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Before the
House Committee on Science, Space, and Technology
Environment Subcommittee Hearing

on
"Ocean Exploration: Diving to New Depths and Discoveries"

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Chairwoman Fletcher, Ranking Member Marshall, and Members of the Committee, thank you for holding this very timely and important hearing, and for the opportunity to provide one perspective on the future of ocean exploration. I am very excited to be here today and to represent the Oceaneering International team, and to share a seat at this table with some truly incredible co-panelists. Dr. Wiener's tremendous work as Communications Director at the Schmidt Ocean Institute continues to set the bar for getting ocean exploration to the forefront of the public. Dr Bell's aggressive work to promote ocean exploration is a cornerstone of our industry and the academic world, and continues to set the example for others to join and emulate. And David Lang's innovative approach with OpenROV and now Sofar Ocean Technologies, and his engagement in ocean exploration and new ideas, are bringing a new generation of ocean explorers to our world. Together, they are bringing us to "new depths and discoveries."

I want to focus my remarks today on how Oceaneering's history of innovation and technology development is helping to shape the future of ocean exploration, particularly in the commercial ocean energy service and defense undersea sectors. My remarks intend to highlight how Oceaneering continues to leverage technology, innovation, and expertise from its maritime, space, and robotics industry portfolios across both the commercial and defense domains to better support current and future ocean exploration. This testimony will include specific examples of current product development and concepts of operation that support and promote sustainability and environmental stewardship of the oceans.

I think Oceaneering's mission – solving the unsolvable, is reflective of the theme of today's hearing. As a partner and collaborator, we strive to connect "what's needed with what's next" to solve the toughest challenges in the toughest environments, in and above our world. Certainly, "diving to new depths and discoveries" is a theme that is central to our core mission and is squarely in our wheelhouse. Our experience and our innovative portfolio of technologies continue to safely and reliably improve performance across the maritime and space domains.

So, what does Oceaneering bring to this table?

It brings over 50 years of rich history supporting ocean exploration and literally “diving to new depths,” pushing the limits of ROV and mixed-gas diving technology and capabilities while setting new records. Not only did the forward-looking Oceaneering team bring undersea mobile robotics into the mainstream in the offshore oil and gas industry, but Oceaneering also applied this cutting-edge technology in the commercial and defense ocean search and recovery business.

What began with two professional divers forming a Gulf of Mexico diving company has transformed from a small regional company into a global provider of engineered product and services.

Increasing demands for services, paced by innovation and incremental technological improvements made by a growing cadre of engineers and operators, help fuel the oil and gas industry’s exploration and expansion into deeper and deeper depths.

Along the way, Oceaneering has become the builder and operator of the world’s largest premiere fleet of work class ROVs for offshore oilfield services – a fleet that has quickly expanded into supporting U.S. Department of Defense undersea maritime operations. The capabilities and versatility of Oceaneering’s ROVs were put to the test on the world stage during the 2010 Deepwater Horizon / Macondo oil spill; numerous ROVs were employed to provide critical, real-time, “eyes-on” assessments of the damage and to help facilitate resolution of this crisis.

More recently, Oceaneering has made significant investments to support the offshore renewable energy business to a point where a significant number of our ROV assets are engaged in renewable energy projects. Additionally, this technology, and the concepts of operations, equipment, and expertise have been shared with ocean exploration non-profit organizations, and have been the catalyst for enduring partnerships and ever-expanding ocean exploration.

These partnerships and shared ocean exploration interests have been showcased in numerous high-profile events, including:

- The recovery of the Liberty Bell 7 Space Capsule piloted by astronaut Gus Grissom from over 14,000 feet of water
- The recovery of the CSS Hunley, a Confederate submarine lost off the coast of Charleston, South Carolina, during the Civil War
- Surveying, filming, and often locating historical vessels of interest including the *Titanic*, the German battleship known as the *Bismarck*, the British battleship known as the HMS *Hood*, and numerous other ships and submarines
- Locating and recovering numerous commercial aircraft lost over the ocean, including TWA Flight 800 and Itavia Flight 870
- The record-setting recovery of a U.S. military helicopter in over 16,000 feet of water

Over time, Oceaneering’s “solving the unsolvable” approach in the oil and gas industry and defense sectors has been expanded into the commercial sector, government space operations, theme park rides, and robotic solutions industries.

So, what’s on the horizon?

Oceaneering's history of innovation, which has enabled work to be accomplished in the most complex and dynamic environments, continues to advance.

Perhaps the most exciting and important innovations have occurred with our remote-operation and autonomous technologies for both propelled ROVs and autonomous underwater *v*ehicles (or AUVs). Innovations in sensor capability, communications, high-density power systems, and advanced software controls have enabled remote ROV oilfield operations to be controlled remotely for over a month at a time. We have developed all electric battery powered work class ROVs that can be deployed subsea for extended periods doing inspection and maintenance work supported on by a communications buoy on the water surface. These innovations and technologies generate the subsea resident and autonomous capabilities that mitigate the needs for support vessel and on-site controls. Later this year, Oceaneering will deploy its new Freedom AUV, which is effectively an undersea deepwater drone, capable of inspection and intervention tasks for subsea assets. Inspecting long subsea pipelines via autonomous missions while incorporating a hovering capability significantly enhances the types and quality of inspections performed. These underwater vehicle developments and innovations expand the availability and capability to perform more regular and more comprehensive under water inspections and interventions that will yield greater assurances for the integrity of offshore assets.

These types of efforts – improved endurance, remote operation of assets, precision control, mitigation of vessel and personnel on station time, and improved asset integrity – all contribute to the broader goal of sustainability and better stewardship of the ocean environment. However, more equipment developments and technological innovations are needed to be able to cost effectively and sustainably deploy under water robots and sensors capable of ocean exploration necessary to dive to new depths and discoveries.

Finally, critical to enabling "Diving to New Depths and Discoveries" will be expanding current relationships and partnerships, and also forging new ones, that will continue to leverage our collective capabilities and strengths. Expanding levels of effort like the NOAA's Ocean Exploration and Research program, along with its live streaming events, will continue to put ocean exploration into our homes, excite our children and encourage the STEM programs that we desperately and ultimately need in order to support our industry.

These exciting developments across the spectrum of ocean exploration are a key foundation to our collective challenge of reaching "new depths and discoveries." Having robust commercial sector partners and participants such as Oceaneering, provides a "force multiplier" that complements the tremendous work of doctors Wiener and Bell, and of innovative new players in this arena like David Lang and Sofar Ocean Technologies. We all have critical roles to play. With your committee's support, we look forward to our future in supporting ocean exploration.

Chairwoman Fletcher, I look forward to an engaging discussion with you and the committee, and to answering any questions that you and your committee may have.

Stephen P. Barrett

Steve has over 35 years of experience in the oil and gas equipment and service industry. For the last fifteen years he has been involved in the subsea deepwater segment of the industry. In 2005 he led a collection of emerging technology businesses within FMC Technologies and later progressively led business areas within subsea production equipment and services on a global basis. Steve joined Oceaneering in 2015 to run the manufactured products and service, technology and rentals businesses as Senior Vice President and now focuses on business development, strategy and technology.

Steve started his professional career designing mining equipment after receiving his bachelor's degree in mechanical engineering from Texas A&M University. He hold several US patents related to oil and gas equipment and is also a graduate of Rice University's Jones School of Business.

Steve has served on the boards of the Energy Education Center, The Offshore Energy Center and Target Hunger and is active in numerous industry organizations including the Petroleum Equipment and Services Association (PESA) and the Society for Underwater Technology. He has been a speaker for Oceanology International, Offshore Energy Center, PESA and Center for Offshore Safety events.

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Executive Summary

My progressive business experiences in engineering management, new product development, operations and service management, international business development and sales and marketing management have given me a great foundation for success in leading businesses and executing strategy. While leading increasingly large and complex businesses within FMC Technologies to higher levels of performance, I have grown into a confident general manager, business leader and strategic thinker. I have enjoyed success driving businesses with a variety of strategic needs, such as, growing already strong but mature businesses, driving turnaround situations, managing a portfolio of emerging technology businesses, and in my last two roles, leading large and complex global organizations to dramatically improved financial performance and growth.

Major Highlights:

As part of an executive leadership team, successfully lead Oceaneering through one of the worst ever downturns in the offshore oil and gas segment and developed new strategies for growth. Executed organizational, operational and functional improvements during a period of dramatic reductions in business volume.

Substantially growing FMC Technologies' most profitable business by developing and introducing well service pumps in advance of the shale boom.

Turning around the WR Subsea business from single digit EBIT margins to over 15% and doubling sales. Developing a high performing management team who won the Chairman's Award for Business Excellence. We created a culture of SQDC – prioritizing leadership in Safety, Quality, Delivery and Cost.

Transforming FMC Subsea Product Lines into a globally executed organization achieving global capacity utilization and planning and volume leverage throughout the supply chain, as well as, driving process and product standardization.

Executing the number one corporate growth initiative, subsea services, by transforming FMC Technologies' traditional EPC subsea support services into a global service business unit focused on growth.

Professional Background

Senior Vice President — 2015 to Present
Oceaneering — Houston, Texas
Joined Oceaneering to lead the Manufactured Products business unit which consists of subsea umbilicals, connectors, valves, and service, technology and rental. Currently reporting to the CEO focused on business development, strategy and technology.

Global Subsea Service Director — 2013 to 2015
FMC Technologies — Houston, Texas
Leading the newly established global service organization to transform FMC Technologies Subsea services from the regional EPC support model into a globally operated service business focused on superb execution and growth. The combined services P&L is over $1.6B in sales with approximately 3,700 employees and represents the most profitable part of subsea. I have integrated a global team, developed a cohesive strategy based on 6 services lines – drilling systems, installation services, production performance services, IMR services and well intervention services. We developed and began implementation of execution and growth strategies for each of the service lines. The assignment builds on the previous success of globalizing operations and manufacturing to be capable of executing product line delivery on a global basis.

Global Subsea Product Lines Director 2010 to 2013

FMC Technologies Houston, Texas

The subsea business was reorganized to provide for direct global product line organizations based in part on the successful reorganization that my team led in the Western Region subsea business. After co-leading the implementation of the organizational transformation, I have led an experienced team to establish the new global product line organization which is directly responsible for all aspects of executing product line strategies and executing all product deliveries.

- Internally recruited and established the global product line team with top high level talent.
- Established product line and functional strategies and established regional product line organizations
- Established Global Sales and Operations Planning and drove improved quality, OTD, supply chain performance and leverage to achieve a step change within subsea and across every region.

Through regional deployed product line production organizations I lead over 3,500 employees and over $2b of cost of goods sold, through plants in Houston, Dunfermline, Rio, Singapore and Norway. We redesigned the supply chain organization with a "grow, fix, exit" strategy to reduce the number of suppliers, achieve 90%+ purchases from call off agreements. We created core component delivery, globally managed through an expanded Malaysian plant. Global subsea product gross margins increased from the high teens to above 30% over the period.

Western Region Subsea General Manager 2006 to 2010

FMC Technologies Houston, Texas

My responsibilities included the development and implementation of business strategies for the subsea business in the Western Region consistent with the corporate goal of being the leading global supplier of subsea production systems. With responsibility for approximately $1.3 billion in sales and over 3,000 employees, I directly led a seasoned Houston based leadership team and oversaw the Brazilian business. My direct reports included functional managers (sales, marketing, program/project management, quality and business excellence), business unit managers (trees, manifold systems, controls, emerging products, and customer support/field service) and the president of FMC Brazil. Our Western Region subsea business is focused on the superb execution of large complex subsea production system projects for demanding international oil companies, independent oil companies, and national oil companies in the Gulf of Mexico, Brazil, Nigeria, Ghana, Congo, Equatorial Guinea, and Mexico (emerging market). While Brazil had been a relatively high performing part of the business since acquisition in 1998 the Houston business needs would be rightfully categorized as a turnaround need when I accepted the position in 2006. The management team in 2006 was a somewhat dysfunctional team with several misplaced players. I moved out 2 individuals, reassigned 2 others and we then redesigned the organization along product line deliveries and set our sights on 20%+ EBIT margins.

- Successfully grew revenue approximately 30% per year in the Houston business and approaching 50% in our Brazil business
- Improved Houston profitability from the mid-single digits earning as a percent of sales to the mid-teens.
- Successfully grew capacity and execution capability through aggressive and targeted capital expansion execution.
- Implemented a strategic deployment system and extended leadership team to gain alignment and improved execution within the Houston business. Reorganized both Houston and Brazil along product lines to gain better accountability and ownership to improve overall execution.
- Implemented improved performance management systems and training to manage growth, talent acquisition and retention and focus on team performance improvement.

General Manager of Subsea Processing and Emerging Technologies 2005 to 2006
FMC Technologies Houston, Norway, Holland

FMC had 5 emerging technology businesses being managed in different parts of the regional businesses and this newly created position assigned these businesses to me reporting to the President (Peter Kinnear). The businesses included 2 startups - gas to liquids and multi-phase metering which both had innovative yet unproven technologies in development. One business was an FMC acquisition from the previous year - CDS separation systems and the other 2 were established organizations within FMC - Subsea Processing and Flow Manager. My first responsibilities were to rationalize the individual business strategies and defined leverage growth strategies between the businesses where appropriate.

- Successfully improved the integration of the CDS business into FMC and particularly with Subsea Processing which contributed to winning two subsea processing project (Tordis and Marlim).
- Participated on the boards of both CDS and Flowsys (multiphase metering license) and guided CDS to better focus on core business while supporting overall subsea processing strategy.
- Gained global alignment of the subsea processing teams and defined organizational and business execution structure.

General Manager Fluid Control Division 2001 to 2004
FMC Technologies Houston, Texas

Responsible for leading FMC's most profitable business, consisting of 4 product lines, a large integrated manufacturing operation and global sales network. The Fluid Control Division grew under my tenure from approximately $150M to $350M in sales with approximately 700 employees with important well positioned and highly profitable products. My responsibilities included leading the strategic execution of the business and full responsibility for the financial performance and growth of the business.

- Continued to drive innovation and differentiation in very mature but well branded flowline products to dominate market share and maintain price leadership.
- Developed and implemented a successful growth strategy for the pump product line to expand into oil and gas pumps and pump systems, resulting in a doubling of pump sales.
- Developed and implemented a strategy to capitalize on the leading flowline position by developing a line of well service pumps, resulting in a current well service pump business greater than $50M in annual sales.
- Developed alliance relationships with 2 key well service customers and expanded the integrated service business.

Western Region Manager, Marketing, Integrated Services, General Manager Invalco 1995 to 2001
FMC Technologies Houston, Texas

From 1995, after returning to Houston from Aberdeen, Scotland, I held a variety of progressive roles within the Fluid Control Division leading to becoming the Division Manager. Beginning with the Western Region Manager position, I directed the sales efforts of our sales staff in North and Latin America. Performing double duty in the Marketing Manager position, I started up and managed the Integrated Services business. The Fluid Control Division acquired the Invalco business and I was assigned the turnaround challenge of integration and product rationalization.

- Developed and implemented the Integrated Services businesses through the deployment of mobile service units and fixed bases. The business has grown to $30M+ annual business.
- Successfully integrated the Invalco product line into Fluid Control and turned a break even to slightly losing business into a solid (albeit small) profit contributor.
- Reorganized the Western Region sales team and revitalized account coverage to successfully gain market share with second tier service companies and achieved alliances with BJ Services and Nowsco while maintaining alliances already established with Schlumberger and Halliburton.

Aberdeen Base Manager, Eastern Region Manager 1992 to 1995

FMC Technologies Aberdeen, Scotland

Responsible for leading the Aberdeen base, a 10 person warehouse and sales operation. Sales territories included the North Sea - UK and Norway, Africa and the Middle East reporting the Region Manager located in London. I was promoted to Region Manager in the beginning of 1994 and additionally had sales offices in The Hague and St. Etienne France reporting to me with combined sales of approximately $25M.

- Successfully introduced key new products to the region and effectively captured share with the resulting product differentiation.
- Developed and implemented the local service business operating from the Aberdeen base and executed an authorize service network with existing representatives and distributors.
- Implemented project sales capabilities to the region to expand sales penetration into simple small projects aggregating standard products.

Design Engineer, Project Engineer, Engineering Manager, Product Development Manager 1982 to 1992

FMC Technologies Houston, Stephenville, Texas

Successive roles of increasing responsibility in engineering and new product development. After completing my MBA, I joined the Fluid Control Division in Stephenville (manufacturing operation center) with roles in new product development and introduction, engineering management, and quality implementation.

- Developed and introduced a line a cement head quick connectors with patented features. This automated connector improved speed and safety and is an ongoing successful product.
- Led the quality improvement team for the division and obtained the first ISO-9001 certification for an oilfield company in the U.S. in 1989.
- Implemented numerous improvements to the engineering management system and improved the organizational development of the engineering team.

Sr. Design Engineer 1980 to 1982

Baker Hughes - Reed Mining Tools Houston, Texas

Designed and field introduced large diameter drilling tools for underground mining. 2 field assignments in South Africa introducing a new line of raise boring rock cutters that I co-designed and supported the introduction of the TaperLok stem connection system in the US market as a subject matter expert.

Education

M.B.A., Finance and Entrepreneurship — 1987
Rice University — Houston, Texas
B.S., Mechanical Engineering — 1980
Texas A&M University — College Station, Texas

Affiliations

- Member, Society of Petroleum Engineers (SPE)
- Petroleum Equipment Supplier Association (PESA)

Licenses and Patents

- Registered, Professional Engineer State of Texas (inactive)
- U.S. and International, Patent for Fire Resistant Gate Valve, Metal Sealing and Cement Head Connectors

Training

- Quality Transformation, Insights, Managing Performance, FMC Technologies various
- Diversity Training Workshop (3 day), Pope and Associates

Volunteer

Past President - St. Agnes Dad's Club — 2003 to 2004
St. Agnes Academy — Houston, Texas
Lead the efforts of the Dad's Club for St. Agnes Academy (my daughter's high school). Key events included the annual golf tournament, organizing the Habitat for Humanity project days, supporting the Community Giving Day organizing 2 volunteer location activities, funding and directing the Dad's Club scholarships and special projects (built the courtyard deck).

Past Scoutmaster - Boy Scouts Troop 1730 — 2005 to 2008
Boy Scouts of America — Houston, Texas
Scoutmaster oversees the Boy Scout troop, organizes troop leadership, recruits parent volunteers and new scouts, guides and directs the boy scouts to be leaders and organizes the outdoor program.

MS150 Top Fund Raiser — 2001 to 2-17
Multiple Sclerosis Society — Houston, Texas
I am a 12 year veteran (this year) of the MS150 charity fund raising bicycle ride from Houston to Austin and have been a Top Fund raiser for the past 3 years.

Vice Chairman of the Board — 2011 to Present
Target Hunger — Houston, Texas
Target Hunger is a United Way agency that I became exposed to by being one of the executive leaders for FMC Technologies United Way Annual Campaign. The board is an active strategic and tactical board supporting the executive director of this growing charitable organization. Target Hunger's mission is to alleviate hunger and its root causes in the Houston inner city. My wife and I chaired the major fund raiser - Target Hunger Gala.

Board Member — 2012 to 2015
Offshore Energy Center — Galveston, Texas
The Offshore Energy Center operates the Ocean Star museum in Galveston and operates numerous education and industry outreach programs.