



Perma-Fix Medical

Investor Presentation – January 2016

Safe Harbor

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.

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.

Investment Summary

- ✓ Disruptive technology to produce the most commonly used medical isotope in the world – Technetium-99m (Tc-99m)
 - Lower cost, less radioactive waste, addresses proliferation concerns
 - Solid intellectual property position with composition of matter and use patent
- ✓ Multi-billion dollar growing market facing major supply chain concerns
 - 40% of current N.A. supply chain for Tc-99m will be eliminated in 2016
- ✓ Technology validated by world class partners
- ✓ Efficient use of capital; fraction of the cost to develop versus competing HEU/LEU technologies
 - FDA submission planned in 2016
 - No clinical trials required
- ✓ Scalable business model leveraging strategic partners

About Tc-99m

- Technetium-99m is produced in a generator, colloquially known as a Technetium cow or moly cow
 - Designed to extract the metastable isotope, Tc-99m, of Technetium from a source of decaying Molybdenum-99 (Mo-99)
 - Provides radiation shielding for transport
- Tc-99m has a short half-life (6 hours)
 - The short half-life is very useful in a variety of medical diagnostic procedures
 - The short half life also makes transport over long distances impractical
 - In contrast, Mo-99 has a half-life of 66 hours and can be easily transported over long distances to generator manufacturing facilities



Medical Applications of Tc-99m



- Bone scans to detect fractures and tumors



- Brain imaging to determine causal pathologies of dementia



- Cardiac imaging for diagnostic purposes



- Imaging of kidneys



- Imaging of the various organs that constitute the digestive systems



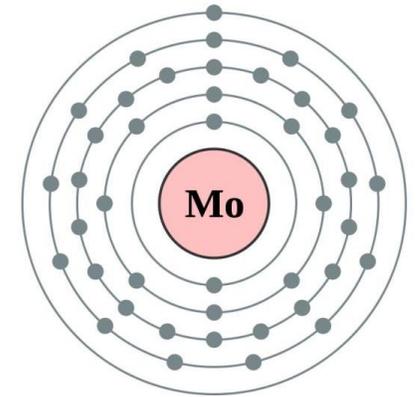
- Detection of gastrointestinal bleeding



- Imaging for detecting and tracking infection

Company Overview

- Proprietary technology for the production of Technetium-99m (Tc-99m)
 - Tc-99m is the world's most commonly used medical radioisotope, used in 80-85% of all diagnostic nuclear medicine procedures
- Perma-Fix utilizes Molybdenum (Mo) instead of Uranium as a starting material
 - Molybdenum is safe and in abundant supply
- Perma-Fix's MPCM resin far exceeds the performance of a comparably sized alumina chromatographic generator
 - MPCM resin can hold Mo-99 equivalent to 60% of its own weight, in comparison with only about 2% in alumina- based generators
- Led by a team of healthcare and nuclear industry veterans with experience in nuclear medicine, diagnostics, public and private finance



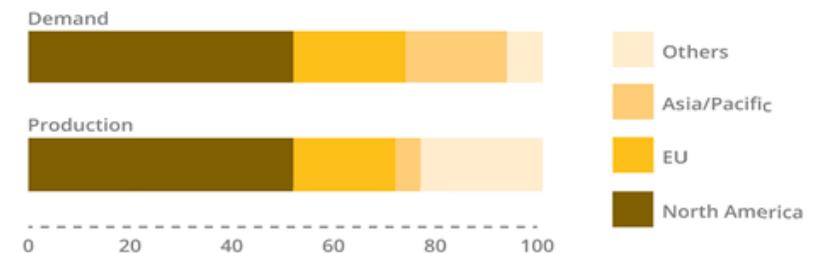
Disruptive Process / Technology

- Process uses a patented resin to retain affixed irradiated Mo-99 to the core of a Tc-99m generator
 - Expected to solve worldwide shortages of Tc-99m
 - Less expensive process than current standard
 - Does not require the use of government- subsidized, weapons-grade materials
 - Designed to improve safety and security of radioactive materials
- Process encompasses full production cycle: reactor to final medical supply
 - Easily deployed worldwide using standard research and commercial reactors
 - Eliminates the need for special purpose reactors
 - Stabilizes the worldwide supply of Tc-99m by decentralizing production

Market Overview

- Sales of Tc-99m generators exceed \$1B worldwide
 - Used in over 50 thousand procedures per day in the United States and over 30 million procedures annually worldwide
- Demand for Tc-99m is increasing, while world supply is effectively decreasing
 - Demand forecast to grow 3%-10% annually next 10 years
 - Cost for Tc-99m has potential to grow over 100%
- Existing reactor sources of Tc-99m are being decommissioned
- Non-proliferation regulations are raising costs
- Supply interruptions have resulted in shortages and reduction in cardiac and other medical procedures

WORLD REGION	PROCEDURES (MILLIONS)	MARKET PERCENTAGE
North America	12 – 15	52%
Europe	6 – 7	22%
Asia/Pacific	6 – 8	20%
Other	0.5	6%



Supply Chain Concerns

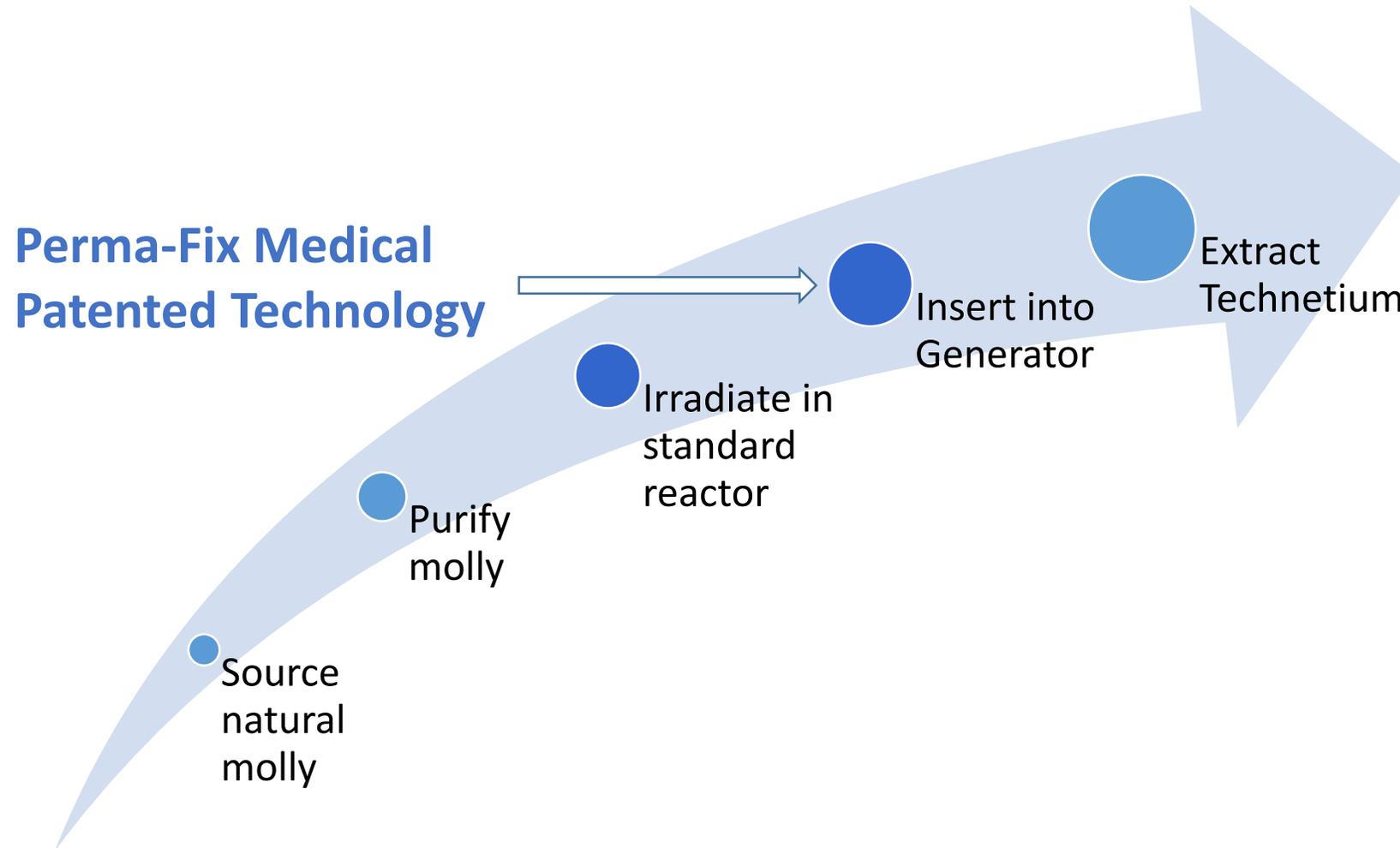
- Traditionally, Mo-99 is produced using Highly Enriched Uranium (HEU) targets in an extremely fragile supply chain
 - Only 8 nuclear reactors worldwide currently producing medical radioisotopes, none of which are located in the United States (avg. age of these reactors is 40+ years)
 - Only 5 reactors capable of producing on an industrial scale for medical purposes
 - Transportation issues related to HEU can cause medical procedure delays
- Planned reactor shut downs will put billions of U.S.D in medical procedures at risk
 - The Canadian reactor, which produces approximately 50% of the U.S.'s current supply will no longer receive government funding for isotope production in 2016 and will cease Mo-99 production in 2018
 - The OSIRIS reactor in France is scheduled to close in 2018

HEU versus LEU

- Most countries around the world are attempting to replace HEU target material with LEU targets
 - LEU targets still require reprocessing technology contributing to nuclear proliferation risks
- Efforts to lower the Uranium enrichment to LEU levels present results in the need for more targets
 - Larger quantities of radioactive waste for the same amount of end product
 - Economics of LEU conversion and the additional volume of secondary High Level Waste (HLW) produced during its production make its use less desirable

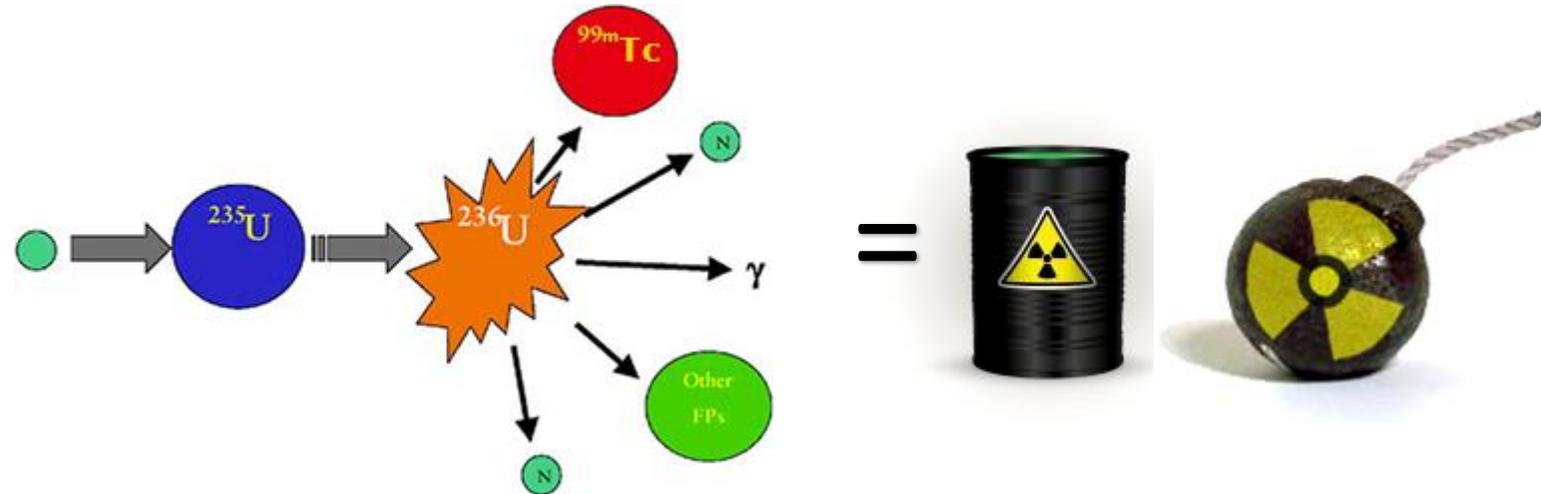
Perma-Fix Medical has the key to solving these cost, supply chain and proliferation problems using a patented process which eliminates the need for Uranium targets

Proprietary Production Process

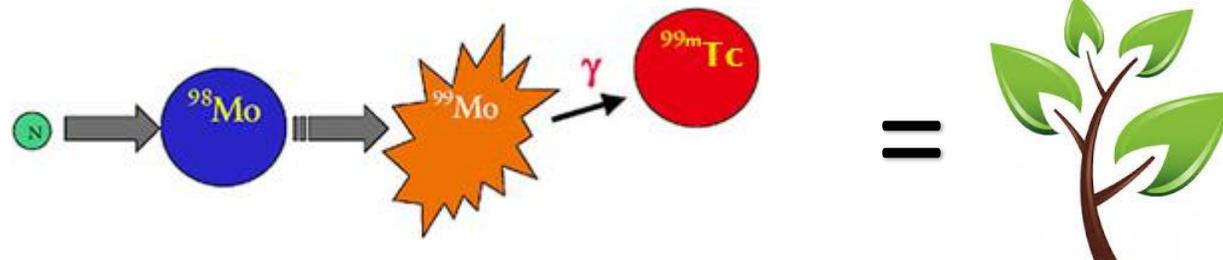


Isotope Production

Current Uranium Process*



Perma-Fix Molybdenum Process*



Patents & Licenses

Perma-Fix Medical holds the exclusive worldwide license to develop, manufacture, and commercialize a patented process, developed by its majority owner Perma-Fix Environmental Services, Inc. (NASDAQ: PESI), to produce Tc-99m without the need for HEU targets

- In January 2015, the US Patent Office issued patent to Perma-Fix Environmental Services, Inc.
 - Allowed all claims in the key patent application
 - Composition of matter and use patent
- Additional patents underway



Scientific Advantages

1	2	3	4	5
<p>NEUTRON CAPTURE</p> <p>Neutron capture technology is suitable for research (TRIGA) and power reactors in the United States.</p>	<p>NO HIGHLY ENRICHED URANIUM USED</p> <p>The neutron capture method uses inexpensive natural molybdenum as a target. No weapons grade material or higher flux reactor is necessary. Enriched Mo-99 may also be used.</p>	<p>INCREASED PRODUCT YIELD</p> <p>PFM is developing a material with a higher absorption capacity for ⁹⁹Mo that can be used in the column to reduce the volume of the column.</p>	<p>DESIGN SIMPLICITY & EASE OF USE</p> <p>The material design and process are simple to operate, and are portable. The ^{99m}Tc can be separated with high efficiency.</p>	<p>ENVIRONMENTAL & HEALTH BENEFITS</p> <p>Simple purification technology is required. There are no gaseous fission products or environmental hazards.</p>
6	7	8	9	10
<p>ELIMINATES REPROCESSING</p> <p>Reprocessing is not required. There are no concerns related to the contamination of ⁹⁹Mo product by transuranic or fission products.</p>	<p>DECOUPLED YIELD & WASTE MANAGEMENT</p> <p>Yield is not limited by a waste management issue.</p>	<p>SIMPLE TRANSFERABLE PROCESS</p> <p>It is a simple process that does not require government subsidized HEU. Since it is simple, it is transferable to other parts of the world.</p>	<p>RADIOACTIVE WASTE IS LOW</p> <p>Very little if any long life radioactive waste ready for disposal</p>	<p>DISTRIBUTIVE MANUFACTURING BASE</p> <p>⁹⁹Mo from the neutron capture process can have a distributive manufacturing base using TRIGA and power reactors. The process is not dependent on more powerful, aging specially designed reactors.</p>

Practical Advantages

1	2	3	4	5
RESIN COST The resin is inexpensive to manufacture.	USES EXISTING TECHNOLOGY The design is very similar to the current generator design. This has multiple advantages from the ability to use the current existing equipment and tooling to easier path to approval.	COST Irradiated molybdenum is affordable.	REDUCED RADIOACTIVE WASTE Very little if any long life radioactive waste ready for disposal.	FLEXIBLE SUPPLY CHAIN Small to medium size production facilities can be located all over the world thus: changing the current fixed worldwide supply chain, eliminating most decay in shipping, and providing reliable product to emerging markets.

Independent Validation

- First set of independent tests conducted at POLATOM, the national center for nuclear research in Warsaw, Poland
 - Reaffirmed previous testing
- Second set of tests conducted at the Missouri University Research Reactor (MURR) in Columbia, Missouri, USA
 - Demonstrated higher elution efficiencies
- **Secured investment by the largest commercial end user of ^{99}Tc in the U.S.**



Recent Milestones

Perma-Fix Medical S.A. Announces Successful Completion of 6 Curie Tests With Scale-Up of Its Non-Uranium Process to Procure Technetium-99m

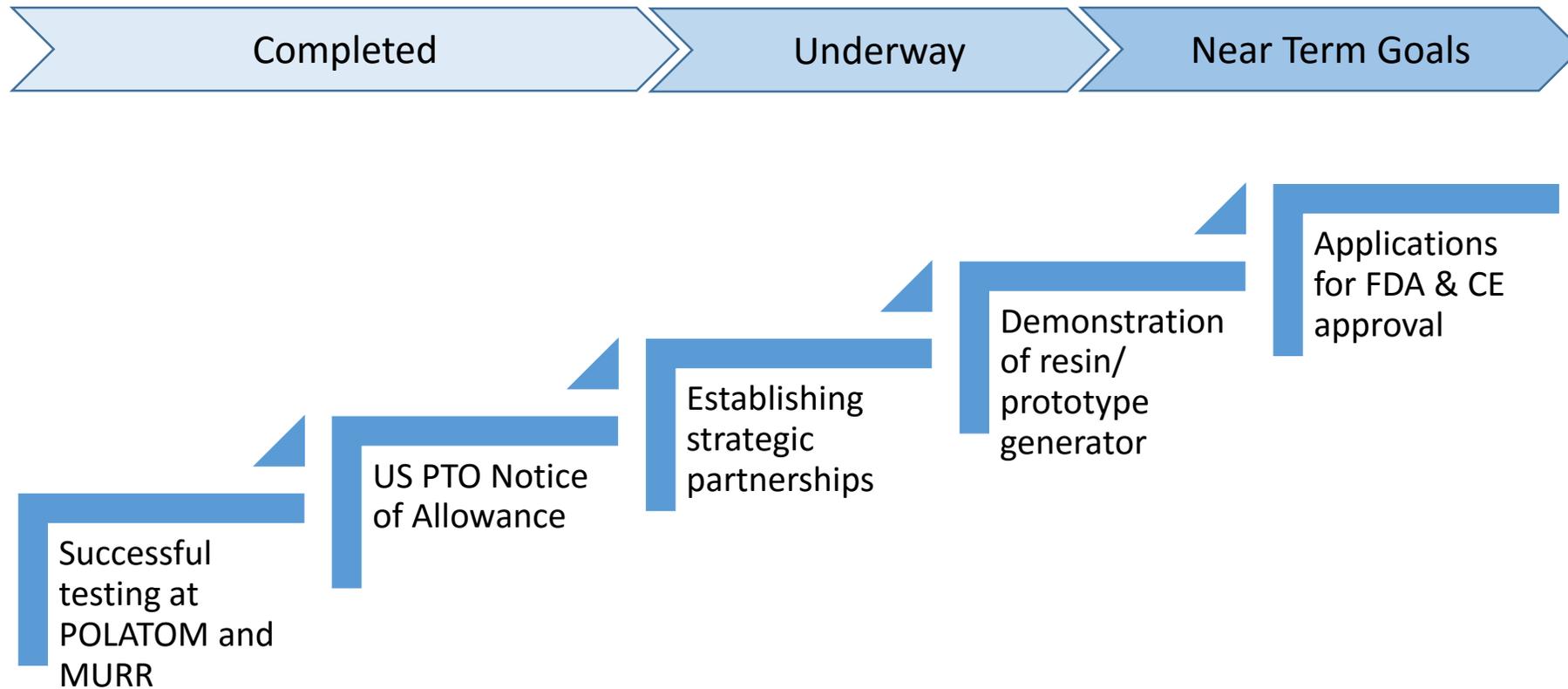
ATLANTA, GA--(Marketwired - August 31, 2015) - **Perma-Fix Environmental Services, Inc. (the "Company")** (NASDAQ: PESI), today announced that **Perma-Fix Medical S.A.**, a subsidiary of the Company, completed another successful scale-up of its process to produce Technetium-99m ("Tc-99m") from Molybdenum. The tests confirm that the Company's proprietary resin could withstand higher levels of radiation, up to 6 curies, while providing clinically useful doses of Tc-99m. Two tests were run, in which one run used natural Molybdenum and a second test used enriched Molybdenum-98 (98% purity).

Perma-Fix Medical Confirms Successful Tests at 4 Curie Level; Achieves Another Major Milestone Towards Scale-Up of Non-Uranium Process to Produce Technetium-99m

New Process Eliminates Proliferation Risk and the Need for Either High or Low Enriched Uranium Targets

ATLANTA, GA--(Marketwired - June 08, 2015) - **Perma-Fix Environmental Services, Inc. (NASDAQ: PESI)**, today announced that Perma-Fix Medical SA, a subsidiary of the company, completed another successful scale-up of its process to produce Technetium-99m (Tc-99m) from Molybdenum-99 (Mo-99). The tests confirmed that the Company's proprietary resins could withstand higher levels of radiation, up to 4 curies, while producing clinically useful doses of Tc-99m. These results follow previously announced tests that verified success at the 2 curie level. Perma-Fix Medical plans to conduct additional demonstrations at higher curie levels in the near future, as part of its multi-step validation of its technology.

Commercial Pathway



Summary Value Proposition

Winner	Perma-Fix	Uranium
Reliable global supply chain		
Environmentally friendly		
Eliminates proliferation risk		
Flexibility in multiple reactor types		
Non government subsidized		
Cost effective		

EU Grant Award

- Awarded \$2.8M grant to advance development of technetium generator for cancer and cardiac imaging
- Consists of four additional entities from Poland, including:
 - The National Centre for Nuclear Research - Radioisotope Centre POLATOM in Otwock
 - The Institute for Biopolymers and Chemical Fibers - Department of Biopolymers in Łódź
 - Warsaw Medical University - Department of Nuclear Administration
 - The Institute of Industrial Organic Chemistry Branch in Pszczyna
- Non-dilutive funding to develop proprietary commercial generator

Management Board



Stephen Belcher, CEO and Management Board, Member of Board of Directors of Perma-Fix Environmental Services. Founder, principal, and former Vice President of Triad Isotopes, which was formed in 2007 and has grown to 60 pharmacies and \$270 million in sales. Mr. Belcher served as an officer and principle architect of multiple ventures, including establishing the first unit dose radiopharmaceutical sales in Puerto Rico. Mr. Belcher served as Chairman of the Board for the Association for Independent Nuclear Pharmacies.



John Climaco, Executive Vice President and Management Board, Member of Board of Directors of Perma-Fix Environmental Services. He is cofounder and former President, Chief Executive Officer and Member of Board of Directors of Axial Biotech, Inc., a molecular diagnostics company specializing in spine disorders. Mr. Climaco serves as a Member of Board of Directors for Digirad Corporation, a provider of in-office nuclear cardiology imaging. Mr. Climaco served as a Board Member of InfuSystem Holdings, Inc., a supplier of infusion services to oncologists and out-patient treatment settings.



Ben Naccarato, CFO and Management Board. Appointed CFO in July 2015. Mr. Naccarato has also served as the CFO for Perma-Fix Environmental Services, Inc. since February 26, 2009. Mr. Naccarato brings 28 years of senior financial experience. Prior to joining Perma-Fix in September 2004, Mr. Naccarato was the CFO of Culp Petroleum Company, Inc., a privately held company in the fuel distribution and used waste oil industry.



Dr. Louis Francis Centofanti, Chairman of Supervisory Board, founded Perma-Fix Environmental Services in 1991. Former Chairman and CEO of Perma-Fix Medical. Previously 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 purchase of PPM). Served as senior official to the U.S. Department of Energy under the Carter Administration.



Thank you!