenses or any unusual or non-recurring items. When evaluating our performance, you should consider Adjusted Net Income and Adjusted EBITDA alongside other financial performance measures, including our net income and other GAAP measures.

The following table presents a reconciliation of net income, the most directly comparable financial measure calculated and presented in accordance with GAAP to Adjusted Net Income and Adjusted EBITDA, for each of the periods indicated:

	Three Months Ended June 30,		Six Months Ended June 30,	
(thousands of U.S. dollars)	**2023**	**2022**	**2023**	**2022**
Net income	**$ 23,513**	$ 30,418	**$ 26,355**	$ 61,059
Amortization of intangibles	**20,502**	21,195	**41,109**	41,377
Share-based compensation[(a)]	**8,409**	5,801	**15,757**	10,339
Loss (gain) on foreign currency and derivatives not designated as hedging instruments, net[(b)]	**(409)**	(1,430)	**126**	(7,982)
Acquisition and divestiture related charges, net[(c)]	**153**	691	**745**	531
Business optimization project expenses[(d)]	**3,322**	470	**5,856**	574
Plant closure expenses[(e)]	**129**	478	**(766)**	1,149
Impairment of investment in unconsolidated affiliate[(f)]	**—**	9,613	**—**	9,613
Professional services and other expenses relating to EO sterilization facilities[(g)]	**17,080**	17,678	**33,382**	35,737
Accretion of asset retirement obligations[(h)]	**555**	598	**1,127**	1,118
COVID-19 expenses[(i)]	**—**	45	**—**	148
Income tax benefit associated with pre-tax adjustments[(j)]	**(13,959)**	(9,732)	**(26,351)**	(17,584)
Adjusted Net Income	**59,295**	75,825	**97,340**	136,079
Interest expense, net[(k)]	**25,271**	17,144	**51,811**	33,894
Depreciation[(l)]	**18,988**	15,744	**37,919**	31,611
Income tax provision applicable to Adjusted Net Income[(m)]	**24,931**	27,422	**39,883**	49,900
Adjusted EBITDA[(n)]	**$ 128,485**	$ 136,135	**$ 226,953**	$ 251,484

(a) Represents share-based compensation expense to employees and non-employee directors.

(b) Represents the effects of (i) fluctuations in foreign currency exchange rates, (ii) non-cash mark-to-fair value of embedded derivatives relating to certain customer and supply contracts at Nordion, and (iii) unrealized gains on interest rate caps not designated as hedging instruments.

(c) Represents (i) certain direct and incremental costs related to the acquisitions of RCA and BioScience Labs and certain related integration efforts as a result of those acquisitions, (ii) the earnings impact of fair value adjustments (excluding those recognized within amortization expense) resulting from the businesses acquired, and (iii) transition services income and non-cash deferred lease income associated with the terms of the divestiture of the Medical Isotopes business in 2018.

(d) Represents professional fees, exit costs, severance and other payroll costs, and other costs associated with business optimization and cost savings projects relating to the integration of acquisitions, operating structure realignment and other process enhancement projects.

(e) Represents professional fees, severance and other payroll costs, and other costs including ongoing lease and utility expenses associated with the closure of the Willowbrook, Illinois facility. The six months ended June 30, 2023 also includes a $1.0 million cancellation fee received from a tenant in connection with the termination of an office space lease at the Nordion facility.

(f) Represents an impairment charge on our equity method investment in a joint venture. Refer to Note 1, "Basis of Presentation".

(g) Represents litigation and other professional fees associated with our EO sterilization facilities. This includes $5.5 million and $7.8 million of interest expense, net for the three and six months ended June 30, 2023, respectively, associated with Term Loan B that was issued to finance the $408.0 million cost to settle approximately 880 pending and threatened EO claims against the Settling Defendants in Illinois under Settlement Agreements entered into on March 28, 2023. See Note 15, "Commitments and Contingencies."

(h) Represents non-cash accretion of asset retirement obligations related to Co-60 and gamma processing facilities, which are based on estimated site remediation costs for any future decommissioning of these facilities (without regard for whether the decommissioning services would be performed by employees of Nordion, instead of by a third party) and are accreted over the life of the asset.

(i) Represents non-recurring costs associated with the COVID-19 pandemic, including incremental costs to implement workplace health and safety measures.

(j) Represents the income tax impact of adjustments calculated based on the tax rate applicable to each item. We eliminate the effect of tax rate changes as applied to tax assets and liabilities and unusual items from our presentation of adjusted net income.

(k) The three and six months ended June 30, 2023 exclude $5.5 million and $7.8 million, respectively, of interest expense, net, on Term Loan B attributable to the loan proceeds that were used to fund the $408.0 million Illinois EO litigation settlement. The three and six months ended June 30, 2022 exclude $3.1 million and $9.4 million, respectively, of unrealized gains on interest rate derivatives not designated as hedging instruments.

(l) Includes depreciation of Co-60 held at gamma irradiation sites.

(m) Represents the difference between the income tax provision as determined under U.S. GAAP and the income tax provision or benefit associated with pre-tax adjustments described in footnote (j).

(n) $24.4 million and $20.9 million of the adjustments for the three months ended June 30, 2023 and 2022, respectively, and $47.2 million and $40.7 million of the adjustments for the six months ended June 30, 2023 and 2022, respectively, are included in cost of revenues, primarily consisting of amortization of intangible assets, depreciation, and accretion of asset retirement obligations.

LIQUIDITY AND CAPITAL RESOURCES

Sources of Cash

The primary sources of liquidity for our business are cash flows from operations and borrowings under our credit facilities. As of June 30, 2023, we had $270.5 million of cash and cash equivalents. This is a decrease of $125.8 million from the balance at December 31, 2022. The decrease in cash and cash equivalents was mainly attributable to the release of approximately $408.0 million to settle the EO claims against the Settling Defendants in Cook County, Illinois and a $200.0 million paydown of the outstanding balance on the Revolving Credit Facility. Partially offsetting this decrease was $500.0 million in proceeds from the issuance of Term Loan B on February 23, 2023. Our foreign subsidiaries held cash of approximately $152.8 million at June 30, 2023 and $158.3 million at December 31, 2022, to meet their liquidity needs. No material restrictions exist to accessing cash held by our foreign subsidiaries notwithstanding any potential tax consequences.

On February 23, 2023, we entered into the First Lien Credit Agreement (the “2023 Credit Agreement”), which provides for, among other things, a new Term Loan B facility in an aggregate principal amount of $500.0 million and bears interest, at the Company’s option, at a variable rate per annum equal to either (x) the Term SOFR Rate (as defined in the 2023 Credit Agreement) plus an applicable margin of 3.75% or (y) an alternative base rate (“ABR”) plus an applicable margin of 2.75%. The 2023 Credit Agreement is secured on a first priority basis on substantially all of our assets and is guaranteed by certain of our subsidiaries. It is prepayable without premium or penalty at any time six months after the closing date. The principal balance shall be paid at 1% of the aggregate principal amount ($5.0 million) per year, with the balance due at the end of 2026. The Company used the proceeds of this debt to fund a previously announced $408.0 million EO litigation settlement in Cook County, Illinois on May 1, 2023 and pay down existing borrowings under the Company’s revolving credit facility. In addition, the Company plans to use the remaining proceeds to further enhance liquidity and for general corporate purposes.

Uses of Cash

We expect that cash on hand, operating cash flows and amounts available under our credit facilities will provide sufficient working capital to operate our business, meet foreseeable liquidity requirements, including debt service on our long-term debt, make expected capital expenditures including investments in fixed assets to build and/or expand existing facilities, and meet litigation costs that we expect to continue to incur for at least the next twelve months. Our primary long-term liquidity requirements beyond the next 12 months will be to service our debt, make capital expenditures, and fund suitable business acquisitions. As of June 30, 2023, there were no outstanding borrowings on the Revolving Credit Facility. We expect any excess cash provided by operations will be allocated to fund capital expenditures, potential acquisitions, or for other general corporate purposes. Our ability to meet future working capital, capital expenditures and debt service requirements will depend on our future financial performance, which will be affected by a range of macroeconomic, competitive and business factors, including interest rate changes and changes in our industry, many of which are outside of our control. As of June 30, 2023, our interest rate caps and swap limit our cash flow exposure of our variable rate borrowings under the Term Loans. Refer to Note 16, “Financial Instruments and Financial Risk”, “*Derivative Instruments*” for additional information regarding the interest rate caps used to manage economic risks associated with our variable rate borrowings.

Capital Expenditures

Our capital expenditure program is a component of our long-term strategy. This program includes, among other things, investments in new and existing facilities, business expansion projects, Co-60 used by Sterigenics at its gamma irradiation facilities, cobalt development projects and information technology enhancements. During the six months ended June 30, 2023, our capital expenditures amounted to $98.1 million, compared to $71.6 million for the six months ended June 30, 2022.

Cash Flow Information

(thousands of U.S. dollars)	Six Months Ended June 30,	
	2023	**2022**
Net Cash Provided by (Used in):		
Operating activities	**$ (302,704)**	$ 108,256
Investing activities	**(98,102)**	(71,192)
Financing activities	**273,206**	(1,083)
Effect of foreign currency exchange rate changes on cash and cash equivalents	**1,796**	(2,287)
Net increase (decrease) in cash and cash equivalents, including restricted cash	**$ (125,804)**	$ 33,694

Operating activities

Cash flows from operating activities decreased $411.0 million to net cash used of $302.7 million in the six months ended June 30, 2023 compared to $108.3 million provided by operating activities for the six months ended June 30, 2022. The decrease in cash flows from operating activities in the six months ended June 30, 2023 compared to the six months ended June 30, 2022 was primarily due to the release of the settlement funds of approximately $408.0 million on June 30, 2023 in connection with the settlements of the EO claims in Cook County, Illinois.

Investing activities

Cash used by investing activities increased $26.9 million to net cash used of $98.1 million in the six months ended June 30, 2023 compared to $71.2 million for the six months ended June 30, 2023. The variance was primarily driven by an increase in capital expenditures of $26.5 million in the six months ended June 30, 2023 compared to the six months ended June 30, 2022.

Financing activities

Cash provided by financing activities increased $274.3 million to net cash provided of $273.2 million for the six months ended June 30, 2023 compared to $1.1 million of cash used for financing activities for the six months ended June 30, 2022. The difference was mainly attributable to $500.0 million in proceeds from the issuance of Term Loan B on February 23, 2023, partially offset by the $200.0 million paydown of the outstanding balance on the revolving credit facility and the payment of $24.7 million of debt issuance costs incurred in connection with the issuance of Term Loan B and the revolving credit facility amendment during the six months ended June 30, 2023, as described in “Debt Facilities” below. Financing activities for the three months ended June 30, 2022 were insignificant.

Debt Facilities

Senior Secured Credit Facilities

On December 13, 2019, Sotera Health Holdings, LLC (“SHH”), our wholly owned subsidiary, entered into senior secured first lien credit facilities (the “Senior Secured Credit Facilities”), consisting of both a prepayable senior secured first lien term loan (the “Term Loan”) and a senior secured first lien revolving credit facility (the “Revolving Credit Facility”) pursuant to a first lien credit agreement (the “Credit Agreement”). The Revolving Credit Facility and Term Loan mature on June 13, 2026 and December 13, 2026, respectively. After giving effect to the Revolving Credit Facility Amendment (defined below), the total borrowing capacity under the Revolving Credit Facility is $423.8 million. The Senior Secured Credit Facilities also provide SHH the right at any time and under certain conditions to request incremental term loans or incremental revolving credit commitments based on a formula defined in the Senior Secured Credit Facilities. As of June 30, 2023 and December 31, 2022, total borrowings under the Term Loan were $1,763.1 million. The weighted average interest rate on borrowings under the Term Loan for the three months ended June 30, 2023 and June 30, 2022 was 7.89% and 3.53%, respectively, and 7.66% and 3.39% for the six months ended June 30, 2023 and June 30, 2022, respectively.

On February 23, 2023, we entered into the First Lien Credit Agreement (the “2023 Credit Agreement”), which provides for, among other things, a new Term Loan B facility in an aggregate principal amount of $500.0 million and bears interest, at the Company’s option, at a variable rate per annum equal to either (x) the Term SOFR Rate (as defined in the 2023 Credit Agreement) plus an applicable margin of 3.75% or (y) an alternative base rate (“ABR”) plus an applicable margin of 2.75%. The 2023 Credit Agreement is secured on a first priority basis on substantially all of our assets and is guaranteed by certain of our subsidiaries. It is prepayable without premium or penalty at any time six months after the closing date. The principal balance shall be paid at 1% of the aggregate principal amount ($5.0 million) per year, with the balance due at the end of 2026. The Company used the proceeds of this debt to fund a previously announced $408.0 million EO litigation settlement in Cook County, Illinois and pay down the $200.0 million of existing borrowings under the Revolving Credit Facility concurrent with the funding of this loan on February 23, 2023. In addition, the Company plans to use the remaining proceeds to further enhance liquidity and for general corporate purposes. The weighted average interest rate on borrowings under Term Loan B for the three months ended June 30, 2023 was 8.82%.

On March 21, 2023, the Company entered into the Revolving Credit Facility Amendment, which provides for an increase in the commitments under the existing Revolving Credit Facility in an aggregate principal amount of $76.3 million. In addition, certain of the lenders providing revolving credit commitments have provided additional commitments for the issuance of the letters of credit under the Revolving Credit Facility in an aggregate principal amount of $165.1 million. The Revolving Credit Facility Amendment also provides for the replacement of the LIBOR-based reference interest rate option for revolving loans with a reference rate option based upon the Term Secured Overnight Financing Rate (“Term SOFR”) or Daily Simple SOFR (“Daily SOFR”) plus an applicable credit spread adjustment of 0.1% (subject to a minimum floor of 0.0%). After giving effect to the Revolving Credit Facility Amendment, the aggregate amount of the Lenders' revolving commitments is $423.8 million and the aggregate amount of letter of credit commitments is $361.3 million. Letter of credit commitments are part of and not in addition to the aggregate revolving commitments. The maturity date of the Revolving Credit Facility remains June 13, 2026. As of June 30, 2023 there were no borrowings outstanding on the Revolving Credit Facility. The Company borrowed $200.0 million on the Revolving Credit Facility during the fourth quarter of 2022, which was repaid in the first quarter of 2023, as noted above.

The Senior Secured Credit Facilities and 2023 Credit Agreement contain additional covenants that, among other things, restrict, subject to certain exceptions, our ability and the ability of our restricted subsidiaries to engage in certain activities, such as incur indebtedness or permit to exist any lien on any property or asset now owned or hereafter acquired, as specified in the Senior Secured Credit Facilities and 2023 Credit Agreement. The Senior Secured Credit Facilities and 2023 Credit Agreement also contain certain customary affirmative covenants and events of default, including upon a change of control. An event of default under the Senior Secured Credit Facilities and 2023 Credit Agreement would occur if the Company or certain of its subsidiaries received one or more enforceable judgments for payment in an aggregate amount in excess of $100.0 million, which judgment or judgments are not stayed or remain undischarged for a period of 60 consecutive days or if, in order to enforce such a judgment, a judgment creditor attached or levied upon assets that are material to the business and operations, taken as a whole, of the Company and certain of its subsidiaries. As of June 30, 2023, we were in compliance with all the Senior Secured Credit Facilities and 2023 Credit Agreement covenants.

All of SHH's obligations under the Senior Secured Credit Facilities and 2023 Credit Agreement are unconditionally guaranteed by the Company and each existing and subsequently acquired or organized direct or indirect wholly-owned domestic restricted subsidiary of the Company, with customary exceptions including, among other things, where providing such guarantees is not permitted by law, regulation or contract or would result in material adverse tax consequences. All obligations under the Senior Secured Credit Facilities and 2023 Credit Agreement, and the guarantees of such obligations, are secured by substantially all assets of the borrower and guarantors, subject to permitted liens and other exceptions and exclusions, as outlined in the Senior Secured Credit Facilities and 2023 Credit Agreement.

Outstanding letters of credit are collateralized by encumbrances against the Revolving Credit Facility and the collateral pledged thereunder, or by cash placed on deposit with the issuing bank. As of June 30, 2023, the Company had $51.7 million of letters of credit issued against the Revolving Credit Facility, resulting in total availability under the Revolving Credit Facility of $372.1 million.

Term Loan Interest Rate Risk Management

The Company utilizes interest rate derivatives to reduce the variability of cash flows in the interest payments associated with our variable rate debt due to changes in LIBOR (up to June 22, 2023) and SOFR. For additional information on the derivative instruments described above, refer to Note 16, "Financial Instruments and Financial Risk", *"Derivatives Instruments."*

LIBOR Transition

Publication of all U.S. LIBOR tenors ceased after June 30, 2023. To align with the market phaseout of LIBOR, SHH entered into an amendment to the Senior Secured Credit Facilities to replaces the LIBOR-based reference interest rate option under the Term Loan with a reference interest rate option based on Term SOFR plus an applicable credit spread adjustment of 0.11448% (for one-month interest periods), 0.26161% (for three-month interest periods) and 0.42826% (for six-month interest periods) (in all cases, subject to a minimum floor of 0.50%).

In accordance with ASC 848 *Reference Rate Reform*, we have elected to apply certain optional expedients for contract modifications and hedging relationships for derivative instruments impacted by the benchmark interest rate transition. The optional expedients remove the requirement to remeasure contract modifications or dedesignate hedging relationships impacted by reference rate reform.

CRITICAL ACCOUNTING POLICIES AND ESTIMATES

The preparation of consolidated financial statements and related disclosures in conformity with GAAP requires management to make judgments, estimates and assumptions at a specific point in time and in certain circumstances that affect amounts reported in the accompanying consolidated financial statements. In preparing these consolidated financial statements, management has made its best estimates and judgments of certain amounts, giving due consideration to materiality. The application of accounting policies involves the exercise of judgment and use of assumptions as to future uncertainties and, as a result, actual results could differ from these estimates.

A comprehensive discussion of the Company's critical accounting policies and management estimates made in connection with the preparation of the financial statements is included in Item 7 of 2022 Form 10-K. There have been no significant changes in critical accounting policies, management estimates or accounting policies since the year ended December 31, 2022.

NEW ACCOUNTING PRONOUNCEMENTS

For a description of recent accounting pronouncements applicable to our business, see Note 2, “Recent Accounting Standards” to our consolidated financial statements.

Item 3. Quantitative and Qualitative Disclosures About Market Risk

Market risks are described within “Quantitative and Qualitative Disclosures About Market Risk” in Part II, Item 7A of our 2022 Form 10-K. These market risks have not materially changed for the three and six months ended June 30, 2023.

Item 4. Controls and Procedures

Evaluation of Disclosure Controls and Procedures

Our management, with the participation of our Chief Executive Officer (“CEO”) and Chief Financial Officer (“CFO”), has evaluated the effectiveness of the Company’s “disclosure controls and procedures,” (as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended (“Exchange Act”)). Based upon their evaluation, the CEO and CFO concluded that, as of the end of the period covered by this Quarterly Report on Form 10-Q, our disclosure controls and procedures are effective to provide reasonable assurance that information we are required to disclose in reports that we file or submit under the Exchange Act is recorded, processed, summarized, and reported within the time periods specified in the rules and forms of the Securities and Exchange Commission (“SEC”), and that such information is accumulated and communicated to our management, including our CEO and CFO, as appropriate, to allow timely decisions regarding required disclosure.

Changes in Internal Control

During the three and six months ended June 30, 2023, there were no changes in our internal control over financial reporting that materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Part II—OTHER INFORMATION

Item 1. Legal Proceedings.

From time to time, we may be subject to various legal proceedings arising in the ordinary course of our business, including claims relating to personal injury, property damage, workers' compensation, employee safety and our disclosures as a Nasdaq-listed, publicly-traded company. In addition, from time to time, we receive communications from government or regulatory agencies concerning investigations or allegations of noncompliance with laws or regulations in jurisdictions in which we operate. At this time, and except as is noted herein, we are unable to predict the outcome of, and cannot reasonably estimate the impact of, any pending litigation matters, matters concerning allegations of non-compliance with laws or regulations and matters concerning other allegations of other improprieties, or the incidence of any such matters in the future. Information regarding our material legal proceedings is included below.

Legal Proceedings Described in Note 15 "Commitments and Contingencies" of Our Consolidated Financial Statements

Note 15, "Commitments and Contingencies" to our consolidated financial statements for the three and six months ended June 30, 2023 contained in this Quarterly Report on Form 10-Q includes information on legal proceedings that constitute material contingencies for financial reporting purposes that could have a material effect on our financial condition or results of operations. This item should be read in conjunction with Note 15 "Commitments and Contingencies" for information regarding the following legal proceedings, which information is incorporated into this item by reference:

- Ethylene Oxide Tort Litigation – Illinois, Georgia and New Mexico;
- Insurance Coverage for Environmental Liabilities; and
- Sotera Health Company Securities Litigation and Related Matters.

Legal Proceedings That Are Not Described in Note 15 "Commitments and Contingencies" to Our Consolidated Financial Statements

In addition to the matters that are identified in Note 15 "Commitments and Contingencies" to our consolidated financial statements for the three and six months ended June 30, 2023 contained in this Quarterly Report on Form 10-Q, and incorporated into this item by reference, the following matter also constitutes a pending legal proceeding, other than ordinary course litigation incidental to our business, to which we are or any of our subsidiaries is a party.

Zoetermeer, Holland Criminal Proceedings and Criminal Financial Investigation

In 2010, the Dutch Public Prosecution Service started criminal proceedings against our subsidiary DEROSS Holding B.V. ("DEROSS"), in relation to alleged environmental permit violations for EO emissions in the period from 2004 to 2009 at its Zoetermeer processing facility. We agreed to defend and indemnify the two individuals overseeing environmental compliance during the time period of the alleged claims by the Public Prosecutor. In November 2010, the Public Prosecution Service also started a criminal financial investigation against DEROSS to determine whether it obtained illegal advantages by committing the alleged criminal offenses noted above.

In February 2018, DEROSS and the two individuals received favorable judgments from the trial court, which did not hold any of them responsible for the alleged criminal offenses. In March 2018, the Public Prosecutor filed an appeal against the favorable judgments. In May 2023, the Public Prosecutor agreed to a resolution of the proceedings against DEROSS and the two individuals. Pursuant to this agreed resolution, the Public Prosecutor has withdrawn the appeals against the 2018 judgments in the cases of the two individuals. In addition, the Public Prosecutor has agreed to terminate the proceedings against DEROSS on the condition that DEROSS fulfills its obligations under the agreed resolution, including a contribution of €990,000 to a charity. The resolution of proceedings against DEROSS is further conditioned on approval by the Dutch courts.

An escrow was established in 2011 to satisfy indemnity claims for losses related to this matter. The balance of special escrow funds as of June 30, 2023, was approximately US$1.8 million and the cash collateral held by ABN Amro to provide security for the claims against us was approximately €2.4 million (US$2.6 million) as of June 30, 2023. At this time, there can be no assurance that the agreed resolution of this matter will be completed. If resolution is unsuccessful, we expect that the appeal of this matter could take several years to resolve; however, we believe the indemnification receivable continues to be recoverable and plan to ensure escrow funds remain in place to cover the agreed resolution described above or outcomes of an appeal.

While we have received letters in past years from a small number of individuals claiming to live or work in the vicinity of the Zoetermeer facility, no civil claims have been filed against DEROSS or us. It is possible that these or other individuals living in the vicinity of the Zoetermeer facility may file civil claims at some time in the future. We have not provided for a contingency reserve in connection with any civil claims as we are unable to determine the probability of an unfavorable outcome and no reasonable estimate of a loss or range of losses, if any, can be made.

Notice of Violation for Ethylene Oxide Emissions from Our Facility in Queensbury, New York

In late May 2023, Sterigenics' Queensbury, NY facility experienced a power outage that resulted in a failure to restart the facility's scrubber system, which is part of the facility's emission control systems. The disruption of the facility's scrubber lasted for approximately 48 hours. Upon discovering the disruption, the facility restarted the scrubber to control emissions within the system and then ceased operations. Operating without the scrubber resulted in nine intermittent releases of ethylene oxide over a period of 48 hours from the 78-foot stack at the facility.

Sterigenics promptly notified the New York State Department of Environmental Conservation ("DEC") and the US Environmental Protection Agency ("US EPA") about the failure of the scrubber system and resulting releases of ethylene oxide. Sterigenics implemented remedial measures to prevent a recurrence in the event of future power outages and, with the DEC's approval, resumed operations at the Queensbury facility 12 days after ceasing operations. Sterigenics received a Notice of Violation from the DEC on May 30, 2023 and expects to be fined in an amount to be determined by the DEC.

Item 1A. Risk Factors.

The risk factor titled "We are subject to extensive regulatory requirements and routine regulatory audits in our operations. …" included in Part I, Item 1A, "Risk Factors" of our 2022 Form 10-K for the year ended December 31, 2022, as amended by our Quarterly Report on Form 10-Q for the quarter ended March 31, 2023, is hereby updated by deleting the final paragraph thereof and substituting the paragraph immediately below in its place. Other than such substitution, the text of the risk factor is unchanged.

In April 2023, the US EPA proposed stricter EO regulations based on the 2016 IRIS Assessment, including (1) a proposed interim decision under FIFRA that sets forth measures designed to mitigate EO exposure, in particular for workers exposed to EO in occupational settings, and (2) proposed amendments to the NESHAP governing commercial EO sterilization facilities like ours that would require these facilities to implement additional air pollution control technologies, practices and procedures designed to further reduce EO emissions from EO facilities. These April 2023 proposals contain a number of proposed requirements that are inconsistent with existing industry practices and set forth proposed implementation timelines that would be difficult to meet at existing facilities for some of the proposed requirements. The public comment period on these proposals closed in late June 2023, with thousands of comments received by the US EPA, which may lead to clarifications and revisions in the final US EPA regulations. Although we have been implementing enhancements at our EO sterilization facilities in the United States that we expect will facilitate our ability to meet many of the proposed requirements, certain facets of the proposed requirements are untested or not widely adopted at existing EO sterilization facilities. Compliance with the proposals in the form proposed in April 2023 will require additional facility modifications as well as added capital and operational costs, and some requirements (if adopted as proposed) could be unachievable at our EO facilities and at existing EO facilities throughout the industry. The US EPA has stated it plans to adopt final requirements by the first half of 2024 and its April 2023 proposals contemplate that existing facilities will be required to comply with many of the requirements as soon as 18 months following adoption.

Item 5. Other Information.

Rule 10b5-1 Trading Plans

During the three months ended June 30, 2023, none of the Company's directors or executive officers adopted or terminated any contract, instruction or written plan for the purchase or sale of Company securities that was intended to satisfy the affirmative defense conditions of Rule 10b5-1(c) or any "non-Rule 10b5-1 trading arrangement" (as those terms are defined in Regulation S-K, Item 408).

Item 6. Exhibits.

The exhibits listed in the following Exhibit Index are filed, furnished, or incorporated by reference as part of this Quarterly Report on Form 10-Q.

		Incorporated by Reference				
Exhibit No	**Description of Exhibits**	**Form**	**File No.**	**Exhibit**	**Filing Date**	**Furnished/Filed Herewith**
31.1	Certification of Principal Executive Officer pursuant to Exchange Act Rules 13a-14(a) and 15d-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002					*
31.2	Certification of Principal Financial Officer pursuant to Exchange Act Rules 13a-14(a) and 15d-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002					*
32.1	Certifications of Principal Executive Officer and Principal Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002					**
10.1	Amendment, dated as of June 22, 2023, to the First Lien Credit Agreement dated as of December 13, 2019 by and among Sotera Health Company, Sotera Health Holdings, LLC, certain subsidiaries of Sotera Health Company, JPMorgan Chase Bank, N.A., as First Lien Administrative Agent and the lenders and issuing banks party thereto.	8-K	001-39729	10.1	2023-06-22	
10.2	Executed Employment Offer by Sotera Health Company and Jonathan M. Lyons dated as of May 31, 2023					*
10.3	Executed Restrictive Covenants Agreement by and between Sotera Health Company and Jonathan M. Lyons dated as of June 26, 2023					*
101.INS	Inline XBRL Instance Document - The XBRL Instance Document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document					*
101.SCH	Inline XBRL Taxonomy Extension Schema Document					*
101.CAL	Inline XBRL Taxonomy Extension Calculation Linkbase Document					*
101.DEF	Inline XBRL Taxonomy Extension Definition Linkbase Document					*
101.LAB	Inline XBRL Taxonomy Label Linkbase Document					*
101.PRE	Inline XBRL Taxonomy Extension Presentation Linkbase Document					*
104	Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101)					*

* Filed Herewith
** Furnished 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.

SOTERA HEALTH COMPANY

By:	/s/ Jonathan M. Lyons
Name:	Jonathan M. Lyons
Title:	Senior Vice President and Chief Financial Officer (Principal Financial Officer)

Date: August 3, 2023

May 31, 2023

Mr. Jonathan Lyons

Dear Jon,

Congratulations on the opportunity to join Sotera Health Company (the "Company") as its Senior Vice President and Chief Financial Officer. This letter will recap the key elements of our offer.

- **Start Date:** Your employment will commence on June 26, 2023.

- **Reporting:** You will report to Michael Petras, Chief Executive Officer, Sotera Health Company.

- **Status & Salary:** You will be employed as a full-time, exempt, salaried employee. Your starting salary will be $475,000 annually, payable on a bi-weekly basis. The Company may review and/or revise your salary from time to time, in its sole discretion.

- **Annual Incentive Plan:** You will be eligible to participate in the Annual Incentive Plan, on the terms and conditions set forth therein, at a target of 70% of your base annual salary. For 2023, your participation in the AIP will be prorated based on your hire date.

- **Sign-on Bonus:** You will be eligible for $200,000 to replace the forgone value of your annual cash incentive award from your former employer. This bonus will be payable within the first payroll cycle after your start date.

- **Long-Term Incentive Plan:** In August of 2023, you will be eligible for an equity award with a grant date fair value of $1,000,000 comprised of restricted stock units for foregone long-term incentives from your prior employer. You will also be eligible for an annual award with a target grant date fair value of $1,200,000 subject to the approval of the Leadership Development and Compensation Committee of the Company's Board of Directors and the Board of Directors. This award will be comprised of stock options and restricted stock units and will be prorated 50% for 2023.

  Please note that this is the value of your initial grant and the value of future grants, if any, may vary. Your equity award will be subject to and contingent upon your acceptance of, the terms and conditions of the Sotera Health Company 2020 Omnibus Incentive Plan, as well as any applicable grant notices and agreements associated with your award. Additional information will be provided upon acceptance of this offer.

- **Benefits Program**: You are eligible to participate in the Company's benefits program, including but not limited to medical, dental, vision and 401(k) plan with company match. All plans are in accordance with the terms and conditions of that program and associated insurance policies, as may be in effect from time to time. The Company reserves the right to amend or discontinue its benefits program at any time, with or without advance notice.

- **Vacation**: You are entitled to four (4) weeks of vacation annually, subject to the terms and conditions of the Company's vacation policy as may be in effect from time to time. Your vacation time will be prorated during your first year of employment, according to your hire date.

- **Termination of Employment:** In the event your employment is terminated by the Company without Cause you will be eligible for one (1) year separation pay equal to one (1) year of continued base salary (the "Separation Payments"). Payment of the Separation Payments shall be made in accordance with the Company's normal payroll practices and shall commence on the sixtieth (60th) day following the date of your termination of employment (the "Release Date") subject to your execution and delivery to the Company of a general release in a form acceptable to the Company (and such release being in full force and effect and having not been timely revoked in accordance with its terms) (the "Release Requirement") and (B) you shall be entitled to receive such Separation Payments only so long as you have not breached any of the provisions of such general release or any restrictive covenants to which you are subject. If the Release Requirement is satisfied, then the portion of the Separation Payments which would otherwise have been paid during the period between the date of termination of employment and the Release Date shall instead be paid as soon as reasonably practicable following the Release Date. If the Release Requirement is not satisfied as of the Release Date, you shall not be entitled to any Separation Payments and the Company shall have no further obligations in connection with the Separation Payments. For purposes hereof, "Cause" means (i) your intentional unauthorized use or disclosure of the confidential information or trade secrets of the Company and its affiliates or any of their respective customers or suppliers, (ii) conviction of, a plea of "guilty" or "no contest" to, or indictment for a felony under the laws of the United States, Canada or any province or state thereof or the laws of any other jurisdiction in which you reside, (iii) your engagement in any fraud, willful misconduct or gross neglect in the performance of your duties hereunder, or in any other willful misconduct which has caused material injury to the Company or any of its affiliates or any of their respective customers or suppliers, (iv) your willfully engaging in any act or omission involving dishonesty, breach of trust, unethical business conduct or moral turpitude, in each case involving the Company or any of its affiliates, or any of their respective customers or suppliers, (v) your failure to perform lawful assigned duties or (vi) any breach by you of any restrictive covenant to which you are subject.

- **Pay-Back Provision:** In the event you terminate your employment for any reason other than death or disability; or the Company terminates your employment for Cause within 24 months after your start date, by your signature below, you acknowledge and agree to pay back to Sotera Health a pro-rata portion of your sign-on bonus (on a pre-tax basis) within 5 business days of your termination of employment.

Your employment with the Company is "at will"; it is for no specified term and may be terminated by you or the Company at any time, with or without cause or advance notice. This letter may be executed in counterparts and shall be binding upon the parties upon execution and may only be amended in writing signed by each of the parties hereto. The Company reserves the right to add, delete, or modify all plans, program, policies, procedures, and guidelines at any time, provided, however, that such actions shall not modify the compensation and benefits specifically provided to you under this letter. This letter constitutes the complete agreement between you and the Company with respect to the subject matter hereof, and supersedes any prior understandings or agreements with respect thereto, and shall be governed by the internal substantive laws of the state of Delaware. All compensation and benefits described herein will be subject to applicable tax withholding.

The intent of the parties is that payments and benefits under this letter comply with or be exempt from Section 409A of the Internal Revenue Code of 1986, as amended (the "Code") and the regulations and guidance promulgated thereunder (collectively "Code Section 409A") and, accordingly, to the maximum extent permitted, this letter shall be interpreted to be exempt from or in compliance therewith. In no event whatsoever shall the Company be liable for any additional tax, interest or penalty that may be imposed on you by Code Section 409A or damages for failing to comply with Code Section 409A.

This offer is contingent upon favorable references and successful completion of background and drug screens.

As a condition of your employment, you will be required to provide the Company with documents establishing your identity and right to work in the United States. These documents must be provided to the Company within three days after your employment start date. In addition, you will also be required to sign a restrictive covenants agreement in a form customary for senior executives covering non-competition and non-solicitation (while employed and for one year post employment) and confidentiality.

Jon, we look forward to you joining the Company and becoming part of our team. We are sure you will find your career with us both challenging and rewarding. To confirm your acceptance of this offer of employment on the terms and conditions set out above, please sign below and return to me.

Sincerely,

/s/ Michael B. Petras, Jr.
Michael B. Petras, Jr.
Chairman and Chief Executive Officer
Sotera Health Company

By my signature below, I confirm that I have read, understand and agree with the terms of this offer.

EXECUTIVE

Jonathan M. Lyons	/s/ Jonathan M. Lyons
Jonathan Lyons (please print)	Signature/Date
	May 31, 2023

SOTERA HEALTH COMPANY
RESTRICTIVE COVENANTS AGREEMENT

This Restrictive Covenant Agreement (this "**Agreement**") is made effective as of June 26, 2023, by and between Sotera Health Company, a Delaware corporation (the "**Company**"), and Jonathan M. Lyons (the "**Executive**" and together with the Company, the "**Parties**").

RECITALS

WHEREAS, pursuant to that certain Offer Letter by and between the Company and the Executive, dated May 31, 2023 (the "**Offer Letter**"), the Executive will be employed by the Company on the terms set forth therein;

WHEREAS, the Parties agree that this Agreement is necessary to protect the Company's legitimate business interests;

NOW, THEREFORE, in exchange for the promises and mutual covenants contained in this Agreement, the Parties, intending legally to be bound, agree as follows:

1. Consideration. In exchange for the Executive entering into this Agreement, the Company has agreed to offer the Executive employment on the terms set forth in the Offer Letter and to provide Executive with access to confidential information. Executive agrees that (a) Executive would not be eligible for the offer of employment and access to confidential information but for Executive signing this Agreement, and (b) this Agreement is supported by good and valuable consideration, to which Executive is not otherwise entitled.

2. Conflicts. During the Executive's employment with the Company, Executive shall not: (a) engage in any outside business activity without written authorization from the Company; (b) in any way compete with the Company; (c) solicit anyone to compete with or to prepare to compete with the Company; and/or (d) engage in any conduct intended to or reasonably expected to harm the interests of the Company or any Affiliate.

3. Confidentiality.

A. Obligation to Maintain Confidentiality. Executive acknowledges that all information, observations and data (including trade secrets) obtained by him during the course of his employment with the Company concerning the business or affairs of the Company and its Affiliates ("**Confidential Information**") are the property of the Company and its Affiliates, including information concerning acquisition opportunities in or reasonably related to the Company's business or industry of which Executive becomes aware during Executive's employment with the Company (the "Employment Period"). Therefore, Executive agrees that he will not disclose to any unauthorized Person or use for his own account, other than as required in the good faith performance of his duties hereunder, any Confidential Information without the Board's written consent, unless and to the extent that the Confidential Information (A) becomes generally known to and available for use by the public other than as a result of Executive's acts or omissions to act or (B) is required to be disclosed pursuant to any applicable law or court order or pursuant to a request by a governmental entity; provided that in the event of a request described in clause (B), Executive shall (i) promptly notify the Company of the existence, terms and circumstances surrounding such a request, (ii) consult with the Company on the advisability of taking steps to resist or narrow such request, and (iii) cooperate with the Company, in its efforts to obtain an order or other reliable assurance that confidential treatment will be accorded to such portion of the Confidential Information that is required to be disclosed. Executive shall deliver to the Company at his Separation, or at any other time the Company may request, all memoranda, notes, plans, records, reports, computer tapes, printouts and software and other documents and data (and copies thereof) relating to the Confidential Information, Work Product (as defined below) or the business of the Company and its Affiliates (including, without limitation, all acquisition prospects, lists and contact information) which he may then possess or have under his control. Notwithstanding anything herein to the contrary, nothing in this Agreement shall (x) prohibit Executive from making reports of possible violations of federal law or regulation to any governmental agency or entity in accordance with the provisions of and rules promulgated under Section 21F of the Securities Exchange Act of 1934, as amended, or Section 806 of the Sarbanes-Oxley Act of 2002, or of any other whistleblower protection provisions of federal law or regulation, or (y) require notification or prior approval by the Company of any reporting described in provision (x). Executive is not authorized to disclose communications with counsel that were made for the purpose of receiving legal advice or that contain legal advice or that are protected by the attorney work product or similar privilege. Furthermore, Executive shall not be held criminally or civilly liable under any federal or state trade secret law for the disclosure of a trade secret that is made (1) in confidence to a federal, state or local government official, either directly or indirectly, or to an attorney, in each case, solely for the purpose of reporting or investigating a suspected violation of law or (2) in a complaint or other document filed in a lawsuit or proceeding, if such filing is made under seal.

B. Ownership of Property. Executive acknowledges that all discoveries, concepts, ideas, inventions, innovations, improvements, developments, methods, processes, programs, designs, analyses, drawings, reports, patent applications, copyrightable work and mask work (whether or not including any Confidential Information) and all registrations or applications related thereto, all other proprietary information and all similar or related information (whether or not patentable) that relate to the Company's or any of its Affiliates' actual or anticipated business, research and development, or existing or future products or services and that are conceived, developed, contributed to, made, or reduced to practice by Executive (either solely or jointly with others) while employed by the Company or any of its Subsidiaries or Affiliates (including any of the foregoing that constitutes any proprietary information or records) ("**Work Product**") belong to the Company or the relevant Affiliate, and Executive hereby assigns, and agrees to assign, all of the above Work Product to the Company or to such Affiliate. Any copyrightable work prepared in whole or in part by Executive in the course of his work for any of the foregoing entities shall be deemed a "work made for hire" under the copyright laws, and the Company or any of its Affiliates shall own all rights therein. To the extent that any such copyrightable work is not a "work made for hire," Executive hereby assigns and agrees to assign to the Company or any of its Affiliates all right, title, and interest, including without limitation, copyright in and to such copyrightable work. Executive shall promptly disclose such Work Product and copyrightable work to the Company and perform all actions reasonably requested by the Company and at the Company's expense (whether during or after the Employment Period) to establish and confirm the Company's or the relevant Affiliate's ownership (including, without limitation, assignments, consents, powers of attorney, and other instruments).

C. Third Party Information. Executive understands that the Company and its Affiliates will receive from third parties confidential or proprietary information ("**Third Party Information**") subject to a duty on the Company's and its Affiliates' part to maintain the confidentiality of such information and to use it only for certain limited purposes. During the Employment Period and thereafter, and without in any way limiting the provisions of Section 3(A) above, Executive will hold Third Party Information in the strictest confidence and, except as required in the good faith performance of his duties hereunder, will not disclose to anyone (other than personnel and consultants of the Company or any of its Subsidiaries and Affiliates who need to know such information in connection with their work for the Company or any of its Affiliates) or use, except in connection with his work for the Company or any of its Affiliates, Third Party Information unless expressly authorized by a member of the Board in writing.

D. Use of Information of Prior Employers. During the Employment Period, Executive will not improperly use or disclose any confidential information or trade secrets, if any, of any former employers or any other Person to whom Executive has an obligation of confidentiality, and will not bring onto the premises of the Company or any of its Affiliates any unpublished documents or any property belonging to any former employer or any other Person to whom Executive has an obligation of confidentiality unless consented to in writing by the former employer or Person. Executive will use in the performance of his duties only information which is (i) generally known and used by persons with training and experience comparable to Executive's and which is (x) common knowledge in the industry or (y) is otherwise legally in the public domain, (ii) otherwise provided or developed by the Company or any of its Subsidiaries or Affiliates, or (iii) in the case of materials, property or information belonging to any former employer or other Person to whom Executive has an obligation of confidentiality, approved for such use in writing by such former employer or Person.

4. Noncompetition; Nonsolicitation; Non-Disparagement. Executive acknowledges that in the course of his employment with the Company he will become familiar with the Company's and its Affiliates' trade secrets and with other confidential information concerning the Company and its Affiliates and that his services will be of special, unique, and extraordinary value to the Company and its Affiliates. Therefore, Executive agrees that:

A. Noncompetition.

i. During the Employment Period and the 12-month period thereafter (such period, together with the Employment Period, is referred to herein as the "**Restricted Period**"), Executive shall not directly or indirectly own, manage, control, participate in, consult with, render services for, or in any manner engage in, (x) any business or enterprise that provides outsourced or contract sterilization or ionization services, microbiological or analytical laboratory testing services, or the production, processing, distribution, supply, or installation of radiation sources or irradiators, from within the Restricted Territory or for any customer or other Person located in the Restricted Territory or (y) any business or enterprise that the Company or any of its Affiliates engage in during the Employment Period ((x) and (y) together, the "**Business**"). For purposes of this Agreement, "**Restricted Territory**" means the United States, Canada and each other country in which the Company or any of its Affiliates currently has, has had or has prepared or taken steps to conduct any operations, in each case, as of the date of Separation.

ii. Nothing contained in this Section 4(A) shall prohibit Executive from (x) being a passive owner of not more than 2% of the outstanding stock of any class of a corporation that is publicly traded, so long as Executive has no active participation in the business of such corporation or (y) working for a division, entity, or subgroup of any of such companies that engages in the Business so long as neither such division, entity, or subgroup nor Executive engages in the Business.

B. Nonsolicitation.

i. During the Restricted Period, Executive shall not directly or indirectly through another entity: (A) induce or attempt to induce any employee of the Company or any of its Affiliates to leave the employ of the Company or any of its Affiliates, or in any way interfere with the relationship between the Company or its Affiliates and any employee thereof or (B) hire any person who was an employee of the Company or any of its Affiliates within 180 days after such person ceased to be an employee of the Company or any of its Affiliates.

ii. During the Restricted Period, Executive shall not directly or indirectly through another entity, induce or attempt to induce any customer, supplier, licensee or other business relation of the Company or any of its Affiliates to cease doing business with the Company or such Affiliates or in any way interfere with the relationship between any such customer, supplier, licensee or business relation and the Company or such Affiliates.

C. Non-Disparagement. Executive agrees that he will not, any time during the Employment Period and thereafter, directly or indirectly, other than in connection with the good faith performance of his duties hereunder, disparage (A) the Company or any of its Affiliates (the "**Company Group**"), (B) the business, property or assets of any member of the Company Group, or (C) any of the former, current or future officers, directors, employees or shareholders of any member of the Company Group; provided, that, nothing in this Section 4(C) shall be construed to limit the ability of Executive to disclose information and documents, or give truthful testimony, pursuant to a subpoena, court order or a government investigative matter or to provide, during the Employment Period, truthful statements necessary to the performance of Executive's duties as Senior Vice President and General Counsel of the Company, in each case, subject to and in accordance with Section 3.

D. Enforcement. If, at the time of enforcement of Section 3 or this Section 4, a court holds that the restrictions stated herein are unreasonable under circumstances then existing, the parties hereto agree that the maximum duration, scope or geographical area reasonable under such circumstances shall be substituted for the stated period, scope or area and that the court shall be allowed to revise the restrictions contained herein to cover the maximum duration, scope and area permitted by law. Because Executive's services are unique and because Executive has access to confidential information, the parties hereto agree that money damages would be an inadequate remedy for any breach of this Agreement. Therefore, in the event a breach or threatened breach of this Agreement, the Company or any of its Affiliates and/or their respective successors or assigns may, in addition to other rights and remedies existing in their favor, apply to any court of competent jurisdiction for specific performance and/or injunctive or other relief in order to enforce, or prevent any violations of, the provisions hereof (without posting a bond or other security).

E. Additional Acknowledgments. Executive acknowledges that the provisions of this Agreement are in consideration of Executive's at-will employment with the Company. In addition, Executive agrees and acknowledges that the restrictions contained in Section 3 and this Section 4 do not preclude Executive from earning a livelihood, nor do they unreasonably impose limitations on Executive's ability to earn a living. In addition, Executive acknowledges that (x) the business of the Company and its Affiliates will be conducted throughout the United States and other jurisdictions where the Company or its Affiliates conduct business during the Employment Period; (y) notwithstanding the state of organization or principal office of the Company or any of its Affiliates, or any of their respective executives or employees (including Executive), it is expected that the Company and its Affiliates will have business activities and have valuable business relationships within its industry throughout the United States, Canada, and other jurisdictions where the Company or any of its Affiliates conduct business during the Employment Period; and (z) as part of his responsibilities, Executive will be traveling throughout the United States, Canada, and other jurisdictions where the Company or its Affiliates conduct business during the Employment Period in furtherance of the Company and its Affiliates' business and its relationships. Executive agrees and acknowledges that the potential harm to the Company and its Affiliates of the non-enforcement of any provision of Section 3 or this Section 4 outweighs any potential harm to Executive of its enforcement by injunction or otherwise. Executive acknowledges that he has carefully read this Agreement and consulted with legal counsel of his choosing regarding its contents, has given careful consideration to the restraints imposed upon Executive by this Agreement and is in full accord as to their necessity for the reasonable and proper protection of confidential and proprietary information of the Company and its Affiliates now existing or to be developed in the future. Executive expressly acknowledges and agrees that each and every restraint imposed by this Agreement is reasonable with respect to subject matter, time period and geographical area.

5. Return of Property. All property, documents, data, and Confidential Information prepared, created, accessed or collected by Executive as part of Executive's employment with the Company, in whatever form, are and shall remain the property of the Company. Executive agrees that Executive shall return upon the Company's request at any time (and, in any event, before Executive's employment with the Company ends) all documents, data, Confidential Information, and other property belonging to the Company or any of its Subsidiaries in Executive's possession or control, regardless of how stored or maintained and including, but not limited to, all originals, copies and compilations and Company-provided credit cards, building or office access cards, keys, computer equipment, cell phones, or home office equipment.

6. Future Employers. Executive agrees to promptly notify the Company in writing of the name and address of each business with whom Executive is associated (as an employee or as an independent contractor) for a period of twenty four (24) months following the end of Executive's employment with the Company. Executive further: (a) agrees that the Company may notify any such business about the existence and terms of this Agreement; (b) irrevocably consents to any such notification; and (c) covenants not to sue the Company based on any such notification.

7. Definitions.

"Affiliate" means with respect to any particular Person, any Person controlling, controlled by or under common control with such Person or an Affiliate of such Person or an Affiliate of such Person; provided that any portfolio company of a stockholder, other than the Company and its Subsidiaries, will not be deemed to be an affiliate.

"Board" means the board of directors of Sotera Health Company.

"Person" means an individual, a partnership, a limited liability company, a corporation, an association, a joint stock company, a trust, a joint venture, an unincorporated organization, investment fund, any other business entity and a governmental entity or any department, agency or political subdivision thereof.

"Separation" means Executive ceasing to be employed by the Company and its respective Affiliates for any reason.

"Subsidiary" means, with respect to any Person, any corporation, limited liability company, partnership, association, or business entity of which (i) if a corporation, a majority of the total voting power of shares of stock entitled (without regard to the occurrence of any contingency) to vote in the election of directors, managers, or trustees thereof is at the time owned or controlled, directly or indirectly, by that Person or one or more of the other Subsidiaries of that Person or a combination thereof, or (ii) if a limited liability company, partnership, association, or other business entity (other than a corporation), a majority of partnership or other similar ownership interest thereof is at the time owned or controlled, directly or indirectly, by that Person or one or more Subsidiaries of that Person or a combination thereof. For purposes hereof, a Person or Persons shall be deemed to have a majority ownership interest in a limited liability company, partnership, association, or other business entity (other than a corporation) if such Person or Persons shall be allocated a majority of limited liability company, partnership, association, or other business entity gains or losses or shall be or control any managing director or general partner of such limited liability company, partnership, association, or other business entity. For purposes hereof, references to a "Subsidiary" of any Person shall be given effect only at such times that such Person has one or more Subsidiaries, and, unless otherwise indicated, the term "Subsidiary" refers to a Subsidiary of the Company.

8. General Provisions.

A. Severability. Whenever possible, each provision of this Agreement will be interpreted in such manner as to be effective and valid under applicable law, but if any provision of this Agreement is held to be invalid, illegal or unenforceable in any respect under any applicable law or rule in any jurisdiction, such invalidity, illegality or unenforceability will not affect any other provision or any other jurisdiction, but this Agreement will be reformed, construed and enforced in such jurisdiction as if such invalid, illegal or unenforceable provision had never been contained herein.

B. Complete Agreement. This Agreement, those documents expressly referred to herein (including the Offer Letter) and other documents of even date herewith embody the complete agreement and understanding among the parties and supersede and preempt any prior understandings, agreements or representations by or among the parties with respect to the subject matter hereof, written or oral, which relate to the subject matter hereof in any way, including, but not limited to, any employment, severance, bonus or similar agreements with the Company or any of its Affiliates.

C. No Strict Construction. The language used in this Agreement shall be deemed to be the language chosen by the parties hereto to express their mutual intent, and no rule of strict construction shall be applied against any party.

D. Counterparts. This Agreement may be executed in separate counterparts (including by means of facsimile), each of which is deemed to be an original and all of which taken together constitute one and the same agreement.

E. Successors and Assigns. Except as otherwise provided herein, this Agreement shall bind and inure to the benefit of and be enforceable by the Company and Executive and their respective successors and assigns. Neither the Company nor Executive may assign their rights or obligations under this Agreement to any third party without the prior written consent of the other party; provided, however, that the Company may assign this Agreement without the prior written consent of Executive in connection with a corporate reorganization, restructuring, sale, merger or other similar event.

F. Choice of Law. The laws of the State of Delaware will govern all questions concerning the relative rights of the Company and all other questions concerning the construction, validity and interpretation of this Agreement and the exhibits hereto, without giving effect to any choice of law or conflict of law provision or rule (whether of the State of Delaware or any other jurisdiction) that would cause the application of the laws of any jurisdiction other than the State of Delaware.

G. Executive's Cooperation. During the Employment Period and thereafter, Executive shall cooperate with the Company and its Affiliates in any disputes with third parties, internal investigation or administrative, regulatory or judicial proceeding as reasonably requested by the Company (including, without limitation, Executive being available to the Company upon reasonable notice for interviews and factual investigations, appearing at the Company's request to give testimony without requiring service of a subpoena or other legal process, volunteering to the Company all pertinent information and turning over to the Company all relevant documents which are or may come into Executive's possession, all at times and on schedules that are reasonably consistent with Executive's other permitted activities and commitments). In the event the Company requires Executive's cooperation in accordance with this paragraph after the Employment Period, Executive's availability shall be subject to his other employment and/or business obligations and the Company shall reimburse Executive for reasonable travel and other out of pocket expenses (including lodging and meals, upon submission of receipts) and shall compensate Executive at an hourly rate consistent with his annual base salary as then in effect.

H. Arbitration. Any dispute, claim or controversy arising under or in connection with this Agreement or Executive's employment hereunder or the termination thereof shall (except to the extent otherwise provided in

Section 4(D) with respect to injunctive relief) be settled exclusively by arbitration administered by the American Arbitration Association (the "AAA") and carried out in Cleveland, Ohio. The arbitration shall be conducted in accordance with the AAA's Commercial Arbitration Rules in effect at the time of the arbitration (the "AAA Rules"), except as modified herein. There shall be one arbitrator mutually selected by the Company and Executive, within thirty (30) days of receipt by respondent of the demand for arbitration. If the Company and Executive cannot mutually agree on an arbitrator within thirty (30) days, then an arbitrator shall be promptly appointed by the AAA in accordance with the AAA Rules.

i. The arbitration hearings shall (except to the extent otherwise reasonably provided by the arbitrator for good cause or as otherwise mutually agreed by the parties) commence within forty-five (45) days after the appointment of the arbitrator; the arbitration shall (except to the extent otherwise reasonably provided by the arbitrator for good cause or as otherwise mutually agreed by the parties) be completed within sixty (60) days of commencement of the hearings; and the arbitrator's award shall be made within thirty (30) days following such completion.

ii. The arbitrator may award any form of relief permitted under this Agreement and applicable law, including damages and temporary or permanent injunctive relief, except that the arbitral tribunal is not empowered to award damages in excess of compensatory damages, and each party hereby irrevocably waives any right to recover punitive, exemplary or similar damages with respect to any dispute. The arbitrator shall have no jurisdiction to vary the express terms of this Agreement. The Company and Executive shall equally bear all costs, fees and expenses of the arbitration, provided, however, that each party shall bear its own attorney's fees. The arbitrator may award attorney's fees. The award shall be in writing and shall state the reasons for the award.

iii. The decision rendered by the arbitrator shall be final and binding on the parties and may be entered in any court of competent jurisdiction. The parties waive, to the fullest extent permitted by law, any rights to appeal to, or to seek review of such award by, any court. The parties further agree to obtain the arbitral tribunal's agreement to preserve the confidentiality of the arbitration.

I. Amendment and Waiver. The provisions of this Agreement may be amended and waived only with the prior written consent of the Company and Executive.

J. Termination. This Agreement shall survive a Separation and shall remain in full force and effect after such Separation.

K. Delivery. This Agreement, the agreements referred to herein, and each other agreement or instrument entered into in connection herewith or therewith or contemplated hereby or thereby, and any amendments hereto or thereto, to the extent signed and delivered by means of a facsimile machine or by email via portable document format (.pdf), shall be treated in all manner and respects as an original agreement or instrument and shall be considered to have the same binding legal effect as if it were the original signed version thereof delivered in person. At the request of any party hereto or to any such agreement or instrument, each other party hereto or thereto shall re execute original forms thereof and deliver them to all other parties. No Party hereto or to any such agreement or instrument shall raise the use of a facsimile machine or email via portable document format (.pdf) to deliver a signature or the fact that any signature or agreement or instrument was transmitted or communicated through the use of a facsimile machine or by email via portable document format (.pdf) as a defense to the formation or enforceability of a contract and each such party forever waives any such defense.

L. Representations and Acknowledgements.

i. Executive acknowledges (A) that he has read and understands the Agreement, is fully aware of its legal effect, has not acted in reliance upon any representations or promises made by the Company other than those contained in writing herein, and has entered into this Agreement freely based on his own judgment and (B) that the execution, delivery and performance of this Agreement does not violate any applicable law, regulation, order, judgment or decree and upon the execution and delivery of this Agreement by the parties, this Agreement shall be a valid and binding obligation, enforceable in accordance with its terms, except to the extent that enforceability may be limited by applicable bankruptcy, insolvency or similar laws affecting the enforcement of creditors' rights generally.

ii. The Company represents and warrants that (A) it is fully authorized to enter into this Agreement and to discharge the obligations set forth in it, (B) the execution, delivery and performance of this Agreement does not violate any applicable law, regulation, order, judgment or decree and (C) upon the execution and delivery of this Agreement by the parties, this Agreement shall be a valid and binding obligation, enforceable in accordance with its terms, except to the extent that enforceability may be limited by applicable bankruptcy, insolvency or similar laws affecting the enforcement of creditors' rights generally.

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IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the date first written above.

SOTERA HEALTH COMPANY

By: /s/ Michael B. Petras, Jr.
Name: Michael B. Petras, Jr.
Title: Chief Executive Officer

EXECUTIVE

/s/ Jonathan M. Lyons
Jonathan M. Lyons

Exhibit 31.1

CERTIFICATION OF PRINCIPAL EXECUTIVE OFFICER

PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Michael B. Petras, Jr., certify that:

1. I have reviewed this quarterly report on Form 10-Q of Sotera Health Company;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

    (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

    (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

    (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

    (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

    (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

    (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: August 3, 2023

/s/ Michael B. Petras, Jr.
Michael B. Petras, Jr.
Chairman and Chief Executive Officer
(Principal Executive Officer)

Exhibit 31.2

CERTIFICATION OF PRINCIPAL FINANCIAL OFFICER

PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Jonathan M. Lyons, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Sotera Health Company;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

    (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

    (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

    (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

    (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of registrant's board of directors (or persons performing the equivalent functions):

    (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

    (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: August 3, 2023

/s/ Jonathan M. Lyons
Jonathan M. Lyons
Senior Vice President and Chief Financial Officer
(Principal Financial Officer)

CERTIFICATIONS OF PRINCIPAL EXECUTIVE OFFICER AND PRINCIPAL FINANCIAL OFFICER

PURSUANT TO SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

Pursuant to section 906 of the Sarbanes-Oxley Act of 2002 (subsections (a) and (b) of Section 1350, Chapter 63 of Title 18, United States Code), each of the undersigned officers of Sotera Health Company (the "Company"), do hereby certify, to each such officer's knowledge, that the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2023 fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 and information contained in the Form 10-Q fairly presents, in all material respects, the financial condition and results of operations of the Company.

	/s/ Michael B. Petras, Jr.
Dated: August 3, 2023	Michael B. Petras, Jr. Title: Chairman and Chief Executive Officer *(Principal Executive Officer)*
	/s/ Jonathan M. Lyons
Dated: August 3, 2023	Jonathan M. Lyons Title: Senior Vice President and Chief Financial Officer *(Principal Financial Officer)*

The foregoing certifications are furnished and are not deemed filed with the Securities and Exchange Commission for purposes of Section 18 of the Securities Exchange Act of 1934, as amended (Exchange Act), and are not deemed to be incorporated by reference into any filing of Sotera Health Company under the Securities Act of 1933, as amended, or the Exchange Act, except to the extent that Sotera Health Company specifically incorporates them by reference.