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 September 30, 2022.

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: 001-13831

Quanta Services, Inc.

(Exact name of registrant as specified in its charter)

Delaware	**74-2851603**
(State or other jurisdiction of incorporation or organization)	*(I.R.S. Employer Identification No.)*

2727 North Loop West
Houston, Texas 77008
(Address of principal executive offices, including zip code)

(713) 629-7600
(Registrant's telephone number, including area code)

2800 Post Oak Boulevard, Suite 2600
Houston, Texas 77056
(Former name, former address and former fiscal year, if changed since last report)

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, $0.00001 par value	PWR	New York Stock Exchange

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 November 1, 2022, the number of outstanding shares of Common Stock of the registrant was 142,901,156.

QUANTA SERVICES, INC. AND SUBSIDIARIES

INDEX

Cautionary Statement About Forward-Looking Statements and Information

This Quarterly Report on Form 10-Q (Quarterly Report) of Quanta Services, Inc. (together with its subsidiaries, Quanta, we, us or our) includes forward-looking statements reflecting assumptions, expectations, projections, intentions or beliefs about future events that are intended to qualify for the “safe harbor” from liability established by the Private Securities Litigation Reform Act of 1995. You can identify these statements by the fact that they do not relate strictly to historical or current facts. They use words such as “anticipate,” “estimate,” “project,” “forecast,” “may,” “will,” “should,” “could,” “expect,” “believe,” “plan,” “intend” and other words of similar meaning. In particular, these include, but are not limited to, statements relating to the following:

- Projected revenues, net income, earnings per share, margins, cash flows, liquidity, weighted average shares outstanding, capital expenditures, interest rates and tax rates, as well as other projections of operating results and GAAP (as defined below) and non-GAAP financial results, including EBITDA, adjusted EBITDA and backlog;
- Expectations regarding our business or financial outlook;
- Expectations regarding opportunities, technological developments, competitive positioning, future economic and regulatory conditions and other trends in particular markets or industries, including with respect to our increased operations in the renewable energy market after our acquisition of Blattner (as defined below) and the transition to a reduced-carbon economy;
- Expectations regarding the pandemic associated with the novel coronavirus disease that began in 2019 (COVID-19), including potential further impacts of the pandemic and of governmental and customer responses to the pandemic on our business, operations, supply chain, personnel, financial condition, results of operations, cash flows and liquidity;
- Expectations regarding our plans and strategies;
- The business plans or financial condition of our customers, including with respect to the COVID-19 pandemic and the transition to a carbon-neutral economy;
- The potential impact of commodity prices and production volumes on our business, financial condition, results of operations, cash flows and demand for our services;
- The potential benefits from, and future financial and operational performance of, acquired businesses and our investments, including Blattner and our equity interests in LUMA and Starry (each as defined below);
- Beliefs and assumptions about the collectability of receivables;
- The expected value of contracts or intended contracts with customers, as well as the expected timing, scope, services, term or results of any awarded or expected projects;
- The development of and opportunities with respect to future projects, including renewable energy projects and other projects designed to support transition to a reduced-carbon economy, electrical grid modernization, upgrade and hardening projects and larger transmission and pipeline projects;
- Expectations regarding the future availability and price of materials and equipment necessary for the performance of our business;
- The expected impact of global and domestic economic conditions on our business, financial condition, results of operations, cash flows and liquidity, including inflation, interest rates and recessionary economic conditions;
- The expected impact of changes and potential changes in climate;
- Future capital allocation initiatives, including the amount and timing of, and strategies with respect to, any future acquisitions, investments, cash dividends, repurchases of our equity or debt securities or repayments of other outstanding debt;
- The expected impact of existing or potential legislation or regulation;
- Potential opportunities that may be indicated by bidding activity or similar discussions with customers;
- The future demand for, availability of and costs related to labor resources in the industries we serve;
- The expected recognition and realization of our remaining performance obligations or backlog;
- Expectations regarding the outcome of pending or threatened legal proceedings, as well as the collection of amounts awarded in legal proceedings;
- Expectations with respect to our ability to reduce our debt and maintain our current credit ratings; and
- Possible recovery of pending or contemplated insurance claims, change orders and claims asserted against customers or third parties.

These forward-looking statements are not guarantees of future performance; rather they involve or rely on a number of risks, uncertainties, and assumptions that are difficult to predict or are beyond our control and reflect management’s beliefs and assumptions based on information available at the time the statements are made. We caution you that actual outcomes and results may differ materially from what is expressed, implied or forecasted by our forward-looking statements and that any or all of our forward-looking statements may turn out to be inaccurate or incorrect. These statements can be affected by inaccurate assumptions and by known or unknown risks and uncertainties, including the following:

- Market, industry, economic, financial or political conditions that are outside of our control, including economic, energy, infrastructure and environmental policies and plans that are adopted or proposed by the U.S. federal and state governments or other governments in territories or countries in which we operate, inflation, interest rates, recessionary economic conditions, and geopolitical conflicts and political unrest;
- Quarterly variations in our operating and financial results, liquidity, financial condition, cash flows, capital requirements, and reinvestment opportunities, including the ongoing and potential impact to our business operations, workforce and supply chains resulting from the COVID-19 pandemic and governmental responses thereto;
- Further effects of the COVID-19 pandemic, including the impact of the pandemic and of business and governmental responses thereto on our operations, personnel and supply chains, and on commercial activity and demand across our business and our customers' businesses, as well as our inability to predict the future impact of the COVID-19 pandemic on our business, financial performance and results of operations;
- Trends and growth opportunities in relevant markets, including our ability to obtain future project awards;
- Delays, deferrals, reductions in scope or cancellations of anticipated, pending or existing projects as a result of, among other things, supply chain disruptions and other logistical challenges, weather, regulatory or permitting issues, environmental processes, project performance issues, claimed force majeure events, protests or other political activity, legal challenges, inflationary pressure, reductions or eliminations in governmental funding or customer capital constraints;
- The effect of commodity prices and commodity production volumes, which have been and may continue to be affected by inflationary pressure, on our operations and growth opportunities and on our customers' capital programs and demand for our services;
- The successful negotiation, execution, performance and completion of anticipated, pending and existing contracts;
- Events arising from operational hazards, including, among others, wildfires and explosions, that can arise due to the nature of the services we provide and the conditions in which we operate and can be due to failure of infrastructure on which we have performed services and result in significant liabilities that may be exacerbated in certain geographies and locations;
- Unexpected costs, liabilities, fines or penalties that may arise from legal proceedings, indemnity obligations, reimbursement obligations associated with letters of credit or bonds, multiemployer pension plans (e.g., underfunding of liabilities, termination or withdrawal liability) or other claims or actions asserted against us, including amounts that are not covered by, or are in excess of the coverage under, our third-party insurance;
- Potential unavailability or cancellation of third-party insurance coverage, as well as the exclusion of coverage for certain losses, potential increases in premiums for coverage deemed beneficial to us, or the unavailability of coverage deemed beneficial to us at reasonable and competitive rates (e.g., coverage for wildfire events);
- Damage to our brands or reputation, as well as potential costs, liabilities, fines or penalties, arising as a result of cyber-security breaches, environmental and occupational health and safety matters, corporate scandal, failure to successfully perform or negative publicity regarding a high-profile project, involvement in a catastrophic event (e.g., fire, explosion) or other negative incidents;
- Disruptions in, or failure to adequately protect, our information technology systems;
- Our dependence on suppliers, subcontractors, equipment manufacturers and other third parties and the impact of, among other things, inflationary pressure; regulatory, supply chain and logistical challenges; and the COVID-19 pandemic on these third parties;
- Estimates and assumptions related to our financial results, remaining performance obligations and backlog;
- Our inability to attract, the potential shortage of, and increased costs with respect to skilled employees, as well as our ability to retain and attract key personnel and qualified employees;
- Our dependence on fixed price contracts and the potential that we incur losses with respect to these contracts, including as a result of inaccurate estimates of project costs or inability to meet project schedule requirements or achieve guaranteed performance or quality standards for a project;

- Adverse weather conditions, natural disasters and other emergencies, including wildfires, pandemics, hurricanes, tropical storms, floods, debris flows, earthquakes and other geological- and weather-related hazards, as well as the impact of climate change;
- Our ability to generate internal growth;
- Competition in our business, including our ability to effectively compete for new projects and market share;
- The future development of natural resources;
- The failure of existing or potential legislative actions and initiatives to result in increased demand for our services;
- The unavailability of, or increased prices for, materials, equipment and consumables (such as fuel) used in our and our customers' businesses, including as a result of inflation, supply chain disruptions, governmental regulations on sourcing, the imposition of tariffs, duties, taxes or other assessments, and other changes in U.S. trade relationships with foreign countries;
- Cancellation provisions within our contracts and the risk that contracts expire and are not renewed or are replaced on less favorable terms;
- Loss of customers with whom we have long-standing or significant relationships;
- The potential that our participation in joint ventures or similar structures exposes us to liability or harm to our reputation as a result of acts or omissions by our partners;
- Our inability or failure to comply with the terms of our contracts, which may result in additional costs, unexcused delays, warranty claims, failure to meet performance guarantees, damages or contract terminations;
- The inability or refusal of our customers or third-party contractors to pay for services, which could result in our inability to collect our outstanding receivables, failure to recover amounts billed to, or avoidance of certain payments received from, customers in bankruptcy or failure to recover on change orders or contract claims;
- Budgetary or other constraints that may reduce or eliminate tax incentives or government funding for projects, including renewable energy projects, which may result in project delays or cancellations;
- Our inability to successfully complete our remaining performance obligations or realize our backlog;
- Technological advancements and market developments that could reduce demand for our services;
- Risks associated with operating in international markets and U.S. territories, including instability of governments, currency exchange fluctuations, and compliance with unfamiliar legal and labor systems and cultural practices, the U.S. Foreign Corrupt Practices Act and other applicable anti-bribery and anti-corruption laws, and complex U.S. and foreign tax regulations and international treaties;
- Our inability to successfully identify, complete, integrate and realize synergies from acquisitions, including the inability to retain key personnel from acquired businesses;
- The potential adverse impact of acquisitions and investments, including the potential increase in risks already existing in our operations, poor performance or decline in value of acquired businesses or investments and unexpected costs or liabilities that may arise from acquisitions or investments;
- The adverse impact of impairments of goodwill, other intangible assets, receivables, long-lived assets or investments;
- Difficulties arising from our decentralized management structure;
- The impact of the unionized portion of our workforce on our operations, including labor stoppages or interruptions due to strikes or lockouts;
- An inability to access sufficient funding to finance desired growth and operations, including our ability to access capital markets on favorable terms, as well as fluctuations in the price and trading volume of our common stock, debt covenant compliance, interest rate fluctuations, a downgrade in our credit ratings and other factors affecting our financing and investing activities;
- Our ability to obtain bonds, letters of credit and other project security;
- Risks related to the implementation of new information technology systems;

- New or changed tax laws, treaties or regulations;
- Inability to realize deferred tax assets;
- Significant fluctuations in foreign currency exchange rates; and
- The other risks and uncertainties described elsewhere herein, including in Item 1A. *Risk Factors* of Part I of our Annual Report on Form 10-K for the year ended December 31, 2021 (2021 Annual Report), and as may be detailed from time to time in our other public filings with the U.S. Securities and Exchange Commission (SEC).

All of our forward-looking statements, whether written or oral, are expressly qualified by these cautionary statements and any other cautionary statements that may accompany such forward-looking statements or that are otherwise included in this report. Although forward-looking statements reflect our good faith beliefs at the time they are made, reliance should not be placed on forward-looking statements because they involve known and unknown risks, uncertainties and other factors, which may cause our actual results, performance or achievements to differ materially from anticipated future results, performance or achievements expressed or implied by such forward-looking statements. In addition, we do not undertake and expressly disclaim any obligation to update or revise any forward-looking statements to reflect events or circumstances after the date of this report or otherwise.

PART I - FINANCIAL INFORMATION

Item 1. ***Financial Statements.***

QUANTA SERVICES, INC. AND SUBSIDIARIES
CONDENSED CONSOLIDATED BALANCE SHEETS
(In thousands, except share information)
(Unaudited)

	September 30, 2022	December 31, 2021
ASSETS		
Current Assets:		
Cash and cash equivalents	$ 215,395	$ 229,097
Accounts receivable, net of allowances of $19,020 and $49,749	3,638,357	3,400,318
Contract assets	1,127,181	803,453
Inventories	98,121	84,659
Prepaid expenses and other current assets	268,769	215,050
Total current assets	5,347,823	4,732,577
Property and equipment, net of accumulated depreciation of $1,616,336 and $1,503,498	2,025,224	1,919,697
Operating lease right-of-use assets	227,707	240,605
Other assets, net	597,946	632,244
Other intangible assets, net of accumulated amortization of $957,769 and $682,498	1,519,371	1,801,180
Goodwill	3,578,575	3,528,886
Total assets	$ 13,296,646	$ 12,855,189
LIABILITIES AND EQUITY		
Current Liabilities:		
Current maturities of long-term debt and short-term debt	$ 32,344	$ 29,166
Current portion of operating lease liabilities	73,926	78,251
Accounts payable and accrued expenses	2,409,600	2,254,671
Contract liabilities	830,351	802,872
Total current liabilities	3,346,221	3,164,960
Long-term debt, net of current maturities	3,886,522	3,724,474
Operating lease liabilities, net of current portion	168,837	170,427
Deferred income taxes	227,334	191,098
Insurance and other non-current liabilities	466,164	487,309
Total liabilities	8,095,078	7,738,268
Commitments and Contingencies		
Equity:		
Common stock, $0.00001 par value, 600,000,000 shares authorized, 170,553,507 and 168,546,513 shares issued, and 142,963,107 and 142,633,934 shares outstanding	2	2
Additional paid-in capital	2,691,910	2,615,410
Retained earnings	4,012,396	3,714,843
Accumulated other comprehensive loss	(335,177)	(237,689)
Treasury stock, 27,590,400 and 25,912,579 common shares	(1,173,078)	(980,265)
Total stockholders' equity	5,196,053	5,112,301
Non-controlling interests	5,515	4,620
Total equity	5,201,568	5,116,921
Total liabilities and equity	$ 13,296,646	$ 12,855,189

The accompanying notes are an integral part of these condensed consolidated financial statements.

QUANTA SERVICES, INC. AND SUBSIDIARIES
CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS
(In thousands, except per share information)
(Unaudited)

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
Revenues	$ 4,459,757	$ 3,353,278	$ 12,657,285	$ 9,056,675
Cost of services (including related depreciation)	3,770,927	2,818,602	10,795,694	7,701,398
Gross profit	688,830	534,676	1,861,591	1,355,277
Equity in earnings of integral unconsolidated affiliates	10,633	10,232	44,350	22,865
Selling, general and administrative expenses	(347,449)	(274,846)	(995,581)	(788,308)
Amortization of intangible assets	(67,147)	(22,772)	(290,843)	(65,418)
Asset impairment charges	—	—	(2,800)	(2,319)
Change in fair value of contingent consideration liabilities	1,924	787	(4,054)	1,360
Operating income	286,791	248,077	612,663	523,457
Interest and other financing expenses	(33,566)	(17,259)	(86,933)	(42,843)
Interest income	436	72	727	3,098
Other income (expense), net	(24,455)	6,089	(68,255)	18,232
Income before income taxes	229,206	236,979	458,202	501,944
Provision for income taxes	72,890	61,581	120,698	116,256
Net income	156,316	175,398	337,504	385,688
Less: Net income attributable to non-controlling interests	360	1,033	8,887	4,529
Net income attributable to common stock	$ 155,956	$ 174,365	$ 328,617	$ 381,159
Earnings per share attributable to common stock:				
Basic	$ 1.09	$ 1.25	$ 2.29	$ 2.72
Diluted	$ 1.06	$ 1.21	$ 2.22	$ 2.64
Shares used in computing earnings per share:				
Weighted average basic shares outstanding	143,353	140,008	143,581	140,134
Weighted average diluted shares outstanding	147,678	144,304	148,096	144,448

The accompanying notes are an integral part of these condensed consolidated financial statements.

QUANTA SERVICES, INC. AND SUBSIDIARIES
CONDENSED CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME (LOSS)
(In thousands)
(Unaudited)

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
Net income	$ 156,316	$ 175,398	$ 337,504	$ 385,688
Other comprehensive income (loss), net of taxes:				
Foreign currency translation adjustment, net of tax of $0, $0, $0, and $0	(79,841)	(26,429)	(97,400)	(10,009)
Other income (loss), net of tax of $(5), $1, $(17), and $4	(27)	6	(88)	20
Other comprehensive loss, net of taxes	(79,868)	(26,423)	(97,488)	(9,989)
Comprehensive income	76,448	148,975	240,016	375,699
Less: Comprehensive income attributable to non-controlling interests	360	1,033	8,887	4,529
Total comprehensive income attributable to common stock	$ 76,088	$ 147,942	$ 231,129	$ 371,170

The accompanying notes are an integral part of these condensed consolidated financial statements.

QUANTA SERVICES, INC. AND SUBSIDIARIES
CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS
(In thousands)
(Unaudited)

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
Cash Flows from Operating Activities:				
Net income	$ 156,316	$ 175,398	$ 337,504	$ 385,688
Adjustments to reconcile net income to net cash provided by operating activities—				
Depreciation	73,507	61,616	218,420	186,480
Amortization of intangible assets	67,147	22,772	290,843	65,418
Asset impairment charges	—	—	2,800	2,319
Change in fair value of contingent consideration liabilities	(1,924)	(787)	4,054	(1,360)
Equity in (earnings) losses of unconsolidated affiliates, net of distributions	(12,949)	(10,758)	(28,732)	(24,734)
Amortization of discounts and deferred financing costs	2,026	3,919	4,944	5,609
Gain on sale of property and equipment	(4,862)	(1,077)	(8,318)	(10,931)
Gain on sale of investments	—	—	(6,696)	—
Unrealized loss from mark-to-market adjustment on investment	26,462	—	76,509	—
Increase in provision for credit losses	2,343	249	2,048	24,169
Deferred income tax expense (benefit)	39,215	(2,502)	39,610	14,245
Non-cash stock-based compensation	26,648	21,642	77,730	64,252
Foreign currency (gain) loss	(1,872)	(4,901)	888	(6,531)
Payments for contingent consideration liabilities	—	—	(63)	—
Changes in operating assets and liabilities, net of non-cash transactions	(28,695)	(247,695)	(464,358)	(372,187)
Net cash provided by operating activities	343,362	17,876	547,183	332,437
Cash Flows from Investing Activities:				
Capital expenditures	(105,958)	(74,612)	(337,469)	(232,996)
Proceeds from sale of property and equipment	18,217	16,431	42,621	35,101
Proceeds from insurance settlements related to property and equipment	—	255	982	535
Cash paid for acquisitions, net of cash, cash equivalents and restricted cash acquired	(172,957)	(33,261)	(177,766)	(101,373)
Investments in unconsolidated affiliates and other	(3,969)	(5,154)	(20,622)	(119,478)
Cash received from investments	—	5	16,905	3,022
Cash paid for intangible assets	(61)	(200)	(397)	(524)
Net cash used in investing activities	(264,728)	(96,536)	(475,746)	(415,713)
Cash Flows from Financing Activities:				
Borrowings under credit facility and commercial paper program	2,522,735	1,240,766	5,412,107	3,124,845
Payments under credit facility and commercial paper program	(2,492,081)	(1,142,350)	(5,239,330)	(2,857,190)
Proceeds from notes offerings	—	1,487,450	—	1,487,450
Payments on other long-term debt	(2,402)	(916)	(6,383)	(2,530)
Net borrowings (repayments) of short-term debt	—	13,619	(15,596)	9,372
Payments of financing costs	(214)	(5,056)	(262)	(5,056)
Payments for contingent consideration liabilities	—	—	(1,514)	(263)
Distributions to non-controlling interests, net of contributions received	(7,601)	(1,107)	(7,992)	(6,357)
Payments related to tax withholding for share-based compensation	(2,424)	(2,638)	(78,639)	(63,131)
Payments of dividends	(10,068)	(8,414)	(30,998)	(25,627)
Repurchase of common stock	(20,751)	(17,764)	(115,115)	(66,687)
Net cash provided by (used in) financing activities	(12,806)	1,563,590	(83,722)	1,594,826
Effect of foreign exchange rate changes on cash, cash equivalents and restricted cash	(856)	(549)	(1,264)	738
Net increase (decrease) in cash, cash equivalents and restricted cash	64,972	1,484,381	(13,549)	1,512,288
Cash, cash equivalents and restricted cash, beginning of period	153,366	214,715	231,887	186,808
Cash, cash equivalents and restricted cash, end of period	$ 218,338	$ 1,699,096	$ 218,338	$ 1,699,096

The accompanying notes are an integral part of these condensed consolidated financial statements.

QUANTA SERVICES, INC. AND SUBSIDIARIES
CONDENSED CONSOLIDATED STATEMENTS OF EQUITY
(In thousands, except share data)
(Unaudited)

	Common Stock Shares	Common Stock Amount	Additional Paid-In Capital	Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Treasury Stock	Total Stockholders' Equity	Non-Controlling Interests	Total Equity
Balance, December 31, 2021	142,633,934	$ 2	$ 2,615,410	$ 3,714,843	$ (237,689)	$ (980,265)	$ 5,112,301	$ 4,620	$ 5,116,921
Other comprehensive income, net of taxes	—	—	—	—	13,275	—	13,275	—	13,275
Stock-based compensation activity	1,216,468	—	21,830	—	—	(73,643)	(51,813)	—	(51,813)
Common stock repurchases	(84,798)	—	—	—	—	(10,426)	(10,426)	—	(10,426)
Dividends declared ($0.07 per share)	—	—	—	(10,459)	—	—	(10,459)	—	(10,459)
Distributions to non-controlling interests	—	—	—	—	—	—	—	(538)	(538)
Net income	—	—	—	84,641	—	—	84,641	387	85,028
Balance, March 31, 2022	143,765,604	$ 2	$ 2,637,240	$ 3,789,025	$ (224,414)	$ (1,064,334)	$ 5,137,519	$ 4,469	$ 5,141,988
Other comprehensive loss, net of taxes	—	—	—	—	(30,895)	—	(30,895)	—	(30,895)
Stock-based compensation activity	46,105	—	28,046	—	—	(504)	27,542	—	27,542
Common stock repurchases	(731,381)	—	—	—	—	(84,884)	(84,884)	—	(84,884)
Dividends declared ($0.07 per share)	—	—	—	(10,283)	—	—	(10,283)	—	(10,283)
Distributions to non-controlling interests	—	—	—	—	—	—	—	(80)	(80)
Contribution from non-controlling interest	—	—	—	—	—	—	—	227	227
Net income	—	—	—	88,020	—	—	88,020	8,140	96,160
Balance, June 30, 2022	143,080,328	$ 2	$ 2,665,286	$ 3,866,762	$ (255,309)	$ (1,149,722)	$ 5,127,019	$ 12,756	$ 5,139,775
Other comprehensive loss, net of taxes	—	—	—	—	(79,868)	—	(79,868)	—	(79,868)
Stock-based compensation activity	41,278	—	26,624	—	—	(2,323)	24,301	—	24,301
Common stock repurchases	(158,499)	—	—	—	—	(21,033)	(21,033)	—	(21,033)
Dividends declared ($0.07 per share)	—	—	—	(10,322)	—	—	(10,322)	—	(10,322)
Distributions to non-controlling interests	—	—	—	—	—	—	—	(7,601)	(7,601)
Net income	—	—	—	155,956	—	—	155,956	360	156,316
Balance, September 30, 2022	142,963,107	$ 2	$ 2,691,910	$ 4,012,396	$ (335,177)	$ (1,173,078)	$ 5,196,053	$ 5,515	$ 5,201,568

The accompanying notes are an integral part of these condensed consolidated financial statements.

QUANTA SERVICES, INC. AND SUBSIDIARIES
CONDENSED CONSOLIDATED STATEMENTS OF EQUITY
(In thousands, except share data)
(Unaudited)

	Common Stock Shares	Common Stock Amount	Additional Paid-In Capital	Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Treasury Stock	Total Stockholders' Equity	Non-Controlling Interests	Total Equity
Balance, December 31, 2020	138,300,191	$ 2	$ 2,170,026	$ 3,264,967	$ (232,997)	$ (857,817)	$ 4,344,181	$ 4,791	$ 4,348,972
Other comprehensive income, net of taxes	—	—	—	—	8,539	—	8,539	—	8,539
Stock-based compensation activity	1,368,739	—	13,702	—	—	(55,101)	(41,399)	—	(41,399)
Common stock repurchases	(222,081)	—	—	—		(17,710)	(17,710)	—	(17,710)
Dividends declared ($0.06 per share)	—	—	—	(8,429)	—	—	(8,429)	—	(8,429)
Distributions to non-controlling interests	—	—	—	—	—	—	—	(1,129)	(1,129)
Net income	—	—	—	89,761	—	—	89,761	1,558	91,319
Balance, March 31, 2021	139,446,849	$ 2	$ 2,183,728	$ 3,346,299	$ (224,458)	$ (930,628)	$ 4,374,943	$ 5,220	$ 4,380,163
Other comprehensive income, net of taxes	—	—	—	—	7,895	—	7,895	—	7,895
Stock-based compensation activity	64,600	—	25,177	—	—	(216)	24,961	—	24,961
Common stock repurchases	(313,725)	—	—	—	—	(29,450)	(29,450)	—	(29,450)
Dividends declared ($0.06 per share)	—	—	—	(8,650)	—	—	(8,650)	—	(8,650)
Distributions to non-controlling interests	—	—	—	—	—	—	—	(4,121)	(4,121)
Other	—	—	—	—	—	—	—	25	25
Net income	—	—	—	117,033	—	—	117,033	1,938	118,971
Balance, June 30, 2021	139,197,724	$ 2	$ 2,208,905	$ 3,454,682	$ (216,563)	$ (960,294)	$ 4,486,732	$ 3,062	$ 4,489,794
Other comprehensive loss, net of taxes	—	—	—	—	(26,423)	—	(26,423)	—	(26,423)
Acquisitions	32,822	—	2,479	—	—	—	2,479	—	2,479
Stock-based compensation activity	66,100	—	20,935	—	—	(1,912)	19,023	—	19,023
Common stock repurchases	(184,758)	—	—	—	—	(16,828)	(16,828)	—	(16,828)
Dividends declared ($0.06 per share)	—	—	—	(8,638)	—	—	(8,638)	—	(8,638)
Distributions to non-controlling interests	—	—	—	—	—	—	—	(1,107)	(1,107)
Other	—	—	—	—	—	—	—	134	134
Net income	—	—	—	174,365	—	—	174,365	1,033	175,398
Balance, September 30, 2021	139,111,888	$ 2	$ 2,232,319	$ 3,620,409	$ (242,986)	$ (979,034)	$ 4,630,710	$ 3,122	$ 4,633,832

The accompanying notes are an integral part of these condensed consolidated financial statements.

1. BUSINESS AND ORGANIZATION:

Quanta Services, Inc. (together with its subsidiaries, Quanta) is a leading provider of specialty contracting services, delivering comprehensive infrastructure solutions for the electric and gas utility, renewable energy, communications, pipeline and energy industries in the United States, Canada, Australia and select other international markets. Quanta reports its results under three reportable segments: (1) Electric Power Infrastructure Solutions, (2) Renewable Energy Infrastructure Solutions and (3) Underground Utility and Infrastructure Solutions.

Electric Power Infrastructure Solutions Segment

The Electric Power Infrastructure Solutions segment provides comprehensive network solutions to customers involved in the electric power industry. Services include design, procurement, new construction, upgrade and repair and maintenance for electric power transmission and distribution infrastructure, both overhead and underground, and substation facilities, along with other engineering and technical services. This includes solutions that support the implementation of upgrades by utilities to modernize and harden the electric power grid in order to ensure its safety and enhance reliability. In addition, this segment provides emergency restoration services, including the repair of infrastructure damaged by fire and inclement weather; the energized installation, maintenance and upgrade of electric power infrastructure utilizing bare hand and hot stick methods and Quanta's robotic arm techniques; and the installation of "smart grid" technologies on electric power networks. This segment also provides comprehensive design and construction solutions to wireline and wireless communications companies, cable multi-system operators and other customers within the communications industry, including services in connection with 5G wireless deployment; and the design, installation, maintenance and repair services related to commercial and industrial wiring. Additionally, this segment provides aviation services primarily for the utility industry, including the transportation of line workers, the setting of poles and towers and the stringing of wires. The majority of the financial results of Quanta's postsecondary educational institution, which specializes in pre-apprenticeship training, apprenticeship training and specialized utility task training for electric workers, as well as training for the gas distribution and communications industries, are also included in the segment.

Renewable Energy Infrastructure Solutions Segment

The Renewable Energy Infrastructure Solutions segment provides comprehensive infrastructure solutions to customers involved in the renewable energy industry. Services include engineering, procurement, new construction, repowering and repair and maintenance for renewable generation facilities, such as utility-scale wind, solar, and hydropower generation facilities and battery storage facilities, as well as engineering and construction services for substations and switchyards, transmission and other electrical infrastructure needed to interconnect and transmit renewable energy generation and battery storage facilities.

Underground Utility and Infrastructure Solutions Segment

The Underground Utility and Infrastructure Solutions segment provides comprehensive infrastructure solutions for customers involved in the development, transportation, distribution, storage and processing of natural gas, oil and other products. Services include design, engineering, procurement, new construction, upgrade and repair and maintenance for natural gas systems for gas utility customers, as well as pipeline protection, integrity testing, rehabilitation and replacement services. Quanta also provides catalyst replacement services, high-pressure and critical-path turnaround services, instrumentation and electrical services, piping, fabrication and storage tank services for the midstream and downstream industrial energy markets. This segment also provides engineering and construction services for pipeline systems, storage systems and compressor and pump stations and the fabrication of pipeline support systems and related structures and facilities, as well as trenching, directional boring and mechanized welding services related to the services described above and in connection with Quanta's electric power infrastructure services. This segment also provides engineering, construction and maintenance services for energy transition and carbon-reduction related projects, such as alternative fuel facilities, carbon capture systems and hydrogen facilities.

2. BASIS OF PRESENTATION AND ACCOUNTING POLICIES:

Interim Condensed Consolidated Financial Information

These unaudited condensed consolidated financial statements have been prepared pursuant to the rules of the U.S. Securities and Exchange Commission (SEC). Certain information and footnote disclosures, normally included in annual financial statements prepared in accordance with generally accepted accounting principles in the United States (GAAP), have been condensed or omitted pursuant to those rules and regulations. Quanta believes that the disclosures made are adequate to make the information presented not misleading. In the opinion of management, all adjustments, consisting only of normal recurring adjustments, necessary to fairly state the financial position, results of operations, comprehensive income and cash flows with respect to the interim condensed consolidated financial statements have been included. The results of operations and comprehensive income for the interim periods are not necessarily indicative of the results for the entire fiscal year. The results of Quanta have historically been subject to significant seasonal fluctuations.

Quanta recommends that these unaudited condensed consolidated financial statements be read in conjunction with the audited consolidated financial statements and notes thereto of Quanta and its consolidated subsidiaries. Certain of Quanta's accounting policies are included in Note 2 of the Notes to Consolidated Financial Statements in Item 8. *Financial Statements and Supplementary Data* in Part II of the 2021 Annual Report.

3. NEW ACCOUNTING PRONOUNCEMENTS:

New Accounting Pronouncement Not Yet Adopted

In October 2021, the Financial Accounting Standards Board (FASB) issued an update that requires an entity to recognize and measure contract assets and contract liabilities acquired in a business combination in accordance with FASB ASC 606 (Revenue from Contracts with Customers). At the acquisition date, an acquirer should account for the related contract revenue in accordance with FASB ASC 606. This update is effective for interim and annual periods beginning after December 15, 2022, with amendments generally applied prospectively. Quanta will adopt this update by January 1, 2023, and it is not expected to have a material impact on Quanta's consolidated financial statements at the date of adoption.

In June 2022, the FASB issued an update that clarifies the guidance in FASB ASC 820 (Fair Value Measurement) for equity securities subject to contractual sale restrictions. The update prohibits entities from taking into account contractual restrictions on the sale of equity securities when estimating fair value and introduces required disclosures for such transactions. This update is effective for interim and annual periods after December 15, 2023. Early adoption is permitted. Quanta will adopt this update by January 1, 2024, and it is currently evaluating the impact, if any, of adopting this guidance on our consolidated financial statements and disclosures. Quanta expects the adoption of this update will result in the fair market value of consideration and, as a result, goodwill for certain future acquisitions to be higher than they would have been before adoption.

4. REVENUE RECOGNITION AND RELATED BALANCE SHEET ACCOUNTS:

Contracts

Certain of Quanta's services are generally provided pursuant to master service agreements (MSAs), repair and maintenance contracts and fixed price and non-fixed price construction contracts. These contracts are classified into three categories: unit-price contracts, cost-plus contracts and fixed price contracts.

The following tables present Quanta's revenue disaggregated by contract type and by geographic location, as determined by the job location (in thousands):

	Three Months Ended September 30,				Nine Months Ended September 30,			
	2022		2021		2022		2021	
By contract type:								
Unit-price contracts	$ 1,597,640	35.8 %	$ 1,399,358	41.8 %	4,407,147	34.8 %	$ 3,593,644	39.7 %
Cost-plus contracts	986,262	22.1 %	825,622	24.6 %	2,879,492	22.8 %	2,247,879	24.8 %
Fixed price contracts	1,875,855	42.1 %	1,128,298	33.6 %	5,370,646	42.4 %	3,215,152	35.5 %
Total revenues	$ 4,459,757	100.0 %	$ 3,353,278	100.0 %	$ 12,657,285	100.0 %	$ 9,056,675	100.0 %

	Three Months Ended September 30,				Nine Months Ended September 30,			
	2022		2021		2022		2021	
By primary geographic location:								
United States	$ 3,760,019	84.3 %	$ 2,892,446	86.2 %	$ 10,751,325	84.9 %	$ 7,669,360	84.7 %
Canada	512,803	11.5 %	382,072	11.4 %	1,503,174	11.9 %	1,123,077	12.4 %
Australia	130,851	2.9 %	52,804	1.6 %	275,421	2.2 %	170,719	1.9 %
Others	56,084	1.3 %	25,956	0.8 %	127,365	1.0 %	93,519	1.0 %
Total revenues	$ 4,459,757	100.0 %	$ 3,353,278	100.0 %	$ 12,657,285	100.0 %	$ 9,056,675	100.0 %

Under fixed-price contracts, as well as unit-price contracts with more than an insignificant amount of partially completed units, revenue is recognized as performance obligations are satisfied over time, with the percentage of completion generally measured as the percentage of costs incurred to total estimated costs for such performance obligation. Approximately 52.4% and 42.5% of Quanta's revenues recognized during the three months ended September 30, 2022 and 2021 were associated with this revenue recognition method, and 51.5% and 43.4% of Quanta's revenues recognized during the nine months ended September 30, 2022 and 2021 were associated with this revenue recognition method.

Performance Obligations

As of September 30, 2022 and December 31, 2021, the aggregate transaction price allocated to unsatisfied or partially satisfied performance obligations was approximately $6.83 billion and $5.90 billion, with 79.2% and 81.8% expected to be recognized in the subsequent twelve months. These amounts represent management's estimates of the consolidated revenues that are expected to be realized from the remaining portion of firm orders under fixed price contracts not yet completed or for which work had not yet begun as of such dates. For purposes of calculating remaining performance obligations, Quanta includes all estimated revenues attributable to consolidated joint ventures and variable interest entities, revenues from funded and unfunded portions of government contracts to the extent they are reasonably expected to be realized, and revenues from change orders and claims to the extent management believes additional contract revenues will be earned and are deemed probable of collection. Excluded from remaining performance obligations are potential orders under MSAs and non-fixed price contracts expected to be completed within one year.

Contract Estimates and Changes in Estimates

Actual revenues and project costs can vary, sometimes substantially, from previous estimates due to changes in a variety of factors, including unforeseen or changed circumstances not included in Quanta's cost estimates or covered by its contracts. Some of the factors that can result in positive changes in estimates on projects include successful execution through project risks, reduction of estimated project costs or increases of estimated revenues. Some of the factors that can result in negative changes in estimates include concealed or unknown site conditions; changes to or disputes with customers regarding the scope of services; changes in estimates related to the length of time to complete a performance obligation; changes or delays with respect to permitting and regulatory requirements and materials; changes in the cost of equipment, commodities, materials or skilled labor; unanticipated costs or claims due to delays or failure to perform by customers or third parties; customer failure to provide required materials or equipment; errors in engineering, specifications or designs; project modifications; adverse weather conditions, natural disasters, and other emergencies (including the COVID-19 pandemic); and performance and quality issues causing delay (including payment of liquidated damages) or requiring rework or replacement. Any changes in estimates could result in changes to profitability or losses associated with the related performance obligations.

Additionally, changes in cost estimates on certain contracts may result in the issuance of change orders, which can be approved or unapproved by the customer, or the assertion of contract claims. Quanta recognizes amounts associated with change orders and claims as revenue if it is probable that the contract price will be adjusted and the amount of any such adjustment can be reasonably estimated. As of September 30, 2022 and December 31, 2021, Quanta had recognized revenues of $524.1 million and $367.8 million related to change orders and claims included as contract price adjustments that were in the process of being negotiated in the normal course of business. The largest component of the revenues recognized related to change orders and claims as of September 30, 2022 is associated with a large renewable transmission project in Canada, which was primarily attributable to decreased productivity and additional costs that arose from delays, administrative requirements and labor issues due to the COVID-19 pandemic in 2021 and the first quarter of 2022, including additional governmental requirements and worksite restrictions. Additionally, a wildfire in the region and the remote location of the project exacerbated the operational challenges related to labor force and project efficiency. Due to these challenges, Quanta and the customer agreed on a revised timeline and plan for the project, which requires an additional winter season of work through the spring of

2024 and resulted in a substantial increase to the change order and claim balance during the nine months ended September 30, 2022. Additionally, during the three months ended September 30, 2022, Quanta collected amounts associated with the majority of the change orders and claims from an electric infrastructure project in Canada that was substantially completed during the three months ended March 31, 2022. The change orders and claims associated with this project represented a significant portion of the revenues recognized in prior periods.

Changes in estimated revenues, costs and profit are recognized on a cumulative catch-up basis and recorded in the period they are determined to be probable and can be reasonably estimated. Such changes in estimates can result in the recognition of revenue in a current period for performance obligations that were satisfied or partially satisfied in prior periods or the reversal of previously recognized revenue if the currently estimated revenue is less than the previous estimate. The impact of a change in contract estimate is measured as the difference between the revenue or gross profit recognized in the prior period as compared to the revenue or gross profit which would have been recognized had the revised estimate been used as the basis of recognition in the prior period. Changes in estimates can also result in contract losses, which are recognized in full when they are determined to be probable and can be reasonably estimated.

Revenues were positively impacted by $76.2 million and $53.2 million during the three months ended September 30, 2022 and 2021 as a result of changes in estimates associated with performance obligations on fixed price contracts partially satisfied prior to June 30, 2022 and 2021. Revenues were positively impacted by $119.7 million and $151.7 million during the nine months ended September 30, 2022 and 2021 as a result of changes in estimates associated with performance obligations on fixed price contracts partially satisfied prior to December 31, 2021 and 2020.

Operating results for the three months ended September 30, 2022 were favorably impacted by $70.6 million, or 10.2% of gross profit, as a result of aggregate changes in contract estimates related to projects that were in progress as of June 30, 2022. The overall favorable impact resulted from net positive changes in estimates across a large number of projects, primarily as a result of favorable performance and successful mitigation of risks and contingencies as the projects progressed to completion.

Operating results for the nine months ended September 30, 2022 were favorably impacted by $108.1 million, or 5.8% of gross profit, as a result of aggregate changes in contract estimates related to projects that were in progress as of December 31, 2021. The overall favorable impact resulted from net positive changes in estimates across a large number of projects, primarily as a result of favorable performance and successful mitigation of risks and contingencies as the projects progressed to completion. Partially offsetting the aggregate net favorable impact to gross profit was a negative change in estimate of $21.8 million for the nine months ended September 30, 2022, associated with the large renewable transmission project in Canada, described further above.

Operating results for the three months ended September 30, 2021 were favorably impacted by $41.9 million, or 7.8% of gross profit, as a result of aggregate changes in contract estimates related to projects that were in progress at June 30, 2021. Operating results for the nine months ended September 30, 2021 were favorably impacted by $127.4 million, or 9.4% of gross profit, as a result of aggregate changes in contract estimates related to projects that were in progress at December 31, 2020. The net favorable impacts resulted from net positive changes in estimates across a large number of projects, primarily as a result of favorable performance and successful mitigation of risks and contingencies as the projects progressed to completion.

Contract Assets and Liabilities

Contract assets and liabilities consisted of the following (in thousands):

	September 30, 2022	December 31, 2021
Contract assets	$ 1,127,181	$ 803,453
Contract liabilities	$ 830,351	$ 802,872

Contract assets and liabilities fluctuate period to period based on various factors, including, among others, changes in the number and size of projects in progress at period end; variability in billing and payment terms, such as up-front or advance billings, interim or milestone billings, or deferred billings; and unapproved change orders and contract claims recognized as revenues. The increase in contract assets from December 31, 2021 to September 30, 2022 was primarily due to increased working capital requirements, including the timing of billings and unapproved change orders and claims related to the large renewable transmission project in Canada described above.

During the nine months ended September 30, 2022, Quanta recognized revenue of approximately $667.2 million related to contract liabilities outstanding as of December 31, 2021.

Accounts Receivable, Allowance for Credit Losses and Concentrations of Credit Risk

Quanta's historical loss ratio and its determination of its risk pool, which are used to calculate expected credit losses, may be adjusted for changes in customer credit concentrations within its portfolio of financial assets, its customers' ability to pay, and other considerations, such as economic and market changes, changes to regulatory or technological environments affecting customers and the consistency between current and forecasted economic conditions and historical economic conditions used to derive historical loss ratios. At the end of each quarter, management reassesses these and other relevant factors, including the impact of inflationary pressure, ongoing supply chain and other logistical challenges and potential uncertainty and further effects on the energy market and overall economy caused by the COVID-19 pandemic.

Activity in Quanta's allowance for credit losses consisted of the following (in thousands):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
Balance at beginning of period	$ 49,707	$ 39,713	$ 49,749	$ 16,546
Increase (decrease) in provision for credit losses	2,343	249	2,048	24,169
Write-offs charged against the allowance net of recoveries of amounts previously written off	(33,030)	(253)	(32,777)	(1,006)
Balance at end of period	$ 19,020	$ 39,709	$ 19,020	$ 39,709

Provision for credit losses is included in "Selling, general and administrative expenses" in the consolidated statements of operations. During the three months ended September 30, 2022, Quanta determined that $31.7 million of receivables that were fully reserved in previous periods were uncollectible, and as such wrote off the receivables against their related allowances. The receivables were from Limetree Bay Refining, LLC (Limetree Refining), which filed for bankruptcy in July 2021, and an affiliate, customers within Quanta's Underground Utility and Infrastructure Solutions segment. Provisions for such receivables of $23.6 million and $8.1 million were recognized in the three months ended June 30, 2021 and December 31, 2021.

Quanta is subject to concentrations of credit risk related primarily to its net receivable position with customers, which includes amounts related to billed and unbilled accounts receivable and contract assets net of advanced billings with the same customer. Quanta grants credit under normal payment terms, generally without collateral, to its customers, which primarily include utilities, renewable energy developers, communications providers, industrial companies and energy delivery companies located primarily in the United States, Canada and Australia. One customer within the Renewable Energy Infrastructure Solutions segment represented 11% of Quanta's consolidated net receivable position as of September 30, 2022 and December 31, 2021. Another customer, when combined with the net receivable position of a joint venture in which such customer owns a 50% interest, also represented 11% of Quanta's consolidated net receivable position as of December 31, 2021. Quanta's projects with this customer are primarily within the Electric Power Infrastructure Solutions and Renewable Energy Infrastructure Solutions segments. No customer represented 10% or more of Quanta's consolidated revenues for the three and nine months ended September 30, 2022 or 2021.

Certain contracts allow customers to withhold a small percentage of billings pursuant to retainage provisions, and such amounts are generally due upon completion of the contract and acceptance of the project by the customer. Based on Quanta's experience in recent years, the majority of these retainage balances are expected to be collected within approximately one year. Retainage balances with expected settlement dates within one year of September 30, 2022 and December 31, 2021 were $339.9 million and $406.7 million, which are included in "Accounts receivable." Retainage balances with expected settlement dates beyond one year were $134.1 million and $93.9 million and are included in "Other assets, net."

Quanta recognizes unbilled receivables for non-fixed price contracts within "Accounts receivable" in certain circumstances, such as when revenues have been earned and recorded but the amount cannot be billed under the terms of the contract until a later date or when amounts arise from routine lags in billing (for example, work completed during one month but not billed until the next month). These balances do not include revenues recognized for work performed under fixed-price contracts, as these amounts are recorded as "Contract assets." As of September 30, 2022 and December 31, 2021, unbilled receivables included in "Accounts receivable" were $977.2 million and $679.0 million. The increase in unbilled receivables was primarily due to significant increases in work and certain delays in billing related to certain large customers. Quanta also recognizes unearned revenues for non-fixed price contracts when cash is received prior to recognizing revenues for the related performance obligation. Unearned revenues, which are included in "Accounts payable and accrued expenses," were $57.4 million and $51.8 million as of September 30, 2022 and December 31, 2021.

5. SEGMENT INFORMATION:

Beginning with the three months ended December 31, 2021, Quanta reports results underthree reportable segments: (1) Electric Power Infrastructure Solutions, (2) Renewable Energy Infrastructure Solutions and (3) Underground Utility and Infrastructure Solutions. The Renewable Energy Infrastructure Solutions segment was added primarily due to the acquisition of Blattner Holding Company and its operating subsidiaries (collectively, Blattner) on October 13, 2021. For additional information regarding this acquisition, see Note 6. In conjunction with this change, certain prior period amounts have been recast to conform to this new segment reporting structure. This structure is generally based on the broad end-user markets for Quanta's services. See Note 1 for additional information regarding Quanta's reportable segments.

Quanta's segment results are derived from the types of services provided across its operating companies in each of its end user markets. Quanta's entrepreneurial business model allows multiple operating companies to serve the same or similar customers and to provide a range of services across end user markets. Reportable segment information, including revenues and operating income by type of work, is gathered from each operating company for the purpose of evaluating segment performance in support of Quanta's market strategies. Classification of operating company revenues by type of work for segment reporting purposes can require judgment on the part of management. Quanta's operating companies may perform joint projects for customers in multiple industries, deliver multiple types of services under a single customer contract or provide service offerings to various industries. For example, Quanta performs joint trenching projects to install distribution lines for electric power and natural gas customers.

In addition, integrated operations and common administrative support for Quanta's operating companies require that certain allocations be made to determine segment profitability, including allocations of corporate shared and indirect operating costs as well as general and administrative costs. Certain corporate costs are not allocated, including facility costs, acquisition and integration costs, non-cash stock-based compensation, amortization related to intangible assets, asset impairment related to goodwill and intangible assets and change in fair value of contingent consideration liabilities.

The following table sets forth segment revenues, segment operating income (loss) and operating margins for the three and nine months ended September 30, 2022 and 2021. Operating margins are calculated by dividing operating income by revenues. The following table shows dollars in thousands:

	Three Months Ended September 30,				Nine Months Ended September 30,			
	2022		2021		2022		2021	
Revenues:								
Electric Power Infrastructure Solutions	$ 2,282,332	51.2 %	$ 1,996,789	59.5 %	$ 6,620,459	52.3 %	$ 5,488,597	60.6 %
Renewable Energy Infrastructure Solutions	978,779	21.9	331,679	9.9	2,778,647	22.0	1,047,766	11.6
Underground Utility and Infrastructure Solutions	1,198,646	26.9	1,024,810	30.6	3,258,179	25.7	2,520,312	27.8
Consolidated revenues	$ 4,459,757	100.0 %	$ 3,353,278	100.0 %	$ 12,657,285	100.0 %	$ 9,056,675	100.0 %
Operating income (loss):								
Electric Power Infrastructure Solutions (1)	$ 255,457	11.2 %	$ 252,415	12.6 %	$ 691,026	10.4 %	$ 613,121	11.2 %
Renewable Energy Infrastructure Solutions	88,885	9.1 %	35,868	10.8 %	240,514	8.7 %	111,096	10.6 %
Underground Utility and Infrastructure Solutions	101,351	8.5 %	68,167	6.7 %	239,469	7.3 %	100,917	4.0 %
Corporate and Non-Allocated Costs (2)	(158,902)	(3.6)%	(108,373)	(3.2)%	(558,346)	(4.4)%	(301,677)	(3.3)%
Consolidated operating income	$ 286,791	6.4 %	$ 248,077	7.4 %	$ 612,663	4.8 %	$ 523,457	5.8 %

(1) Operating income for the Electric Power Infrastructure Solutions segment includes equity in earnings of integral unconsolidated affiliates that are operationally integral to the operations of Quanta, which primarily consists of equity in earnings related to Quanta's equity interest in LUMA Energy, LLC (LUMA).

(2) Corporate and Non-Allocated Costs for the three months ended September 30, 2022 and 2021 included amortization expense of $67.1 million and $22.8 million and non-cash stock-based compensation of $26.6 million and $21.6 million.

Corporate and Non-Allocated Costs for the nine months ended September 30, 2022 and 2021 included amortization expense of $290.8 million and $65.4 million and non-cash stock-based compensation of $77.7 million and $64.3 million.

Separate measures of Quanta's assets and cash flows by reportable segment, including capital expenditures, are not produced or utilized by management to evaluate segment performance. Quanta's fixed assets, which are primarily held at the operating company level, include operating machinery, equipment and vehicles, office equipment, buildings and leasehold improvements, and are generally used on an interchangeable basis across its reportable segments. As such, for reporting purposes, total depreciation expense is allocated each quarter among Quanta's reportable segments based on the ratio of each reportable segment's revenue contribution to consolidated revenues. The following table shows dollars in thousands:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
Depreciation:				
Electric Power Infrastructure Solutions	$ 35,896	$ 34,859	$ 109,456	$ 104,053
Renewable Energy Infrastructure Solutions	11,214	2,338	29,625	6,873
Underground Utility and Infrastructure Solutions	20,311	20,958	61,916	63,183
Corporate and Non-Allocated Costs	6,086	3,461	17,423	12,371
Consolidated depreciation	$ 73,507	$ 61,616	$ 218,420	$ 186,480

Foreign Operations

During the three months ended September 30, 2022 and 2021, Quanta derived $699.7 million and $460.8 million of its revenues from foreign operations. During the nine months ended September 30, 2022 and 2021, Quanta derived $1.91 billion and $1.39 billion of its revenues from foreign operations. Of Quanta's foreign revenues, 73% and 83% were earned in Canada during the three months ended September 30, 2022 and 2021 and 79% and 81% were earned in Canada during the nine months ended September 30, 2022 and 2021. In addition, Quanta held property and equipment, net of $298.2 million and $338.1 million in foreign countries, primarily Canada, as of September 30, 2022 and December 31, 2021.

6. ACQUISITIONS:

The results of operations of acquired businesses have been included in Quanta's consolidated financial statements since the respective acquisition dates.

In July 2022, Quanta acquired a business located in the United States that provides construction contracting services, specializing in trenching and underground pipeline and electrical conduit installation. Consideration for this acquisition included $22.0 million paid or payable in cash (subject to certain adjustments). Additionally, the former owners of this business are eligible to receive a potential payment of up to $15.0 million (contingent consideration), payable to the extent the acquired business achieves certain financial performance targets over a five-year period that began in July 2022. Based on the estimated fair value of the contingent consideration, Quanta recorded a $2.6 million liability as of the date of the acquisition. The results of the acquired business are included in the Electric Power Infrastructure Solutions segment.

On October 13, 2021, Quanta completed the acquisition of Blattner, a large and leading utility-scale renewable energy infrastructure solutions provider that is located in and primarily operates in North America. Blattner provides comprehensive solutions to customers in the renewable energy industry, which generally include front-end engineering, procurement, project management and construction services for wind, solar and energy storage projects. Consideration for this acquisition included $2.43 billion paid in cash, which includes the final post-closing adjustments, and 3,326,955 shares of Quanta common stock, which had a fair value of $345.4 million as of the date of the acquisition. Additionally, the former owners of Blattner are eligible to receive potential payment of up to $300.0 million of contingent consideration, payable to the extent the acquired business achieves certain financial performance targets each fiscal year over a three-year period that began in January 2022. Based on the estimated fair value of the contingent consideration, Quanta recorded a $125.6 million liability as of the date of the acquisition. As of September 30, 2022, the fair value of the contingent consideration liability was $134.5 million. The contingent consideration is earned based on performance during each year of the three-year performance period ending on December 31, 2024, and amounts earned are payable in cash after the end of the applicable performance year. Quanta may defer payment of earned contingent consideration amounts, at its sole discretion, until after the end of the entire three-year performance period; however, any deferred amounts will accrue interest at five percent per annum until paid. Blattner's results have been included in Quanta's consolidated financial statements in the Renewable Energy Infrastructure Solutions segment since the acquisition date.

During the year ended December 31, 2021, Quanta also acquired the following businesses: three businesses located in the United States that provide electric power construction and related services; a communications services business located in the United States that performs data center connection services; a business located in the United States that designs, develops and holds a certification for the manufacture of personal protective breathing equipment and related monitoring devices primarily used in the refining and petrochemical industries, including in connection with catalyst services; a business that provides turnaround and catalyst change-out services to the refining and petrochemical industries primarily in the United States and Canada; a business located in Canada that provides front-end land services for infrastructure development projects in Canada and the United States; a business located in the United States that primarily provides horizontal directional drilling services; and a communications services business located in the United States. The aggregate consideration for these acquisitions was $328.4 million paid or payable in cash (subject to certain adjustments) and 187,093 shares of Quanta common stock, which had an aggregate fair value of $16.9 million as of the applicable acquisition dates. The results of the manufacturing business and the turnaround and catalyst change-out business are generally included in the Underground Utility and Infrastructure Solutions segment and the results of the remaining businesses are generally included in the Electric Power Infrastructure Solutions segment.

Purchase Price Allocation

Quanta is finalizing its purchase price allocations related to businesses acquired subsequent to September 30, 2021, and further adjustments to the purchase price allocations may occur, with possible updates primarily related to tax estimates and the finalization of closing working capital adjustments. The aggregate consideration paid or payable for businesses acquired between September 30, 2021 and September 30, 2022 was allocated to acquired assets and assumed liabilities, which resulted in an allocation of $230.7 million to net tangible assets, $1.52 billion to identifiable intangible assets and $1.46 billion to goodwill. The following table summarizes the fair value of total consideration transferred or estimated to be transferred and the fair value of assets acquired and liabilities assumed as of September 30, 2022 for acquisitions completed in the periods shown below (in thousands).

	Nine Months Ended September 30, 2022	Year Ended December 31, 2021	
Consideration:		Blattner	All Others
Cash paid or payable	$ 21,990	$ 2,434,877	$ 328,375
Value of Quanta common stock issued	—	345,422	16,922
Contingent consideration	2,600	125,632	—
Fair value of total consideration transferred or estimated to be transferred	$ 24,590	$ 2,905,931	$ 345,297
Cash and cash equivalents	$ 101	$ 171,950	$ 9,911
Accounts receivable	1,755	411,835	63,033
Contract assets	—	13,622	8,322
Other current assets	72	57,803	6,262
Property and equipment	2,266	179,530	71,736
Other assets	—	191	230
Identifiable intangible assets	13,109	1,425,000	104,143
Current maturities of long-term debt and short-term debt	—	(2,304)	—
Accounts payable and accrued liabilities	(1,408)	(481,047)	(29,481)
Contract liabilities	(3,530)	(227,040)	(384)
Deferred tax liabilities, net	—	—	(2,424)
Other long-term liabilities	—	(7,764)	—
Total identifiable net assets	12,365	1,541,776	231,348
Goodwill	12,225	1,364,155	113,948
Fair value of net assets acquired	$ 24,590	$ 2,905,931	$ 345,296

Goodwill represents the amount by which the purchase price for an acquired business exceeds the net fair value of the identifiable assets acquired and liabilities assumed. Goodwill included in the Renewable Energy Infrastructure Solutions Segment increased by $64.9 million during the nine months ended September 30, 2022 as a result of certain post-closing consideration adjustments associated with Quanta’s acquisition of Blattner. The acquisitions completed during the nine months ended September 30, 2022 and the year ended December 31, 2021 strategically expanded Quanta’s domestic renewable energy infrastructure solutions, domestic and international electric power infrastructure solutions, domestic communications service offerings, and domestic and international underground utility and infrastructure solutions, which Quanta believes contributes to the recognition of the goodwill. Approximately $12.2 million and $1.49 billion of goodwill is expected to be deductible for income tax purposes related to acquisitions completed in the nine months ended September 30, 2022 and the year ended December 31, 2021.

The following table summarizes the estimated fair values of identifiable intangible assets for the acquisitions completed in the nine months ended September 30, 2022 and the year ended December 31, 2021 as of the acquisition dates and the related weighted average amortization periods by type (in thousands, except for weighted average amortization periods, which are in years).

	2022		2021			
			Blattner		All Others	
	Estimated Fair Value	Weighted Average Amortization Period in Years	Estimated Fair Value	Weighted Average Amortization Period in Years	Estimated Fair Value	Weighted Average Amortization Period in Years
Customer relationships	$ 11,565	6.0	$ 1,045,000	7.0	$ 77,563	6.7
Backlog	557	0.5	130,000	0.7	6,431	1.2
Trade names	850	15.0	250,000	15.0	5,298	14.9
Non-compete agreements	137	5.0	—	N/A	5,823	5.0
Patented rights, developed technology, and process certifications	—	N/A	—	N/A	9,028	3.5
Total intangible assets subject to amortization	$ 13,109	6.4	$ 1,425,000	7.8	$ 104,143	6.4

The significant estimates used by management in determining the fair values of customer relationship intangible assets include future revenues, discount rates and customer attrition rates.The following table includes the discount rates and customer attrition rates used to determine the fair value of customer relationship intangible assets for businesses acquired during the nine months ended September 30, 2022 and the year ended December 31, 2021 as of the respective acquisition dates:

	2022	2021	
	Rate	Range	Weighted Average
Discount rates	22%	18% to 26%	18%
Customer attrition rates	20%	8% to 30%	10%

Contingent Consideration

As described above, certain business acquisitions have contingent consideration liabilities associated with the transactions.The aggregate fair value of these outstanding contingent consideration liabilities and their classification in the accompanying consolidated balance sheets is as follows (in thousands):

	September 30, 2022	December 31, 2021
Accounts payable and accrued expenses	$ 4,975	$ 2,591
Insurance and other non-current liabilities	143,175	140,482
Total contingent consideration liabilities	$ 148,150	$ 143,073

Quanta's aggregate contingent consideration liabilities can change due to additional business acquisitions, settlement of outstanding liabilities, accretion in present value and changes in the estimated fair value of amounts based on the impact of interest rates and the performance of acquired businesses in post-acquisition periods. These changes are reflected in "Change in fair value of contingent consideration liabilities" in the accompanying consolidated statements of operations. The majority of Quanta's outstanding contingent consideration liabilities are subject to a maximum payment amount, and the aggregate maximum payment amount of these liabilities totaled $327.0 million as of September 30, 2022.

Pro Forma Results of Operations

The following unaudited supplemental pro forma results of operations for Quanta, which incorporate the acquisitions completed in the nine months ended September 30, 2022 and the year ended December 31, 2021, have been provided for illustrative purposes only and do not purport to be indicative of the actual results that would have been achieved by the combined companies for the periods presented or that may be achieved by the combined companies in the future. Future results may vary significantly from the results reflected in the following pro forma financial information because of future events and transactions, as well as other factors (in thousands, except per share amounts).

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
Revenues	$ 4,459,757	$ 4,201,655	$ 12,666,933	$ 11,394,008
Gross profit	$ 688,830	$ 698,695	$ 1,862,122	$ 1,808,795
Selling, general and administrative expenses	$ (347,449)	$ (313,125)	$ (997,801)	$ (967,517)
Amortization of intangible assets	$ (67,147)	$ (67,886)	$ (291,849)	$ (203,956)
Net income	$ 156,316	$ 226,566	$ 335,329	$ 459,055
Net income attributable to common stock	$ 155,956	$ 225,533	$ 326,442	$ 454,526
Earnings per share attributable to common stock:				
Basic	$ 1.09	$ 1.57	$ 2.27	$ 3.16
Diluted	$ 1.06	$ 1.53	$ 2.20	$ 3.07

The pro forma combined results of operations for the three and nine months ended September 30, 2022 and 2021 were prepared by adjusting the historical results of Quanta to include the historical results of the businesses acquired in 2022 as if such acquisitions had occurred January 1, 2021. The pro forma combined results of operations for the three and nine months ended September 30, 2021 were prepared by adjusting the historical results of Quanta to include the historical results of the businesses acquired in 2021 as if such acquisitions had occurred January 1, 2020. These pro forma combined historical results were adjusted for the following: a reduction of interest and other financing expenses as a result of the repayment of outstanding indebtedness of the acquired businesses; an increase in interest and other financing expenses as a result of the cash consideration paid and debt incurred by Quanta for the purpose of financing the acquisition of Blattner; an increase in amortization expense due to the intangible assets recorded; elimination of inter-company sales; changes in depreciation expense to adjust acquired property and equipment to the acquisition date fair value and to conform with Quanta's accounting policies; an increase in the number of outstanding shares of Quanta common stock; reclassifications to conform the acquired businesses' presentation to Quanta's accounting policies; and elimination of certain transaction costs incurred by Blattner and directly related to the acquisition of the business by Quanta. The pro forma combined results of operations do not include any adjustments to eliminate the impact of acquisition-related costs incurred by Quanta or any cost savings or other synergies that resulted or may result from the acquisitions. As noted above, the pro forma results of operations do not purport to be indicative of the actual results that would have been achieved by the combined company for the periods presented or that may be achieved by the combined company in the future.

Results of Operations

Revenues of $5.1 million and income before income taxes of $0.2 million, which includes $0.6 million of acquisition-related costs, related to the acquisition completed in 2022 are included in Quanta's condensed consolidated results of operations for the three and nine months ended September 30, 2022. Revenues of $55.2 million and income before income taxes of $1.0 million, which included $10.6 million acquisition-related costs, related to the acquisitions completed in the three months ended September 30, 2021 are included in Quanta's condensed consolidated results of operations for the three months ended September 30, 2021. Revenues of $63.0 million and income before income taxes of $1.0 million, which included $11.4 million of acquisition-related costs, related to the acquisitions completed in the nine months ended September 30, 2021 are included in Quanta's condensed consolidated results of operations for the nine months ended September 30, 2021.

7. GOODWILL AND OTHER INTANGIBLE ASSETS:

Goodwill, net of accumulated impairment losses, represents the excess of cost over the fair market value of net tangible and identifiable intangible assets of acquired businesses and is stated at cost.

Quanta's reporting units for the purpose of assessing goodwill impairment align with itsthree reportable segments. Goodwill is not amortized but is tested for impairment annually in the fourth quarter of the fiscal year, or more frequently if events or circumstances arise which indicate that goodwill may be impaired. Qualitative indicators that may trigger the need for annual or interim quantitative impairment testing include, among other things, deterioration in macroeconomic conditions;

declining financial performance; deterioration in the operational environment; an expectation of selling or disposing of a portion of a reporting unit; a significant change in market, management, business strategy or business climate; a loss of a significant customer; increased competition; a sustained decrease in share price; or a decrease in Quanta's market capitalization below book value. Quanta did not identify any triggering events in and did not recognize any goodwill impairments for the three and nine months ended September 30, 2022.

Quanta's intangible assets include customer relationships; backlog; trade names; non-compete agreements; patented rights, developed technology, and process certifications; and curriculum, all of which are subject to amortization; as well as an engineering license, which is not subject to amortization. Quanta did not identify any triggering events in and did not recognize any intangible asset impairments for the three and nine months ended September 30, 2022.

In connection with its annual goodwill assessment in 2021, Quanta also considered the sensitivity of its fair value estimates to changes in certain valuation assumptions, including with respect to reporting units within Quanta's Underground Utility and Infrastructure Solutions segment that were negatively impacted by energy market challenges. In particular, two Canadian pipeline-related businesses were identified in the annual goodwill assessment to have an increased risk of goodwill impairment in the near and medium term. After taking into account a 10% decrease in fair value, these reporting units would have had fair values below their carrying amounts as of December 31, 2021. The aggregate goodwill and intangible asset balances for these two businesses totaled $70.0 million and $8.9 million as of September 30, 2022. Quanta will continue to monitor the goodwill associated with these reporting units, and should they suffer additional declines in actual or forecasted financial results, the risk of goodwill impairment would increase.

8. INVESTMENTS IN AFFILIATES AND OTHER ENTITIES:

Equity Method Investments

The carrying values for Quanta's unconsolidated equity method investments were $135.4 million and $101.2 million as of September 30, 2022 and December 31, 2021 and are included in "Other assets, net" in the accompanying condensed consolidated balance sheets. Included in the carrying value as of September 30, 2022 was $82.2 million related to integral unconsolidated affiliates and $53.2 million related to non-integral unconsolidated affiliates, and included in the carrying value as of December 31, 2021 was $67.8 million related to integral unconsolidated affiliates and $33.4 million related to non-integral unconsolidated affiliates. Quanta's share of net income or losses of these investments is included within operating income in the accompanying condensed consolidated statements of operations when the investee is operationally integral to the operations of Quanta and is reported as "Equity in earnings (losses) of integral unconsolidated affiliates." For non-integral investments, such amounts are reported as "Other income (expense), net."

Quanta's integral equity method investment balance includes Quanta's 50% interest in LUMA, which had a carrying investment value of $40.3 million and $30.6 million as of September 30, 2022 and December 31, 2021. Quanta's ownership interest and participation in LUMA is accounted for as an equity method investment due to Quanta's and its joint venture partner's equal ownership of LUMA. During 2020, the LUMA joint venture was selected for a 15-year operation and maintenance agreement to operate, maintain and modernize the approximately 18,000-mile electric transmission and distribution system in Puerto Rico. During the 15-year period under the operation and maintenance agreement, LUMA would be entitled to reimbursement of specific costs and expenses and receive a fixed annual management fee, with the opportunity to receive additional annual performance-based incentive fees. Under the terms of the agreement, LUMA will not assume ownership of the electric transmission and distribution system assets or be responsible for operation of the associated power generation assets.

In June 2021 under the terms of an interim services agreement, LUMA took over operation and maintenance of the system from the utility that owns it prior to commencement of the 15-year term, which is not expected to begin until the satisfaction or waiver of several remaining conditions precedent, including the utility's emergence from its Title III debt restructuring process. During this interim period, LUMA receives a fixed annual management fee, payable in monthly installments, and is reimbursed for specific costs and expenses.

The initial term of the interim services agreement continues through November 30, 2022 and, if requested by the utility's public-private partnership administrator, can be extended by agreement of LUMA, the utility and the administrator. However, if the interim services agreement is not extended it would expire effective December 1, 2022, the 15-year period under the operation and maintenance agreement would not commence, and LUMA would begin work to transition the operation and maintenance of the transmission and distribution system back to the utility or another operator designated by the administrator.

Additionally, to the extent the interim services agreement is not extended, LUMA would be entitled to a $115 million termination fee.

Also included within the integral equity method investment balances described above is Quanta's 44% interest in an entity that provides right-of-way solutions, including site preparation and clearing, materials delivery and installation and management of permitting requirements and traffic control. Quanta acquired this interest in October 2021, and the carrying value of the investment was $27.0 million and $28.5 million as of September 30, 2022 and December 31, 2021.

As of September 30, 2022, Quanta had receivables of $83.0 million from and payables of $23.2 million to its integral unconsolidated affiliates. As of December 31, 2021, Quanta had receivables of $49.0 million from and payables of $56.3 million to its integral unconsolidated affiliates. During the three and nine months ended September 30, 2022, Quanta recognized revenues of $38.2 million and $89.7 million for services provided to such affiliates and costs of sales of $38.8 million and $111.1 million for services provided by such affiliates.

Other Equity Investments

As of September 30, 2022, the carrying value for an investment accounted for using the accounting guidance for equity securities with a readily determinable fair value was $5.0 million, which relates to Starry Group Holdings, Inc. (Starry) and is described further below; and the carrying value for investments accounted for using the accounting guidance for equity securities without a readily determinable fair value was $27.8 million. As of December 31, 2021, the carrying value for investments in equity securities without readily determinable fair values was $130.2 million, which included Starry prior to it becoming a publicly traded company. These amounts are included in "Other assets, net" in the accompanying condensed consolidated balance sheets.

During the three months ended March 31, 2021, Quanta acquired a preferred non-controlling interest in a broadband technology provider for $90.0 million. In March 2022, pursuant to the terms of an agreement and plan of merger with a special purpose acquisition company, the broadband technology provider became Starry, a publicly traded company, and Quanta's preferred equity interest converted to a common equity interest, without preferential liquidation rights, in the publicly traded company. Additionally, in March 2022, Quanta acquired an additional common equity interest in Starry for $1.5 million. Quanta remeasured the fair value of this investment based on the market price of Starry's common stock as of September 30, 2022, which resulted in $26.5 million and $76.5 million decreases in value for the three and nine months ended September 30, 2022. The changes in fair value are recorded within "Other income (expense), net" on Quanta's condensed consolidated statements of operations for the three and nine months ended September 30, 2022. The lock-up period that previously restricted the transfer of substantially all of the shares of common equity held by Quanta in Starry expired in September 2022. In the interval between September 30, 2022 and the date of this filing, the fair value of Quanta's investment in Starry declined further.

During the three months ended March 31, 2022, Quanta sold its non-controlling ownership interest in a technology company and recognized a gain of $6.7 million ($5.0 million, net of tax expense) in the nine months ended September 30, 2022. The gain is recorded in "Other income (expense), net."

Investment in Real Property

During the three months ended March 31, 2021, Quanta purchased, through its wholly-owned captive insurance company, certain real property, including associated buildings and facilities, that Quanta has utilized as its corporate headquarters since September 2022. A portion of this property is currently leased to third-party lessees and is expected to continue to be leased to third-party lessees for the foreseeable future. As a result, an investment in real estate in the amount of $23.5 million was recognized at cost for the third-party leased portion of the property during the three months ended March 31, 2021, and the carrying amount of $26.3 million as of September 30, 2022 is included in "Other assets, net" in the accompanying condensed consolidated balance sheet.

9. PER SHARE INFORMATION:

The amounts used to compute basic and diluted earnings per share attributable to common stock consisted of the following (in thousands):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
Amounts attributable to common stock:				
Net income attributable to common stock	$ 155,956	$ 174,365	$ 328,617	$ 381,159
Weighted average shares:				
Weighted average shares outstanding for basic earnings per share attributable to common stock	143,353	140,008	143,581	140,134
Effect of dilutive unvested non-participating stock-based awards	4,325	4,296	4,515	4,314
Weighted average shares outstanding for diluted earnings per share attributable to common stock	147,678	144,304	148,096	144,448

Basic and diluted earnings per share attributable to common stock are computed using the weighted average number of shares of common stock outstanding during the applicable period. Additionally, unvested stock-based awards that contain non-forfeitable rights to dividends or dividend equivalents (participating securities) have been included in the calculation of basic and diluted earnings per share attributable to common stock for the portion of the periods that the awards were outstanding. Weighted average shares outstanding for basic and diluted earnings per share attributable to common stock included 0.1 million and 0.5 million weighted average participating securities for the three months ended September 30, 2022 and 2021 and0.2 million and 0.7 million weighted average participating securities for the nine months ended September 30, 2022 and 2021.

For purposes of calculating diluted earnings per share attributable to common stock, there were no adjustments required to derive Quanta's net income attributable to common stock. Diluted earnings per share attributable to common stock is computed using the weighted average number of shares of common stock outstanding during the period adjusted for all potentially dilutive common stock equivalents, except in cases where the effect of the common stock equivalents would be antidilutive.

10. DEBT OBLIGATIONS:

Quanta's long-term debt obligations consisted of the following (in thousands):

	September 30, 2022	December 31, 2021
0.950% Senior Notes due October 2024	$ 500,000	$ 500,000
2.900% Senior Notes due October 2030	1,000,000	1,000,000
2.350% Senior Notes due January 2032	500,000	500,000
3.050% Senior Notes due October 2041	500,000	500,000
Borrowings under senior credit facility	952,360	1,199,841
Borrowings under commercial paper program	400,450	—
Other long-term debt	89,504	64,800
Finance leases	3,612	2,546
Unamortized discount and financing costs	(27,060)	(29,295)
Total long-term debt obligations	3,918,866	3,737,892
Less — Current maturities of long-term debt	32,344	13,418
Total long-term debt obligations, net of current maturities	$ 3,886,522	$ 3,724,474

Quanta's current maturities of long-term debt and short-term debt consisted of the following (in thousands):

	September 30, 2022	December 31, 2021
Current maturities of long-term debt	$ 32,344	13,418
Short-term debt	—	15,748
Current maturities of long-term debt and short-term debt	$ 32,344	$ 29,166

Senior Notes

The interest amounts due on Quanta's senior notes are set forth below (dollars in thousands).

Title of the Notes	Interest Amount	Payment Dates	Commencement Date
0.950% Senior Notes due October 2024	$ 2,375	April 1 and October 1	April 1, 2022
2.900% Senior Notes due October 2030	$ 14,500	April 1 and October 1	April 1, 2021
2.350% Senior Notes due January 2032	$ 5,875	January 15 and July 15	July 15, 2022
3.050% Senior Notes due October 2041	$ 7,625	April 1 and October 1	April 1, 2022

Senior Credit Facility

The credit agreement for Quanta's senior credit facility (as amended, the credit agreement) provides for a $750.0 million term loan facility and aggregate revolving commitments of $2.64 billion, with a maturity date of October 8, 2026. Borrowings under the senior credit facility and the applicable interest rates were as follows (dollars in thousands):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
Maximum amount outstanding	$ 1,684,783	$ 517,883	$ 1,684,783	$ 576,993
Average daily amount outstanding	$ 1,448,976	$ 416,089	$ 1,391,130	$ 360,609
Weighted-average interest rate	3.65 %	2.13 %	2.60 %	2.05 %

On August 23, 2022, Quanta entered into an amendment to the credit agreement, which among other things, permits proceeds of revolving loans to be used to provide credit support for Quanta's commercial paper program, as described further below; established Term Secured Overnight Financing Rate (Term SOFR) (as defined in the credit agreement) as the benchmark rate for the senior credit facility (including both the term loan facility and the revolving credit facility), in replacement of London Interbank Offered Rate (LIBOR) (as defined therein prior to giving effect to the amendment), effective as of the date of the amendment; and revised certain other terms and provisions.

The credit agreement contains certain covenants, including, as of the end of any fiscal quarter of Quanta, (i) a maximum Consolidated Leverage Ratio (as defined in the credit agreement) of 3.5 to 1.0 (except that in connection with certain permitted acquisitions in excess of $200.0 million, such ratio is 4.0 to 1.0 for the fiscal quarter in which the acquisition is completed and the four subsequent fiscal quarters) and (ii) a minimum Consolidated Interest Coverage Ratio (as defined in the credit agreement) of 3.0 to 1.0. As of September 30, 2022, Quanta was in compliance with all of the financial covenants under the credit agreement.

Term Loan. As of September 30, 2022, Quanta had $750.0 million outstanding under its term loan facility. The term loan facility requires quarterly principal payments on the first business day of each January, April, July and October, beginning in January 2023, in the amount of $ 4.7 million per quarter in 2023 and 2024, $9.4 million per quarter in 2025 and $18.8 million per quarter in 2026. The aggregate remaining principal amount outstanding must be paid by the maturity date of the senior credit facility.

Revolving Loans. As of September 30, 2022, Quanta had $202.4 million of outstanding revolving loans under the senior credit facility. Of the total outstanding revolving loan borrowings, $120.0 million were denominated in U.S. dollars, $65.1 million were denominated in Canadian dollars and $17.3 million were denominated in Australian dollars. As of September 30, 2022, Quanta also had $410.3 million of letters of credit issued under the senior credit facility, of which $318.3 million were denominated in U.S. dollars and $92.0 million were denominated in currencies other than the U.S. dollar, primarily Australian and Canadian dollars. Additionally, available commitments for revolving loans under the senior credit facility must be maintained in order to provide credit support for notes issued under Quanta's commercial paper program, and therefore such notes effectively reduce the available borrowing capacity under the senior credit facility.

As of September 30, 2022, $1.63 billion remained available under the senior credit facility for new revolving loans, letters of credit and support of the commercial paper program in U.S. dollars and certain alternative currencies.

Deferred Financing Costs. As of September 30, 2022 and December 31, 2021, capitalized deferred financing costs, net of accumulated amortization, related to Quanta's revolving loans under its senior credit facility and commercial paper program were $8.9 million and $10.1 million and are included in "Other assets, net" in the accompanying condensed consolidated balance sheets.

Commercial Paper Program

On August 23, 2022, Quanta entered into a commercial paper program that allows Quanta to issue unsecured commercial paper notes in an amount up to a maximum aggregate face amount of $1.0 billion outstanding at any time. The notes are sold under customary market terms in the U.S. commercial paper market at a discount from par or at par and bear interest at rates determined at the time of issuance. The maturities of the notes may vary, but may not exceed 397 days from the date of issuance. Quanta began issuing notes under this program on September 2, 2022 and had $400.5 million of outstanding notes as of September 30, 2022, with a weighted average interest rate of 3.83%. During the three months ended September 30, 2022, Quanta had maximum borrowings outstanding of $426.3 million and weighted average borrowings of $211.4 million outstanding under the program. Additionally, during the three months ended September 30, 2022, the weighted average interest rate for all borrowings under the program was 3.46%, and the weighted average maturity was 9 days. The notes and related discount are included in "Long-term debt, net of current maturities" in the accompanying condensed consolidated balance sheet.

11. LEASES:

Quanta primarily leases land, buildings, vehicles, construction equipment and office equipment. The components of lease costs in the accompanying condensed consolidated statements of operations are as follows (in thousands):

		Three Months Ended September 30,		Nine Months Ended September 30,	
Lease cost	**Classification**	**2022**	**2021**	**2022**	**2021**
Finance lease cost:					
Amortization of lease assets	Depreciation [1]	$ 301	$ 231	$ 1,177	$ 705
Interest on lease liabilities	Interest and other financing expenses	27	18	82	68
Operating lease cost	Cost of services and Selling, general and administrative expenses	21,957	25,323	71,082	80,046
Short-term and variable lease cost [2]	Cost of services and Selling, general and administrative expenses	250,460	176,605	693,847	494,846
Total lease cost		$ 272,745	$ 202,177	$ 766,188	$ 575,665

(1) Depreciation is included within "Cost of services" and "Selling, general and administrative expenses" in the accompanying condensed consolidated statements of operations.
(2) Short-term lease cost includes both leases and rentals with initial terms of one year or less. Variable lease cost is insignificant.

During the three months ended June 30, 2022, Quanta recognized a $2.8 million asset impairment charge primarily related to the discontinued use of the right-of-use asset associated with its prior corporate headquarters. This amount is reported as "Asset impairment charges" in the accompanying condensed consolidated statement of operations for the nine months ended September 30, 2022.

Quanta has entered into arrangements with certain related parties to lease certain real property and facilities. Typically, the parties are employees of Quanta who are also the former owners of businesses acquired by Quanta, and the real property and facilities continue to be utilized by Quanta subsequent to the acquisitions. Quanta utilizes third party market valuations to evaluate rental rates for these properties and facilities, and the lease agreements generally have remaining lease terms of up to

10 years, subject to renewal options. Related party lease expense was $4.6 million and $2.4 million for the three months ended September 30, 2022 and 2021 and $12.0 million and $10.4 million for the nine months ended September 30, 2022 and 2021.

Certain of Quanta's equipment rental agreements contain purchase options pursuant to which the purchase price is offset by a portion of the rental payments. When these purchase options are exercised by a third-party lessor on behalf of Quanta, the transaction is deemed to be a financing transaction for accounting purposes, which results in the recognition of an asset equal to the purchase price in "Property, plant and equipment, net of accumulated depreciation," and a corresponding liability in "Current maturities of long-term debt and short-term debt" and "Long-term debt, net of current maturities." As of September 30, 2022 and December 31, 2021, the assets recorded related to these financing transactions, net of accumulated depreciation, totaled $79.6 million and $53.9 million.

Future minimum lease payments for operating and finance leases were as follows (in thousands):

	As of September 30, 2022		
	Operating Leases	Finance Leases	Total
Remainder of 2022	$ 22,108	$ 417	$ 22,525
2023	76,118	1,408	77,526
2024	56,284	859	57,143
2025	41,028	516	41,544
2026	29,157	357	29,514
Thereafter	37,425	58	37,483
Total future minimum operating and finance lease payments	262,120	3,615	265,735
Less imputed interest	(19,357)	(3)	(19,360)
Total lease liabilities	$ 242,763	$ 3,612	$ 246,375

Future minimum lease payments for short-term leases, which are not recorded in the condensed consolidated balance sheets due to Quanta's accounting policy election, were $16.9 million as of September 30, 2022. Rental expense associated primarily with certain month-to-month equipment rentals is excluded from this amount because Quanta is unable to accurately predict future amounts associated with such rentals.

The weighted average remaining lease terms and discount rates were as follows:

	As of September 30, 2022
Weighted average remaining lease term (in years):	
Operating leases	4.34
Finance leases	2.95
Weighted average discount rate:	
Operating leases	3.5 %
Finance leases	3.1 %

Quanta has also guaranteed the residual value under certain of its equipment operating leases, agreeing to pay any difference between the residual value and the fair market value of the underlying asset at the date of lease termination. As of September 30, 2022, the maximum guaranteed residual value of this equipment was $969.9 million. While Quanta believes that no significant payments will be made as a result of these residual value guarantees, there can be no assurance that significant payments will not be required in the future.

During the three months ended March 31, 2022, Quanta entered into a real estate lease that has not yet commenced. The lease agreement also contains a purchase option in the amount of $3.7 million that can be exercised during 2022.

12. INCOME TAXES:

Quanta's effective tax rates for the three months ended September 30, 2022 and 2021 were 31.8% and 26.0%. Quanta's effective tax rate for the three months ended September 30, 2022 was predominately impacted by losses on the Starry marketable securities for which a valuation allowance was recorded, which is further described below. Quanta's effective tax rates for the nine months ended September 30, 2022 and 2021 were 26.3% and 23.2%. The tax rates for the nine months ended

September 30, 2022 and 2021 were favorably impacted by the recognition of $22.7 million and $19.7 million of benefits that resulted from equity incentive awards vesting at a higher fair market value than their grant date fair value. The effective tax rate for the nine months ended September 30, 2022 was also unfavorably impacted by the valuation allowance on the losses on Starry.

Quanta regularly evaluates valuation allowances established for deferred tax assets for which future realization is uncertain, including in connection with changes in tax laws. The estimation of required valuation allowances includes estimates of future taxable income. The ultimate realization of deferred tax assets is dependent upon the generation of future taxable income during the periods in which those temporary differences become deductible. Quanta considers projected future taxable income and tax planning strategies in making this assessment. If actual future taxable income differs from these estimates, Quanta may not realize deferred tax assets to the extent estimated. During the three and nine months ended September 30, 2022, Quanta recognized $26.5 million and $76.5 million of unrealized losses on its investment in Starry as further described in Note 8. These losses created a deferred tax asset; however, since Quanta currently has no readily available means to utilize the capital loss, a valuation allowance on the deferred tax asset has been included in its estimated annual effective tax rate.

As of September 30, 2022, the total amount of unrecognized tax benefits relating to uncertain tax positions was $42.3 million, a net increase of $4.6 million from December 31, 2021, which primarily resulted from a $6.9 million increase related to positions expected to be taken in 2022, partially offset by a $2.6 million reduction related to the settlement of audits during the quarter. Quanta's consolidated federal income tax return for tax year 2019 is currently under examination by the Internal Revenue Services (IRS), and Quanta's consolidated federal income tax returns for tax years 2017, 2018, 2020 and 2021 remain open to examination by the IRS, as the applicable statute of limitations periods have not yet expired. Additionally, various state and foreign tax returns filed by Quanta and certain subsidiaries for multiple periods remain under examination by various U.S. state and foreign tax authorities. Quanta does not consider any state in which it does business to be a major tax jurisdiction. Quanta believes it is reasonably possible that within the next 12 months unrecognized tax benefits may decrease by up to $5.5 million as a result of settlement of these examinations or as a result of the expiration of certain statute of limitations periods.

13. EQUITY:

Stock Repurchases

Quanta repurchased the following shares of common stock in the open market under stock repurchase programs (in thousands):

Quarter ended:	Shares	Amount
September 30, 2022	158	$ 21,033
June 30, 2022	731	$ 84,884
March 31, 2022	85	$ 10,426
December 31, 2021	—	$ —
September 30, 2021	185	$ 16,828
June 30, 2021	314	$ 29,450
March 31, 2021	222	$ 17,710

Quanta's policy is to record a stock repurchase as of the trade date of the transaction; however, the payment of cash related to the repurchase is made on the settlement date of the transaction. During the three months ended September 30, 2022 and 2021, cash payments related to stock repurchases were $20.8 million and $17.8 million and during the nine months ended September 30, 2022 and 2021, cash payments related to stock repurchases were $115.1 million and $66.7 million. Repurchases may be implemented through open market repurchases or privately negotiated transactions, at management's discretion, based on market and business conditions, applicable contractual and legal requirements, including restrictions under Quanta's senior credit facility, and other factors. Quanta is not obligated to acquire any specific amount of common stock, and the repurchase program may be modified or terminated by Quanta's Board of Directors at any time at its sole discretion and without notice.

Dividends

Quanta declared and paid the following cash dividends and cash dividend equivalents during 2021 and the first nine months of 2022 (in thousands, except per share amounts):

Declaration Date	Record Date	Payment Date	Dividend Per Share	Dividends Declared
August 31, 2022	October 3, 2022	October 14, 2022	$ 0.07	$ 10,322
May 27, 2022	July 1, 2022	July 15, 2022	$ 0.07	$ 10,283
March 30, 2022	April 11, 2022	April 18, 2022	$ 0.07	$ 10,459
December 1, 2021	January 4, 2022	January 14, 2022	$ 0.07	$ 10,363
August 27, 2021	October 1, 2021	October 15, 2021	$ 0.06	$ 8,638
May 27, 2021	July 1, 2021	July 15, 2021	$ 0.06	$ 8,650
March 25, 2021	April 6, 2021	April 15, 2021	$ 0.06	$ 8,429

14. STOCK-BASED COMPENSATION:

During the year ended December 31, 2021 and nine months ended September 30, 2022, Quanta had stock-based compensation awards outstanding under two equity incentive plans, the Quanta Services, Inc. 2011 Omnibus Equity Incentive Plan and the Quanta Services, Inc. 2019 Omnibus Equity Incentive Plan. For descriptions and further information regarding these plans, refer to Note 14 of the Notes to Consolidated Financial Statements in Item 8. *Financial Statements and Supplementary Data* in Part II of the 2021 Annual Report.

Restricted Stock Units (RSUs) to be Settled in Common Stock

A summary of the activity for RSUs to be settled in common stock for the nine months ended September 30, 2022 and 2021 is as follows (RSUs in thousands):

	2022		2021	
	RSUs	Weighted Average Grant Date Fair Value (Per Unit)	RSUs	Weighted Average Grant Date Fair Value (Per Unit)
Unvested at January 1	3,880	$61.64	3,869	$37.57
Granted	817	$111.20	945	$82.75
Vested	(1,257)	$48.48	(1,442)	$36.92
Forfeited	(116)	$78.72	(119)	$47.23
Unvested at September 30	3,324	$78.39	3,253	$50.71

The grant date fair value for RSUs to be settled in common stock is based on the market value of Quanta common stock on the date of grant. The approximate fair value of RSUs that vested during the nine months ended September 30, 2022 and 2021 was $143.7 million and $121.7 million.

During the nine months ended September 30, 2022 and 2021, Quanta recognized $62.1 million and $48.8 million of non-cash stock compensation expense related to RSUs to be settled in common stock, which is included "Selling, general and administrative expenses." As of September 30, 2022, there was $159.5 million of total unrecognized compensation expense related to unvested RSUs to be settled in common stock granted to both employees and non-employees. This cost is expected to be recognized over a weighted average period of 3.89 years.

Performance Stock Units (PSUs) to be Settled in Common Stock

A summary of the activity for PSUs to be settled in common stock for the nine months ended September 30, 2022 and 2021 is as follows (PSUs in thousands):

	2022		2021	
	PSUs	Weighted Average Grant Date Fair Value (Per Unit)	PSUs	Weighted Average Grant Date Fair Value (Per Unit)
Unvested at January 1	931	$47.27	1,047	$37.65
Granted	153	$119.74	174	$90.44
Vested	(334)	$40.15	(268)	$38.28
Forfeited	(17)	$58.79	(11)	$36.90
Unvested at September 30	733	$65.39	942	$47.27

The grant date fair value for PSUs is determined as follows: (i) for the portion of the awards based on company financial and operational performance metrics, by utilizing the closing price of Quanta's common stock on the date of grant and (ii) for the portion of the awards based on total shareholder return, by utilizing a Monte Carlo simulation valuation methodology. The Monte Carlo simulation valuation methodology applied the following key inputs:

	2022	2021
Valuation date price based on March 2, 2022 and March 25, 2021 closing stock prices of Quanta common stock	$110.24	$83.48
Expected volatility	39 %	36 %
Risk-free interest rate	1.64 %	0.26 %
Term in years	2.83	2.77

During the nine months ended September 30, 2022 and 2021, Quanta recognized $15.6 million and $15.4 million of non-cash stock compensation expense related to PSUs to be settled in common stock, which is included in "Selling, general and administrative expenses." As of September 30, 2022, there was an estimated $24.8 million of total unrecognized compensation expense related to unvested PSUs, which is based on the forecasted attainment of performance metrics associated with unearned and unvested PSUs and includes estimated forfeitures of unearned and unvested PSUs. This cost is expected to be recognized over a weighted average period of 1.82 years.

During the nine months ended September 30, 2022 and 2021, 0.7 million and 0.5 million shares of common stock were earned and either issued or deferred for future issuance under Quanta's deferred compensation plans in connection with PSUs. The approximate fair values of PSUs earned during the nine months ended September 30, 2022 and 2021 were $72.4 million and $45.2 million.

RSUs to be Settled in Cash

During the nine months ended September 30, 2022 and 2021, compensation expense related to RSUs to be settled in cash was $1.6 million and $13.7 million and included in "Selling, general and administrative expenses." RSUs that are anticipated to be settled in cash are not included in the calculation of weighted average shares outstanding for earnings per share, and the estimated earned value of such RSUs is calculated at the end of each reporting period based on the market value of Quanta's common stock and is classified as a liability. Quanta paid $14.5 million and $13.2 million to settle liabilities related to cash-settled RSUs in the nine months ended September 30, 2022 and 2021. Accrued liabilities for the estimated earned value of outstanding RSUs to be settled in cash were $6.9 million and $11.1 million as of September 30, 2022 and December 31, 2021.

15. EMPLOYEE BENEFIT PLANS:

Collective Bargaining Agreements and Multiemployer Pension Plans

Certain of Quanta's operating companies are parties to collective bargaining agreements with unions that represent certain of their employees. Quanta contributes to a number of multiemployer defined benefit pension plans pursuant to the terms of these collective bargaining agreements. For descriptions and further information regarding these plans and Quanta's contributions, refer to Note 15 of the Notes to Consolidated Financial Statements in Item 8. *Financial Statements and Supplementary Data* in Part II of the 2021 Annual Report.

Quanta 401(k) Plan

Quanta maintains a 401(k) plan pursuant to which employees who are not provided retirement benefits through a collective bargaining agreement may make contributions through payroll deductions. For descriptions and further information regarding this plan and Quanta's contributions, refer to Note 15 of the Notes to Consolidated Financial Statements in Item 8. *Financial Statements and Supplementary Data* in Part II of the 2021 Annual Report.

Deferred Compensation Plans

Quanta maintains non-qualified deferred compensation plans under which eligible directors and key employees may defer their receipt of certain cash compensation and/or the settlement of certain stock-based awards. As of September 30, 2022 and December 31, 2021, the deferred compensation liability under Quanta's deferred compensation plans, including amounts contributed by Quanta, was $62.4 million and $74.2 million, the majority of which was included in "Insurance and other non-current liabilities" in the accompanying condensed consolidated balance sheets. To provide for future obligations related to these deferred compensation plans, Quanta has invested in corporate-owned life insurance (COLI) policies covering certain participants in the deferred compensation plans, the underlying investments of which are intended to be aligned with the investment alternatives elected by plan participants. The COLI assets are recorded at their cash surrender value, which is considered their fair market value, and as of September 30, 2022 and December 31, 2021, the fair market values were $59.5 million and $73.8 million and were included in "Other assets, net" in the accompanying condensed consolidated balance sheets.

Changes in the fair market value of Quanta's COLI assets and deferred compensation liabilities largely offset and are recorded in the accompanying statements of operations is as follows (in thousands):

		Three Months Ended September 30,		Nine Months Ended September 30,	
Classification	**Change in fair market value of**	**2022**	**2021**	**2022**	**2021**
Gain (loss) included in Selling, general and administrative expenses	Deferred compensation liabilities	$ 3,069	$ (51)	$ 17,106	$ (6,040)
Other income (expense), net	COLI assets	$ (3,402)	$ (204)	$ (17,706)	$ 5,266

16. COMMITMENTS AND CONTINGENCIES:

Legal Proceedings

Quanta is from time to time party to various lawsuits, claims and other legal proceedings that arise in the ordinary course of business. These actions typically seek, among other things, compensation for alleged personal injury, property damage, breach of contract, negligence or gross negligence, environmental liabilities, wage and hour and other employment-related damages, punitive damages, consequential damages, civil penalties or other losses, or injunctive or declaratory relief. With respect to all such lawsuits, claims and proceedings, Quanta records a reserve when it is probable that a liability has been incurred and the amount of loss can be reasonably estimated. In addition, Quanta discloses matters for which management believes a material loss is at least reasonably possible.

The assessment of whether a loss is probable or reasonably possible, and whether the loss or a range of loss is estimable, often involves a series of complex judgments about future events. In all instances, management has assessed the matter based on current information and made a judgment concerning its potential outcome, giving due consideration to the nature of the claim, the amount and nature of damages sought and the probability of success and taking into account, among other things, negotiations with claimants, discovery, settlements and payments, judicial rulings, arbitration and mediation decisions, advice of internal and external legal counsel, and other information and events pertaining to a particular matter. Costs incurred for litigation are expensed as incurred. Except as otherwise stated below, none of these proceedings are expected to have a material adverse effect on Quanta's consolidated financial position, results of operations or cash flows. However, management's judgment may prove materially inaccurate, and such judgment is made subject to the known uncertainties of litigation.

Peru Project Dispute

In 2015, Redes Andinas de Comunicaciones S.R.L. (Redes), a majority-owned subsidiary of Quanta, entered into two separate contracts with an agency of the Peruvian Ministry of Transportation and Communications (MTC), currently Programa Nacional de Telecomunicaciones (PRONATEL), as successor to Fondo de Inversion en Telecomunicaciones (FITEL), pursuant to which Redes would design, construct and operate certain telecommunication networks in rural regions of Peru. The aggregate consideration provided for in the contracts was approximately $248 million, consisting of approximately $151 million to be paid during the construction period and approximately $97 million to be paid during a 10-year post-construction operation and maintenance period. At the beginning of the project, FITEL made advance payments totaling approximately $87 million to Redes, which were secured by two on-demand advance payment bonds posted by Redes to guarantee proper use of the payments in the execution of the project. Redes also provided two on-demand performance bonds in the aggregate amount of $25 million to secure performance of its obligations under the contracts.

During the construction phase, the project experienced numerous challenges and delays, primarily related to issues which Quanta believes were outside of the control of and not attributable to Redes, including, among others, weather-related issues, local opposition to the project, permitting delays, the inability to acquire clear title to certain required parcels of land and other delays which Quanta believes were attributable to FITEL/PRONATEL. In response to various of these challenges and delays, Redes requested and received multiple extensions to certain contractual deadlines and relief from related liquidated damages. However, in April 2019, PRONATEL provided notice to Redes claiming that Redes was in default under the contracts due to the delays and that PRONATEL would terminate the contracts if the alleged defaults were not cured. Redes responded by claiming that it was not in default, as the delays were due to events not attributable to Redes, and therefore PRONATEL was not entitled to terminate the contracts. PRONATEL subsequently terminated the contracts for alleged cause prior to completion of Redes' scope of work, exercised the on-demand performance bonds and advance payment bonds against Redes, and indicated its intention to claim damages, including liquidated damages under the contracts. As of the date of the contract terminations, Redes had incurred costs of approximately $157 million related to the design and construction of the project and had received approximately $100 million of payments (inclusive of the approximately $87 million advance payments).

In May 2019, Redes filed for arbitration before the Court of International Arbitration of the International Chamber of Commerce (ICC) against PRONATEL and the MTC. In the arbitration, Redes claimed that PRONATEL: breached and wrongfully terminated the contracts; wrongfully executed the advance payment bonds and the performance bonds; and was not entitled to the alleged amount of liquidated damages, and sought compensation for various damages arising from PRONATEL's actions in the initially claimed amount of approximately $ 190 million. In August 2022, Redes received the decision of the arbitration tribunal, which unanimously found in favor of Redes in connection with its claims and ordered, among other things, (i) repayment of the amounts collected by PRONATEL under the advance payment bonds and the performance bonds; (ii) payment of amounts owed for work completed by Redes under the contracts; (iii) payment of lost income in connection with Redes' future operation and maintenance of the networks; and (iv) payment of other related costs and damages to Redes as a result of the breach and improper termination of the contracts (including costs related to the execution of the bonds, costs related to the transfer of the networks and legal and expert fees). Accordingly, the arbitration tribunal awarded Redes approximately $177 million. In addition, per the terms of the arbitration decision, interest will accrue on the amount owed up to the date of payment. The decision of the arbitration tribunal is final; however, there are limited grounds on which PRONATEL and the MTC may seek to annul the decision in Peruvian court. Quanta expects any annulment proceeding would be filed in late 2022 or early 2023**.**

Quanta also reserves the right to seek full compensation for the loss of its investment under applicable legal regimes, including investment treaties and customary international law, as well as to seek resolution through direct discussions with PRONATEL or the MTC. In connection with these rights, in May 2020 Quanta's Dutch subsidiary delivered to the Peruvian government an official notice of dispute arising from the termination of the contracts and related acts by PRONATEL (which are attributable to Peru) under the Agreement on the Encouragement and Reciprocal Protection of Investments between the Kingdom of the Netherlands and the Republic of Peru (Investment Treaty). The Investment Treaty protects Quanta's subsidiary's indirect ownership stake in Redes and the project, and provides for rights and remedies distinct from the ICC arbitration. In December 2020, Quanta's Dutch subsidiary filed a request for the institution of an arbitration proceeding against Peru with the International Centre for Settlement of Investment Disputes (ICSID) related to Peru's breach of the Investment Treaty, which was registered by ICSID in January 2021. In the ICSID arbitration, Quanta's Dutch subsidiary claims, without limitation, that Peru: (i) treated the subsidiary's investment in Redes and the project unfairly and inequitably; and (ii) effectively expropriated the subsidiary's investment in Redes and the project. In addition, Quanta's Dutch subsidiary is seeking full compensation for all damages arising from Peru's actions, including but not limited to (i) the fair market value of the investment and/or lost profits; (ii) attorneys' fees and arbitration costs; (iii) other related costs and damages and (iv) pre- and post-award interest. The ICSID arbitration hearing is currently scheduled to occur in June 2023.

Quanta believes Redes is entitled to all amounts awarded by the ICC arbitration tribunal, and that its Dutch subsidiary is entitled to other amounts associated with the pending ICSID arbitration proceeding. Quanta and Redes intend to vigorously pursue recovery of the amounts awarded by the ICC arbitration tribunal and take additional legal actions deemed necessary to enforce the ICC arbitration decision. However, due to the inherent uncertainty involved with, among other things, any annulment proceeding that may be pursued by PRONATEL and the MTC, the ultimate timing and conclusion with respect to collection of the amount of the ICC arbitration award remains unknown.

As a result of the contract terminations and the inherent uncertainty involved in arbitration proceedings and recovery of amounts owed, during the three months ended June 30, 2019, Quanta recorded a charge to earnings of $79.2 million, which included a reduction of previously recognized earnings on the project, a reserve against a portion of the project costs incurred through the project termination date, an accrual for a portion of the alleged liquidated damages, and the estimated costs to complete the project turnover and close out the project. Quanta also initially recorded a contract receivable of approximately $120 million related to the project during the three months ended June 30, 2019, which includes the amounts collected by PRONATEL through exercise of the advance payment bonds and performance bonds, and that receivable was not changed as of September 30, 2022 and is included in "Other assets, net" in the accompanying condensed consolidated balance sheet. After considering, as discussed above, that the ultimate timing and conclusion with respect to collection of the ICC arbitration award remains unknown, Quanta has not recognized a gain in the current period. To the extent amounts in excess of the current receivable are determined to be realizable, a gain would be recorded in the period such determination is made. However, if Quanta is ultimately not successful with respect to collection of the ICC arbitration award, through annulment or otherwise, or with respect to its claims in the pending ICSID arbitration proceeding, this matter could result in an additional significant loss that could have a material adverse effect on Quanta's consolidated results of operations and cash flows.

Maurepas Project Dispute

During the third quarter of 2017, Maurepas Pipeline, LLC (Maurepas) notified QPS Engineering, LLC (QPS), a subsidiary of Quanta, of a claim for liquidated damages allegedly arising from delay in mechanical completion of a project in Louisiana, and in June 2019, QPS filed suit against SemGroup Corporation (now Energy Transfer LP), the parent company of Maurepas, under the parent guarantee issued to secure payment from Maurepas on the project, seeking recovery of $22 million that it believes was wrongfully withheld in connection with such claim. In July and August 2018, QPS also received notice from Maurepas claiming certain warranty defects on the project, and in July 2019 Maurepas filed suit against QPS and Quanta, pursuant to a parent guarantee, for the alleged warranty defects, ultimately claiming approximately $48 million in damages. The lawsuits relating to these claims were consolidated in the Tulsa County District Court in Oklahoma. In September 2022, the parties resolved all claims associated with the consolidated litigation and released all other claims related to the project and the contract for the project. Based upon the final resolution of this matter, no additional costs were recorded on the project.

Lorenzo Benton v. Telecom Network Specialists, Inc., et al.

In June 2006, plaintiff Lorenzo Benton filed a class action complaint in the Superior Court of California, County of Los Angeles, alleging various wage and hour violations against Telecom Network Specialists (TNS), a former subsidiary of Quanta. Quanta retained liability associated with this matter pursuant to the terms of Quanta's sale of TNS in December 2012. Benton represents a class of workers that includes all persons who worked on certain TNS projects, including individuals that TNS retained through numerous staffing agencies. The plaintiff class in this matter is seeking damages for unpaid wages, penalties associated with the failure to provide meal and rest periods and overtime wages, interest and attorneys' fees. In January 2017, the trial court granted a summary judgment motion filed by the plaintiff class and found that TNS was a joint employer of the class members and that it failed to provide adequate meal and rest breaks and failed to pay overtime wages. During 2019 and 2020, the parties filed additional summary judgment and other motions, and a bench trial on liability and damages was held. Liability and damages have been determined by the trial court, with the amount of liability for TNS, including interest through the date of the trial court's orders, determined to be approximately $9.5 million, which does not include attorneys' fees or costs. Quanta believes the court's decisions on liability and damages are not supported by controlling law and continues to contest its liability and the damages calculation asserted by the plaintiff class in this matter.

Additionally, in November 2007, TNS filed cross complaints for indemnity and breach of contract against the staffing agencies, which employed many of the individuals in question. In December 2012, the trial court heard cross-motions for summary judgment filed by TNS and the staffing agencies pertaining to TNS's demand for indemnity. The court denied TNS's motion and granted the motions filed by the staffing agencies; however, the California Appellate Court reversed the trial court's decision in part and instructed the trial court to reconsider its ruling. In February 2017, the court denied a new motion for summary judgment filed by the staffing companies and has since stated that the staffing companies would be liable to TNS for any damages owed to the class members that the staffing companies employed. However, Quanta currently believes that, due to solvency issues, any contribution from the staffing companies may not be substantial.

The final amount of liability and attorneys' fees, if any, payable in connection with this matter remains the subject of pending litigation and will ultimately depend on various factors, including the outcome of the parties' appeals of the trial court's rulings on liability and damages, a final determination with respect to the amount of any attorneys' fees or additional costs or damages owed by Quanta, and the solvency of the staffing agencies. Based on review and analysis of the trial court's rulings on liability, Quanta does not believe, at this time, that it is probable this matter will result in a material loss. However, if Quanta is unsuccessful in this litigation and the staffing agencies are unable to fund damages owed to class members, based on rulings issued by the trial court, Quanta believes the range of reasonably possible loss to Quanta upon final resolution of this matter could be up to approximately $9.5 million, plus the final amount of any attorneys' fees, interest, and expenses awarded to the plaintiff class. Quanta believes the maximum recoverable amount of attorneys' fees and costs is approximately $17.3 million, and that such maximum amount would only be recoverable in the event Quanta's appeal of the trial court's rulings with respect to liability and damages is unsuccessful.

Hallen Acquisition Assumed Liability

In August 2019, in connection with the acquisition of The Hallen Construction Co., Inc. (Hallen), Quanta assumed certain contingent liabilities associated with a March 2014 natural gas-fed explosion and fire in the Manhattan borough of New York City, New York. The incident resulted in, among other things, loss of life, personal injury and the destruction of two buildings and other property damage. After investigation, the National Transportation Safety Board determined that the probable cause of the incident was the failure of certain natural gas infrastructure installed by Consolidated Edison, Inc. (Con Ed) and the failure of certain sewer infrastructure maintained by the City of New York. Pursuant to a contract with Con Ed, Hallen had performed certain work related to such natural gas infrastructure and agreed to indemnify Con Ed for certain claims, liabilities and costs associated with its work. Numerous lawsuits are pending in New York state courts related to the incident, which generally name Con Ed, the City of New York and Hallen as defendants. These lawsuits are at various preliminary stages and generally seek unspecified damages and, in some cases, punitive damages, for wrongful death, personal injury, property damage and business interruption.

As of September 30, 2022, Quanta had not recorded an accrual related to this matter. Hallen's liabilities associated with this matter are expected to be covered under applicable insurance policies or contractual remedies negotiated by Quanta with the former owners of Hallen. If a loss becomes probable and estimable with respect to this matter, Quanta expects to accrue its estimated liability and a receivable in the same amount. However, the ultimate amount of liability in connection with this matter remains subject to uncertainties associated with pending litigation, including, among other things, the apportionment of liability among the defendants and other responsible parties and the likelihood and amount of potential damages claims. As a result, this matter could result in a loss that is in excess of, or not covered by, such insurance or contractual remedies, which could have a material adverse effect on Quanta's consolidated financial condition, results of operations and cash flows.

Silverado Wildfire Matter

During 2022, two of Quanta's subsidiaries have received tenders of defense and demands for preservation of evidence from Southern California Edison Company (SCE) related to lawsuits filed in April 2021, November 2021 and February 2022 against SCE and T-Mobile USA, Inc. (T-Mobile) in the Superior Court of California, County of Orange. The lawsuits generally assert property damage and related claims on behalf of certain individuals and subrogation claims on behalf of insurers relating to damages caused by a wildfire that began in October 2020 in Orange County, California (the Silverado Fire) and that is purported to have damaged approximately 13,000 acres. The lawsuits allege the Silverado Fire originated from utility poles in the area, generally claiming that each defendant failed to adequately maintain, inspect, repair or replace its overhead facilities, equipment and utility poles and remove vegetation in the vicinity; that the utility poles were overloaded with equipment from shared usage; and that SCE failed to de-energize its facilities during red flag warnings for a Santa Ana wind event. The lawsuits allege the Silverado Fire started when SCE and T-Mobile equipment contacted each other and note the Orange County Fire Department is investigating whether a T-Mobile lashing wire contacted an SCE overhead primary conductor in high winds. T-Mobile has filed cross-complaints against SCE alleging, among other things, that the ignition site of the Silverado Fire encompassed two utility poles replaced by SCE or a third party engaged by SCE, and that certain equipment, including T-Mobile's lashing wire, was not sufficiently re-secured after the utility pole replacements. One of Quanta's subsidiaries performed planning and other services related to the two utility poles, and another Quanta subsidiary replaced the utility poles and reattached the electrical and telecommunication equipment to the new utility poles in March 2019, approximately 19 months before the Silverado Fire. Pursuant to the general terms of a master services agreement and a master consulting services agreement between the Quanta subsidiaries and SCE, the subsidiaries agreed to defend and indemnify SCE against certain claims arising with respect to performance or nonperformance under the agreements. The SCE tender letters seek contractual indemnification and defense from Quanta's subsidiaries for the claims asserted against SCE in the lawsuits and the T-Mobile cross-complaints.

Quanta's subsidiaries intend to vigorously defend against the lawsuits, the T-Mobile cross-complaints and any other claims asserted in connection with the Silverado Fire. Quanta will continue to review additional information in connection with this matter as litigation and resolution efforts progress, and any such information may potentially allow Quanta to determine an estimate of potential loss, if any. As of September 30, 2022, Quanta had not recorded an accrual with respect to this matter, and Quanta is currently unable to reasonably estimate a range of reasonably possible loss, if any, because there are a number of unknown facts and legal considerations that may impact the amount of any potential liability. Quanta also believes that to the extent its subsidiaries are determined to be liable for any damages resulting from this matter, its insurance would be applied to any such liabilities over its deductible amount and its insurance coverage would be adequate to cover such potential liabilities. However, the ultimate amount of any potential liability and insurance coverage in connection with this matter remains subject to uncertainties associated with pending and potential future litigation.

Insurance

Quanta is insured for, among other things, employer's liability, workers' compensation, auto liability, aviation and general liability claims. Quanta manages and maintains a portion of its casualty risk through its wholly-owned captive insurance company, which insures all claims up to the amount of the applicable deductible of its third-party insurance programs, as well as with respect to certain other amounts.

As of September 30, 2022 and December 31, 2021, the gross amount accrued for employer's liability, workers' compensation, auto liability, general liability, and group health claims totaled $319.3 million and $318.2 million, with $211.1 million and $238.0 million considered to be long-term and included in "Insurance and other non-current liabilities." Related insurance recoveries/receivables as of September 30, 2022 and December 31, 2021 were $7.5 million and $28.6 million, of which $0.3 million and $0.4 million are included in "Prepaid expenses and other current assets" and $7.2 million and $28.2 million are included in "Other assets, net."

Letters of Credit

Certain of Quanta's vendors require letters of credit to ensure reimbursement for amounts they are disbursing on Quanta's behalf, such as to beneficiaries under its insurance programs. In addition, from time to time, certain customers require Quanta to post letters of credit to ensure payment of subcontractors and vendors and guarantee performance under contracts. As of September 30, 2022, Quanta had $410.3 million in outstanding letters of credit under its senior credit facility securing its casualty insurance program and various contractual commitments. These are irrevocable stand-by letters of credit with maturities generally expiring at various times throughout 2022 and 2023. Quanta expects to renew the majority of the letters of credit related to the casualty insurance program for subsequent one-year periods upon their maturity. Quanta is not aware of any claims currently asserted or threatened under any of these letters of credit that are material, individually or in the aggregate.

Bonds and Parent Guarantees

Many customers, particularly in connection with new construction, require Quanta to post performance and payment bonds. These bonds provide a guarantee that Quanta will perform under the terms of a contract and pay its subcontractors and vendors. In certain circumstances, the customer may demand that the surety make payments or provide services under the bond, and Quanta must reimburse the surety for any expenses or outlays it incurs. Quanta may also be required to post letters of credit in favor of the sureties, which would reduce the borrowing availability under its senior credit facility. Quanta has not been required to make any material reimbursements to its sureties for bond-related costs, except as described in *Legal Proceedings – Peru Project Dispute* above. However, to the extent further reimbursements are required, the amounts could be material and could adversely affect Quanta's consolidated business, financial condition, results of operations and cash flows. As of September 30, 2022, Quanta is not aware of any outstanding material obligations for payments related to bond obligations, and the estimated total amount of the outstanding performance bonds was approximately $4.6 billion. Quanta's estimated maximum exposure related to the value of the performance bonds outstanding is lowered on each bonded project as the cost to complete is reduced, and each commitment under a performance bond generally extinguishes concurrently with the expiration of its related contractual obligation. The estimated cost to complete these bonded projects was approximately $1.4 billion as of September 30, 2022.

Additionally, from time to time, Quanta guarantees certain obligations and liabilities of its subsidiaries that may arise in connection with, among other things, contracts with customers, equipment lease obligations, joint venture arrangements and contractor licenses. These guarantees may cover all of the subsidiary's unperformed, undischarged and unreleased obligations and liabilities under or in connection with the relevant agreement. Quanta is not aware of any claims under any guarantees that are material.

Collective Bargaining Agreements and Multiemployer Pension Plans

Certain of Quanta's operating companies are parties to collective bargaining agreements with unions that represent certain of their employees, and from time to time, Quanta is a party to grievance and arbitration actions based on claims arising out of the collective bargaining agreements. In addition, Quanta may also be subject to liabilities as a result of its participation in, or withdrawal from, multiemployer defined benefit pension plans. Additional information regarding the agreements and plans associated with these potential obligations is included in Note 15 of the Notes to Consolidated Financial Statements in Item 8. *Financial Statements and Supplementary Data* in Part II of the 2021 Annual Report.

Contingent Consideration Liabilities

The terms of certain of Quanta's acquisition transactions have included the potential payment of contingent consideration. Additional information regarding the liabilities associated with these potential obligations is included in Note 6.

Indemnities

Quanta generally indemnifies its customers for the services it provides under its contracts and other specified liabilities, which may subject Quanta to indemnity claims and liabilities and related litigation. Quanta is not aware of any indemnity claims in connection with these obligations that are material, except as described in *Legal Proceedings – Silverado Wildfire Matter* above.

Additionally, in the normal course of Quanta's acquisition transactions, Quanta has granted indemnification rights to various parties against certain potential liabilities related to the transaction or the acquired business and obtained rights to indemnification from the sellers or former owners of acquired businesses for certain risks, liabilities, and obligations arising from business operations prior to the date of acquisition. For example, Quanta has obtained certain indemnification rights from the former owners of Hallen with respect to contingent liabilities that were assumed in connection with the acquisition, as described in *Legal Proceedings — Hallen Acquisition Assumed Liability* above.

Investments in Affiliates and Other Entities

As described in Note 8, Quanta holds investments in various entities, including joint venture entities that provide infrastructure-related services under specific customer contracts and partially owned entities that own, operate and/or maintain certain infrastructure assets. Quanta is not aware of circumstances that would lead to future claims against it for material amounts in connection with joint and several liabilities associated with its joint venture structures.

As of September 30, 2022, Quanta had $0.6 million of outstanding capital commitments associated with investments in unconsolidated affiliates payable by September 30, 2023 and $10.5 million payable thereafter.

Committed Expenditures

Quanta has capital commitments for the expansion of its equipment fleet in order to accommodate manufacturer lead times on certain types of vehicles. As of September 30, 2022, Quanta had $45.3 million of production orders with expected delivery dates during the remainder of 2022 and $144.8 million of production orders with expected delivery dates in 2023. Although Quanta has committed to purchase these vehicles at the time of their delivery, Quanta anticipates that the majority of these orders will be assigned to third party leasing companies and made available under certain master equipment lease agreements, thereby releasing Quanta from its capital commitments.

Residual Value Guarantees

As described in Note 11, Quanta has also guaranteed the residual value under certain of its equipment operating leases, agreeing to pay any difference between this residual value and the fair market value of the underlying asset at the date of lease termination. As of September 30, 2022, the maximum guaranteed residual value of this equipment was $969.9 million. While Quanta believes that no significant payments will be made as a result of these residual value guarantees, there can be no assurance that significant payments will not be required in the future.

Deferral of Employer Payroll Taxes

During 2020, the U.S. federal government enacted the Coronavirus Aid, Relief, and Economic Security Act (the CARES Act), which provided for various tax relief and tax incentive measures. These measures did not have a material impact on Quanta's results of operations. However, pursuant to the CARES Act, Quanta deferred the payment of $ 108.9 million of employer payroll taxes during the year ended December 31, 2020, 50% of which were paid in the year ended December 31, 2021 and the remainder of which is due by December 31, 2022.

Employment Agreements

Quanta has various employment agreements with certain executives and other employees, which provide for compensation, other benefits and, under certain circumstances, severance payments and post-termination stock-based compensation benefits. Certain employment agreements also contain clauses that require the potential payment of specified amounts to such employees upon the occurrence of a defined change in control event.

17. FAIR VALUE MEASUREMENTS:

For disclosure purposes, qualifying assets and liabilities are categorized into three broad levels based on the priority of the inputs used to determine their fair values. The fair value hierarchy gives the highest priority to quoted prices (unadjusted) in active markets for identical assets or liabilities (Level 1) and the lowest priority to unobservable inputs (Level 3). Certain assumptions and other information as they relate to these qualifying assets and liabilities are described below.

Goodwill and Other Intangible Assets

As discussed in Note 6, Quanta has recorded goodwill and identifiable intangible assets in connection with certain of its historical business acquisitions. Quanta utilizes the fair value premise as the primary basis for its impairment valuation procedures. The *Goodwill* and *Other Intangible Assets* sections in Notes 2 and 7 of the Notes to Consolidated Financial Statements in Item 8.*Financial Statements and Supplementary Data* in Part II of the 2021 Annual Report provide information regarding valuation methods and assumptions used to determine the fair value of these assets. Quanta periodically engages the services of an independent valuation firm when a new business is acquired to assist management with the valuation process, including assistance with the selection of appropriate valuation methodologies and the development of market-based valuation assumptions. The level of inputs used for these fair value measurements is the lowest level (Level 3).

Investments

Quanta has various equity investments, which are further described in Note 8. Equity investments with readily determinable fair values are measured and recorded at fair value on a recurring basis, with changes in fair value, whether realized or unrealized, recognized in net income. In cases where those readily determinable values are quoted market prices, the level of input used for these fair value measurements is the highest level (Level 1).

Equity investments without readily determinable fair values and equity method investments are measured on a nonrecurring basis. Equity investments without readily determinable fair values are measured and recorded at cost minus impairment, if any, plus or minus changes from qualifying observable price changes. Equity method investments are measured at cost minus impairment, if any, plus or minus Quanta's share of equity method investee income or loss. Quanta utilizes the fair value premise as the basis for its impairment valuation and recognizes impairment if there are sufficient indicators that the fair value of the investment is less than its carrying value, and, in the case of equity method investments, if that decline is other-than-temporary. These types of fair market value assessments are similar to other nonrecurring fair value measures used by Quanta, which include the use of significant judgments and available relevant market data. The level of inputs used for these fair value measurements is the lowest level (Level 3).

During the three months ended March 31, 2022, Quanta's investment in Starry became a common equity interest in a publicly traded company, as further described in Note 8. As a result, the fair value of this investment is remeasured based on the market price of Starry's common stock at the end of each quarter, which is considered to be its fair value. The level of input used for this fair value measurement is Level 1, while the level of input used for fair value measurement prior to Starry becoming a publicly traded company was Level 3. Quanta also has COLI policies related to its deferred compensation plan as further described in Note 15. These policies are carried at their cash surrender value, which is considered their fair value. The level of input used for these fair value measurements is Level 2.

Financial Instruments

The carrying amounts of cash equivalents, accounts receivable, contract assets, accounts payable, accrued expenses and contract liabilities approximate fair value due to the short-term nature of these instruments. All of Quanta's cash equivalents were categorized as Level 1 assets as of September 30, 2022 and December 31, 2021, as all values were based on unadjusted quoted prices for identical assets in an active market that Quanta has the ability to access.

Contingent Consideration Liabilities

Financial instruments required to be measured at fair value on a recurring basis consist primarily of Quanta's liabilities related to contingent consideration associated with certain acquisitions, payable in the event certain performance objectives are achieved by the acquired businesses during designated post-acquisition periods.

The fair values of these liabilities described in Note 6 were primarily determined using a Monte Carlo simulation valuation methodology based on probability-weighted performance projections and other inputs, including a discount rate and an expected volatility factor for each acquisition. The expected volatility factors ranged from 41.0% to 50.0%, with a weighted average of 48.0%, based on historical asset volatility of selected guideline public companies. Depending on contingent consideration payment terms, the present values of the estimated payments are discounted based on a risk-free rate and/or Quanta's cost of debt and ranged from 0.04% to 4.1% and had a weighted average of 2.9% based on the fair value at the dates of the respective acquisitions. The fair value determinations incorporate significant inputs not observable in the market. Accordingly, the level of inputs used for these fair value measurements is the lowest level (Level 3). Significant changes in any of these assumptions could result in a significantly higher or lower potential liability.

Long-Term Debt

The carrying amount of the term loan under Quanta's senior credit facility approximates fair value due to its variable interest rate. The carrying amounts of the revolving borrowings under Quanta's senior credit facility and notes issued under its commercial paper program approximate fair value, as all revolving borrowings and notes currently have a short maturity. The fair value of Quanta's senior notes, which are described further in Note 10, was $1.95 billion as of September 30, 2022, compared to a carrying value of $2.48 billion net of unamortized bond discount, underwriting discounts and deferred financing costs of $24.6 million. The fair value of the senior notes is based on the quoted market prices for the same issue, and the senior notes are categorized as Level 1 liabilities. See Note 10 for additional information regarding Quanta's senior credit facility, commercial paper program and senior notes.

18. DETAIL OF CERTAIN ACCOUNTS:

Cash and Cash Equivalents

Amounts related to Quanta's cash and cash equivalents based on geographic location of the bank accounts were as follows (in thousands):

	September 30, 2022	December 31, 2021
Cash and cash equivalents held in domestic bank accounts	$ 175,846	$ 205,781
Cash and cash equivalents held in foreign bank accounts	39,549	23,316
Total cash and cash equivalents	$ 215,395	$ 229,097

Quanta considers all highly liquid investments with an original maturity of three months or less at the time of purchase to be cash equivalents, which are carried at fair value. As of September 30, 2022 and December 31, 2021, cash equivalents were $136.7 million and $140.0 million and consisted primarily of money market investments and money market mutual funds and are discussed further in Note 17.

Cash and cash equivalents held by joint ventures, which are either consolidated or proportionately consolidated, are available to support joint venture operations, but Quanta cannot utilize those assets to support its other operations. Quanta generally has no right to cash and cash equivalents held by a joint venture other than participating in distributions, to the extent made, and in the event of dissolution. Cash and cash equivalents held by Quanta's wholly-owned captive insurance company are generally not available for use in support of its other operations. Amounts related to cash and cash equivalents held by consolidated or proportionately consolidated joint ventures and the captive insurance company, which are included in Quanta's total cash and cash equivalents balances, were as follows (in thousands):

	September 30, 2022	December 31, 2021
Cash and cash equivalents held by domestic joint ventures	$ 18,712	$ 21,828
Cash and cash equivalents held by foreign joint ventures	5,087	3,461
Total cash and cash equivalents held by joint ventures	23,799	25,289
Cash and cash equivalents held by captive insurance company	46,539	133,302
Cash and cash equivalents not held by joint ventures or captive insurance company	145,057	70,506
Total cash and cash equivalents	$ 215,395	$ 229,097

Accounts Payable and Accrued Expenses

Accounts payable and accrued expenses consisted of the following (in thousands):

	September 30, 2022	December 31, 2021
Accounts payable, trade	$ 1,383,079	$ 1,251,118
Accrued compensation and related expenses	597,235	547,161
Other accrued expenses	429,286	456,392
Accounts payable and accrued expenses	$ 2,409,600	$ 2,254,671

19. SUPPLEMENTAL CASH FLOW INFORMATION:

The net effects of changes in operating assets and liabilities, net of non-cash transactions, on cash flows from operating activities are as follows (in thousands):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
Accounts and notes receivable	$ (152,311)	$ (411,890)	$ (316,253)	$ (299,857)
Contract assets	(161,698)	(96,423)	(369,958)	(308,849)
Inventories	(2,581)	5	(14,445)	(6,139)
Prepaid expenses and other current assets	(18,030)	37,406	(73,899)	(4,943)
Accounts payable and accrued expenses and other non-current liabilities	229,989	230,631	287,890	289,833
Contract liabilities	77,682	(1,397)	27,278	(27,027)
Other, net	(1,746)	(6,027)	(4,971)	(15,205)
Net change in operating assets and liabilities, net of non-cash transactions	$ (28,695)	$ (247,695)	$ (464,358)	$ (372,187)

Reconciliations of cash, cash equivalents, and restricted cash reported within the condensed consolidated balance sheets that sum to the total of such amounts shown in the statements of cash flows are as follows (in thousands):

	September 30,	
	2022	2021
Cash and cash equivalents [(1)]	$ 215,395	$ 1,696,210
Restricted cash included in "Prepaid expenses and other current assets" [(2)]	1,993	2,108
Restricted cash included in "Other assets, net" [(2)]	950	778
Total cash, cash equivalents, and restricted cash reported in the statements of cash flows	$ 218,338	$ 1,699,096

	June 30,	
	2022	2021
Cash and cash equivalents [1]	$ 150,653	$ 212,473
Restricted cash included in "Prepaid expenses and other current assets" [2]	1,763	1,460
Restricted cash included in "Other assets, net" [2]	950	782
Total cash, cash equivalents, and restricted cash reported in the statements of cash flows	$ 153,366	$ 214,715

	December 31,	
	2021	2020
Cash and cash equivalents [1]	$ 229,097	$ 184,620
Restricted cash included in "Prepaid expenses and other current assets" [2]	1,836	1,275
Restricted cash included in "Other assets, net" [2]	954	913
Total cash, cash equivalents, and restricted cash reported in the statements of cash flows	$ 231,887	$ 186,808

(1) Cash and cash equivalents as of September 30, 2022 and 2021 includes $46.5 million and $132.9 million held by Quanta's wholly-owned captive insurance company. Cash and cash equivalents as of June 30, 2022 and 2021 includes $47.9 million and $132.0 million held by Quanta's wholly-owned captive insurance company. Cash and cash equivalents as of December 31, 2021 and 2020 includes $133.3 million and $85.0 million held by Quanta's wholly-owned captive insurance company. Such amounts are generally not available for use in support of Quanta's other operations.

(2) Restricted cash includes any cash that is legally restricted as to withdrawal or usage.

Supplemental cash flow information related to leases and rental purchase options is as follows (in thousands):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
Cash paid for amounts included in the measurement of lease liabilities:				
Operating cash flows from operating leases	$ (22,988)	$ (25,331)	$ (72,256)	$ (79,730)
Operating cash flows from finance leases	$ (28)	$ (18)	$ (82)	$ (68)
Financing cash flows from finance leases	$ (349)	$ (168)	$ (1,076)	$ (688)
Lease assets obtained in exchange for lease liabilities:				
Operating leases	$ 30,056	$ 17,081	$ 54,779	$ 41,686
Finance leases	$ 615	$ 112	$ 1,865	$ 398
Rental purchase option assets obtained in exchange for rental purchase option liabilities	$ 2,449	$ 1,129	$ 29,602	$ 7,009

Additional supplemental cash flow information is as follows (in thousands):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
Cash (paid) received during the period for —				
Interest paid	$ (18,856)	$ (3,950)	$ (61,815)	$ (26,883)
Income taxes paid	$ (16,462)	$ (35,740)	$ (74,825)	$ (103,225)
Income tax refunds	$ 496	$ 2,419	$ 5,966	$ 9,211

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

The following discussion and analysis of the financial condition and results of operations of Quanta Services, Inc. (together with its subsidiaries, Quanta, we, us or our) should be read in conjunction with our condensed consolidated financial statements and related notes included elsewhere in this Quarterly Report and with our 2021 Annual Report, which was filed with the SEC on February 25, 2022 and is available on the SEC's website at www.sec.gov and on our website at www.quantaservices.com. The discussion below contains forward-looking statements that are based upon our current expectations and are subject to uncertainty and changes in circumstances. Actual results may differ materially from these expectations due to inaccurate assumptions and known or unknown risks and uncertainties, including those identified in *Cautionary Statement About Forward-Looking Statements and Information* above, in Item 1A. *Risk Factors* of Part II of this Quarterly Report and in Item 1A. *Risk Factors* of Part I of our 2021 Annual Report.

Overview

We are a leading provider of specialty contracting services, delivering comprehensive infrastructure solutions for the utility, renewable energy, communications, pipeline and energy industries in the United States, Canada, Australia and select other international markets. The performance of our business generally depends on our ability to obtain contracts with customers and to effectively deliver the services provided under those contracts. The services we provide include design, engineering, procurement, new construction, upgrade and repair and maintenance services for infrastructure within each of the industries we serve, such as electric power transmission and distribution networks; substation facilities; wind and solar energy generation and transmission and battery storage facilities; communications and cable multi-system operator networks; gas utility systems; pipeline transmission systems facilities; and downstream industrial facilities. Our customers include many of the leading companies in the industries we serve, and we endeavor to develop and maintain strategic alliances and preferred service provider status with our customers. Our services are typically provided pursuant to master service agreements, repair and maintenance contracts and fixed price and non-fixed price new construction contracts.

Beginning with the three months ended December 31, 2021, we report our results under three reportable segments: (1) Electric Power Infrastructure Solutions, (2) Renewable Energy Infrastructure Solutions and (3) Underground Utility and Infrastructure Solutions. In conjunction with this change, certain prior period amounts have been recast to conform to this new segment reporting structure. This structure is generally focused on broad end-user markets for our services. Included within the Electric Power Infrastructure Solutions segment are the results related to our communications infrastructure services.

Current Quarter Financial Results and Significant Operational Trends and Events

Key consolidated financial results for the three months ended September 30, 2022 included:

- Revenues increased 33.0%, or $1.1 billion, to $4.46 billion as compared to consolidated revenues of $3.4 billion for the three months ended September 30, 2021;
- Operating income increased 15.6%, or $38.7 million, to $286.8 million as compared to $248.1 million for the three months ended September 30, 2021;
- Net income attributable to common stock decreased 10.6%, or $18.4 million, to $156.0 million as compared to $174.4 million for the three months ended September 30, 2021, and was substantially impacted by a $26.5 million ($28.5 million after tax impact) unrealized loss related to the change in fair value of our investment in a publicly traded company. Additionally, incremental earnings from recently acquired businesses were substantially offset by a $44.4 million increase in amortization expense attributable to recent acquisitions, primarily Blattner;
- Diluted earnings per share decreased 12.4%, or $0.15, to $1.06 as compared to $1.21 for the three months ended September 30, 2021;
- EBITDA (a non-GAAP financial measure) increased 19.2%, or $65.4 million, to $405.8 million, as compared to $340.3 million for the three months ended September 30, 2021, and adjusted EBITDA (a non-GAAP financial measure) increased 27.4%, or $100.6 million, to $467.4 million, as compared to $366.9 million for the three months ended September 30, 2021;
- Net cash provided by operating activities increased by $325.5 million to $343.4 million, as compared to net cash provided by operating activities of $17.9 million for the three months ended September 30, 2021;
- Remaining performance obligations increased 15.9%, or $938.8 million, to $6.83 billion as of September 30, 2022 as compared to $5.90 billion as of December 31, 2021; and
- Total backlog (a non-GAAP financial measure) increased 8.3%, or $1.60 billion, to $20.87 billion as of September 30, 2022, as compared to $19.27 billion as of December 31, 2021.

For a reconciliation of EBITDA and adjusted EBITDA to net income attributable to common stock, the most comparable GAAP financial measure, and a reconciliation of backlog to remaining performance obligations, the most comparable GAAP financial measure, see *Non-GAAP Financial Measures* below.

As described below, during the three months ended September 30, 2022, our results reflected certain significant operational trends and events as compared to the three months ended September 30, 2021, with certain of our segment results of operations recast to conform to our current segment reporting structure. See *Results of Operations* and *Segment Results* below for additional information.

Electric Power Infrastructure Solutions Segment

- Revenues increased by 14.3% to $2.28 billion, as compared to $2.00 billion.
- Operating income increased by 1.2% to $255.5 million, as compared to $252.4 million, and operating margin decreased to 11.2%, as compared to 12.6%.
- Revenues increased primarily due to increased spending by our utility customers on grid modernization and hardening, as well as approximately $85 million in revenues attributable to acquired businesses. These increases were partially offset by approximately $175 million in lower emergency restoration services revenues.
- The increase in operating income was primarily due to the increase in revenues.
- The decrease in operating margin was primarily due to lower emergency restoration services revenues, and the completion of a large transmission project, which contributed to lower equipment utilization and fixed and indirect cost absorption, as well as less favorable results associated with normal variability in overall project timing and project mix.

Renewable Energy Infrastructure Solutions Segment

- Revenues increased by 195.1% to $978.8 million, as compared to $331.7 million.
- Operating income increased by 147.8% to $88.9 million, as compared to $35.9 million, and operating margin decreased to 9.1%, as compared to 10.8%.
- Revenues increased primarily due to approximately $480 million in revenues attributable to acquired businesses, mainly Blattner, which was acquired in October 2021.
- The increase in operating income was primarily due to the increase in revenues.
- The decrease in operating margin was attributable to lower margins on a large renewable transmission project in Canada and a change in the mix of work due to acquisitions, and less favorable results associated with normal variability in overall project timing.

Underground Utility and Infrastructure Solutions Segment

- Revenues increased by 17.0% to $1.20 billion, as compared to $1.02 billion.
- Operating income increased by 48.7% to $101.4 million, as compared to $68.2 million, and operating margin increased to 8.5%, as compared to 6.7%.
- Revenues increased primarily due to higher demand from our gas utility and industrial customers, as well as an increase in revenues associated with execution on large pipeline projects in Canada.
- Operating income and operating margin increased in the three months ended September 30, 2022 primarily due to the increase in revenues and improved performance across the segment, particularly with respect to our industrial services operations.

See *Business Environment, Results of Operations* and *Liquidity and Capital Resources* below for additional information and discussion related to consolidated and segment results.

Business Environment

We believe there are long-term growth opportunities across our industries, and we continue to have a positive long-term outlook. Although not without risks and challenges, including those discussed in *Cautionary Statement About Forward-Looking Statements and Information,* Item 1A. *Risk Factors* of Part II of this Quarterly Report and Item 1A. *Risk Factors* of Part I of our

2021 Annual Report, we believe, with our full-service operations, broad geographic reach, financial position and technical expertise, we are well positioned to capitalize on opportunities and trends in our industries.

Electric Power Infrastructure Solutions. Utilities are continuing to invest significant capital in their electric power delivery systems, particularly transmission, substation and distribution infrastructure, through multi-year, multi-billion dollar grid modernization and reliability programs, which have provided, and are expected to continue to provide, demand for our services. We also expect demand for electricity in North America to continue to grow over the long term and believe that certain segments of the North American electric power grid are not adequate to efficiently serve the power needs of the future. Furthermore, to the extent that electrification trends increase, including through, among other things, electric vehicle (EV) adoption, demand for electricity could be greater than currently anticipated. To accommodate this growth, we expect continued demand for new or expanded transmission, substation and distribution infrastructure to reliably transport power to meet demand driven by electrification and the modification and reengineering of existing infrastructure as existing coal and nuclear generation facilities are retired or shut down. In order to reliably and efficiently deliver power, including in response to federal reliability standards and in preparation for emerging technologies, such as EVs, utilities are also integrating smart grid technologies into distribution systems to improve grid management and create efficiencies.

A number of utilities also continue to implement system upgrades and hardening programs in response to recurring severe weather events, such as hurricanes and wildfires. For example, utilities along the Eastern and Gulf Coasts of the United States are executing storm hardening programs to make their systems more resilient to hurricanes and other severe weather events, which we expect to continue for the foreseeable future. Additionally, there are significant system resiliency initiatives underway in California and other regions in the western United States that are designed to prevent and manage the impact of wildfires. While these resiliency initiatives provide additional opportunities for our services, they also increase our potential exposure to significant liabilities, as these events can be started by the failure of electric power and other infrastructure on which we have performed services. Utilities are also executing significant initiatives to underground critical infrastructure, including additional underground transmission and distribution initiatives by utilities in California, underground transmission projects in the northeast United States, underground distribution circuits along the U.S. coastlines and underground transmission lines for offshore wind generation projects.

With respect to our communications service offerings, which are focused on the North American market, consumer and commercial demand for communication and data-intensive, high-bandwidth wireline and wireless services and applications are driving significant investment in infrastructure and the deployment of new technologies. In particular, communications providers are in the early stages of developing new fifth generation wireless services (5G), which are intended to facilitate bandwidth-intensive services at high speeds for consumers and commercial applications. Additionally, recent legislative and regulatory initiatives, including the Rural Digital Opportunity Fund and the Infrastructure Investment and Jobs Act, have dedicated billions of dollars of funding to support broadband service to underserved markets. As a result of these industry trends, we believe there will be meaningful demand for our engineering and construction services.

Renewable Energy Infrastructure Solutions. We believe the transition to a carbon-neutral economy, which is being driven by consumer and investor preferences, increasing electrification trends and declining levelized costs of renewable energy, will require sizeable long-term investment in renewable generation and related infrastructure, including meaningful repowering and modernization of existing assets. To that end, renewable energy developers are expected to continue to increase investments in wind and solar projects, as well as energy storage projects. Utilities have increased the percentage of renewable electricity bought through power purchase agreements (PPAs) with renewable energy developers, and we believe are in the early stages of investing directly in renewable generation facilities, which could expand significantly over time as they pursue clean energy strategies and emissions-reduction initiatives. Also, a growing number of corporate enterprises, particularly technology companies, are entering into PPAs with renewable energy developers to source renewable electricity to power their facilities and achieve their own carbon-reduction initiatives. We believe increased battery storage can support increased renewable energy development by providing shorter-term storage of electricity from renewable energy generation, particularly from solar facilities, which helps to manage the amount and timing of intermittent power placed on the grid from renewable generation. Though current battery storage capacity is much smaller than the amount of wind and solar capacity installed in North America, utility-scale battery storage capacity is expected to grow significantly and at higher rates over the longer term.

Additionally, we believe various legislative and policy objectives throughout North America support these industry and market trends. For example, the Inflation Reduction Act of 2022 (IRA) was enacted by the U.S. Congress in August 2022 and includes policy and related financial incentives designed to support and accelerate, along with providing certainty for, the United States' efforts to transition towards a reduced-carbon economy, which we believe could have a meaningful positive impact on demand for the services Quanta provides in this segment over the medium and longer term. While there have been some short-term delays on certain renewable projects as customers determine how best to proceed in light of this new legislation, we believe the IRA includes, among other things, favorable provisions targeting increases in utility-scale wind, solar and energy storage capacity and increased domestic manufacturing capacity and availability of products and components for these projects, that could reduce supply chain risks in the future.

We believe these dynamics will generate significant demand for our renewable energy infrastructure services, including our generation construction services and engineering expertise in utility-scale solar, wind and battery storage projects, as well as our services related to the development and construction of related infrastructure, including high-voltage electric transmission and substation infrastructure, that is necessary to interconnect and transmit electricity from new renewable energy generation facilities into the existing electric power grid and enhance grid reliability. While in the short term and in any given period the demand for certain renewable energy services could fluctuate due to, among other things, supply chain and other logistical difficulties that could delay projects, permitting delays, or sourcing restrictions, tariffs, duties, taxes and other assessments on materials and components necessary for certain projects (e.g., solar panels), we believe we are well positioned, through our acquisition of Blattner and our existing renewable energy and transmission services offerings, to capitalize on these growth trends over the long term.

Underground Utility and Infrastructure Solutions. Within this segment, we have focused on specialty services and industries that we believe are driven by regulated utility spending; regulation, replacement and rehabilitation of aging infrastructure; and safety and environmental initiatives. These services include gas utility services, pipeline integrity and transmission services and downstream industrial services. We believe demand for our gas utility distribution services will increase as a result of customer desire to upgrade and replace aging infrastructure and increasing regulatory requirements. In particular, natural gas utilities have implemented multi-decade modernization programs to replace aging cast iron, bare steel and plastic system infrastructure with modern materials for safety, reliability and environmental purposes. We believe there are also growth opportunities for our pipeline integrity, rehabilitation and replacement services, as regulatory measures have increased the frequency and stringency of pipeline integrity testing requirements that require our customers to test, inspect, repair, maintain and replace pipeline infrastructure to ensure that it operates in a safe, reliable and environmentally conscious manner. Further, permitting challenges associated with construction of new pipelines can make existing pipeline infrastructure more valuable, motivating owners to extend the useful life of existing pipeline assets through integrity initiatives. Additionally, we believe there are significant long-term opportunities for our downstream industrial services, including our high-pressure and critical-path turnaround services, as well as our capabilities with respect to instrumentation and electrical services, piping, fabrication and storage tanks services, and other industrial services. We also believe that processing facilities located along the U.S. Gulf Coast region should have certain long-term strategic advantages due to their proximity to competitively priced and abundant hydrocarbon resources.

During 2020 and 2021, certain services in this segment, including our midstream and industrial services operations, were negatively impacted by the COVID-19 pandemic and broader economic challenges and uncertainties in the energy market, which resulted in decreased demand for refined products and reduced and deferred customer spending on regularly scheduled maintenance and capital projects. Demand for these services has improved in the first nine months of 2022 as customers are moving forward with their deferred maintenance and capital spending, and to the extent energy market conditions remain accommodating, we believe the outlook for these services could continue to improve. Additionally, in any given period, downstream processing facilities can be negatively impacted due to severe weather events, such as hurricanes, tropical storms and floods. Furthermore, the broader oil and gas industry is cyclical and subject to price and production volume volatility, which can impact demand for certain of our ancillary and pipeline services, particularly in markets where the price of oil is influential, such as Australia, the Canadian Oil Sands and certain oil-driven U.S. shale formations. Revenues related to larger U.S. pipeline projects have declined significantly over the last few years as the pipeline and related infrastructure development necessary to support U.S. shale formations has largely been completed in the near term and as a result of a more challenging permitting and regulatory environment. However, there has been an increase in activity in the Canadian large pipeline market during 2022, which is currently active with a number of major projects underway, and we continue to pursue larger pipeline project opportunities to the extent they satisfy our margin and risk profiles. We believe our strategic decision to increase our focus on specialty services and industries that are driven by regulated utility spending, regulation, replacement and rehabilitation of aging infrastructure and safety and environmental initiatives should provide a greater level of business sustainability and predictability as well as help to offset the cyclicality of our larger pipeline project business.

Lastly, we believe there are additional longer-term opportunities that may arise in this segment. For example, we believe natural gas, due to its expected abundant supply and attractive price over the long term, will remain a fuel of choice for both primary power generation and backup power generation for renewable power plants in North America. We believe the favorable characteristics of natural gas could also position North America as a leading competitor in the global LNG export market, which could provide additional opportunities for our pipeline infrastructure services. We also believe that customers in this segment are implementing strategies to reduce carbon emissions produced from their operations, which are providing incremental opportunities for our services, including developing infrastructure for blending hydrogen into natural gas flow and for customers’ carbon capture projects, which could include building or repurposing pipeline infrastructure.

COVID-19 Pandemic and Impact. We have continued to operate substantially all of our activities throughout the pandemic and the overall impact of the pandemic has lessened significantly during 2022. However, shut-down orders and limitations on work site practices implemented by the Canadian and Australian governments impacted our business in 2021 and during the first part of 2022, including with respect to certain large Canadian projects. Overall, the broader and longer-term implications of the pandemic remain uncertain and variable, and any future impact that the pandemic, or any resulting market disruption and volatility, will have on our business, cash flows, liquidity, financial condition and results of operations will depend on future developments, including, among others, the duration and severity of the pandemic; actions taken by governmental authorities, customers, suppliers and other third parties in response to the pandemic and the consequences of those actions; our workforce availability; and the timing and extent to which normal economic and operating conditions resume and continue.

Regulatory Challenges and Opportunities. The regulatory environment creates both challenges and opportunities for our business, and in recent years our margins have been impacted by regulatory and permitting delays, as well as private legal challenges related to regulatory requirements, particularly with respect to large transmission and large pipeline projects. As a result, regulatory and environmental permitting processes continue to create uncertainty for projects and negatively impact customer spending. However, we believe that there are also several existing, pending or proposed legislative or regulatory actions that may alleviate certain regulatory and permitting issues and positively impact long-term demand, particularly in connection with electric power infrastructure and renewable energy spending. For example, regulatory changes affecting siting and right-of-way processes could potentially accelerate construction for transmission projects, and state and federal reliability standards are creating incentives for both electrical and pipeline system investment and maintenance. Additionally, as described above, we consider renewable energy, including solar and wind generation and battery storage facilities, to be an ongoing opportunity; however, demand for our services can be influenced by policy and economic incentives designed to support and encourage such projects, and any tariffs, duties, taxes, assessments, or other limitations on the availability or sourcing of materials or components for such projects can increase costs for customers and create variability of project timing. For example, during the first part of 2022, the U.S. Department of Commerce’s investigation into an antidumping and countervailing duties circumvention claim on solar cells and panels supplied from Malaysia, Vietnam, Thailand and Cambodia caused some disruption in the solar panel supply chain and created uncertainty regarding the timing of development and/or financing of certain renewable energy projects. During the second quarter of 2022, the Biden Administration issued an executive order that exempted imported solar panels from these countries for 24 months to mitigate the uncertainty and impact caused in the near term. While this order is intended to mitigate the uncertainty and impact in the near term and we expect that it will provide time to allow U.S. solar project developers to adjust their solar panel supply chain, we continued to see disruption in the production and sourcing of these materials during the three months ended September 30, 2022.

Labor Resource Availability and Cost. We continue to address the longer-term need for additional labor resources in our markets, as our customers continue to seek additional specialized labor resources to offset an aging utility workforce and longer-term labor availability issues, increasing pressure to reduce costs and improve reliability, and increasing duration and complexity of their capital programs. We believe these trends will continue, possibly to such a degree that demand for labor resources will outpace supply. Furthermore, the increased demand for our services based on the dynamics described above can create shortages of qualified labor in our markets. Our ability to capitalize on available opportunities is limited by our ability to employ, train and retain the necessary skilled personnel, and therefore we are taking proactive steps to develop our workforce, including through strategic relationships with universities, the military and unions and the expansion and development of our training facilities and postsecondary educational institution. Although we believe these initiatives will help address workforce needs, meeting our customers’ demand for labor resources could prove challenging.

Additionally, we monitor our labor markets and expect labor costs to continue to increase based on increased demand for our services. Our labor costs are passed through in certain of our contracts, and the portion of our workforce that is represented by labor unions typically operate under multi-year collective bargaining agreements, which provide some visibility into future labor costs. While we do not currently believe this environment will materially impact our profitability and we would expect to be able to adjust contract pricing with certain customers to the extent wages and other labor costs increase, whether due to renegotiation of collective bargaining agreements or market conditions, meaningful increases in our labor costs could have a material adverse effect on our business, financial condition, results of operations or cash flows to the extent we cannot do so. Furthermore, increased labor costs could impact our customers' decision-making with respect to the viability or timing of certain projects.

Materials and Equipment Procurement. We continue to monitor supply chain and other logistical challenges, global trade relationships (e.g., tariffs, duties, taxes, sourcing restrictions) and other general market and political conditions (e.g., inflation) with respect to availability and costs of certain materials and equipment necessary for the performance of our business and for materials necessary for our customers’ projects, including, among other things, steel, copper, aluminum, and components for renewable energy projects. Increased costs and delays can impact project construction schedules and the performance of our services. For example, we believe some participants in the renewable energy market are experiencing supply chain challenges, resulting in delays and shortages of, and increased costs for, materials necessary for the construction of certain renewable energy projects in the near term, including as a result of sourcing restrictions related to solar panels manufactured in China and the Department of Commerce investigation described above. While we believe many of our renewable energy customers are generally better equipped to manage near-term supply chain disruptions than their smaller competitors, these challenges have delayed and may continue to delay certain of our customers' ongoing projects and have impacted their near-term project schedules, which in turn has impacted the timing of our renewable energy services during 2022. While these delays are not anticipated to result in exposure to liquidated damages or commodity risks, such delays could cause customers to cancel projects as higher than expected costs impact project profitability projections.

Additionally, based on, among other things, the significant worldwide shortage of semiconductors, vehicle manufacturers are experiencing production delays with respect to new vehicles for our fleet (both on-road and specialty vehicles) and vehicle parts (e.g., tires), all of which we utilize in our operations, and certain of our vehicle delivery orders scheduled for delivery in 2022 have been delayed or cancelled. While we believe we have taken steps to secure delivery of a sufficient amount of vehicles in the near term and do not anticipate any significant disruptions with respect to our fleet, to the extent the production issues become worse than expected or become longer-term in nature, our operations could be negatively impacted. In addition, as a result of the recent inflationary pressure, the cost of consumables and equipment for us and our customers has increased, and our results of operations could be impacted to the extent we are not able to manage or pass such costs through to our customers.

Acquisitions and Investments. We believe potential acquisition and investment opportunities exist in our industries and adjacent industries, primarily due to the highly fragmented and evolving nature of those industries and inability of many companies to expand due to capital or liquidity constraints. While the desirability of certain of these opportunities could be impacted by the recent inflationary pressure in the short term, we continue to evaluate opportunities that are expected to, among other things, broaden our customer base, expand our geographic area of operations and grow and diversify our portfolio of services.

Significant Factors Impacting Results

Our revenues, profit, margins and other results of operations can be influenced by a variety of factors in any given period, including those described in *Business Environment* above and Item 1A. *Risk Factors* of Part I of our 2021 Annual Report, and those factors have caused fluctuations in our results in the past and are expected to cause fluctuations in our results in the future. Additional information with respect to certain of those factors is provided below.

Seasonality. Typically, our revenues are lowest in the first quarter of the year because cold, snowy or wet conditions can create challenging working environments that are more costly for our customers or cause delays on projects. In addition, infrastructure projects often do not begin in a meaningful way until our customers finalize their capital budgets, which typically occurs during the first quarter. Second quarter revenues are typically higher than those in the first quarter, as some projects begin, but continued cold and wet weather can often impact productivity. Third quarter revenues are typically the highest of the year, as a greater number of projects are underway and operating conditions, including weather, are normally more accommodating. Generally, revenues during the fourth quarter are lower than the third quarter but higher than the second quarter, as many projects are completed and customers often seek to spend their capital budgets before year end. However, the holiday season and inclement weather can sometimes cause delays during the fourth quarter, reducing revenues and increasing costs. These seasonal impacts are typical for our U.S. operations, but seasonality for our international operations may differ. For example, revenues for certain projects in Canada are typically higher in the first quarter because projects are often accelerated in order to complete work while the ground is frozen and prior to the break up, or seasonal thaw, as productivity is adversely affected by wet ground conditions during warmer months.

Weather, natural disasters and emergencies. The results of our business in a given period can be impacted by adverse weather conditions, severe weather events, natural disasters or other emergencies, which include, among other things, heavy or prolonged snowfall or rainfall, hurricanes, tropical storms, tornadoes, floods, blizzards, extreme temperatures, wildfires, post-wildfire floods and debris flows, pandemics (including the COVID-19 pandemic, as described above) and earthquakes. These conditions and events can negatively impact our financial results due to, among other things, the termination, deferral or delay of projects, reduced productivity and exposure to significant liabilities. However, severe weather events can also increase our emergency restoration services, which typically yield higher margins due in part to higher equipment utilization and absorption of fixed costs, and in 2020 and 2021 we had record levels of emergency restoration services.

Demand for services. We perform the majority of our services under existing contracts, including master service agreements (MSAs) and similar agreements pursuant to which our customers are not committed to specific volumes of our services. Therefore our volume of business can be positively or negatively affected by fluctuations in the amount of work our customers assign us in a given period, which may vary by geographic region. For example, to the extent our customers accelerate grid modernization or hardening programs or face deadlines to meet regulatory requirements for rehabilitation, reliability or efficiency, our volume of work could increase under existing agreements. Also, as described above in *Business Environment,* we have experienced reductions in demand for certain services as a result of uncertainties and challenges in the energy market and overall economy. Examples of other items that may cause demand for our services to fluctuate materially from quarter to quarter include: the financial condition of our customers, their capital spending and their access to capital; economic and political conditions on a regional, national or global scale, including availability of renewable energy tax credits; interest rates; governmental regulations affecting the sourcing and costs of materials and equipment; other changes in U.S. and global trade relationships; and project deferrals and cancellations.

Revenue mix and impact on margins. The mix of revenues based on the types of services we provide in a given period will impact margins, as certain industries and services provide higher-margin opportunities. Our larger or more complex projects typically include, among others, transmission projects with higher voltage capacities; pipeline projects with larger-diameter throughput capacities; large-scale renewable generation projects; and projects with increased engineering, design or construction complexities, more difficult terrain or geographical requirements, or longer distance requirements. These projects typically yield opportunities for higher margins than our recurring services under MSAs described above, as we assume a greater degree of performance risk and there is greater utilization of our resources for longer construction timeframes. However, larger projects are subject to additional risk of regulatory delay and cyclicality. For example, our revenues with respect to large pipeline projects have declined significantly in recent years, and a significant number of larger projects have been delayed or cancelled during that same period. Project schedules also fluctuate, particularly in connection with larger, more complex or longer-term projects, which can affect the amount of work performed in a given period. Furthermore, smaller or less complex projects typically have a greater number of companies competing for them, and competitors at times may more aggressively pursue available work. A greater percentage of smaller scale or less complex work also could negatively impact margins due to the inefficiency of transitioning between a greater number of smaller projects versus continuous production on fewer larger projects. As a result, at times we may choose to maintain a portion of our workforce and equipment in an underutilized capacity to ensure we are strategically positioned to deliver on larger projects when they move forward.

Project variability and performance. Margins for a single project may fluctuate period to period due to changes in the volume or type of work performed, the pricing structure under the project contract or job productivity. Additionally, our productivity and performance on a project can vary period to period based on a number of factors, including unexpected project difficulties or site conditions (including in connection with difficult geographic characteristics); project location, including locations with challenging operating conditions; whether the work is on an open or encumbered right of way; inclement weather or severe weather events; environmental restrictions or regulatory delays; protests, other political activity or legal challenges related to a project; the performance of third parties; and the impact of the COVID-19 pandemic. Moreover, we currently generate a significant portion of our revenues under fixed price contracts, and fixed price contracts are more common in connection with our larger and more complex projects that typically involve greater performance risk. Under these contracts, we assume risks related to project estimates and execution, and project revenues can vary, sometimes substantially, from our original projections due to a variety of factors, including the additional complexity, timing uncertainty or extended bidding, regulatory and permitting processes associated with these projects. These variations can result in a reduction in expected profit or the incurrence of losses on a project or the issuance of change orders or assertion of contract claims against customers. See *Revenue Recognition - Contract Estimates and Changes in Estimates* in Note 4 of the Notes to Condensed Consolidated Financial Statements in Item 1. *Financial Statements* of Part I of this Quarterly Report for further information regarding changes in estimated contract revenues and/or project costs, including any significant project gains or losses in connection with fixed price contracts that have impacted our results, and determinations with respect to the recognition of change orders and claims as contract price adjustments.

Subcontract work and provision of materials. Work that is subcontracted to other service providers generally yields lower margins, and therefore an increase in subcontract work in a given period can decrease margins. In recent years, we have subcontracted approximately 20% of our work to other service providers. Our customers are usually responsible for supplying the materials for their projects. However, under some contracts, including contracts for projects where we provide engineering, procurement and construction (EPC) services, we agree to procure all or part of the required materials. Margins may be lower on projects where we furnish a significant amount of materials, as our markup on materials is generally lower than our markup on labor costs, and in a given period an increase in the percentage of work with greater materials procurement requirements may decrease our overall margins. Furthermore, as discussed further in *Business Environment,* fluctuations in the price or availability of materials, equipment and consumables that we or our customers utilize could impact costs to complete projects.

Foreign currency risk. Our financial performance is reported on a U.S. dollar-denominated basis but is partially subject to fluctuations in foreign currency exchange rates. Fluctuations in exchange rates relative to the U.S. dollar, primarily Canadian dollars and Australian dollars, can materially impact our results of operations and impact comparability between periods.

Results of Operations

A discussion of the changes in our consolidated and segment results of operations between the three months ended September 30, 2022 and 2021 is included below, with certain of our segment results of operations recast to conform to our current segment reporting structure. The results of acquired businesses have been included in the following results of operations since their respective acquisition dates.

The following table sets forth selected statements of operations data, such data as a percentage of revenues for the periods indicated, as well as the dollar and percentage change from the prior period (dollars in thousands):

Consolidated Results

Three months ended September 30, 2022 compared to the three months ended September 30, 2021

	Three Months Ended September 30,				Change	
	2022		2021		$	%
Revenues	$ 4,459,757	100.0 %	$ 3,353,278	100.0 %	$ 1,106,479	33.0 %
Cost of services (including related depreciation)	3,770,927	84.6	2,818,602	84.1	952,325	33.8 %
Gross profit	688,830	15.4	534,676	15.9	154,154	28.8 %
Equity in earnings of integral unconsolidated affiliates	10,633	0.2	10,232	0.3	401	3.9 %
Selling, general and administrative expenses	(347,449)	(7.8)	(274,846)	(8.2)	(72,603)	26.4 %
Amortization of intangible assets	(67,147)	(1.4)	(22,772)	(0.6)	(44,375)	194.9 %
Change in fair value of contingent consideration liabilities	1,924	—	787	—	1,137	144.5 %
Operating income	286,791	6.4	248,077	7.4	38,714	15.6 %
Interest and other financing expenses	(33,566)	(0.8)	(17,259)	(0.5)	(16,307)	94.5 %
Interest income	436	—	72	—	364	505.6 %
Other income (expense), net	(24,455)	(0.5)	6,089	0.2	(30,544)	*
Income before income taxes	229,206	5.1	236,979	7.1	(7,773)	(3.3)%
Provision for income taxes	72,890	1.6	61,581	1.9	11,309	18.4 %
Net income	156,316	3.5	175,398	5.2	(19,082)	(10.9)%
Less: Net income attributable to non-controlling interests	360	—	1,033	—	(673)	(65.2)%
Net income attributable to common stock	$ 155,956	3.5 %	$ 174,365	5.2 %	$ (18,409)	(10.6)%

* The percentage change is not meaningful.

Revenues. Revenues increased due to a $647.1 million increase in revenues from our Renewable Energy Infrastructure Solutions segment, a $285.5 million increase in revenues from our Electric Power Infrastructure Solutions segment and a $173.8 million increase in revenues from our Underground Utility and Infrastructure Solutions segment. See *Segment Results* below for additional information and discussion related to segment revenues.

Gross profit. Gross profit increased due primarily to the increase in revenues in all segments. See*Segment Results* below for additional information and discussion related to segment operating income (loss).

Equity in earnings of integral unconsolidated affiliates The amounts include our portion of amounts earned by integral unconsolidated affiliates and primarily relate to our portion of amounts earned by LUMA. Additionally, the amount for the three months ended September 30, 2022 includes our portion of amounts earned by an entity that we acquired a 44% interest in during the fourth quarter of 2021 which provides right-of-way solutions, including site preparation and clearing, materials delivery and installation and management of permitting requirements and traffic control. For additional information regarding these investments, see Note 8 of the Notes to Condensed Consolidated Financial Statements in Item 1. *Financial Statements* of Part I of this Quarterly Report.

Selling, general and administrative expenses. The increase was primarily attributable to a $56.6 million increase in expenses associated with acquired businesses, as well as a $10.6 million increase in travel and related expenses, legal and other contracted services expenses and compensation expense, partially offset by a $3.1 million decrease in expense related to deferred compensation liabilities. The fair market value changes in deferred compensation liabilities were largely offset by changes in the fair value of COLI assets associated with the deferred compensation plan, which are included in “Other income (expense), net” as discussed below.

Amortization of intangible assets. The increase was primarily due to amortization of intangible assets associated with recently acquired businesses, driven by the acquisition of Blattner, and was partially offset by reduced amortization expense associated with older acquired intangible assets, as certain of these assets became fully amortized.

*Change in fair value of contingent consideration liabilities.*Contingent consideration liabilities are payable in the event prescribed performance objectives are achieved by certain acquired businesses during designated post-acquisition periods. Future changes in fair value are expected to be recorded periodically until the contingent consideration liabilities are settled. For additional information regarding these liabilities, see Notes 6 and 17 of the Notes to Condensed Consolidated Financial Statements in Item 1. *Financial Statements* of Part I of this Quarterly Report.

Interest and other financing expenses. Interest and other financing expenses increased for the three months ended September 30, 2022 primarily due to higher levels of debt and, to a lesser extent, higher interest rates. Our long-term debt increased significantly at the end of 2021 in connection with our acquisition of Blattner.

Interest income. Interest income increased in the three months ended September 30, 2022 due to an increase in interest rates.

Other income (expense), net. The net other expense for the three months ended September 30, 2022 was primarily related to an unrealized loss of $26.5 million resulting from the remeasurement of the fair value of our investment in a publicly traded broadband technology provider, Starry Group Holdings, Inc. (Starry), based on the market price of Starry's common stock as of September 30, 2022. Also included in other income (expense), net for the three months ended September 30, 2022 was $3.4 million of expense associated with our deferred compensation plan which was largely offset by corresponding changes in the fair market value of the liabilities associated with our deferred compensation plan, which are recorded in selling, general, and administrative expenses, as discussed above. Other income (expense), net for the three months ended September 30, 2022 and 2021 included $1.9 million and $4.9 million related to foreign currency exchange gains.

Provision for income taxes. The effective tax rates for the three months ended September 30, 2022 and 2021 were 31.8% and 26.0%. The effective tax rate for the three months ended September 30, 2022 was unfavorably impacted by the unrealized loss on our investment in Starry described above, for which a valuation allowance was recorded. The tax rate for the three months ended September 30, 2022 was also impacted by the mix of earnings among tax jurisdictions in which Quanta operates.

Other comprehensive income (loss), net of taxes. See Statements of Comprehensive Income (Loss) in Item 1. *Financial Statements* of Part I of this Quarterly Report. Other comprehensive income (loss) results from translation of the balance sheets of our foreign operating companies, which are primarily located in Canada and Australia and have functional currencies other than the U.S. dollar, and therefore are affected by the strengthening or weakening of the U.S. dollar against such currencies. The loss in the three months ended September 30, 2022 was impacted primarily by the strengthening of the U.S. dollar against both the Canadian and Australian dollars as of September 30, 2022 when compared to June 30, 2022. The loss in the three months ended September 30, 2021 was impacted primarily by the strengthening of the U.S. dollar against the Canadian dollar as of September 30, 2021 when compared to June 30, 2021.

Nine months ended September 30, 2022 compared to the nine months ended September 30, 2021

The following table sets forth selected statements of operations data, such data as a percentage of revenues for the periods indicated, as well as the dollar and percentage change from the prior period (dollars in thousands):

	Nine Months Ended September 30,				Change	
	2022		2021		$	%
Revenues	$ 12,657,285	100.0 %	$ 9,056,675	100.0 %	$ 3,600,610	39.8 %
Cost of services (including related depreciation)	10,795,694	85.3	7,701,398	85.0	3,094,296	40.2 %
Gross profit	1,861,591	14.7	1,355,277	15.0	506,314	37.4 %
Equity in earnings of integral unconsolidated affiliates	44,350	0.4	22,865	0.3	21,485	94.0 %
Selling, general and administrative expenses	(995,581)	(7.9)	(788,308)	(8.7)	(207,273)	26.3 %
Amortization of intangible assets	(290,843)	(2.4)	(65,418)	(0.8)	(225,425)	344.6 %
Asset impairment charges	(2,800)	—	(2,319)	—	(481)	20.7 %
Change in fair value of contingent consideration liabilities	(4,054)	—	1,360	—	(5,414)	*
Operating income	612,663	4.8	523,457	5.8	89,206	17.0 %
Interest and other financing expenses	(86,933)	(0.7)	(42,843)	(0.5)	(44,090)	102.9 %
Interest income	727	—	3,098	—	(2,371)	(76.5)%
Other income (expense), net	(68,255)	(0.5)	18,232	0.2	(86,487)	*
Income before income taxes	458,202	3.6	501,944	5.5	(43,742)	(8.7)%
Provision for income taxes	120,698	0.9	116,256	1.2	4,442	3.8 %
Net income	337,504	2.7	385,688	4.3	(48,184)	(12.5)%
Less: Net income attributable to non-controlling interests	8,887	0.1	4,529	0.1	4,358	96.2 %
Net income attributable to common stock	$ 328,617	2.6 %	$ 381,159	4.2 %	$ (52,542)	(13.8)%

* The percentage change is not meaningful.

Revenues. Revenues increased due to a $1.73 billion increase in revenues from our Renewable Energy Infrastructure Solutions segment, a $1.13 billion increase in revenues from our Electric Power Infrastructure Solutions segment and a $737.9 million increase in revenues from our Underground Utility and Infrastructure Solutions segment. See *Segment Results* below for additional information and discussion related to segment revenues.

Gross profit. Gross profit increased primarily due to the increase in revenues in all segments. See *Segment Results* below for additional information and discussion related to segment operating income (loss).

Equity in earnings of integral unconsolidated affiliates The amounts include our portion of amounts earned by integral unconsolidated affiliates and primarily relate to our portion of amounts earned by LUMA. Additionally, the amount for the nine months ended September 30, 2022 includes our portion of amounts earned by an entity that we acquired a 44% interest in during the fourth quarter of 2021 and that provides right-of-way solutions, including site preparation and clearing, materials delivery and installation and management of permitting requirements and traffic control. For additional information regarding these investments, see Note 8 of the Notes to Condensed Consolidated Financial Statements in Item 1. Financial Statements of Part I of this Quarterly Report.

Selling, general and administrative expenses. The increase was primarily attributable to a $173.0 million increase in expenses associated with acquired businesses, as well as a $26.6 million increase in compensation expense associated with increased salaries, incentive compensation and non-cash stock compensation expense due primarily to increased operational performance and an increase in employees to support the growth of the business, a $16.8 million increase in travel and related expenses and a $6.8 million increase in legal and other contracted services. Partially offsetting these increases was a $23.1 million decrease in expense related to deferred compensation liabilities. The fair market value changes in deferred compensation liabilities were largely offset by changes in the fair value of COLI assets associated with the deferred compensation plan, which are included in "Other income (expense), net" as discussed below. Also partially offsetting these increases was a $22.1 million decrease in provision for credit loss, which was primarily attributable to the recognition of a $23.6 million provision for credit loss related to receivables owed by a customer that declared bankruptcy in July 2021 and its affiliate during the nine months ended September 30, 2021.

Amortization of intangible assets. The increase was primarily due to amortization of intangible assets associated with recently acquired businesses, driven by the acquisition of Blattner, partially offset by reduced amortization expense associated with older acquired intangible assets, as certain of these assets became fully amortized.

Asset impairment charges. During the nine months ended September 30, 2022, we recognized a $2.8 million asset impairment charge primarily related to the expected discontinued use of the right-of-use asset associated with our previous corporate headquarters in connection with our move to a new headquarters in September 2022. During the nine months ended September 30, 2021, we recognized a $2.3 million asset impairment charge related to certain equipment that was not utilized in our core operations and was subsequently sold.

Change in fair value of contingent consideration liabilities. Contingent consideration liabilities are payable in the event prescribed performance objectives are achieved by certain acquired businesses during designated post-acquisition periods. The net change in the nine months ended September 30, 2022 was primarily related to changes in the forecasted performance for these acquired companies and the impact of present value on fair value calculations. Future changes in fair value are expected to be recorded periodically until the contingent consideration liabilities are settled. For additional information regarding these liabilities, see Notes 6 and 17 of the Notes to Condensed Consolidated Financial Statements in Item 1. Financial Statements of Part I of this Quarterly Report.

Interest and other financing expenses. Interest and other financing expenses increased for the nine months ended September 30, 2022 primarily due to higher levels of debt. Our long-term debt increased significantly at the end of 2021 in connection with our acquisition of Blattner.

Interest income. Interest income decreased in the nine months ended September 30, 2022 primarily due to interest received in the nine months ended September 30, 2021 related to a settlement with a customer.

Other income (expense), net. The net other expense for the nine months ended September 30, 2022 was primarily the result of an unrealized loss of $76.5 million resulting from the remeasurement of the fair value of our investment in a publicly traded broadband technology provider, Starry, based on the market price of Starry's common stock as of September 30, 2022. Also included in other income (expense), net was $17.7 million of expense associated with our deferred compensation plan, as compared to $5.3 million of income during the nine months ended September 30, 2021. The amounts associated with the deferred compensation plan were largely offset by corresponding changes in the fair market value of the liabilities associated with our deferred compensation plan, which are recorded in selling, general, and administrative expenses, as discussed above. Partially offsetting these expenses was a gain of $6.7 million as a result of our sale of a non-controlling ownership interest in a technology company recognized during the nine months ended September 30, 2022. Other income (expense), net for the nine months ended September 30, 2022 and 2021 also included $17.9 million and $1.9 million of equity in earnings of non-integral affiliates and $0.9 million related to foreign currency losses and $6.5 million related to foreign currency exchange gains.

Provision for income taxes. The effective tax rates for the nine months ended September 30, 2022 and 2021 were 26.3% and 23.2%. The tax rate for the nine months ended September 30, 2022 was unfavorably impacted by the unrealized loss on our investment in Starry described above, for which a valuation allowance was recorded. Additionally the tax rate for the nine months ended September 30, 2022 was favorably impacted by the recognition of a $22.7 million benefit that resulted from equity incentive awards vesting at a higher fair market value than their grant date fair market value, as compared to the recognition of $19.7 million associated with this tax benefit for the nine months ended September 30, 2021.

Other comprehensive income (loss), net of taxes. See Statements of Comprehensive Income (Loss) in Item 1. *Financial Statements* of Part I of this Quarterly Report. Other comprehensive income (loss) results from translation of the balance sheets of our foreign operating units, which are primarily located in Canada and Australia and have functional currencies other than the U.S. dollar, and therefore are affected by the strengthening or weakening of the U.S. dollar against such currencies. The loss in the nine months ended September 30, 2022 was impacted primarily by the strengthening of the U.S. dollar against both the Canadian and Australian dollars as of September 30, 2022 when compared to December 31, 2021. The loss in the nine months ended September 30, 2021 was impacted primarily by the strengthening of the U.S. dollar against the Australian dollar as of September 30, 2021 when compared to December 31, 2020.

Segment Results

Reportable segment information, including revenues and operating income by type of work, is gathered from each of our operating companies for the purpose of evaluating segment performance. Classification of our operating company revenues by type of work for segment reporting purposes can at times require judgment on the part of management. Our operating companies may perform joint projects for customers in multiple industries, deliver multiple types of services under a single customer contract or provide service offerings to various industries. For example, we perform joint trenching projects to install distribution lines for electric power and natural gas customers. Integrated operations and common administrative support for operating companies require that certain allocations be made to determine segment profitability, including allocations of corporate shared and indirect operating costs as well as general and administrative costs. Certain corporate costs are not allocated, including facility costs, acquisition and integration costs, non-cash stock-based compensation, amortization related to intangible assets, asset impairment related to goodwill and intangible assets and change in fair value of contingent consideration liabilities.

Three months ended September 30, 2022 compared to the three months ended September 30, 2021

The following table sets forth segment revenues, segment operating income (loss) and operating margins for the periods indicated, as well as the dollar and percentage change from the prior period. Operating margins are calculated by dividing operating income by revenues. Management utilizes operating margins as a measure of profitability, which can be helpful for monitoring how effectively we are performing under our contracts. Management also believes operating margins are a useful metric for investors to utilize in evaluating our performance. Beginning with the three months ended December 31, 2021, we report our results under three reportable segments: (1) Electric Power Infrastructure Solutions, (2) Renewable Energy Infrastructure Solutions and (3) Underground Utility and Infrastructure Solutions. In conjunction with this change, certain prior period amounts have been recast to conform to this new segment reporting structure. The following table shows dollars in thousands.

	Three Months Ended September 30,				Change	
	2022		2021		$	%
Revenues:						
Electric Power Infrastructure Solutions	$ 2,282,332	51.2 %	$ 1,996,789	59.5 %	$ 285,543	14.3 %
Renewable Energy Infrastructure Solutions	978,779	21.9	331,679	9.9	647,100	195.1 %
Underground Utility and Infrastructure Solutions	1,198,646	26.9	1,024,810	30.6	173,836	17.0 %
Consolidated revenues	$ 4,459,757	100.0 %	$ 3,353,278	100.0 %	$ 1,106,479	33.0 %
Operating income (loss):						
Electric Power Infrastructure Solutions	$ 255,457	11.2 %	$ 252,415	12.6 %	$ 3,042	1.2 %
Renewable Energy Infrastructure Solutions	88,885	9.1 %	35,868	10.8 %	53,017	147.8 %
Underground Utility and Infrastructure Solutions	101,351	8.5 %	68,167	6.7 %	33,184	48.7 %
Corporate and Non-Allocated costs	(158,902)	(3.6)%	(108,373)	(3.2)%	(50,529)	46.6 %
Consolidated operating income	$ 286,791	6.4 %	$ 248,077	7.4 %	$ 38,714	15.6 %

Electric Power Infrastructure Solutions Segment Results

The increase in revenues for the three months ended September 30, 2022 was primarily due to increased spending by our utility customers on grid modernization and hardening, resulting in increased demand for our electric power services, as well as approximately $85 million in revenues attributable to acquired businesses. This increase was partially offset by approximately $175 million in lower emergency restoration services revenues for the three months ended September 30, 2022.

Operating income increased for the three months ended September 30, 2022 primarily due to higher revenues. Operating income and margin for the three months ended September 30, 2022 were negatively impacted by lower emergency restoration services revenues and the completion of a large transmission project in Canada, which contributed to lower equipment utilization and fixed and indirect cost absorption, as well as less favorable results associated with normal variability in overall project timing and project mix.

Renewable Energy Infrastructure Solutions Segment Results

The increase in revenues for the three months ended September 30, 2022 was primarily due to approximately $480 million in revenues attributable to acquired businesses, primarily Blattner, which was acquired in October 2021. The remaining increase in revenues was primarily due to increased customer demand for renewable transmission and interconnection construction services.

The increase in operating income during the three months ended September 30, 2022 was primarily due to the increase in revenues. The decrease in operating margin was attributable to lower margins on a large renewable transmission project in Canada, a change in the mix of work due to acquisitions, and less favorable results associated with normal variability in overall project timing. The decrease in operating margin was partially offset by the favorable impact of acceleration of a transmission project by the customer.

Underground Utility and Infrastructure Solutions Segment Results

The increase in revenues for the three months ended September 30, 2022 was primarily due to increased revenues associated with higher demand from our gas utility and industrial customers, which continued to move forward with certain deferred maintenance and capital spending during the three months ended September 30, 2022, as well as an increase in revenues associated with large pipeline projects in Canada.

The increases in operating income and operating margin during the three months ended September 30, 2022 were positively impacted by the increase in revenues, which contributed to higher levels of fixed cost absorption. Also contributing was improved performance across the segment, particularly with respect to our industrial services operations, and the impact of a favorable project close out.

Corporate and Non-Allocated Costs

The increase in corporate and non-allocated costs during the three months ended September 30, 2022 was primarily related to a $44.4 million increase in intangible asset amortization, primarily associated with the acquisition of Blattner, a $7.2 million increase in acquisition and integration costs related to recent acquisitions and a $3.5 million increase in compensation, primarily related to salaries and non-cash stock compensation expense. Included in acquisition and integration costs during the three months ended September 30, 2022 was $11.0 million of expenses associated with change of control payments as a result of the acquisition of Blattner. These increases were partially offset by a $3.1 million decrease in expense related to deferred compensation liabilities due to market fluctuations.

Nine months ended September 30, 2022 compared to the nine months ended September 30, 2021

The following table sets forth segment revenues, segment operating income (loss) and operating margins for the periods indicated, as well as the dollar and percentage change from the prior period (dollars in thousands):

	Nine Months Ended September 30,				Change	
	2022		2021		$	%
Revenues:						
Electric Power Infrastructure Solutions	$ 6,620,459	52.3 %	$ 5,488,597	60.6 %	$ 1,131,862	20.6 %
Renewable Energy Infrastructure Solutions	2,778,647	22.0	1,047,766	11.6	1,730,881	165.2 %
Underground Utility and Infrastructure Solutions	3,258,179	25.7	2,520,312	27.8	737,867	29.3 %
Consolidated revenues	$ 12,657,285	100.0 %	$ 9,056,675	100.0 %	$ 3,600,610	39.8 %
Operating income (loss):						
Electric Power Infrastructure Solutions	691,026	10.4 %	613,121	11.2 %	77,905	12.7 %
Renewable Energy Infrastructure Solutions	240,514	8.7 %	111,096	10.6 %	129,418	116.5 %
Underground Utility and Infrastructure Solutions	239,469	7.3 %	100,917	4.0 %	138,552	137.3 %
Corporate and Non-Allocated Costs	(558,346)	(4.4)%	(301,677)	(3.3)%	(256,669)	85.1 %
Consolidated operating income	$ 612,663	4.8 %	$ 523,457	5.8 %	$ 89,206	17.0 %

Electric Power Infrastructure Solutions Segment Results

The increase in revenues for the nine months ended September 30, 2022 was primarily due to increased spending by our utility customers on grid modernization and hardening, resulting in increased demand for our electric power services, as well as approximately $240 million in revenues attributable to acquired businesses. This increase was partially offset by approximately $160 million in lower emergency restoration services revenues as compared to the nine months ended September 30, 2021.

Operating income increased for the nine months ended September 30, 2022 primarily due to the increase in revenues explained above. Operating margin decreased during the nine months ended September 30, 2022 as a result of lower emergency restoration services revenues, which contributed to lower equipment utilization and fixed cost absorption, as well as less favorable results associated with normal variability in overall project timing and project mix, inefficiencies attributable to supply chain disruptions impacting certain operations, and elevated consumable costs. The decrease in operating margin was partially offset by improved performance on various communication projects and a $21.5 million increase in equity in earnings from LUMA and other integral unconsolidated affiliates as compared to the nine months ended September 30, 2021.

Renewable Energy Infrastructure Solutions Segment Results

The increase in revenues for the nine months ended September 30, 2022 was primarily due to approximately $1.44 billion in revenues attributable to acquired businesses, primarily Blattner, which was acquired in October 2021. The remaining increase in revenues was primarily due to increased customer demand for renewable transmission and interconnection construction services.

The increase in operating income was primarily due to the increase in revenues associated with the acquisition of Blattner. The decrease in operating margin was attributable to lower margins on a large renewable transmission project in Canada, a change in the mix of work due to acquisitions, and less favorable results associated with normal variability in overall project timing. Additionally, there were favorable close-outs of certain projects during the nine months ended September 30, 2021 as compared to the nine months ended September 30, 2022.

Underground Utility and Infrastructure Solutions Segment Results

The increase in revenues for the nine months ended September 30, 2022 was primarily due to increased revenues associated with higher demand from our gas utility and industrial customers, which began to move forward with certain deferred maintenance and capital spending during the nine months ended September 30, 2022, as well as an increase in revenues associated with large pipeline projects in Canada and approximately $35 million in revenues attributable to acquired businesses.

The increase in operating income and operating margin was primarily due to the increase in revenues, which contributed to higher levels of fixed cost absorption. Also contributing to the increases were improved performance across the segment, particularly with respect to our industrial services operations, and more favorable results associated with normal variability in overall project timing and project mix. Additionally, our performance in this segment was impacted less by the COVID-19 pandemic and challenges in the overall energy market during the nine months ended September 30, 2022 as compared to the nine months ended September 30, 2021. The nine months ended September 30, 2021 also included the recognition of a $23.6 million provision for credit loss related to receivables from a customer that declared bankruptcy in July 2021 and its affiliate.

Corporate and Non-Allocated Costs

The increase in corporate and non-allocated costs during the nine months ended September 30, 2022 was primarily due to a $225.4 million increase in intangible asset amortization, largely associated with the acquisition of Blattner, a $33.2 million increase in acquisition and integration costs related to recent acquisitions and a $16.8 million increase in compensation expense primarily related to salaries and non-cash stock compensation expense. Included in acquisition and integration costs during the nine months ended September 30, 2022 was $34.0 million of expenses associated with change of control payments as a result of the acquisition of Blattner. These increases were partially offset by a $23.1 million decrease in expense related to deferred compensation liabilities due to market fluctuations.

Non-GAAP Financial Measures

EBITDA and Adjusted EBITDA

EBITDA and adjusted EBITDA, financial measures not recognized under GAAP, when used in connection with net income attributable to common stock, are intended to provide useful information to investors and analysts as they evaluate our performance. EBITDA is defined as earnings before interest, taxes, depreciation and amortization, and adjusted EBITDA is defined as EBITDA adjusted for certain other items as described below. These measures should not be considered as an alternative to net income attributable to common stock or other financial measures of performance that are derived in accordance with GAAP. Management believes that the exclusion of these items from net income attributable to common stock enables it and our investors to more effectively evaluate our operations period over period and to identify operating trends that might not be apparent when including the excluded items.

As to certain of the items below, (i) non-cash stock-based compensation expense varies from period to period due to acquisition activity, changes in the estimated fair value of performance-based awards, forfeiture rates, accelerated vesting and amounts granted; (ii) acquisition and integration costs vary from period to period depending on the level of our acquisition activity; (iii) equity in (earnings) losses of non-integral unconsolidated affiliates varies from period to period depending on the activity and financial performance of non-integral unconsolidated affiliates, the operations of which are not operationally integral to Quanta; (iv) unrealized mark-to-market adjustments on our investment in a publicly traded company vary from period to period based on fluctuations in the market price of such company's common stock; (v) gains and losses on the sale of investments vary from period to period depending on activity; (vi) asset impairment charges can vary from period to period depending on economic and other factors; and (vii) change in fair value of contingent consideration liabilities varies from period to period depending on the performance in post-acquisition periods of certain acquired businesses, the effect of present value accretion on fair value calculations and changes in the estimated fair value of amounts based on the impact of interest rates. Because EBITDA and adjusted EBITDA, as defined, exclude some, but not all, items that affect net income attributable to common stock, such measures may not be comparable to similarly titled measures of other companies. The most comparable GAAP financial measure, net income attributable to common stock, and information reconciling the GAAP and non-GAAP financial measures, are included below. The following table shows dollars in thousands.

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
Net income attributable to common stock (GAAP as reported)	$ 155,956	$ 174,365	$ 328,617	$ 381,159
Interest and other financing expenses	33,566	17,259	86,933	42,843
Interest income	(436)	(72)	(727)	(3,098)
Provision for income taxes	72,890	61,581	120,698	116,256
Depreciation expense	73,507	61,616	218,420	186,480
Amortization of intangible assets	67,147	22,772	290,843	65,418
Interest, income taxes and depreciation included in equity in earnings of integral unconsolidated affiliates	3,165	2,825	11,005	6,476
EBITDA	405,795	340,346	1,055,789	795,534
Non-cash stock-based compensation	26,648	21,642	77,730	64,252
Acquisition and integration costs [1]	13,401	6,193	42,723	9,521
Equity in (earnings) losses of non-integral unconsolidated affiliates	(2,944)	(526)	(17,893)	(1,869)
Unrealized loss from mark-to-market adjustment on investment[2]	26,462	—	76,509	—
Gain on sale of investment[3]	—	—	(6,696)	—
Asset impairment charges [4]	—	—	2,800	2,319
Change in fair value of contingent consideration liabilities	(1,924)	(787)	4,054	(1,360)
Adjusted EBITDA	$ 467,438	$ 366,868	$ 1,235,016	$ 868,397

(1) The amounts for the three and nine months ended September 30, 2022 include, among other things, $11.0 million and $34.0 million of expenses that are associated with change of control payments as a result of the acquisition of Blattner.

(2) The amounts for the three and nine months ended September 30, 2022 represent decreases in the fair value of our investment, which are based on the market price of the common stock of Starry, a publicly traded company.

(3) The amount for the nine months ended September 30, 2022 represents a gain as a result of the sale of our non-controlling ownership interest in a technology company.

(4) The amount for the nine months ended September 30, 2022 represents an asset impairment charge primarily related to the discontinued use of the right-of-use asset associated with our prior corporate headquarters in connection with our move to a new headquarters in September 2022. The amount for the nine months ended September 30, 2021 represents an asset impairment charge related to certain equipment that was not utilized in our core operations and was subsequently sold.

Remaining Performance Obligations and Backlog

A performance obligation is a promise in a contract with a customer to transfer a distinct good or service. Our remaining performance obligations represent management's estimate of consolidated revenues that are expected to be realized from the remaining portion of firm orders under fixed price contracts not yet completed or for which work has not yet begun, which includes estimated revenues attributable to consolidated joint ventures and variable interest entities, revenues from funded and unfunded portions of government contracts to the extent they are reasonably expected to be realized, and revenues from change orders and claims to the extent management believes they will be earned and are probable of collection.

We have also historically disclosed our backlog, a measure commonly used in our industry but not recognized under GAAP. We believe this measure enables management to more effectively forecast our future capital needs and results and better identify future operating trends that may not otherwise be apparent. We believe this measure is also useful for investors in forecasting our future results and comparing us to our competitors. Our remaining performance obligations are a component of backlog, which also includes estimated orders under MSAs, including estimated renewals, and non-fixed price contracts expected to be completed within one year. Our methodology for determining backlog may not be comparable to the methodologies used by other companies.

As of September 30, 2022 and December 31, 2021, MSAs accounted for 55% of our estimated 12-month backlog and 65% and 67% of our total backlog. Generally, our customers are not contractually committed to specific volumes of services under our MSAs, and most of our contracts can be terminated on short notice even if we are not in default. We determine the estimated backlog for these MSAs using recurring historical trends, factoring in seasonal demand and projected customer needs based upon ongoing communications. In addition, many of our MSAs are subject to renewal, and these potential renewals are considered in determining estimated backlog. As a result, estimates for remaining performance obligations and backlog are subject to change based on, among other things, project accelerations; project cancellations or delays, including but not limited to those caused by commercial issues, regulatory requirements, natural disasters, emergencies (including the COVID-19 pandemic) and adverse weather conditions; and final acceptance of change orders by customers. These factors can cause revenues to be realized in periods and at levels that are different than originally projected.

The following table reconciles total remaining performance obligations to our backlog (a non-GAAP financial measure) by reportable segment along with estimates of amounts expected to be realized within 12 months (in thousands):

	September 30, 2022		December 31, 2021	
	12 Month	Total	12 Month	Total
Electric Power Infrastructure Solutions				
Remaining performance obligations	$ 2,207,737	$ 2,854,847	$ 2,002,862	$ 2,769,106
Estimated orders under MSAs and short-term, non-fixed price contracts	4,987,105	10,126,733	4,492,038	9,447,765
Backlog	$ 7,194,842	$ 12,981,580	$ 6,494,900	$ 12,216,871
Renewable Energy Infrastructure Solutions				
Remaining performance obligations	$ 2,305,314	$ 2,917,067	$ 2,178,846	$ 2,428,408
Estimated orders under MSAs and short-term, non-fixed price contracts	70,150	116,922	65,618	120,237
Backlog	$ 2,375,464	$ 3,033,989	$ 2,244,464	$ 2,548,645
Underground Utility and Infrastructure Solutions				
Remaining performance obligations	$ 899,476	$ 1,062,252	$ 637,843	$ 697,881
Estimated orders under MSAs and short-term, non-fixed price contracts	1,958,278	3,796,809	1,934,826	3,810,829
Backlog	$ 2,857,754	$ 4,859,061	$ 2,572,669	$ 4,508,710
Total				
Remaining performance obligations	$ 5,412,527	$ 6,834,166	$ 4,819,551	$ 5,895,395
Estimated orders under MSAs and short-term, non-fixed price contracts	7,015,533	14,040,464	6,492,482	13,378,831
Backlog	$ 12,428,060	$ 20,874,630	$ 11,312,033	$ 19,274,226

Liquidity and Capital Resources

Management monitors financial markets and national and global economic conditions for factors that may affect our liquidity and capital resources. As set forth below, we have various short-term and long-term cash requirements and capital allocation priorities, and we intend to fund these requirements primarily with cash flow from operating activities and debt financing.

Cash Requirements and Capital Allocation

Cash Requirements. The following table summarizes, as of September 30, 2022, our cash requirements from contractual obligations that are due within the twelve months subsequent to September 30, 2022 and thereafter, excluding certain amounts discussed below (in thousands):

	Due by September 30, 2023	Due Thereafter	Total
Long-term debt, including current portion - principal	$ 30,914	$ 3,891,843	$ 3,922,757
Long-term debt - cash interest (1)	64,149	617,708	681,857
Operating lease obligations (2)	80,916	181,204	262,120
Operating lease obligations that have not yet commenced (3)	926	11,302	12,228
Finance lease obligations (3)	1,536	2,079	3,615
Short-term lease obligations (4)	16,893	—	16,893
Deferral of employer portion of payroll tax payments	54,435	—	54,435
Equipment purchase commitments (5)	190,132	—	190,132
Capital commitment related to investments in unconsolidated affiliates (6)	607	10,495	11,102
Total cash requirements from contractual obligations	$ 440,508	$ 4,714,631	$ 5,155,139

(1) Amounts represent cash interest and other financing expenses associated primarily with our senior notes and financing transactions arising from the exercise of our equipment rental purchase options. Interest related to the term loan under our senior credit facility is not included due to its variable interest rate, and interest related to revolving borrowings under our senior credit facility and notes issued under our commercial paper program are not included due to the frequent short maturity of these borrowings. Assuming the principal amount outstanding and interest rate in effect as of September 30, 2022 with respect to these borrowings under our senior credit facility and commercial paper program remained the same, the annual cash interest expense would be approximately $56.2 million, payable until October 8, 2026, the maturity date of our senior credit facility. Additionally, the recent increase in the federal funds interest rate, as well as expected additional increases to such rate, is expected to increase the interest rate on amounts borrowed under our senior credit facility and the notes issued under our commercial paper program in future periods. Furthermore, our interest expense may be impacted in future periods as a result of the establishment of Term SOFR as the benchmark rate for borrowings under our senior credit facility (to replace LIBOR).

(2) Amounts represent undiscounted operating and finance lease obligations as of September 30, 2022. The corresponding amounts recorded on our September 30, 2022 condensed consolidated balance sheet represent the present value of these amounts.

(3) Amounts represent undiscounted operating lease obligations that have not commenced as of September 30, 2022. The operating lease obligations will be recorded on our condensed consolidated balance sheet beginning on the commencement date of each lease.

(4) Amount represents short-term lease obligations that are not recorded on our September 30, 2022 condensed consolidated balance sheet due to our accounting policy election. Month-to-month rental expense associated primarily with certain equipment rentals is excluded from these amounts because we are unable to accurately predict future rental amounts.

(5) Amount represents capital committed for the expansion of our vehicle fleet. Although we have committed to the purchase of these vehicles/equipment at the time of their delivery, we expect that these orders will be assigned to third-party leasing companies and made available to us under certain of our master equipment lease agreements. Not included in the above table is $4.7 million of purchase commitments related to fiber optic cable to be purchased over a two-year period beginning in October of 2022.

(6) Amounts represent outstanding capital commitments associated with investments in unconsolidated affiliates.

Contingent Obligations. We have various contingent obligations that could require the use of cash or impact the collection of cash in future periods; however, we are unable to accurately predict the timing and estimate the amount of such contingent obligations as of September 30, 2022. These contingent obligations generally include, among other things:

- contingent consideration liabilities and changes to consideration related to acquisitions and purchase price allocations, including liabilities assumed related to change of control provisions, which are described further in Note

6 of the Notes to Condensed Consolidated Financial Statements in Item 1. *Financial Statements* of Part I of this Quarterly Report;

- undistributed earnings of foreign subsidiaries and unrecognized tax benefits, which are described further in Note 12 of the Notes to Condensed Consolidated Financial Statements in Item 1. *Financial Statements* of Part I of this Quarterly Report and Note 12 of the Notes to Consolidated Financial Statements in Item 8. *Financial Statements and Supplementary Data* in Part II of the 2021 Annual Report;

- collective bargaining agreements and multiemployer pension plan liabilities, as well as liabilities related to our deferred compensation and other employee benefit plans, which are described further in Notes 15 and 16 of the Notes to Consolidated Financial Statements in Item 8. *Financial Statements and Supplementary Data* in Part II of the 2021 Annual Report; and

- obligations relating to our investments in affiliates and other entities, lawsuits and other legal proceedings, uncollectible accounts receivable, insurance liabilities, obligations relating to letters of credit, bonds and parent guarantees, obligations relating to employment agreements, indemnities and assumed liabilities, and residual value guarantees, which are described further in Note 16 of the Notes to Condensed Consolidated Financial Statements in Item 1. Financial Statements of Part I of this Quarterly Report and Note 16 of the Notes to Consolidated Financial Statements in Item 8. *Financial Statements and Supplementary Data* in Part II of the 2021 Annual Report.

Capital Allocation. Our capital deployment priorities that require the use of cash include: (i) working capital to fund ongoing operating needs, (ii) capital expenditures to meet anticipated demand for our services, (iii) acquisitions and investments to facilitate the long-term growth and sustainability of our business, and (iv) return of capital to stockholders, including through the payment of dividends and repurchases of our outstanding common stock and/or debt securities. Our industry is capital intensive, and we expect substantial capital expenditures and commitments for equipment purchases and equipment lease and rental arrangements to be needed into the foreseeable future in order to meet anticipated demand for our services. We expect capital expenditures for property and equipment purchases for the year ended December 31, 2022 to be approximately $400 million. In line with our past practices, which are set forth in further detail below, we also expect to continue to allocate significant capital to strategic acquisitions and investments, as well as to pay dividends and to repurchase our outstanding common stock and/or debt securities.

Significant Sources of Cash

We anticipate that our future cash flows from operating activities, cash and cash equivalents on hand, existing borrowing capacity under our senior credit facility and commercial paper program and ability to access capital markets for additional capital will provide sufficient funds to enable us to meet our cash requirements described above for the next twelve months and over the longer term.

Cash flow from operating activities is primarily influenced by demand for our services and operating margins but is also influenced by the timing of working capital needs associated with the various types of services that we provide. Our working capital needs may increase when we commence large volumes of work under circumstances where project costs are required to be paid before the associated receivables are billed and collected. Additionally, operating cash flows may be negatively impacted as a result of unpaid and delayed change orders and claims. Changes in project timing due to delays or accelerations and other economic factors that may affect customer spending, including the potential continued impact of the COVID-19 pandemic, could also impact cash flow from operating activities. Further information with respect to our cash flow from operating activities is set forth below and in Note 19 of the Notes to Condensed Consolidated Financial Statements in Item 1. *Financial Statements* of Part I of this Quarterly Report.

Our available commitments under our senior credit facility and cash and cash equivalents as of September 30, 2022 were as follows (in thousands):

		September 30, 2022
Total capacity available for revolving loans, credit support for commercial paper program and letters of credit	$	2,640,000
Less:		
Borrowings of revolving loans		202,360
Commercial paper program notes outstanding(1)		400,450
Letters of credit outstanding		410,301
Available commitments for revolving loans, credit support for commercial paper program and letters of credit		1,626,889
Plus:		
Cash and cash equivalents		215,395
Total available commitments under senior credit facility and cash and cash equivalents	$	1,842,284

(1) Represents unsecured notes issued under our commercial paper program, which allows for the issuance of notes up to a maximum aggregate face amount of $1.0 billion outstanding at any time. Available commitments for revolving loans under our senior credit facility must be maintained to provide credit support for notes issued under our commercial paper program, and therefore such notes effectively reduce the available borrowing capacity under our senior credit facility.

We consider our investment policies related to cash and cash equivalents to be conservative, as we maintain a diverse portfolio of what we believe to be high-quality cash and cash equivalent investments with short-term maturities. Further information with respect to our cash and cash equivalents is set forth in Note 18 of the Notes to Condensed Consolidated Financial Statements in Item 1. *Financial Statements* of Part I of this Quarterly Report. Additionally, subject to the conditions specified in the credit agreement for our senior credit facility, we have the option to increase the capacity of our senior credit facility, in the form of an increase in the revolving commitments, term loans or a combination thereof, from time to time, upon receipt of additional commitments from new or existing lenders by up to an additional (i) $400.0 million plus (ii) additional amounts so long as the Incremental Leverage Ratio Requirement (as defined in the credit agreement) is satisfied at the time of such increase. The Incremental Leverage Ratio Requirement requires, among other things, after giving pro forma effect to such increase and the use of proceeds therefrom, compliance with the credit agreement's financial covenants as of the most recent fiscal quarter end for which financial statements were required to be delivered. Further information with respect to our debt obligations is set forth in Note 10 of the Notes to Condensed Consolidated Financial Statements in Item 1. Financial Statements of Part I of this Quarterly Report.

We may also seek to access the capital markets from time to time to raise additional capital, increase liquidity as necessary, refinance or extend the term of our existing indebtedness, fund acquisitions or otherwise fund our capital needs. While our financial strategy and consistent performance have allowed us to maintain investment grade ratings subsequent to recent financing transactions, including the senior notes issuance and increase in the capacity of our senior credit facility in connection with our acquisition of Blattner during the fourth quarter of 2021, our ability to access capital markets in the future depends on a number of factors, including our financial performance and financial position, our credit ratings, industry conditions, general economic conditions, our backlog, capital expenditure commitments, market conditions and market perceptions of us and our industry.

Sources and Uses of Cash, Cash Equivalents and Restricted Cash During the Three and Nine Months Ended September 30, 2022 and 2021

In summary, our cash flows for each period were as follows (in thousands):

	Three Months Ended September 30,				Nine Months Ended September 30,			
	2022		2021		2022		2021	
Net cash provided by operating activities	$	343,362	$	17,876	$	547,183	$	332,437
Net cash used in investing activities	$	(264,728)	$	(96,536)	$	(475,746)	$	(415,713)
Net cash provided by (used in) financing activities	$	(12,806)	$	1,563,590	$	(83,722)	$	1,594,826

Operating Activities

As discussed above, cash flow from operating activities is primarily influenced by demand for our services and operating margins but is also influenced by working capital needs. Our working capital needs may increase when we commence large volumes of work under circumstances where project costs, primarily labor, equipment and subcontractors, are required to be paid before the associated receivables are billed and collected and when we incur costs for work that is the subject of unpaid change orders and claims. Accordingly, changes within working capital in accounts receivable, contract assets and contract liabilities are normally related and are typically affected on a collective basis by changes in revenue due to the timing and volume of work performed and variability in the timing of customer billings and payments. Additionally, working capital needs are generally higher during the summer and fall due to increased demand for our services when favorable weather conditions exist in many of our operating regions. Conversely, working capital assets are typically converted to cash during the winter. These seasonal trends can be offset by changes in project timing due to delays or accelerations and other economic factors that may affect customer spending, including market conditions or the impact of certain unforeseen events (e.g., COVID-19 pandemic).

Net cash provided by operating activities during the three and nine months ended September 30, 2022 was positively impacted by an increase in net income adjusted for non-cash items as compared to the three and nine months ended September 30, 2021. This increase was partially offset by the negative impact of increased working capital requirements associated with higher levels of revenues and the large renewable transmission project in Canada. For additional information about the change orders and claims associated with this project, see *Contract Estimates* and *Changes in Estimates* in Note 4 of the Notes to Condensed Consolidated Financial Statements in Item 1.*Financial Statements* of Part I of this Quarterly Report.

Net cash provided by operating activities during the three and nine months ended September 30, 2021 was negatively impacted by high working capital requirements, including with respect to significant increases in work on the large renewable transmission project in Canada described above and a large electric transmission project.

Days sales outstanding (DSO) represents the average number of days it takes revenues to be converted into cash, which management believes is an important metric for assessing liquidity. A decrease in DSO has a favorable impact on cash flow from operating activities, while an increase in DSO has a negative impact on cash flow from operating activities. DSO is calculated by using the sum of current accounts receivable, net of allowance (which includes retainage and unbilled balances), plus contract assets less contract liabilities, divided by average revenues per day during the quarter. DSO as of September 30, 2022 was 81 days, which was lower than DSO of 89 days as of September 30, 2021 and comparable to our five-year historical average DSO of 82 days. This decrease in DSO as compared to September 30, 2021 was primarily due to the favorable impact of the acquisition of Blattner, which has historically had a lower DSO than certain of our other larger operating companies. This decrease in DSO was partially offset by increased working capital requirements primarily related to the large renewable transmission project in Canada and the timing of the associated billings.

Investing Activities

Net cash used in investing activities in the three months ended September 30, 2022 included $173.0 million related to acquisitions and $106.0 million of capital expenditures. Partially offsetting these items was $18.2 million of proceeds from the sale of property and equipment. Net cash used in investing activities in the nine months ended September 30, 2022 included $337.5 million of capital expenditures, $177.8 million related to acquisitions, and $20.6 million of cash paid for equity and other investments. Partially offsetting these items were $42.6 million of proceeds from the sale of property and equipment and $16.9 million of cash received from investments.

Net cash used in investing activities in the three months ended September 30, 2021 included $74.6 million of capital expenditures and $33.3 million related to acquisitions. Partially offsetting these items was $16.4 million of proceeds from the sale of property and equipment. Net cash used in investing activities in the nine months ended September 30, 2021 included $233.0 million of capital expenditures; $119.5 million of cash paid for equity and other investments, which primarily related to the acquisition of a minority interest in Starry; and $101.4 million related to acquisitions. These items were partially offset by $35.1 million of proceeds from the sale of property and equipment.

Our industry is capital intensive, and we expect substantial capital expenditures and commitments for equipment purchases and equipment lease and rental arrangements to be needed for the foreseeable future in order to meet anticipated demand for our services. We also have various other capital commitments that are detailed in *Cash Requirements and Capital Allocation* above. In addition, we expect to continue to pursue strategic acquisitions and investments, although we cannot predict the timing or amount of the cash needed for these initiatives.

Financing Activities

Net cash used in financing activities in the three months ended September 30, 2022 included $20.8 million of cash payments for common stock repurchases, $10.1 million of cash payments for dividends and dividend equivalents and $7.6

million of distributions to non-controlling interests. These items were partially offset by $30.7 million of net borrowings under our senior credit facility and commercial paper program. Net cash used in financing activities in the nine months ended September 30, 2022 included $115.1 million of cash payments for common stock repurchases, $78.6 million of cash payments to satisfy tax withholding obligations associated with stock-based compensation, $31.0 million of cash payments for dividends and cash dividend equivalents; $15.6 million of net repayments of short-term debt and $8.0 million of net distributions to non-controlling interests. These items were partially offset by $172.8 million of net borrowings under our senior credit facility and commercial paper program.

On September 23, 2021, we received net proceeds from the issuance of the 0.950% senior notes due October 2024, the 2.350% senior notes due January 2032 and the 3.050% senior notes due October 2041 notes of $1.49 billion, net of the original issue discount and underwriting discounts but not net of deferred financing costs paid or accrued by us. Deferred financing costs paid directly by us during the three months ended September 30, 2021 were $5.1 million, $0.7 million of which related to the September 2021 issuance of such senior notes and $4.4 million of which related to the bridge facility commitment entered into, but ultimately not utilized, in connection with our acquisition of Blattner. Although not reflected in the three or nine months ended September 30, 2021 condensed consolidated statements of cash flows, we used these proceeds, together with borrowings under our senior credit facility, to acquire Blattner in October 2021.

Net cash provided by financing activities in the three months ended September 30, 2021 also included $98.4 million of net borrowings under our senior credit facility and $13.6 million of net borrowings of short-term debt. These items were partially offset by $17.8 million of cash payments for common stock repurchases and $8.4 million of cash payments for dividends and cash dividend equivalents. Net cash provided by financing activities in the nine months ended September 30, 2021 included $267.7 million of net borrowings under our senior credit facility and $9.4 million of net borrowings of short-term debt, partially offset by $66.7 million of cash payments for common stock repurchases, $63.1 million of cash payments to satisfy tax withholding obligations associated with stock-based compensation, and $25.6 million of cash payments for dividends and cash dividend equivalents.

We expect to continue to utilize cash for similar financing activities in the future, including repayments under our senior credit facility and commercial paper program, payment of cash dividends and repurchases of our common stock and/or debt securities.

Critical Accounting Estimates and Policies Update

The discussion and analysis of our financial condition and results of operations are based on our condensed consolidated financial statements, which have been prepared in accordance with GAAP. Certain information and footnote disclosures, normally included in annual financial statements prepared in accordance with GAAP, have been condensed or omitted pursuant to those rules and regulations. The preparation of these condensed consolidated financial statements requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities, disclosures of contingent assets and liabilities known to exist as of the date the condensed consolidated financial statements are published and the reported amounts of revenues and expenses recognized during the periods presented. We review all significant estimates affecting our condensed consolidated financial statements on a recurring basis and record the effect of any necessary adjustments prior to their publication. Judgments and estimates are based on our beliefs and assumptions derived from information available at the time such judgments and estimates are made. Uncertainties with respect to such estimates and assumptions are inherent in the preparation of financial statements. There can be no assurance that actual results will not differ from those estimates. Management has reviewed its development and selection of critical accounting estimates with the audit committee of our Board of Directors. Our accounting policies are primarily described in Notes 2 and 4 of the Notes to Consolidated Financial Statements in Item 8. *Financial Statements and Supplementary Data* in Part II of the 2021 Annual Report and should be read in conjunction with our critical accounting estimates detailed in Item 7. *Management's Discussion and Analysis of Financial Condition and Results of Operations* of Part II of our 2021 Annual Report.

Item 3. *Quantitative and Qualitative Disclosures about Market Risk.*

There were no material changes to our quantitative and qualitative disclosures about market risk during the nine months ended September 30, 2022. Refer to the information on financial market risk related to changes in interest rates and currency exchange rates in Item 7A. *Quantitative and Qualitative Disclosures About Market Risk* of Part II of our 2021 Annual Report. Our primary exposure to market risk relates to unfavorable changes in concentration of credit risk, interest rates and currency exchange rates. As described further in Note 10 of the Notes to Condensed Consolidated Financial Statements in Item 1. *Financial Statements* of Part I of this Quarterly Report, in August 2022 we entered into an amendment to our senior credit facility that, among other things, established Term SOFR as the benchmark rate for borrowings under our senior credit facility (from LIBOR).

Item 4. ***Controls and Procedures.***

Attached as exhibits to this Quarterly Report on Form 10-Q are certifications of Quanta's Chief Executive Officer and Chief Financial Officer that are required in accordance with Rule 13a-14 of the Securities Exchange Act of 1934, as amended (the Exchange Act). This item includes information concerning the controls and controls evaluation referred to in the certifications, and it should be read in conjunction with the certifications for a more complete understanding of the topics presented.

Evaluation of Disclosure Controls and Procedures

Our management has established and maintains a system of disclosure controls and procedures that are designed to provide reasonable assurance that information required to be disclosed by us in the reports that we file or submit under the Exchange Act, such as this Quarterly Report, is recorded, processed, summarized and reported within the time periods specified in the SEC rules and forms. The disclosure controls and procedures are also designed to provide reasonable assurance that such information is accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer, as appropriate to allow timely decisions regarding required disclosure.

As of the end of the period covered by this Quarterly Report, we evaluated the effectiveness of the design and operation of our disclosure controls and procedures pursuant to Rule 13a-15(b) of the Exchange Act, as such disclosure controls and procedures are defined in Rule 13a-15(e) and 15d-15(e) of the Exchange Act. This evaluation was carried out under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer. Based on this evaluation, these officers have concluded that, as of September 30, 2022, our disclosure controls and procedures were effective to provide reasonable assurance of achieving their objectives.

Evaluation of Internal Control over Financial Reporting

As described in Item 9A. *Controls and Procedures* of Part II of our 2021 Annual Report, we acquired Blattner and nine other businesses in 2021. We also acquired one business in 2022. We are in the process of integrating certain of these acquired business into our overall internal control over financial reporting process.

Except as noted above, there has been no change in our internal control over financial reporting that occurred during the quarter ended September 30, 2022 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

Design and Operation of Control Systems

Our management, including the Chief Executive Officer and Chief Financial Officer, does not expect that our disclosure controls and procedures or our internal control over financial reporting will prevent or detect all errors and all fraud. A control system, no matter how well designed and operated, can provide only reasonable, not absolute, assurance that the control system's objectives will be met. The design of a control system must reflect the fact that there are resource constraints, and the benefits of controls must be considered relative to their costs. Further, because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that misstatements due to error or fraud will not occur or that all control issues and instances of fraud, if any, within the company have been detected. These inherent limitations include the realities that judgments in decision-making can be faulty and breakdowns can occur because of simple errors or mistakes. Controls can be circumvented by the individual acts of some persons, by collusion of two or more people, or by management override of the controls. The design of any system of controls is based in part on certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions. Over time, controls may become inadequate because of changes in conditions or deterioration in the degree of compliance with policies or procedures.

PART II — OTHER INFORMATION

Item 1. *Legal Proceedings.*

We are from time to time party to various lawsuits, claims and other legal proceedings that arise in the ordinary course of business. These actions typically seek, among other things, compensation for alleged personal injury, breach of contract, negligence or gross negligence and/or property damage, environmental liabilities, wage and hour claims and other employment-related damages, punitive damages, consequential damages, civil penalties or other losses, or injunctive or declaratory relief, as well as interest and attorneys' fees associated with such claims. With respect to all such lawsuits, claims and proceedings, we record a reserve when it is probable that a loss has been incurred and the amount of loss can be reasonably estimated. In addition, we disclose matters for which management believes a material loss is at least reasonably possible. See Note 16 of the Notes to Condensed Consolidated Financial Statements in Item 1. *Financial Statements* of Part I of this Quarterly Report, which is incorporated by reference in this Item 1, for additional information regarding litigation, claims and other legal proceedings.

Item 1A. *Risk Factors.*

Our business is subject to a variety of risks and uncertainties that are difficult to predict and many of which are outside of our control. For a detailed discussion of the risks that affect our business, refer to Item 1A. *Risk Factors* of Part I of our 2021 Annual Report. As of the date of this filing, there have been no material changes to the risk factors previously described in our 2021 Annual Report. The matters specifically identified are not the only risks and uncertainties facing our company, and additional risks and uncertainties not known to us or not specifically identified may also impair our business. If any of these risks and uncertainties occur, our business, financial condition, results of operations and cash flows could be negatively impacted, which could negatively impact the value of an investment in our company.

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

Unregistered Sales of Equity Securities

None.

Issuer Purchases of Equity Securities During the Third Quarter of 2022

The following table contains information about our purchases of equity securities during the three months ended September 30, 2022.

Period	Total Number of Shares Purchased (1)(2)	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs (1)	Maximum Number (or Approximate Dollar Value) of Shares that may yet be Purchased Under the Plans or Programs (1)
July 1 - 31, 2022				
Open Market Stock Repurchases (1)	70,135	$ 130.23	70,135	$ 368,375,604
Tax Withholding Obligations (2)	5,838	$ 129.76	—	
August 1 - 31, 2022				
Open Market Stock Repurchases (1)	29,790	$ 137.18	29,790	$ 364,289,099
Tax Withholding Obligations (2)	9,376	$ 141.10	—	
September 1 - 30, 2022				
Open Market Stock Repurchases (1)	58,574	$ 133.38	58,574	$ 356,476,301
Tax Withholding Obligations (2)	1,959	$ 133.80	—	
Total	175,672		158,499	$ 356,476,301

(1) Includes shares repurchased as of the trade date of such repurchases. On August 6, 2020, we issued a press release announcing that our Board of Directors approved a stock repurchase program that authorizes us to purchase, from time to time through June 30, 2023, up to $500 million of our outstanding common stock. Repurchases under this program can be made in open market and privately negotiated transactions, at our discretion, based on market and business conditions, applicable contractual and legal requirements and other factors. The program does not obligate us to acquire any specific amount of common stock and may be modified or terminated by our Board of Directors at any time at its sole discretion and without notice.

(2) Includes shares purchased from employees to satisfy tax withholding obligations in connection with the vesting of restricted stock unit and performance stock unit awards or the settlement of previously vested but deferred restricted stock unit and performance stock unit awards.

Item 3. ***Defaults Upon Senior Securities.***

None.

Item 4. ***Mine Safety Disclosures.***

Not applicable.

Item 5. ***Other Information.***

As of the end of September 2022, we moved our corporate headquarters to 2727 North Loop West, Houston, Texas 77008. As a result, stockholders who desire to submit a stockholder proposal for inclusion in Quanta's proxy materials for the 2023 annual meeting of stockholders or submit a nominee for election to Quanta's Board of Directors for consideration at the 2023 annual meeting of stockholders should address such proposals to the Corporate Secretary, Quanta Services, Inc., 2727 North Loop West, Houston, Texas 77008. For additional requirements related to such proposals and nominations, see Quanta's definitive proxy statement for the Company's 2022 annual meeting of stockholders, which was filed with the SEC on April 14, 2022.

Item 6. ***Exhibits.***

Exhibit No.		Description
3.1		Restated Certificate of Incorporation of Quanta Services, Inc. (previously filed as Exhibit 3.1 to Quanta's Form 8-K filed March 26, 2019 and incorporated herein by reference)
3.2		Bylaws of Quanta Services, Inc., as amended and restated December 6, 2018 (previously filed as Exhibit 3.1 to Quanta's Form 8-K filed December 11, 2018 and incorporated herein by reference)
10.1		Form of Commercial Paper Dealer Agreement between Quanta Services, Inc. and the Dealer party thereto (previously filed as Exhibit 10.1 to Quanta's Form 8-K filed August 24, 2022 and incorporated herein by reference)
10.2		Eleventh Amendment to Fourth Amended and Restated Credit Agreement, dated as of August 23, 2022, among Quanta Services, Inc., as a borrower and the guarantor, certain subsidiaries of Quanta Services, Inc., as borrowers, the lenders party thereto and Bank of America, N.A., as Administrative Agent (previously filed as Exhibit 10.2 to Quanta's Form 8-K filed August 24, 2022 and incorporated herein by reference)
10.3	*^	Amended and Restated Employment Agreement dated as of July 18, 2022 by and between Quanta Services, Inc. and Jayshree Desai
31.1	*	Certification by Chief Executive Officer pursuant to Rule 13a-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 (filed herewith)
31.2	*	Certification by Chief Financial Officer pursuant to Rule 13a -14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 (filed herewith)
32.1	*	Certification by Chief Executive Officer and Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (furnished herewith)
101	*	The following financial statements from Quanta's Quarterly Report on Form 10-Q for the quarter ended September 30, 2022, formatted in Inline XBRL: (i) Condensed Consolidated Balance Sheets, (ii) Condensed Consolidated Statements of Operations, (iii) Condensed Consolidated Statements of Comprehensive Income, (iv) Condensed Consolidated Statements of Cash Flows, (v) Condensed Consolidated Statements of Equity and (vi) Notes to Condensed Consolidated Financial Statements, tagged as blocks of text and with detailed tags
104	*	The cover page from Quanta's Quarterly Report on Form 10-Q for the quarter ended September 30, 2022, formatted in Inline XBRL (included as Exhibit 101)

* Filed or furnished herewith

^ Management contracts or compensatory plans or arrangements

SIGNATURE

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

QUANTA SERVICES, INC.

By: /s/ PAUL M. NOBEL

Paul M. Nobel
Vice President and Chief Accounting Officer
(Principal Accounting Officer)

Dated: November 3, 2022

AMENDED AND RESTATED EMPLOYMENT AGREEMENT

This Amended and Restated Employment Agreement (the "Agreement") by and between Quanta Services, Inc. ("Quanta") and Jayshree Desai ("Employee") is entered into and effective as of the 18th day of July, 2022 (the "Effective Date").

1. RECITALS

As of the date of this Agreement, the Employer Group (as defined below) is engaged primarily in the business of specialty contracting for customers in the electric power, natural gas, oil, pipeline, renewable energies and telecommunications industries, as well as for transportation, commercial and industrial customers. As such, the Employer Group has developed and continues to develop and use certain trade secrets and other Proprietary and Confidential Information, as hereinafter defined. The Employer Group has spent a substantial amount of time, effort and money, and will continue to do so in the future, to develop or acquire such Proprietary and Confidential Information and promote and increase its good will. Employer (as defined below) and Employee acknowledge and agree that Proprietary and Confidential Information is an asset of particular and immeasurable value to the Employer Group.

Pursuant to this Agreement, Employee shall be employed by Employer in a confidential and fiduciary relationship and such Proprietary and Confidential Information will necessarily be provided to, communicated to, or acquired by Employee by virtue of her employment with Employer.

Based upon the above, Employer desires to retain the services of Employee on its own behalf, as well as on the behalf of its subsidiaries and affiliated companies and, in so doing, protect its Proprietary and Confidential Information subject to the terms and conditions set forth herein.

2. DEFINITIONS

a. For purposes of this Agreement, "Employer" shall mean Quanta or any other affiliated entity that is deemed to be the employer of Employee, and "Employer Group" shall mean Quanta and its predecessors, designees, successors, and past, present and future operating companies, divisions, subsidiaries and/or affiliates.

b. As used in this Agreement, "Proprietary and Confidential Information" means any and all non-public information or data in any form or medium, tangible or intangible, which has commercial value and which the Employer Group possesses or to which the Employer Group has rights. Proprietary and Confidential Information includes, by way of example and without limitation, information concerning the Employer Group's specific manner of doing business, including, but not limited to, the processes, methods or techniques utilized by the Employer Group, the Employer Group's customers, marketing strategies and plans, pricing information, sources of supply and material specifications, the Employer Group's computer programs, system documentation, special hardware, related software development, and the Employer Group's business models, manuals, formulations, equipment, compositions, configurations, know-how, ideas, improvements and inventions.

Proprietary and Confidential Information also includes information developed by Employee during her course of employment with Employer or otherwise relating to Company-Related Inventions and Developments, as hereinafter defined, as well as other information to which she may be given access to in connection with her employment.

c. As used in this Agreement, "Inventions and Developments" means any and all inventions, developments, creative works and useful ideas of any description whatsoever, whether or not patentable. Inventions and Developments include, by way of example and without limitation, discoveries and improvements that consist of or relate to any form of Proprietary and Confidential Information.

d. As used in this Agreement, "Company-Related Inventions and Developments" means all Inventions and Developments that: (a) relate at the time of conception or development to the actual business of the Employer Group or to its actual research and development or to business or research and development that is the subject of active planning at the time; (b) result from or relate to any work performed for Employer, whether or not during normal business hours; (c) are developed on Employer's time; or (d) are developed through the use of the Employer Group's Proprietary and Confidential Information, equipment, software, or other facilities and resources.

e. For purposes of this Agreement, "make" or "made," when used in relation to Inventions and Developments, includes any one or any combination of: (a) conception; (b) reduction to practice; or (c) development; and is without regard to whether Employee is a sole or joint inventor.

f. For purposes of this Agreement, "Change in Control" shall mean:

i. Any person or entity, or more than one person or entity acting as a group, other than a member of the Employer Group or an employee benefit plan of the Employer Group, acquires directly or indirectly Beneficial Ownership (as defined in Section 13(d) of the Securities Exchange Act of 1934, as amended) of any Voting Security of Quanta and immediately after such acquisition such person, entity or group is, directly or indirectly, the Beneficial Owner of Voting Securities representing fifty percent (50%) or more of the total fair market value or total voting power of all of the then-outstanding Voting Securities of Quanta; or

ii. Any person or entity, or more than one person or entity acting as a group, other than a member of the Employer Group or an employee benefit plan of the Employer Group, acquires directly or indirectly, or has acquired during the preceding twelve (12) months, Beneficial Ownership (as defined in Section 13(d) of the Securities Exchange Act of 1934, as amended) of any Voting Security of Quanta and immediately after such acquisition such person, entity or group is, directly or indirectly, the Beneficial Owner of Voting Securities representing thirty percent (30%) or more of the total voting power of all of the then-outstanding Voting Securities of Quanta; or

iii. Individuals who, as of the date hereof, constitute the Board of Directors of Quanta (the "Board"), and any new director whose election by the Board or nomination for election by Quanta's stockholders was approved by a vote of a majority of the directors then still in office who were directors as of the date hereof or whose election or nomination for election was previously so approved, cease for any reason to constitute at least a majority of the members of the Board within a 12-month period; or

iv. Any person or entity, or more than one person or entity acting as a group, other than a member of the Employer Group or an employee benefit plan of the Employer Group, acquires directly or indirectly, or has acquired during the preceding 12-months, forty percent (40%) or more of the total gross fair market value of assets of the Employer Group.

g. For purposes of this Agreement, "Voting Security" means common stock or other capital stock, including preferred stock, of the applicable entity entitled generally to vote in the election of directors and preferred stock and other equity securities (not including options, warrants or similar rights) convertible into securities entitled generally to vote in the election of directors (whether or not then convertible).

3. TERMS OF EMPLOYMENT

h. Position and Duties. Employee is hereby employed by Employer as Chief Financial Officer. Employee shall have the primary responsibilities, duties and authority commensurate with Employee's position and as prescribed from time to time by the Board or Quanta's Chief Executive Officer, in their discretion, in a manner consistent with Employee's position. Employee shall devote her full business time, attention and effort to the performance of this Agreement and to her duties as described herein.

i. Employee shall faithfully adhere to, execute and fulfill the duties and responsibilities of Employee's position and as prescribed from time to time by the Board or Quanta's Chief Executive Officer.

ii. Employee agrees to devote reasonable attention and time to the business and affairs of Employer and, to the extent necessary, to discharge the responsibilities assigned to Employee hereunder, to use Employee's reasonable best efforts to perform faithfully and efficiently such responsibilities.

iii. Employee shall not, during the term of her employment, be engaged in any other business activity pursued for gain, profit or other pecuniary advantage if such activity interferes with Employee's duties and responsibilities to Employer. The foregoing limitations shall not be construed as prohibiting Employee from serving on corporate, civic or charitable boards or committees, delivering lectures or fulfilling speaking engagements, teaching at educational institutions, or making personal investments, so long as such activities do not significantly interfere with the performance of Employee's responsibilities to Employer as set forth in this Agreement.

iv. In the performance of her duties, Employee shall use her best efforts to adhere to the legal requirements codified in statutes, ordinances and governmental regulations applicable to Employer.

i. Term. The initial term of this Agreement shall begin on the Effective Date and shall continue until January 13, 2023, unless terminated sooner pursuant to the provisions of this Agreement (the "Initial Term"). At the expiration of the Initial Term, unless terminated sooner pursuant to the provisions of this Agreement, and each annual anniversary thereafter, this Agreement will renew automatically for an additional one (1) year period (the "Renewal Term") unless either party notifies the other party in writing of its or her intention not to renew this Agreement (the "Renewal Termination Notice") not less than six (6) months prior to the expiration of the Initial Term or of any Renewal Term (the Initial Term and any Renewal Term are referred to collectively as the "Term").

i. Termination upon Death. This Agreement (and all of Employee's rights and Employer's obligations hereunder) shall terminate as of the date of Employee's death.

ii. Termination upon Disability. If Employee becomes Disabled as defined herein, Employer may, by written notice to Employee, terminate this Agreement and Employee's employment hereunder. For purposes of this Agreement, "Disabled" or "Disability" means, as determined by the Compensation Committee of the Board (the "Committee"), that (i) Employee is unable to engage in any substantial gainful activity by reason of a physical or mental impairment that is expected to result in death or last twelve (12) months or more, or Employee receives replacement income for three (3) months or more due to such physical or mental impairment or (ii) such other definition that complies with the definition of disability under Section 409A of the Internal Revenue Code of 1986, as amended (the "Code") and the regulations promulgated thereunder.

iii. Termination for Cause. Employer may terminate this Agreement and Employee's employment hereunder for Cause by providing written notice to Employee of its intention to do so. For purposes of this Agreement, "Cause" shall mean:

1. Employee's gross negligence in the performance of, intentional nonperformance of, or inattention to her material duties and responsibilities hereunder, any of which continue for five (5) business days after receipt of written notice of need to cure the same;

2. Employee's willful dishonesty, fraud or material misconduct with respect to the business or affairs of Employer;

3. the violation by Employee of any of Employer's policies or procedures, which violation is not cured by Employee within five (5) business days after Employee has been given written notice thereof;

4. a conviction of, a plea of nolo contendere, a guilty plea, or confession by Employee to, an act of fraud, misappropriation or embezzlement or any crime punishable as a felony or any other crime that involves moral turpitude;

5. Employee's use of illegal substances or habitual drunkenness; or

6. the breach by Employee of this Agreement if Employee does not cure such breach within five (5) business days after Employee has been given written notice thereof.

v. Termination for Good Reason. Employee may terminate this Agreement and her employment hereunder for Good Reason in the twelve (12) months following a Change in Control by providing written notice to Employer of her intention to do so. For purposes of this Agreement, "Good Reason" shall mean:

7. the assignment to Employee of any duties inconsistent with Employee's position (including offices, titles and reporting requirements), authority, duties or responsibilities as contemplated by Section III.A of this Agreement and as in effect immediately prior to the Change in Control, or any other action by Employer that results in a diminution in such position, authority, duties or responsibilities (excluding for this purpose an isolated, insubstantial and inadvertent action not taken in bad faith);

8. any material breach of this Agreement by Employer, including any requirement that Employee be based at any office or location that results in a violation of Section III.E of this Agreement;

9. any failure by Employer to comply with any of the provisions of Section IV of this Agreement (excluding for this purpose an isolated, insubstantial and inadvertent action not taken in bad faith);

10. any failure by Employer to continue in effect any cash or stock-based incentive or bonus plan, retirement plan, welfare benefit plan or other compensation, retirement or benefit plan and policy, unless the aggregate value (as computed by an independent employee benefits consultant selected by Employer and reasonably acceptable to Employee or Employee's legal representative) of all such compensation, retirement or benefit plans and

policies provided to Employee is not materially less than their aggregate value as in effect at any time during the one hundred twenty (120) day period immediately preceding a Change in Control or, if more favorable to Employee, those provided generally at any time after the Change in Control to other peer employees of Employer and its affiliated companies;

11. Employee's receipt from Employer of a Renewal Termination Notice as provided in Section III.B; and

12. in the event of a pending Change in Control, Employer and Employee have not received written notice at least five (5) business days prior to the anticipated closing date of the transaction giving rise to the Change in Control from the successor to all or a substantial portion of the Employer Group's business and/or assets that such successor is willing as of the closing to assume and agree to perform Employer's obligations under this Agreement in the same manner and to the same extent that Employer is hereby required to perform.

Employee must provide written notice to Employer of the existence of the condition(s) described in Section III.B.4.a through Section III.B.4.d above within 90 days of the initial existence of the condition(s). Employer shall have 30 days after such notice is given during which to remedy the condition(s), and such occurrence shall not be deemed to constitute Good Reason if such event or circumstance has been fully corrected by Employer within the 30 day cure period and Employee has been reasonably compensated for monetary losses or damages resulting therefrom.

a. Notice of Termination. Any termination by Employer for Cause or Disability or by Employee for Good Reason shall be communicated by a Notice of Termination provided to the other party pursuant to the provisions of Section IX.C of this Agreement. For purposes of this Agreement, "Notice of Termination" means a written notice that: (1) indicates the specific termination provision or provisions as set forth in this Agreement relied upon by either Employer or Employee; (2) to the extent applicable, sets forth in reasonable detail the facts and circumstances claimed to provide the basis for termination under the provision or provisions of this Agreement relied upon by either Employer or Employee; and (3) if the Date of Termination (as defined below) is other than the date of receipt of such Notice of Termination, specifies the termination date. The failure by either Employer or Employee to set forth in the Notice of Termination any fact or circumstance that contributes to a showing of Cause or Good Reason shall not waive any right of Employer or Employee or preclude Employer or Employee from asserting such fact or circumstance in enforcing Employer's or Employee's rights or obligations under this Agreement.

b. Date of Termination. According to this Agreement, "Date of Termination" shall mean: (1) if Employee's employment is terminated for Cause or Disability, or by Employee for Good Reason, the date of receipt of the Notice of Termination or any later date specified therein or as required under this Agreement; (2) if Employee's employment is terminated by Employer other than for Cause or Disability, the Date of Termination shall be the date on which Employer notifies Employee of such termination; (3) if Employee's employment is terminated by reason of death, the Date of Termination shall be the date of the death of Employee; or (4) if Employee voluntarily terminates her employment, the Date of Termination shall be the date on which Employee and Employer shall agree to be the Date of Termination.

c. Place of Performance. Nothing contained in this Agreement shall be deemed to require Employee to relocate from Employee's present residence to a geographic location outside the greater Houston, Texas area in order to carry out Employee's duties and responsibilities under this Agreement, other than normal business travel consistent with Employee's duties, responsibilities and position.

4. COMPENSATION

a. Annual Base Salary. Employer agrees to compensate and pay Employee, or to cause Employee to be compensated and paid, an annual base salary of $600,000, payable on a regular basis in accordance with Employer's standard payroll procedures but not less frequently than monthly.

On at least an annual basis, the Board or a duly constituted committee thereof will review Employee's performance and may make increases to Employee's annual base salary if, in its sole discretion, any such increase is warranted.

b. Bonus. Employee shall participate in Employer's annual and long-term incentive bonus plans at a level commensurate with Employee's position. Employee may participate in other current and future incentive bonus plans as determined by the Board or a duly constituted committee thereof.

c. Incentive, Savings and Retirement Plans. Employee shall be entitled to participate in all incentive, savings and retirement plans, practices, policies and programs generally applicable to other peer employees of Employer.

d. Welfare Benefit Plans. Employee and Employee's dependents shall receive coverage under the welfare benefit plans, practices, policies and programs provided by Employer including, but not limited to, medical, prescription, dental, disability, employee life, group life, accidental death and travel accident insurance plans and programs, generally applicable to other peer employees of Employer, the terms and conditions of which shall be no less favorable than those available to other similarly situated officers of Employer.

e. Reimbursement of Expenses. Employer shall reimburse Employee or cause Employee to be promptly reimbursed for all reasonable and necessary expenses incurred by Employee in furtherance of the business and affairs of the Employer Group including, but not limited to, all travel expenses and living expenses while away from home on business or at the request of Employer or the Board. Such reimbursement shall be effected as soon as reasonably practicable after such expenditures are made, against presentation of signed, itemized expense reports in accordance with the travel and business expense reimbursement policies of Employer.

f. Severance Benefits upon Termination. As set forth below, the following obligations are imposed upon Employer upon termination of this Agreement; provided, however, that to be entitled to such severance benefits, Employee will be required to execute, and not revoke, a Confidential Severance Agreement and Release provided by Employer as more fully described in Section IV.I below.

i. Death. If Employee's employment is terminated due to her death, Employee shall not be entitled to any severance benefits under the terms of this Agreement.

ii. Disability. If Employee's employment is terminated due to her Disability, Employee shall be entitled to severance benefits equal to one (1) year of Employee's annual base salary. Subject to Employee's compliance with the requirements of Section IV.I below, such severance benefits shall be paid to Employee in a lump-sum payment within sixty (60) days of the Date of Termination.

iii. Cause. If Employee's employment is terminated for Cause as defined under this Agreement, Employee shall not be entitled to any severance benefits under the terms of this Agreement.

iv. Without Cause. If Employee's employment is terminated by Employer without Cause (other than within the twelve (12) months following a Change in Control), Employee shall be entitled to severance benefits equal to two (2) years of Employee's annual base salary. Subject to Employee's compliance with the requirements of Section IV.I below, such severance benefits shall be paid to Employee in a lump-sum payment within sixty (60) days of the Date of Termination. In the event that Employee is entitled to receive severance benefits under Section IV.G.1, Employee will not be entitled to receive severance benefits under this Section.

v. Resignation by Employee. If Employee resigns her employment, Employee shall not be entitled to any severance benefits under the terms of this Agreement unless Employee resigns her employment for Good Reason within the twelve (12) months following a Change in Control as described in Section IV.G.2 below.

d. Severance Benefits upon Change in Control.

vi. Termination without Cause. In the event Employee is terminated without Cause by Employer within twelve (12) months following a Change in Control, Employee shall be entitled to the following:

1. a lump-sum payment, due on the Date of Termination, of a sum equal to three (3) times Employee's base salary at the rate then in effect; and

2. a lump-sum payment, due on the Date of Termination, of a sum equal to three (3) times the higher of (i) the highest annual cash bonus paid (or earned if not yet paid) to Employee for the three (3) fiscal years preceding Employee's termination under Employer's annual incentive bonus plan or a direct predecessor thereto or replacement thereof or (ii) Employee's target annual cash bonus payable, including any bonus or portion thereof which has been earned but deferred, under Employer's annual incentive bonus plan or a direct predecessor thereto or replacement thereof for the current fiscal year or, if such target bonus has not yet been determined, for the most recently completed fiscal year; and

3. for a period of three (3) years following Employee's termination continuation of medical, dental and vision benefit coverage for Employee and Employee's dependents at least equal to those that would have been provided to the same in accordance with the plans, programs, practices and policies described in Section IV.D of this Agreement if Employee's employment had not been terminated or, if more favorable to Employee, as in effect generally at any time thereafter with respect to other peers of Employee; provided, however, that if Employee becomes reemployed with another employer and is eligible to receive medical, dental or vision benefits under another employer provided plan, the medical, dental and vision benefits described herein shall be secondary to those provided under such other plan during such applicable period of eligibility.

In the event that Employee is entitled to receive severance benefits under this Section V.G.1, Employee will not be entitled to receive severance benefits under Section IV.F.4.

vii. Termination by Employee with Good Reason. In the event Employee terminates her employment for Good Reason within twelve (12) months following a Change in Control, Employee shall be entitled to:

1. a lump-sum payment, due on the Date of Termination, of a sum equal to three (3) times Employee's base salary at the rate then in effect;

2. a lump-sum payment, due on the Date of Termination, of a sum equal to three (3) times the higher of (i) the highest annual cash bonus paid (or earned if not yet paid) to Employee for the three (3) fiscal years preceding Employee's termination under Employer's annual incentive bonus plan or a direct predecessor thereto or replacement thereof or

(ii) Employee's target annual cash bonus payable, including any bonus or portion thereof which has been earned but deferred, under Employer's annual incentive bonus plan or a direct predecessor thereto or replacement thereof for the current fiscal year or, if such target bonus has not yet been determined, for the most recently completed fiscal year; and

3. for a period of three (3) years following Employee's termination continuation of medical, dental and vision benefit coverage for Employee and Employee's dependents at least equal to those that would have been provided to the same in accordance with the plans, programs, practices and policies described in Section IV.D of this Agreement if Employee's employment had not been terminated or, if more favorable to Employee, as in effect generally at any time thereafter with respect to other peers of Employee; provided, however, that if Employee becomes reemployed with another employer and is eligible to receive medical, dental or vision benefits under another employer provided plan, the medical, dental and vision benefits described herein shall be secondary to those provided under such other plan during such applicable period of eligibility.

viii. Limitation on Severance Benefits. Anything in this Agreement to the contrary notwithstanding, in the event that it shall be determined (as herein after provided) that any payment or distribution by Employer or any of its affiliates to or for the benefit of Employee, whether paid or payable or distributed or distributable pursuant to the terms of this Agreement or otherwise pursuant to or by reason of any other agreement, policy, plan, program, or arrangement including, without limitation, any stock option, restricted stock, stock appreciation right or similar right, or the lapse or termination of any restriction on, or the vesting or exercisability of, any of the foregoing (individually and collectively, a "Payment"), would be subject, but for the application of this Section IV.G.3 to the excise tax imposed by Section 4999 of the Code, or any successor provision thereto (hereinafter the "Excise Tax"), by reason of being considered "contingent on a change in ownership or control" of Employer, within the meaning of Section 280G(b)(2) of the Code, or any successor provision thereto, then:

1. if the After-Tax Payment Amount would be greater by reducing the amount of the Payment otherwise payable to Employee to the minimum extent necessary (but in no event less than zero) so that, after such reduction, no portion of the Payment would be subject to the Excise Tax, then the Payment shall be so reduced; and

2. if the After-Tax Payment Amount would be greater without the reduction then there shall be no reduction in the Payment.

As used in this Section IV.G.3, "After-Tax Payment Amount" means (i) the amount of the Payment, less (ii) the amount of federal income taxes payable with respect to the Payment calculated at the maximum marginal income tax rate for each year in which the Payment shall be paid to Employee (based upon the rate in effect for such year as set forth in the Code at the time of the Payment), less (iii) the amount of the Excise Tax, if any, imposed upon the Payment. For purposes of any reduction made under Section IV.G.3.a, the Payments that shall be reduced shall be those that provide Employee the best economic benefit, and to the extent any Payments are economically equivalent, each shall be reduced pro rata.

a. Compliance with Section 409A of the Code. The payments to be made under this Agreement are intended to be exempt from or compliant with Section 409A of the Code. Specifically, the severance payments and benefits under Section IV.F and Section IV.G hereof are intended to be exempt from Section 409A of the Code by compliance with the short-term deferral exemption as specified in 26 C.F.R. Section 1.409A-1(b)(4) and/or the separation pay exemption as specified in 26 C.F.R. Section 1.409A-1(b)(9) or are intended to comply with Section 409A of the Code including, but not limited to, being paid upon disability pursuant to 26 C.F.R. Section 1.409-3(i)(4), pursuant to change in control event pursuant to 26 C.F.R. Section

1.409A-3(i)(5) or pursuant to a fixed schedule or specified date pursuant to 26 C.F.R. Section 1.409A-3(a), and the provisions of this Agreement will be administered, interpreted and construed accordingly. Notwithstanding the foregoing, Employer makes no representation or warranty and shall have no liability to Employee or any other person if any provisions of this Agreement are determined to constitute deferred compensation subject to Section 409A of the Code and do not satisfy an exemption from, or the conditions of, Section 409A of the Code.

For all purposes of this Agreement, Employee shall be considered to have terminated employment with Employer when Employee incurs a "separation from service" with the Employer Group within the meaning of Section 409A(a)(2)(A)(i) of the Code.

If the Committee determines that severance payments due under this Agreement on account of termination of Employee's employment constitute "deferred compensation" subject to Section 409A of the Code, and that Employee is a "specified employee" as defined in Section 409A(a)(2)(B)(i) of the Code and 26 C.F.R. Section 1.409A-1(i), then such severance payments shall commence on the first payroll date of the seventh month following the month in which Employee's termination occurs (with the first such payment being a lump sum equal to the aggregate severance payments Employee would have received during the prior six-month period if no such delay had been imposed). For purposes of this Agreement, whether Employee is a "specified employee" will be determined in accordance with the written procedures adopted by the Committee which are incorporated by reference herein.

All reimbursements and in-kind benefits provided under this Agreement shall be made or provided in accordance with the requirements of Section 409A of the Code and the regulations to the extent that such reimbursements or in-kind benefits are not excepted from Section 409A of the Code, including where applicable, the requirement that (i) any reimbursement is for expenses incurred during Employee's lifetime (or during a shorter period of time specified in the Agreement); (ii) the amount of expenses eligible for reimbursement during the calendar year may not affect the expenses eligible for reimbursement in any other calendar year; (iii) the reimbursement of an eligible expense will be made on or before the last day of the calendar year following the year in which the expense is incurred; and (iv) the right to reimbursement is not subject to set off or liquidation or exchange for any other benefit.

b. Confidential Severance Agreement and Release. Notwithstanding any provision herein to the contrary, if Employee has not delivered to Employer an executed Confidential Severance Agreement and Release (the "Release") on or before the fiftieth (50th) day after the Date of Termination, or if Employee revokes such executed Release prior to the sixtieth (60th) day after the Date of Termination, Employee shall forfeit all of the payments and benefits described in Section IV.F.2 or Section IV.F.4, as applicable; provided, however, that Employee shall not forfeit such amounts if Employer has not delivered to Employee the required form of Release on or before the 25th day following the Date of Termination. A form of Release is attached as Exhibit A hereto. Employee acknowledges that Employer retains the right to modify the required form of the Release as Employer deems necessary in order to effectuate a full and complete release of claims against the Employer Group and its affiliates, officers and directors.

5. COMPANY-RELATED INVENTIONS AND DEVELOPMENTS

c. Records of Inventions. Employee shall keep complete and current written records of Inventions and Developments made during the course of her employment with Employer and promptly disclose all such Inventions and Developments in writing to Employer so that it may adequately determine its rights in such Inventions and Developments. Employee shall supplement any such disclosure to the extent Employer may request. If Employee has any doubt as to whether or not to disclose any Inventions and Developments, Employee shall disclose the same to Employer.

d. Ownership of Inventions. All Company-Related Inventions and Developments made by Employee during the term of her employment with Employer shall be the sole and exclusive property of the applicable member(s) of the Employer Group. Employee shall assign, and does hereby assign, her entire right, title and interest in such Company-Related Inventions and Developments to the applicable member(s) of the Employer Group. Employer's ownership and the foregoing assignment shall apply, without limitation, to all rights under the patent, copyright, and trade secret laws of any jurisdiction relating to Company-Related Inventions and Developments. If Employee asserts any property right in any Inventions and Developments made by Employee during the term of her employment with Employer, Employee shall promptly notify Employer of the same in writing.

e. Cooperation with Employer. Employee shall assist and fully cooperate with Employer in obtaining and maintaining the fullest measure of legal protection which the Employer Group elects to obtain and maintain for Inventions and Developments in which the Employer Group has a property right. Employee shall execute any lawful document requested by Employer relating to obtaining and maintaining legal protection for any said Inventions and Developments including, but not limited to, executing applications, assignments, oaths, declarations and affidavits. Employee shall make herself available for interviews, depositions and testimony relating to any said Inventions and Developments. These obligations shall survive the termination of Employee's employment with Employer, provided that Employer shall compensate Employee at a reasonable rate after such termination for time actually spent by Employee at Employer's requests on such assistance. In the event Employer is unable for any reason whatsoever to secure Employee's signature to any document reasonably necessary or appropriate for any of the foregoing purposes including, but not limited to, renewals, extensions, continuations, divisions or continuations in part, in a timely manner, Employee irrevocably designates and appoints Employer and its duly authorized officers and agents as her agents and attorneys-in-fact to act for Employee and on her behalf, but only for purposes of executing and filing any such document and doing all other lawfully permitted acts to accomplish the foregoing purposes with the same legal force and effect as if executed by Employee.

f. Pre-employment Inventions. Employee shall completely identify on Exhibit B attached hereto, without disclosing any trade secret or other proprietary and confidential information, all Inventions and Developments made by Employee prior to her employment with Employer or prior to execution of this Agreement in which Employee has an ownership interest and which is not the subject matter of an issued patent or a printed publication at the time Employee executes this Agreement.

g. Disclosure of Inventions after Termination. Employee shall promptly and completely disclose in writing to Employer's law department all Company-Related Inventions and Developments made by Employee during the one (1) year immediately following Employee's termination of employment, whether voluntarily or involuntarily, for the purposes of determining Employer's rights in each such invention. It will be presumed that Company-Related Inventions and Developments conceived by Employee which are reduced to practice within one (1) year after termination of Employee's employment, whether voluntary or involuntary, were conceived during the term of Employee's employment with Employer unless Employee is able to establish a later conception date by clear and convincing evidence.

6. OBLIGATIONS RELATING TO PROPRIETARY AND CONFIDENTIAL INFORMATION

h. Obligations of Employer.

i.Proprietary and Confidential Information. Employer shall provide Employee, during her employment, with valuable Proprietary and Confidential Information for the purpose of assisting Employee in the performance of her job requirements and responsibilities with Employer. In addition, Employer shall provide to Employee, during her employment, with the equipment, materials and facilities necessary to assist Employee in the performance of her job requirements and responsibilities with Employer.

ii. Training. Employer shall provide Employee with any and all specialized training necessary to assist Employee in the performance of her job requirements and responsibilities with Employer including, but not limited to, training relating to the Employer Group's cost structures, methods of operation, the Employer Group's products and marketing techniques, the Employer Group's business strategies, plans and models.

i. Obligations of Employee.

i. Nondisclosure of Proprietary and Confidential Information. Both during and after the termination of employment, whether such termination is voluntary or involuntary, Employee shall keep in confidence and trust all Proprietary and Confidential Information. Both during and after the termination of employment, whether such termination is voluntary or involuntary, Employee shall not use or disclose Proprietary or Confidential Information without the written consent of Employer, except as may be necessary in the ordinary course of performing her duties to Employer. Notwithstanding the foregoing, nothing in this Agreement prohibits or restricts the Employee from reporting possible violations of law to any governmental authority or making other disclosures that are protected under whistleblower provisions of applicable law.

ii. Return of Proprietary and Confidential Information. All documents and tangible things (whether written or electronic) embodying or containing Proprietary and Confidential Information are the Employer Group's exclusive property. Employee shall be provided with or given access to such Proprietary and Confidential Information solely for performing her duties of employment with Employer. Employee shall protect the confidentiality of their content and shall return all such Proprietary and Confidential Information, including all copies, facsimiles and specimens of them in any tangible or electronic forms in Employee's possession, custody or control to Employer before leaving the employment of Employer for any reason, whether voluntary or involuntary.

iii. Confidential Information from Previous Employment. Employee shall not disclose or use during her employment with Employer any proprietary and confidential information which Employee has acquired as a result of any previous employment or under a contractual obligation of confidentiality before her employment with Employer and, furthermore, Employee shall not bring to the premises of Employer any copies or other tangible embodiments of any such proprietary and confidential information.

iv. Conflict of Interest. Employee shall not engage in outside employment or other activities in the course of which Employee would use or might be tempted or induced to use Proprietary and Confidential Information in other than the Employer Group's own interest.

v. Agreement Not to Compete/Solicit.

1. Non-Compete. Employee agrees that during the Covenant Period (as defined below), she shall not, without Employer's written consent, directly or indirectly, for herself or on behalf of or in conjunction with any other person, persons, company, partnership, corporation or business venture of any nature:

(a) engage, as an officer, director, shareholder, owner, partner, joint venturer or in a managerial capacity, whether as an employee, independent contractor, consultant, advisor or sales representative, in any business or industry in which the Employer

Group is engaged, within the United States, Canada or any other country in which the Employer Group conducts business, including any territory serviced by the Employer Group, or in which the Employer Group is actively pursuing business opportunities (the "Territory");

(b) call upon any person or entity which is, at that time, or which has been, within one (1) year prior to that time, a customer of the Employer Group, or a prospective customer that has been actively solicited by the Employer Group, within the Territory for the purpose of soliciting or selling products or services in competition with the Employer Group; or

(c) call upon any prospective acquisition candidate, on Employee's own behalf or on behalf of any competitor, which candidate was, to Employee's actual knowledge after due inquiry, either called upon by the Employer Group or for which the Employer Group made an acquisition analysis for the purpose of acquiring such entity.

2. Non-Solicitation. Employee agrees that during the Covenant Period, she shall not, without Employer's written consent, employ, hire, solicit, induce or identify for employment or attempt to employ, hire, solicit, induce or identify for employment, directly or indirectly, any employee(s) of the Employer Group to leave his or her employment and become an employee, consultant or representative of any other entity including, but not limited to, Employee's new employer, if any.

3. Publicly Traded Securities. The provisions of Section VI.B.5 of this Agreement shall not prevent Employee from acquiring or holding publicly traded stock or other public securities of a competing company, so long as Employee's ownership does not exceed two percent (2%) of the outstanding securities of such company.

4. Agreement to Inform Subsequent Employers. For a period of two (2) years after the termination of Employee's employment with Employer, whether voluntary or involuntary, Employee agrees to inform each new employer, prior to accepting employment, of the existence of this Agreement and provide that employer with a copy of this Agreement.

5. Reasonableness of Restrictions. Employee acknowledges that the restrictions set forth in Section VI.B.5 of this Agreement are intended to protect the Employer Group's legitimate business interests and its Proprietary and Confidential Information and established relationships and good will. Employee acknowledges that the time, geographic and scope of activity limitations set forth herein are reasonable and necessary to protect the Employer Group's legitimate business interests. However, if in any judicial proceeding, a court shall refuse to enforce this Agreement as written, whether because the time limitation is too long or because the restrictions contained herein are more extensive (whether as to geographic area, scope of activity or otherwise) than is necessary to protect the legitimate business interests of the Employer Group, it is expressly understood and agreed between the parties hereto that this Agreement is deemed modified to the extent necessary to permit this Agreement to be enforced in any such proceedings.

6. Ability to Obtain Other Employment. Employee acknowledges that (1) in the event of the termination of her employment with Employer (whether voluntary or involuntary), Employee's knowledge, experience and capabilities are such that Employee can obtain employment in business activities which are of a different and non-competing nature than those performed in the course of her employment with Employer or in the geographic areas outside of the Territory and (2) the enforcement of a remedy hereunder including, but not limited to, injunctive relief, will not prevent Employee from earning a reasonable livelihood.

7. Injunctive Relief. Employee acknowledges that compliance with Section VI.B of this Agreement is necessary to protect the good will and other legitimate business interests of the Employer Group and that a breach of any or all of these provisions will give rise to irreparable and continuing injury to the Employer Group that is not adequately compensable in monetary damages or at law. Accordingly, Employee agrees that Employer, its successors and assigns, may obtain injunctive relief against the breach or threatened breach of any or all of these provisions, in addition to any other legal or equitable remedies which may be available to the Employer Group at law or in equity or under this Agreement. Because Employee further acknowledges that it would be difficult to measure any damages caused to the Employer Group that might result from any breach by Employee of any promises set forth in this Agreement, Employee agrees that Employer shall be entitled to an injunction or other appropriate equitable relief to restrain any such breach without showing or proving any actual damage to the Employer Group, as well as to be relieved of any obligation to provide further payment or benefits to Employee or Employee's dependents.

8. Other Remedies. If Employee violates and/or breaches this Agreement, Employer shall be entitled to an accounting and repayment of all lost profits, compensation, commissions, remuneration or benefits that Employee directly or indirectly has realized or may realize as a result of any such violation or breach. Employer shall also be entitled to recover for all lost sales, profits, commissions, good will and customers caused by Employee's improper acts, in addition to and not in limitation of any injunctive relief or other rights or remedies that Employer is or may be entitled to at law or in equity or under this Agreement.

9. Costs. Employee acknowledges that should it become necessary for Employer to file suit to enforce the provisions contained herein, and any court of competent jurisdiction awards the Employer Group any damages and/or an injunction due to the acts of Employee, then Employer shall be entitled to recover its reasonable costs incurred in conducting the suit including, but not limited to, reasonable attorneys' fees and expenses.

10. Covenant Period. For purposes of this Section VI.B.5, the Covenant Period shall mean the period from and during the Term of this Agreement and ending on the date that is two (2) years after Employee's employment with Employer terminates, whether voluntary or involuntary; provided, however, that if Employer delivers to Employee a Renewal Termination Notice, as provided in Section III.B, and Employee remains employed with Employer through the expiration of the Term (and this Agreement), then the Covenant Period shall end on the date that is one (1) year after the date of such Renewal Termination Notice. For purposes of clarity, in the event that Employee's employment with Employer terminates for any reason, whether voluntary or involuntary, after Employee receives a Renewal Termination Notice and before the end of the Term, the Covenant Period shall end on the date that is two (2) years after the termination of Employee's employment.

i. Nondisparagement. Employee acknowledges and agrees that both during and after her employment with Employer, whether such termination is voluntary or involuntary, Employee shall not disparage, denigrate or comment negatively upon, either orally or in writing, the Employer Group or any of their respective officers, directors, employees or representatives, to or in the presence of any person or entity unless compelled to act by a valid subpoena or other legal mandate; provided, however, if Employee receives such a valid subpoena or legal mandate, she shall provide Employer with written notice of the same at least five (5) business days prior to the date on which Employee is required to make the disclosure.

7. WAIVER OF RIGHT TO JURY TRIAL

EMPLOYER AND EMPLOYEE HEREBY VOLUNTARILY, KNOWINGLY AND INTENTIONALLY WAIVE ANY AND ALL RIGHTS TO TRIAL BY JURY TO ALL CLAIMS ARISING OUT OF OR RELATING TO THIS AGREEMENT, AS WELL AS TO ALL CLAIMS ARISING OUT OF EMPLOYEE'S EMPLOYMENT WITH EMPLOYER OR TERMINATION THEREFROM INCLUDING, BUT NOT LIMITED TO:

a. Any and all claims and causes of action arising under contract, tort or other common law including, without limitation, breach of contract, fraud, estoppel, misrepresentation, express or implied duties of good faith and fair dealing, wrongful discharge, discrimination, retaliation, harassment, negligence, gross negligence, false imprisonment, assault and battery, conspiracy, intentional or negligent infliction of emotional distress, slander, libel, defamation and invasion of privacy;

b. Any and all claims and causes of action arising under any federal, state or local law, regulation or ordinance, including, without limitation, claims arising under Title VII of the Civil Rights Act of 1964, the Age Discrimination in Employment Act, the Americans with Disabilities Act, the Family and Medical Leave Act, the Fair Labor Standards Act and all corresponding state laws; and

c. Any and all claims and causes of action for wages, employee benefits, vacation pay, severance pay, pension or profit sharing benefits, health or welfare benefits, bonus compensation, commissions, deferred compensation or other remuneration, employment benefits or compensation, past or future loss of pay or benefits or expenses.

8. CLAIMS

Employer and Employee acknowledge and agree that this Agreement shall be interpreted, governed by and construed in accordance with the laws of the State of Texas, without regard to the conflict of laws principles or rules thereof.

Employer and Employee irrevocably and unconditionally agree that any legal suit, action or proceeding arising out of or relating to this Agreement, as well as to all claims arising out of Employee's employment with Employer or termination therefrom, shall be brought in either the Federal District Court for the Southern District of Texas—Houston Division or in a judicial district court of Harris County, Texas (hereinafter referred to as the "Texas Courts"). In that regard, Employer and Employee waive, to the fullest extent allowed, any objection that Employer or Employee may have to the venue of any such proceeding being brought in the Texas Courts, and any claim that any such action or proceeding brought in the Texas Courts has been brought in an inconvenient forum. In addition, Employer and Employee irrevocably and unconditionally submit to the exclusive jurisdiction of the Texas Courts in any such suit, action or proceeding. Employer and Employee acknowledge and agree that a judgment in any suit, action or proceeding brought in the Texas Courts shall be conclusive and binding on each and may be enforced in any other courts to whose jurisdiction Employer or Employee is or may be subject to, by suit upon such judgment.

In the event Employee obtains a final judgment in her favor by a court of competent jurisdiction with respect to any dispute regarding Employer's failure to pay Employee on a timely basis the amounts to which she is entitled under this Agreement or as a result of any other breach of this Agreement by Employer, Employer shall pay all amounts and damages to which Employee may be entitled as a result of such breach, including interest thereon and all reasonable legal fees and expense and other costs incurred by Employee to enforce Employee's rights hereunder.

9. MISCELLANEOUS

g. Publicity Release. By executing this Agreement, Employee forever gives the Employer Group, its successors, assigns, licensees and any other designees, the absolute right and permission, throughout the world: (1) to copyright (and to renew and extend any copyright), use, reuse, publish and republish photographic portraits and pictures, motion or still, of Employee, or in which Employee may be included, in whole or in part, or composite or distorted character in any form, whether heretofore taken or to be taken in the future, in conjunction with Employee's own or a fictitious name or title (which Employee now has or may have in the future), or reproductions thereof, in color or otherwise, made through any media at any place, for art, advertising, trade or any other purpose whatsoever; and (2) to record, reproduce, amplify, simulate, "double" and/or "dub" Employee's voice and transmit the same by any mechanical or electronic means, for any purpose whatsoever. Employee further consents to the use of any printed matter giving Employee, or not giving Employee, a credit, in the sole discretion of any of the aforementioned parties to whom this authorization and release is given, in conjunction therewith. Employee waives any right she may have to inspect and/or approve the finished product or the advertising copy or printed matter that may be used in connection therewith, or the use to which it may be applied.

h. Withholding. Employer may withhold from any amounts payable under this Agreement such federal, state, local, F.I.C.A., foreign or other taxes as shall be required to be withheld pursuant to any applicable law or regulation.

i. Notices. All notices, consents, requests, instructions, approvals and other communications provided for in this Agreement shall be in writing and shall be addressed as follows:

To Employer: Quanta Services, Inc.
2727 North Loop West
Houston, Texas 77008
Attention: Chief Executive Officer

To Employee: Jayshree Desai
2727 North Loop West
Houston, Texas 77008

Notice shall be deemed given and effective: (1) upon receipt, if delivered personally; (2) three (3) days after it has been deposited in the U.S. mail, addressed as required above, and sent via registered or certified mail, return receipt requested, postage prepaid; or (3) the next business day after it has been sent via a recognized overnight courier. Employer and/or Employee may change the address for notice purposes by notifying the other of such change in accordance with this Section IX.C.

j. Severability. If any provision of this Agreement is held to be invalid, inoperative or unenforceable for any reason, it shall be modified rather than voided, if possible, in order to achieve the intent of the parties hereto to the maximum extent possible. In any event, if any provision this Agreement is held to be invalid, inoperative or unenforceable for any reason, the other provisions of this Agreement shall be deemed valid and operative and, so far as is reasonable and possible, effect shall be given to the intent manifested by the provision or provisions held invalid or inoperative.

k. Survival of Certain Obligations. The obligations of the parties set forth in this Agreement that by their terms extend beyond or survive the termination of this Agreement, whether voluntarily or involuntarily, will not be affected or diminished in any way by the termination of this Agreement.

l. Headings. The headings contained in this Agreement are for purposes of reference and convenience only and are not intended in any way to describe, interpret, define or limit the extent or intent of this Agreement.

m. Amendment and Restatement; Entire Agreement. This Agreement hereby amends and restates that certain Employment Agreement between Employer and Employee dated effective as of January 13, 2020, and this Agreement supersedes any other agreements, written or oral, between the Employer Group and Employee, including without limitation, that certain Employment Agreement between Employer and Employee dated effective as of January 13, 2020. Employee has no oral representations, understandings or agreements with the Employer Group or any of their respective officers, directors or representatives covering the same subject matter as this Agreement. This written Agreement is the final, complete and exclusive statement and expression of the agreement between Employer and Employee and of all the terms of this Agreement. This Agreement cannot be modified, varied, contradicted or supplement by evidence of any prior or contemporaneous oral or written agreements.

n. Amendment/Waiver. Neither this Agreement nor any term hereof may be modified or amended except by written instrument signed by a duly authorized officer of Employer and by Employee. No term of this Agreement may be waived other than by written instrument signed by the party waiving the benefit of such term. Any such waiver shall constitute a waiver only with respect to the specific matter described in such written instrument and shall in no way impair the rights of the party granting such waiver in any other respect or at any other time. Neither the waiver by Employer or Employee of a breach of or a default under any of the provisions of this Agreement, nor the failure by either Employer or Employee, on one or more occasions, to enforce any of the provisions of this Agreement or to exercise any right or privilege hereunder, shall be construed as a waiver of any other breach or default of a similar nature, or as a waiver of any such provisions, rights or privileges hereunder.

o. Assignment. This Agreement is personal to the parties and neither party may assign any rights or obligations under the same without the prior written consent of the other; provided, however, that in the event of a sale of the Employer Group's business to a third party (whether by sale of all or a majority of the Employer Group's issued and outstanding equity securities, by a merger or reorganization, or by a sale of all or substantially of the Employer Group's assets), then this Agreement may be assigned by Employer to such third party purchaser without the prior written consent of Employee, provided that such third party purchaser agrees to assume and abide by all of Employer's obligations set forth in this Agreement and provides written notice thereof to Employee. In the event of any such assignment, all references to "Quanta" hereunder shall mean the assignee, and to the extent any entity becomes the successor to Quanta, all obligations hereunder shall be the obligations of the successor and "Quanta" mean the successor entity.

p. Counterparts. This Agreement may be executed simultaneously in two (2) or more counterparts, each of which shall be deemed an original and all of which together shall constitute one and the same instrument.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the date first written above, but to be effective as of the Effective Date.

QUANTA SERVICES, INC.:

By /s/ Earl C. Austin, Jr.
Earl C. (Duke) Austin, Jr.
President and CEO

EMPLOYEE:

/s/ Jayshree Desai
Jayshree Desai

EXHIBIT A

SEVERANCE AGREEMENT
AND RELEASE OF ALL CLAIMS

This Severance Agreement and Release of All Claims (the "Agreement") is made and entered into by and between Jayshree Desai (hereinafter referred to as the "Employee") and Quanta Services, Inc., a Delaware corporation, (hereinafter collectively referred to as the "Company").

The purpose of this Agreement is to arrange a settlement of the Employee's employment with the Company that is satisfactory both to the Company and to the Employee. By signing this Agreement, the Company and the Employee agree as follows:

1. **Termination of Employment.** The Employee and the Company are entering into this Agreement as a way of amicably concluding the employment relationship between them on [Date] and of resolving voluntarily any dispute or potential dispute or claim that the Employee has or might have with the Company, whether known or unknown by the Employee at this time. This Agreement is not and should not be construed as an allegation by Employee, or as an admission on the part of the Company, that the Company has acted unlawfully or violated any state or federal law or regulation. The Company, including its parent companies, affiliates, associated companies, and subsidiaries, specifically disclaim any liability to the Employee or any other person for any alleged violation of rights or for any alleged violation of any order, law, statute, duty, policy or contract.

2. **Severance Benefits.** As consideration for the Employee agreeing to release the Company from all claims that are described in Paragraph 6 herein and subject to the provisions of Paragraph 10 herein, the Company will pay the Employee $[Severance Amount] (______________ Dollars and __________ Cents), less applicable taxes as severance benefits (the "Severance Benefits").

3. **Tax Consequences.** The Employee acknowledges and agrees that the Company has made no representations to her regarding the tax consequences of any Severance Benefits received by her pursuant to this Agreement.

4. **Entire Consideration.** The Employee agrees that the Severance Benefits set forth in Paragraph 2, herein, constitute the entire amount of consideration provided to her under this Agreement. The Employee further agrees that she will make no claim for any

additional or other severance benefits or payments and that she will not seek any further compensation for any other claimed damage, costs, severance, income or attorneys' fees.

5. **Non-Disclosure Agreement.** Without the express written agreement of the Company's [Highest Officer] or unless required to do so by law, the Employee agrees never to disclose the existence, facts, terms, or amount of this Agreement, nor the substance of the negotiations leading to this Agreement, to any person or entity, other than to her personal counsel or attorney, personal accountants, or personal tax preparer, any such disclosure to such persons to be made only if the relevant person must have such information for the performance of her or her responsibilities. To the extent required by law or applicable regulation, Employee may also disclose the provisions of this Agreement to the appropriate taxing authorities.

6. **The Employee's Release Of All Claims Including Age Discrimination In Employment Act Claims.** In consideration of the Severance Benefits, the Employee, for herself, her heirs, executors, administrators, successors and assigns, does fully and forever release and discharge the Company, its parent companies, affiliates, associated companies, and subsidiaries, their respective associated companies and subsidiaries, all of their respective present and former officers, directors, supervisors, managers, employees, stockholders, agents, attorneys and representatives, and the successors and assigns of such persons and entities (collectively, the "Released Parties"), from all actions, lawsuits, grievances, complaints, liens, demands, obligations, damages, liabilities and claims of any nature whatsoever, know or unknown, that the Employee had, now has, or may hereafter claim to have against the Released Parties from the beginning of time through the date the Employee executes this Agreement. The release provided herein specifically includes, but is not limited to, all claims arising under any federal, state or local fair employment practice laws, and any other employee relations statute, executive order, law and ordinance, including, but not limited to, Title VII of the Civil Rights Acts of 1964, as amended; the Civil Rights Acts of 1866, 1870, and 1871, as amended; the Civil Rights Act of 1991, as amended; the Age Discrimination in Employment Act of 1967, as amended; the Older Workers Benefit Protection Act, as amended; the Americans With Disabilities Act of 1990, as amended; the Family and Medical Leave Act, as amended; the Equal Pay Act, as amended; the Fair Labor Standards Act, as amended; the Worker Adjustment and Retraining Notification Act of 1988, as amended; the Employee Retirement Income Security Act of 1974, as amended; Section 806 of the Sarbanes-Oxley Act of 2002 (18 U.S.C. §1514A, *et seq.)*; the Rehabilitation Act of 1973 (29 U.S.C. Section 791 *et seq*.); the Occupational Safety and Health Act (29 U.S.C. § 651, *et seq*.); the Consolidated Omnibus Budget Reconciliation Act of 1985, as amended (COBRA); the National Labor Relations Act, as amended; the [Applicable State Laws], as amended; any local human rights law; and any tort or contract cause of action or theory.

The Employee expressly represents and agrees that she has been advised that, by entering into this Agreement, she is waiving all claims that she may have against the Company arising under the Age Discrimination in Employment Act of 1967, as amended, which have arisen on or before the date of execution of this Agreement.

7. **Covenants Concerning Claims.** The Employee agrees that she will not file any complaints, claims or actions against the Released Parties with any court regarding any matters or claims that arose prior to the Employee's execution of this Agreement. If any court assumes jurisdiction on behalf of the Employee of any complaint, claim or action against the Company, she will direct that court to withdraw from or dismiss with prejudice the matter.

Notwithstanding the preceding provision or any other provision of the Agreement, Employee's agreement to the provisions under Section 6, or the paragraph immediately above this paragraph, is not intended to prohibit Employee from bringing an action to challenge the validity of the release of claims under the Age Discrimination in Employment Act, as amended, or the Older Worker's Benefit Protection Act, as amended. The Employee further understands and agrees that if she or someone acting on her behalf files, or causes to be filed, any such claim, charge, complaint, or action against the Released Parties, she expressly waives any right to recover any damages or other relief, whatsoever, from the Released Parties including costs and attorneys' fees.

This Agreement is not intended to interfere with Employee's right to file a charge with an administrative agency in connection with any claim Employee believes she may have against any of the Released Parties. However, by executing this Agreement, Employee hereby waives the right to recover, and agrees not to seek any damages, remedies or other relief for herself personally in any proceeding she may bring before such agency or in any proceeding brought by such agency, or any other person, on her behalf. This Agreement is also not intended to apply to claims for accrued benefits (other than severance-type benefits) under any benefit plan of the Released Parties pursuant to the terms of any such plan.

Employee understands that she is not releasing rights under this Agreement, that any claims that cannot be lawfully waived are excluded from this Agreement and that by executing this Agreement she is not waiving any such claims. Likewise, Employee is not releasing any rights or claims that may arise after the date on which she signs this Agreement. In addition, while this Agreement requires Employee to waive any and all claims against the Released Parties arising under workers' compensation laws (e.g., claims of retaliation for filing a workers' compensation claim), it is not intended to prohibit Employee from filing in good faith for and from receiving any workers' compensation benefits from Released Parties' workers' compensation carrier for compensable injuries incurred during her employment. Accordingly, pursuit of any such workers' compensation benefits with Released Parties' workers' compensation carrier or third-party administrator will not be considered a violation of this Agreement.

8. **Employee Acknowledgments.** Employee acknowledges and agrees that:

a. In return for and in consideration of her execution, delivery and performance of this Agreement, the Company is providing to the Employee the Severance Benefits.

b. The Employee is hereby advised in writing by this Agreement to consult with an attorney before signing this Agreement.

c. The Employee does not waive rights or claims that may arise after the date this Agreement is signed.

d. In return for signing this Agreement, the Employee will receive payment of consideration beyond that which she was entitled to receive before entering into this Agreement.

9. **Twenty-One (21) Day Review Period.** The Employee acknowledges that she was provided this Agreement more than 21 days before the date when she was required to make an election concerning the Severance Benefits. If the Employee signs this Agreement prior to the end of the 21-day period, she certifies and agrees that the decision to accept such shortening of time is knowing and voluntary and is not induced by the

Company through: (i) fraud, misrepresentation, or a threat to withdraw or alter the offer prior to the end of the 21-day period; or (ii) an offer to provide different terms in exchange for signing the Release prior to the expiration of the 21-day period. Should the Employee sign this Agreement before the expiration of the 21-day period, the Company may at its option and discretion expedite the processing of some or all of the Severance Benefits, subject to the revocation period set forth in Paragraph 10.

10. **Seven (7) Day Revocation Period.** The Employee understands that she may revoke this Agreement at any time within seven (7) days after she executes it. To revoke the Agreement, the Employee must deliver written notification of such revocation to _____________, or in _____________'s absence to _____________'s office, within seven (7) days after the date of the Employee's execution of this Agreement. The Employee further understands that if she does not revoke the Agreement within seven (7) days following its execution (excluding the date of execution), it will become effective, binding, and enforceable. The Employee understands that she will not receive the Severance Benefits until this Agreement becomes effective, binding, and enforceable, which shall not occur prior to the eighth day following the Employee's execution of this Agreement.

11. **Employee Representations.** The Employee represents that:

a. she has reviewed all aspects of this Agreement;

b. she has carefully read and fully understands all of the provisions and effects of this Agreement;

c. she has had the opportunity to consult with an attorney before signing this Agreement.

d. she understands that in agreeing to the terms of this Agreement she is releasing the Released Parties from any and all claims she may have against the Company, and all persons acting by, through, under or in concert with the Company, including claims under the federal Age Discrimination in Employment Act of 1967, as amended, as well as any claims for age discrimination that may exist under Texas law or any other applicable law, as more particularly described in Paragraph 7 herein;

e. she voluntarily agrees to all the terms set forth in this Agreement;

f. she has not filed, caused to be filed, and presently is not a party to any claim, complaint, or action against the Released Parties in any forum or form, whether administrative or otherwise; and

g. as of the time of execution of this Agreement by Employee, Employee is unaware of any facts or conduct that would give rise to a claim against the Released Parties of any type or sort, including those types of claims or other violations set forth generally and specifically above, including but not limited to, any claims under the Family Medical Leave Act of 1993 or the Fair Labor Standards Act.

12. **Return of Company Property and Confidentiality Obligations.** The Employee agrees that on or before [Date], the Employee shall return or shall have returned all Company Property and Confidential Information (as defined below). "Company Property" means all property of the Company, including, but not limited to, Company issued/owned computers, laptops, peripheral electronic equipment (e.g., printers, cameras, projectors,

computer docking stations, etc.), Blackberry or other personal digital assistants (PDAs), cellular telephones, credit cards, keys, door cards, tools, equipment on loan, and any other Company books, manuals, and journals. “Confidential Information” means all confidential, sensitive or proprietary information belonging to the Company, including, but not be limited to, all business records, manuals, memoranda, computer records, electronic files, lists and other property delivered to or compiled by the Employee by or on behalf of Company, or its representatives, vendors or customers that pertain to the business of Company, as well as all correspondence, reports, records, charts, and other similar data pertaining to the business, activities or future plans of Company that was collected by the Employee during her employment with the Company. For purposes of this Paragraph 12 and Paragraph 13, “Company” shall include all parent companies, affiliates, associated companies, and subsidiaries.

The Employee further acknowledges and agrees that the Employee is obligated to not, at any time, disclose or otherwise make available to any person, company or other party Confidential Information or trade secrets of the Company, its parent, associated companies, affiliates, and subsidiaries. This Agreement shall not limit any obligations of Employee under any applicable federal or state law.

13. **Non-disparagement.** The Employee agrees not to make any disparaging or negative statements about the Company, its services or its current or former directors, officers, supervisors, managers, or employees. Statements made in the course of any litigation or legal proceeding, whether disparaging or negative, are excluded from coverage of this Paragraph.

14. **Voluntary Action.** The Employee represents and agrees that she is knowingly and voluntarily entering into this Agreement, and that she has relied solely and completely upon her own judgment or the advice of her attorney in entering into this Agreement.

15. **Entire Agreement.** This Agreement sets forth the entire agreement between the Employee and the Company and fully supersedes and replaces any and all prior agreements or understandings, written or oral, between the Company and the Employee pertaining to the subject matter of this Agreement. The Employee and the Company represent and acknowledge that in executing this Agreement they do not rely upon and have not relied upon any representation or statement made by any of the parties or by any of the parties' agents, attorneys, employees, or representatives with regard to the subject matter, basis, or effect of this Agreement or otherwise, other than those specifically stated in this written Agreement.

16. **Partial Invalidity.** Should any provision of this Agreement be declared or be determined by any court of competent jurisdiction to be illegal, invalid or unenforceable, all remaining provisions of this Agreement shall otherwise remain in full force and effect and be construed as if such illegal, invalid or unenforceable provision had not been included herein.

[remainder of page intentionally left blank]

17. **Governing Law.** This Agreement will be governed by, and construed and interpreted in accordance with, the laws of the State of Texas without regard to principles of conflict of laws.

QUANTA SERVICES, INC.:

Dated: ______ ____________

By: ____________
Name: ____________
Title: ____________

EMPLOYEE:

Dated: ______ ____________

Jayshree Desai

THE STATE OF __________ §
§
COUNTY OF ______________ §

The foregoing instrument was SWORN TO AND SUBSCRIBED BEFORE ME BY JAYSHREE DESAI AND GIVEN UNDER MY HAND AND SEAL OF OFFICE on this the ______ day of _______, A.D., 20__.

____
Notary Public in and for
the State of _________

My commission expires: _______________

EXHIBIT B

Pre-Employment Inventions

None

Exhibit 31.1

I, Earl C. Austin, Jr., certify that:

1. I have reviewed this quarterly report on Form 10-Q of Quanta Services, Inc.;

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.

Dated: November 3, 2022

By: /s/ EARL C. AUSTIN, JR.
Earl C. Austin, Jr.
President and Chief Executive Officer
(Principal Executive Officer)

Exhibit 31.2

I, Jayshree S. Desai, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Quanta Services, Inc.;

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.

Dated: November 3, 2022

By: /s/ JAYSHREE S. DESAI

Jayshree S. Desai
Chief Financial Officer
(Principal Financial Officer)

Exhibit 32.1

CERTIFICATION

PURSUANT TO 18 U.S.C. SECTION 1350,

AS ADOPTED PURSUANT TO

SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

Each of the undersigned officers of Quanta Services, Inc. (the “Company”) hereby certifies, pursuant to 18 U.S.C. § 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, to such officer’s knowledge that:

(1) the accompanying quarterly report on Form 10-Q for the period ending September 30, 2022 as filed with the U.S. Securities and Exchange Commission (the “Report”) fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and

(2) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Dated: November 3, 2022

/s/ EARL C. AUSTIN, JR.
Earl C. Austin, Jr.
President and Chief Executive Officer

Dated: November 3, 2022

/s/ JAYSHREE S. DESAI
Jayshree S. Desai
Chief Financial Officer