



# PermaFix<sup>®</sup>

**environmental services**

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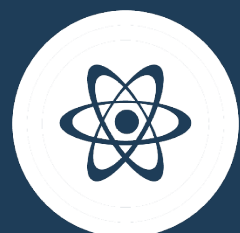
## Experience You Can Trust



**A Global Leader in Nuclear and Mixed Waste Management Services**

**Investor Presentation: July 2023**

Presented By: Mark Duff, Chief Executive Officer



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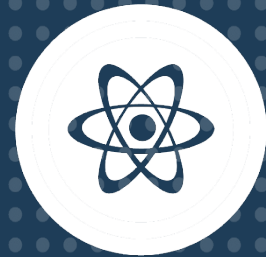
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NASDAQ: PESI

# Safe Harbor



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*Certain statements contained within this presentation may be deemed “forward-looking statements” within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended (collectively, the “Private Securities Litigation Reform Act of 1995”). All statements in this presentation other than a statement of historical fact are forward-looking statements that are subject to known and unknown risks, uncertainties and other factors which could cause actual results and performance of the Company to differ materially from such statements. The words “believe,” “expect,” “anticipate,” “intend,” “will,” and similar expressions identify forward-looking statements. Forward-looking statements contained herein relate to, among other things: the Company’s ability to develop or adopt new and existing technologies; anticipated financial performance; growth through acquisition; leader in the mixed waste industry; positioned to benefit from mixed waste market opportunities; geographic strongholds; and all other statements which are not statements of historical fact.*

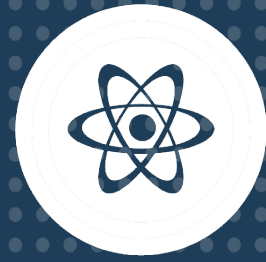
*While the Company believes the expectations reflected in such forward-looking statements are reasonable, it can give no assurance such expectations will prove to have been correct. There are a variety of factors which could cause future outcomes to differ materially from those described in this report, including, but not limited to: general economic conditions; increased competitive pressures; the ability to maintain and obtain required permits and approvals to conduct operations; the ability to develop new and existing technologies in the conduct of operations; changes in federal, state and local laws and regulations, especially environmental regulations, or in interpretation of such; and the commercial viability of our on-site treatment process.*

*The Company believes the presentation of EBITDA and Adjusted EBITDA is relevant and useful by enhancing the readers’ ability to understand the Company’s operating performance. The Company’s management utilizes EBITDA and Adjusted EBITDA as means to measure performance. The Company’s measurements of EBITDA and Adjusted EBITDA may not be comparable to similar titled measures reported by other companies.*

*The Company makes no commitment to disclose any revisions to forward looking statements, or any facts, events or circumstances after the date hereof that bear upon forward looking statements.*



# Company Overview



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Perma-Fix is focused on two primary markets with unique capabilities in each of these segments:



## ***Treatment***

Permitted, licensed, and operating facilities treating a magnitude of contaminated wastes for economic and compliant disposal.

***Culture of 'Safety First'  
is key to Perma-Fix's  
Mission & Success***



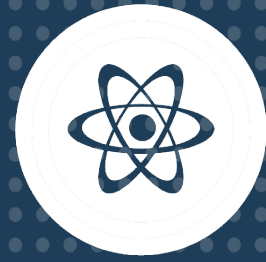
## ***Services***

Teams of professionals with innovative technologies and trained workforce to provide radiological protection and environmental remediation services.





# Background



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## Perma-Fix is a leading provider of nuclear waste treatment services

- Founded in 1991, and recognized as a national leader in the treatment of waste that is both radioactive and/or chemically hazardous
- Established laboratories and R&D capabilities
- Addressing problematic waste streams with no existing pathway for disposition
- Long-standing relationships with government agencies including DOE, NRC, DOD, EPA and NNSA

## Nuclear services group provides onsite personnel and technologies for environmental protection and cleanup programs

- Industry leader in radiological protection services to government and commercial clients
- Demolition, environmental restoration, and waste management services for complex cleanup projects including radiological and hazardous components

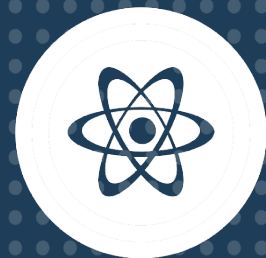


A culture of "Safety First" is the key to our mission & success





# Sr. Management Team



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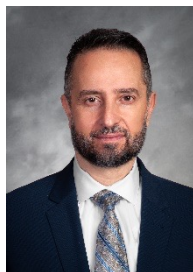
## **Mark Duff, President & Chief Executive Officer**

37 years of experience in the DOE & DOD environmental and construction markets. Prior to joining Perma-Fix in 2016, Mr. Duff had been responsible for the successful completion of over 70 performance-based projects at the Paducah Gaseous Diffusion Plant (PGDP), KY overseeing a five-year project with a total value of \$458 million. Prior to the PGDP project, Mark was a senior manager supporting Babcock and Wilcox (B&W).



## **Dr. Louis Centofanti, Executive Vice President of Strategic Initiatives**

Founded Perma-Fix in 1991. Founded PPM, Inc., a hazardous waste management company. PPM's revenues grew to \$15 million at which time it was sold to USPCI. Under Dr. Centofanti's leadership (Senior Vice President), USPCI was sold for \$600 million (2 years after the purchase of PPM). Served as a senior official to the U.S. Department of Energy under the Carter Administration.



## **Ben Naccarato, Executive Vice President and Chief Financial Officer**

Joined Perma-Fix in 2004. Mr. Naccarato brings over 30 years' experience in the waste management and used oil industries. Previous positions include Chief Financial Officer for a privately held fuel distribution and used waste oil company, and various senior financial positions at USPCI, Laidlaw Environmental Services, and Safety-Kleen Corp.



## **Andrew J. Lombardo, Executive Vice President of Nuclear and Technical Services**

Joined the Company in 2011. Mr. Lombardo has held various positions within the Company's Services Segment. Mr. Lombardo is a Certified Health Physicist and has over 35 years of management and technical experience in the commercial nuclear reactor market, the U.S Department of Energy ("DOE"), and the U.S. Department of Defense ("DOD") environmental and construction.

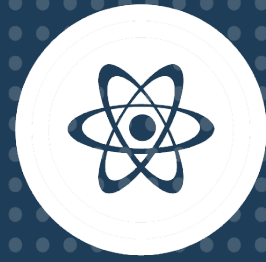


## **Richard Grondin, Executive Vice President of Waste Treatment Operations**

Joined the Company in 2002. Mr. Grondin is recognized in the United States and Canada as an authority in hazardous and mixed waste treatment. Mr. Grondin has over 35 years of management and technical experience in the highly regulated and specialized radioactive/hazardous waste management industry with significant experience in managing start-up waste management processing and disposal facilities for four different organizations in the commercial and government sectors.



# Market Overview



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## Department of Energy

### ✓ Environmental Management (EM)

- Sixteen large and active sites in the US with area equal to Rhode Island and Delaware combined
- Roughly 88 million gallons of liquid waste stored in underground tanks

### ✓ National Nuclear Security Administration (NNSA)

- Maintains facilities requiring cleanup of legacy wastes and continuous generation of newly generated wastes for disposition

## Department of Defense

### ✓ Navy

- Nuclear propulsion and NAVFAC/NAVSEA (nearly \$2B 2017-2019) missions

### ✓ United States Army Corps of Engineers (USACE)

- Over \$1B in remediation contracts

## Commercial

### ✓ Power

- Nearly 100 reactors currently operating in the US; over 400 worldwide

### ✓ Mining

- High levels of naturally occurring radioactive materials (NORM)

### ✓ Oil and Gas

- Drilling practices result in high levels of NORM

## International

### ✓ Canada / Europe / Mexico / Italy

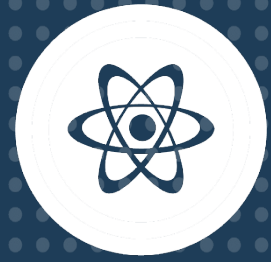
- Beginning to fund and remove legacy wastes and contamination for nuclear operations.



The Y-12 National Nuclear Security Administration facility in Oak Ridge, TN



# Market Overview - DOE



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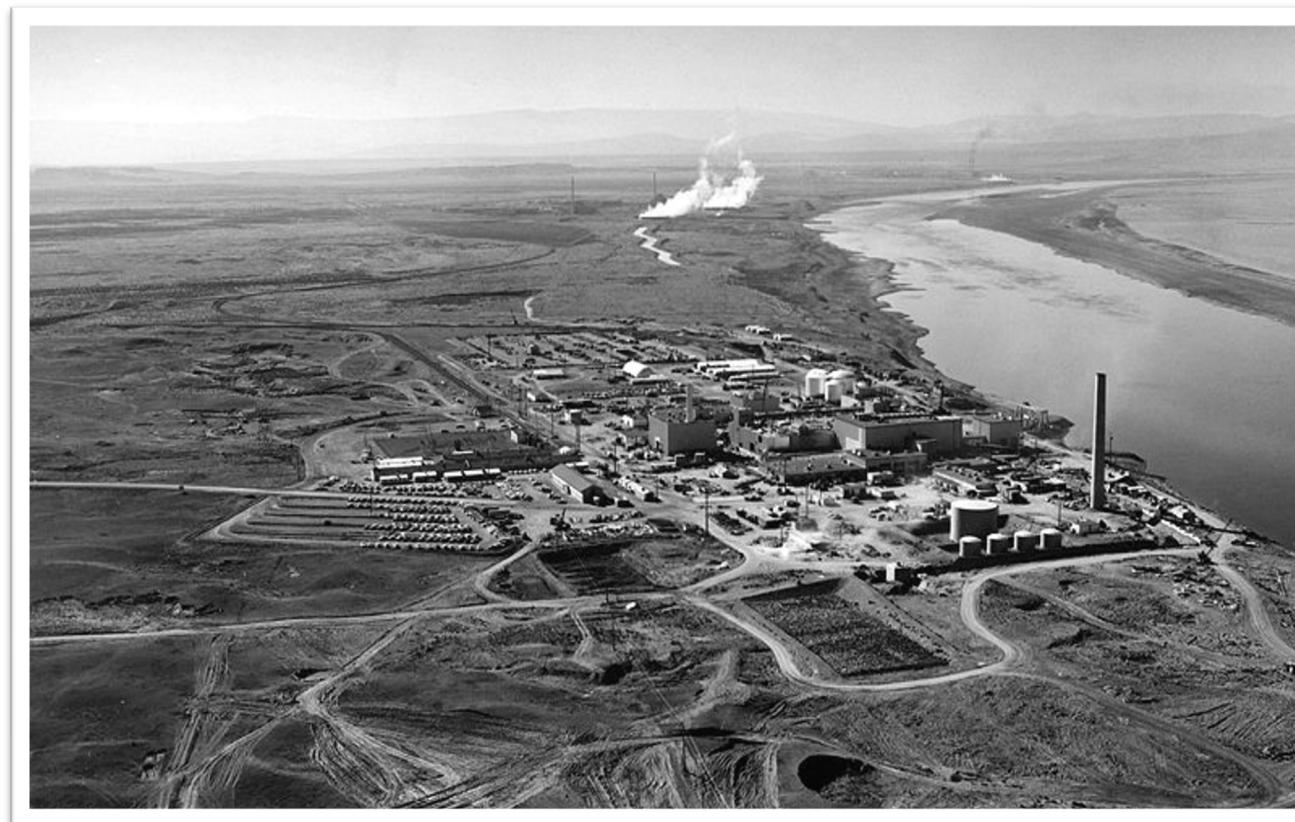


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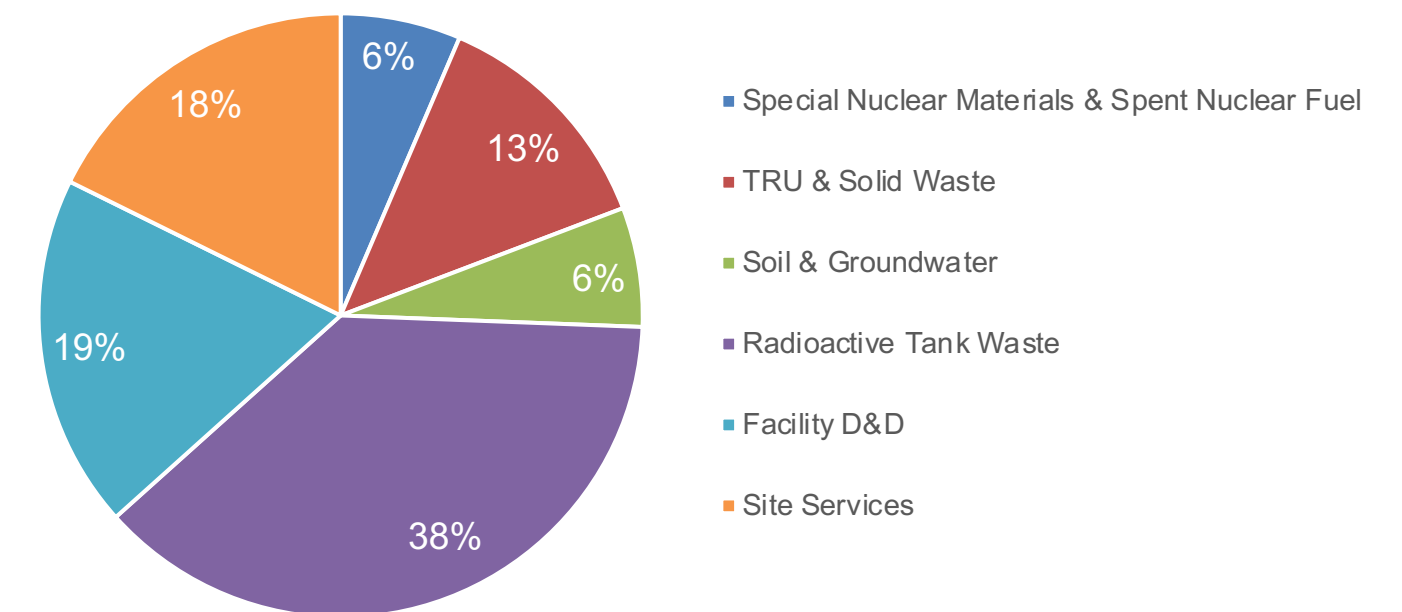


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- ✓ Department of Energy funds the majority of the nuclear cleanup programs through their Environmental Management organization; funding in 2023 was enacted at \$8.3 billion<sup>(i)</sup>
- ✓ DOE's estimated environmental liability has been reported at over **\$512 billion**, of which, the Office of Environmental Management's (EM) cleanup activities accounted for over **\$406 billion**<sup>(ii)</sup>
- ✓ Hanford is the world's largest environmental cleanup project including 59 million gallons of tank waste; expected to continue until 2079 and **cost estimated between \$322 and \$677 billion**



EM's FY 2024 Congressional Budget Request:  
\$8.3 Billion



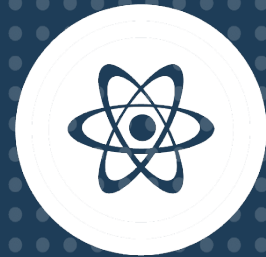
Sources:

(i) [FY23 EM Enacted Budget](#)

(ii) GAO Report: <https://www.gao.gov/assets/gao-21-585r.pdf>



# Waste Treatment Facilities



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**Four fixed-based facilities with active permits and licenses to treat most waste streams in the industry**

- Broad existing permits allow treatment and management of waste for final disposition
- Trained and experienced workforce with long tenure at Perma-Fix and a strong safety record
- Perma-Fix owns three of the four facilities, with substantial capital invested through the life of the plants



**Perma-Fix Northwest - Richland, WA**

*Radiological, transuranic, and large components*



**DSSI - Kingston, TN**

*Radiological, liquids, and PCBs*



**Perma-Fix Florida - Gainesville, FL**

*Industrial, radiological, and R&D*

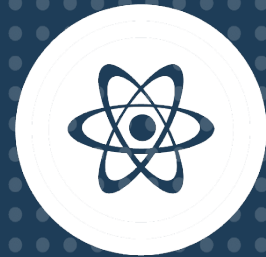


**EWOC – Oak Ridge, TN**

*LLRW processing and disposition; equipment & component processing*



# Massive Barriers to Entry



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## Highly regulated at State and Federal levels

- Nuclear Regulatory Commission through state regulators
- Environmental Protection Agency through state regulators
- State regulators for other air and water permits

## Technology

- Patented (40+) and proprietary chemical treatment processes
- Treatment of nuclear waste is complex and requires multiple technologies and multiple steps

## Experience

- Unparalleled experience and track record of facilities successfully treating nuclear waste for 30+ years
- Completed over \$2 billion in demolition and remediation projects involving radiological materials





# 2023 Large Growth Initiatives



## Integrated Tank Disposition Contract

- \$45B - 15 years, 10 year base
- Awarded to BWXT, protested by Atkins via lawsuit (not GAO)
- Judge ruled BWXT "ineligible" for award due to SAM.gov registration lapse
  - 60 days for appeal
- DOE to determine path forward for:
  - 1.) Award to Atkins
  - 2.) Cancel & rebid procurement



## Operations & Site Mission Support Contract (OSMS)

- \$3B - 10 years, 5 year base
- Huntington/Ingalls/Framatome & PESI VS. BWXT/Atkins /Bechtel & SB Team
- PESI Scope: Waste management & HP services, build, operate, own plant in Portsmouth, OH



## Test Bed Initiative (TBI)

- Phase 2 at 2000 gallons expected in 2023
- WIR-EA approved by DOE RD&D
- Permit at Ecology now
- Operational phase 300,000 gallons expected to begin in late 2024
- Union negotiations complete



## DFLAW

- Jan. 31 ROD announced that secondary waste from DFLAW will be processed by PFNW
- Totals up to 8,300 m<sup>3</sup>/yr, about \$70M/yr
- Plant to begin hot operations late July 2024 (melter startup now)
- Potential for union considerations



# Waste Treatment Growth Opportunities 2023



**Joint Research Centre (JRC)**

- \$43M - 7 years, up to 10 years
- Joint venture with Campoverde
- Announcement for award expected early Sept. '23
- PESI Scope: Project management & waste management
- Basis for JV with Westinghouse to establish UK plant
- Will support burgeoning European market



**IEC / Industrial Waste**

- Currently generating \$5M/year
- Open opportunities w/ oil & gas
- Increasing productivity & efficiency
- Expansion into industrial through DLA & broader relationships



**EWOC / Y-12- Large Scale Sort**

- \$5-10M/year
- 6,000 containers for legacy waste at Y-12
- 30% declared non-compliant requiring sort & verification
- BSFR ops w/ Vogle & TVA
- UF6 Cylinder processing as part of OSMS



# Nuclear Services Growth Opportunities 2023



## LANL- Upgrade

- \$20M - 3 years MATOC
- \$800M in weapons program upgrades
- CMRR
- Glovebox disposal
- Waste generation
- Strong PESI leadership locally
- Increased marketing & client penetration



## US Navy

- Effluent D&D RFP active
- Enterprise \$20M/year
- Enterprise RFI released
  - Draft RFP Oct. 23
  - Final RFP Jan. 24
  - Award - Q3 2024
- Nimitz & others close behind



## Buffalo USACE

- Niagara Falls SS (\$10M)
- Harshaw Chemical (\$20M)
- Guterl (\$250M total)
- Teamed with ECC as JV for all 3



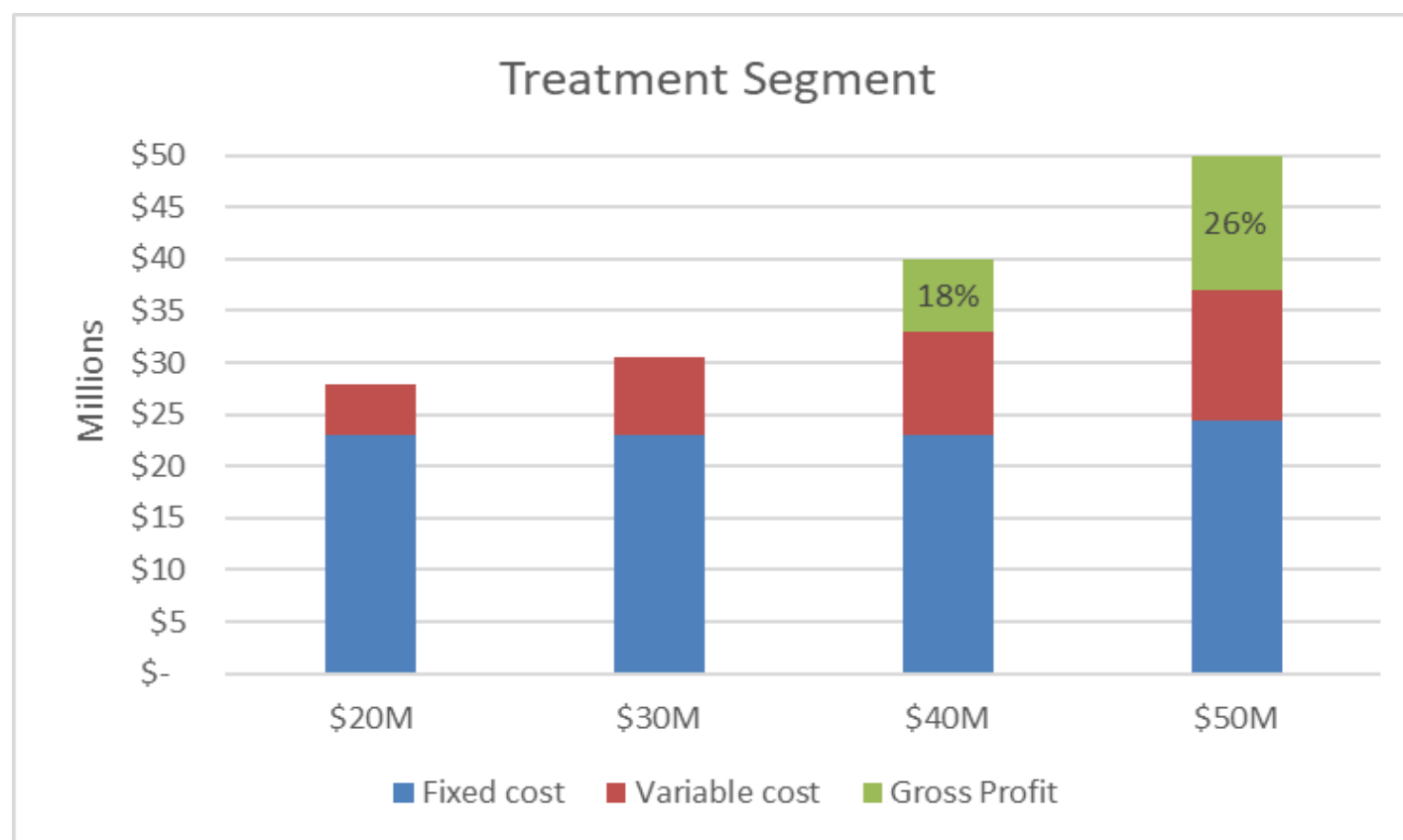
## DOE Projects

- Ion Beam D & D at LANL (\$60M)
- NNSA Expansion
- West Valley Demolition Project (\$100M/year)
- LLNL/LBNL - \$5-10M/year
- DD&R task orders

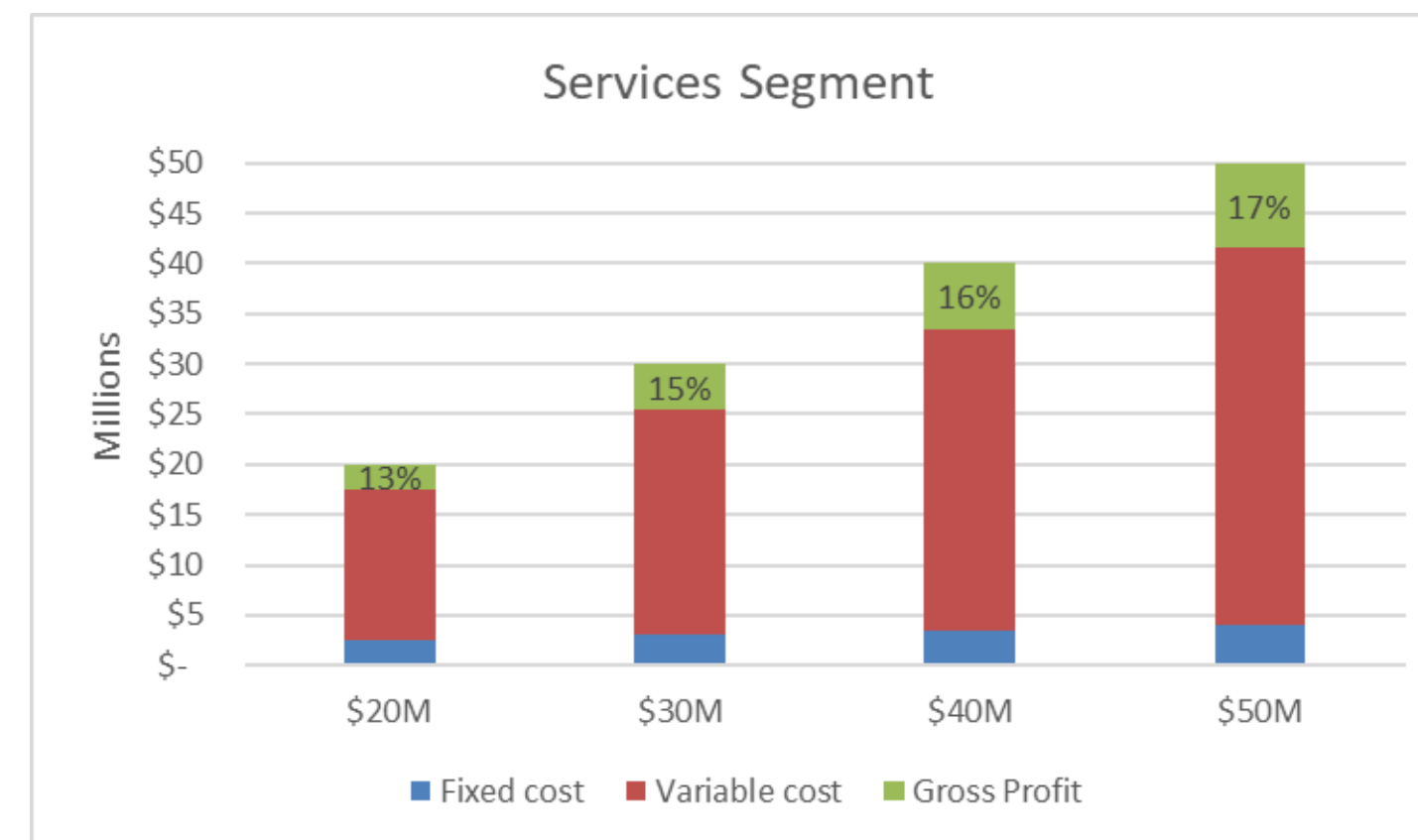


# Profitability Model

## Segment Gross Profit: Fixed vs Variable Costs\*



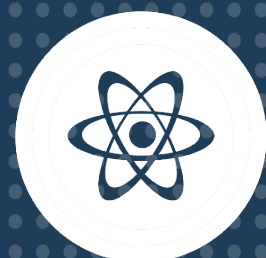
**Treatment Segment:** High incremental margins (revenue minus variable costs\*\*) results in significant gross profit growth when fixed facility-based costs are surpassed.



**Services Segment:** Lower incremental margins (revenue minus variable costs) but substantially lower fixed costs that are scalable to revenue.

\* For illustration purposes only; based on past trends and subject to change based on revenue mix.

\*\* Based on 2022 and excludes impact of lower margin EWOC facility



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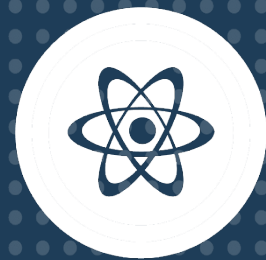
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# Positive Outlook: Recent Wins & Backlog



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## High confidence of revenue and EBITDA growth over the next 18 months:

### ✓ Increased additional backlog in both sectors

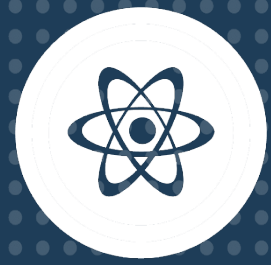
- Back on a growth trajectory following the prolonged impact of COVID-19
- Recently awarded eight new contracts totaling \$15 million primarily supporting backlog in 2023, which come with additional expansion opportunities into 2024
- New processing and treatment option for complicated LLRW waste with new VTD system at our Florida facility
- Realizing international growth with new shipments from Europe increasing and several new opportunities and initiatives for growth

### ✓ Additional Nuclear Services wins and expansions

- Participation in several teaming arrangements for large DOE procurements including:
- Expansion into the US Navy nuclear decommissioning market with two wins totaling over \$43M
- Services projects performing well and making at/above target margins
- Maintaining a strong technical team and management personnel to continue to be competitive in procurements



# Financial Highlights



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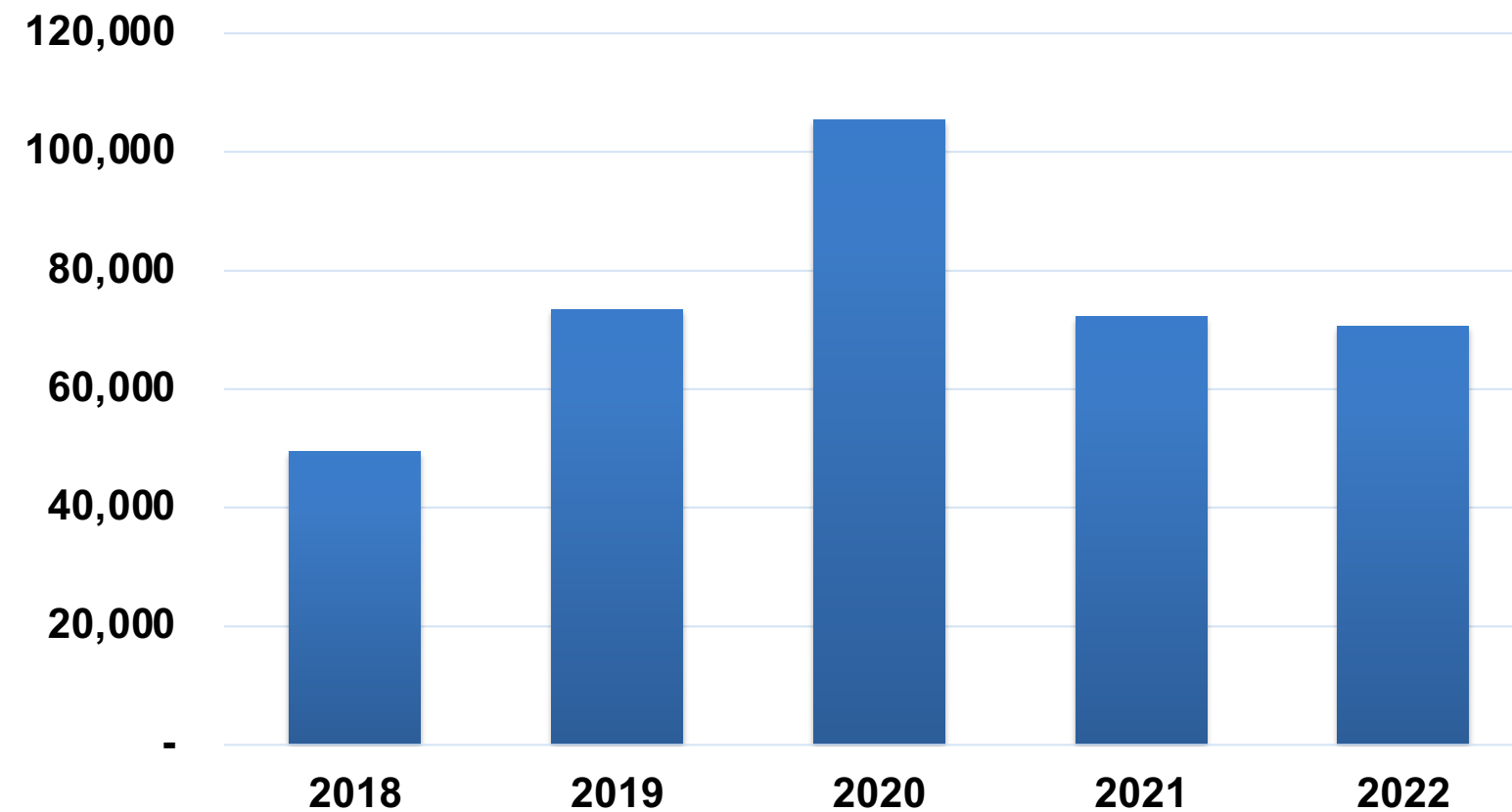


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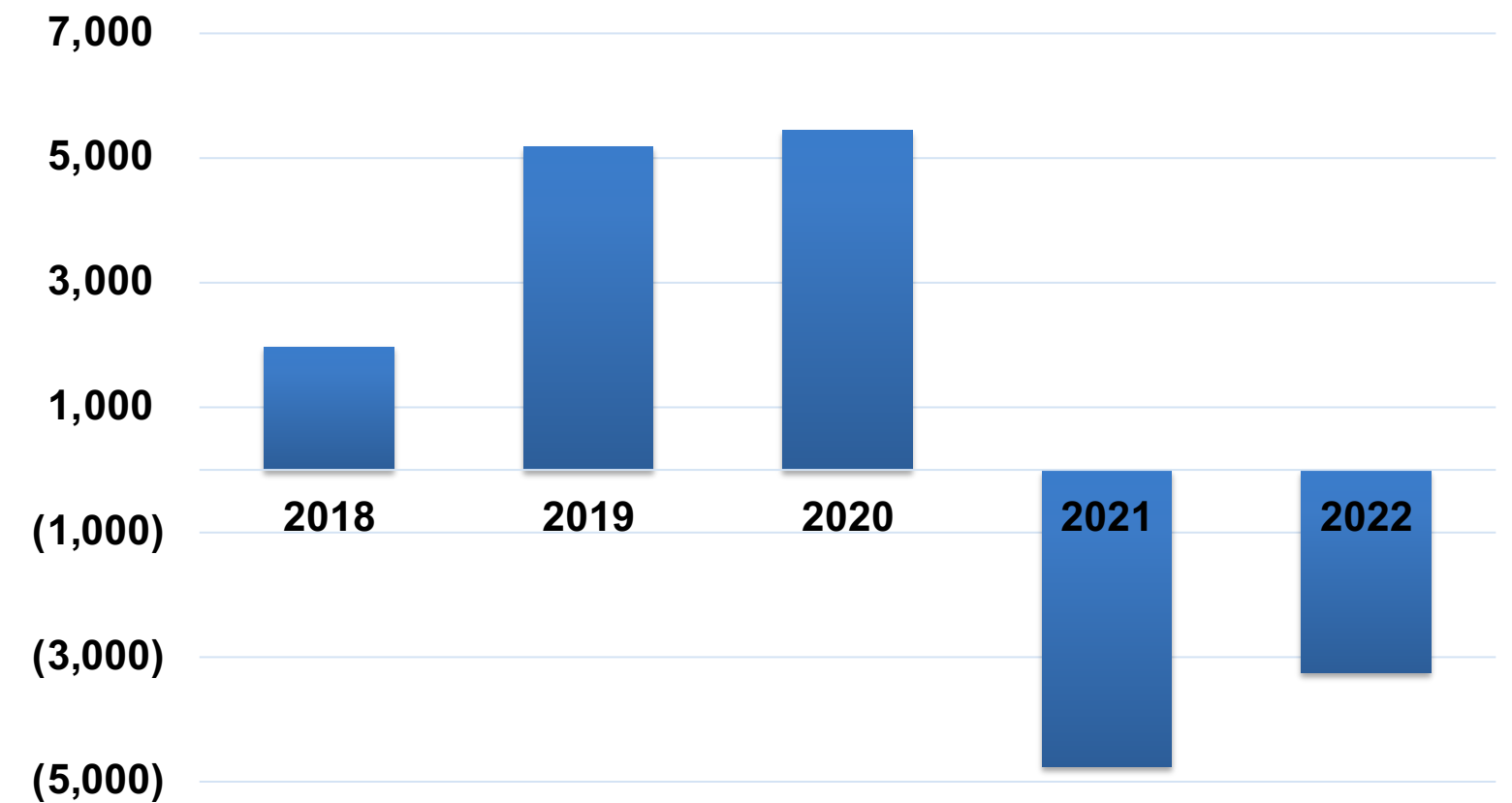
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### Net Revenues



\*( \$ in millions)

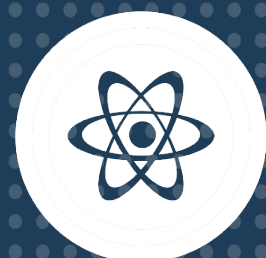
### Adjusted EBITDA



Poised for pre-COVID (2020) revenue and margins in 2023 with improvement in project backlog, increasing waste treatment, and ongoing major projects



# First Quarter 2023 Highlights



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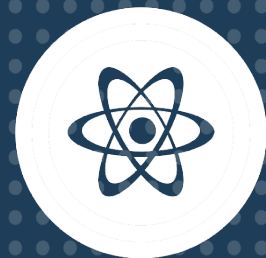


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- ✓ **26% increase in revenue to \$20.1 million**
  - Revenue increased within both the Treatment and Services Segments
  - Achieved sequential revenue growth of 20% compared Q4 2022, even though Q1 tends to be a seasonally weaker period
  - Awarded 8 new contracts over the past few months totaling approximately \$15M that is expected to be recognized in 2023, with additional option phases that have a potential value of over \$14M
- ✓ **84% increase in gross profit**
- ✓ **Reducing SG&A expenses and non-billable indirect operating costs**
- ✓ **EBITDA improved to \$171 thousand compared to a loss of \$1.4 million in Q1 2022**
- ✓ **Cash generated from continuing operations was \$1.8 million**
- ✓ **Anticipate a meaningful improvement in profitability and cash flow going forward**



# EBITDA Reconciliation\*



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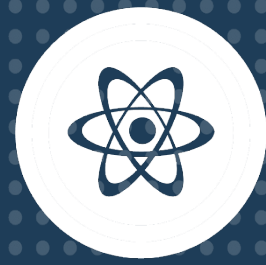
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(In thousands)	Quarter Ended March 31,	
	(Unaudited) 2023	(Unaudited) 2022
Loss from continuing operations	\$ (318)	\$ (1,249)
Adjustments:		
Depreciation & amortization	747	456
Interest income	(127)	(11)
Interest expense	53	35
Interest expense - financing fees	20	13
Income tax benefit	(204)	(673)
EBITDA	<u>\$ 171</u>	<u>\$ (1,429)</u>

\*The Company defines EBITDA as earnings before interest, taxes, depreciation and amortization. EBITDA is not measure of performance calculated in accordance with Accounting Principles Generally Accepted in the United States of America ("GAAP"), and should not be considered in isolation of, or as a substitute for, earnings as an indicator of operating performance or cash flows from operating activities as a measure of liquidity. The Company believes the presentation of EBITDA is relevant and useful by enhancing the readers' ability to understand the Company's operating performance. The Company's management utilizes EBITDA as a means to measure performance. The Company's measurements of EBITDA may not be comparable to similar titled measures reported by other companies. The table above reconciles EBITDA, a non-GAAP measure, to GAAP numbers for loss from continuing operations for the three months ended March 31, 2023 and 2022.



# Investment Summary



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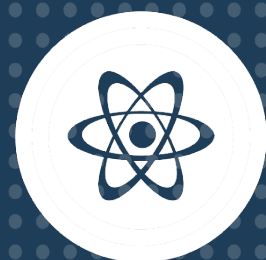


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- ✓ **Positioned to be the leader in the multibillion-dollar nuclear services & waste treatment market**
  - New clean-up technologies in concert with advanced waste treatment plants provide critical discriminators for large cleanup procurements
  - Aggressive bidding on new service contracts; provides stable and predictable cash flow
  - Expansion into new waste streams that eclipse current markets; incremental revenue generates very high gross and operating margins
- ✓ **Nearly insurmountable barriers to entry**
- ✓ **Turnaround and return to profitability**
  - Expanded opportunity base with growth in Navy, USACE, as well as commercial and international waste projects
- ✓ **Significant and undervalued asset base**
  - Unique and irreplaceable facilities
  - \$11.6 million of cash securing regulatory closure requirement



# Key Statistics



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NASDAQ:

PESI

Current Price (7/17/23):

\$10.02

Shares Outstanding (7/17/23):

13.6 M

Market Cap (7/17/23):

\$135.9 M

Fiscal Year End:

December 31

Inside Beneficial Ownership (6/1/23):

10.1%