© 2020 Westinghouse Electric Company LLC. All Rights Reserved.



WESTINGHOUSE ELECTRIC COMPANY

Opportunities in Supply Chain

Mike Dembrak Executive for Latin America

WESTINGHOUSE HISTORY



<text><section-header><section-header><text><text><text><text>

THE INNOVATION CONTINUES

• Founded by George Westinghouse in 1886

Westinghouse established

59 other companies He received over 360 patents for his work

- Responsible for some of the world's greatest advances in energy technology
- World's first commercial pressurized water reactor (PWR) in 1957 in Shippingport, Pennsylvania, U.S.



GLOBAL FOOTPRINT





Westinghouse Non-Proprietary Class 3

COMPREHENSIVE PORTFOLIO OF PRODUCTS & SERVICES





Fuel Manufactured Products





LTO Vision



Innovative Solutions

Building upon the long history of Westinghouse innovation, we are investing in cost-effective, performance-enhancing and practical solutions.



Industry Leadership & Engagement

We understand the need to positively influence the industry, and we are investing to help you navigate the technical and economic challenges of extended operations.



Fully Integrated Expertise

We have the knowledge and experience to assist you to successfully mitigate critical industry issues and achieve your long run goals.



Collaborative Solutions

We are there when you need us with a comprehensive portfolio of products and services to meet your specific life extending needs.



WEC is your partner for the long run

Key LTO Focus Areas & Philosophy



• How long is "LTO"?



• Priorities?



Collaboratively and holistically focus on ROI, O&M cost reduction.



OEM Supply Chain characteristics

- ✓ Global, Regional and Local approach depending on the market
- ✓ Experienced in developing local suppliers across the globe
- Experienced with supporting and managing Long Term Operations of multiple plants across the globe.
- In a aging fleet Nuclear Parts Operations (NPO) plays a vital role in maintaining the critical assets and in helping to ensure safety and reliability through the high-quality spare and replacement parts, component repair services and equipment upgrades. Westinghouse as the OEM not only own the designs of many of these systems/equipments but bring-in all the operational experience.



Brazilian Supply Chain Development: INB Experience

- Fuel Manufacturing Technology Transfer
- Nuclear Codes and Methods Technology Transfer
- Joint development of 16x16 Next Generation Fuel Technology (16NGF) which is now used at Angra 1
- INB provides fuel handling and technical services to Westinghouse
- Technical Exchange Program in Brazil, USA and Sweden





Developing Local Supply Chain in New Plants

Risk-Informed Sourcing: Categorizing Risk

The most significant factors that influence the High, Medium, and Low categories of the <u>Risk-Informed</u> <u>Sourcing</u> model include:

- Design Ownership
- Design Maturity
- Manufacturing Complexity
- Qualification Requirements
- Safety Requirements
- Quality Requirements
- Capital Investment
- Experience





*Measured as a % of all commodities.

Westinghouse Lessons Learned on Developing Local Suppliers

- Overcome pre-conceived perceptions of local supplier capabilities
- Expertise on local regulations, requirements and expectations
- Due diligence and risk management on customer directed suppliers
- Local engagement with suppliers is essential
- Understanding nuances of local import/export laws, VAT, etc.
- Optimize the blend of global, regional and local delivery



Multiple Paths for Nuclear Power's Future

Commercial Nuclear Power Solutions Need to be Adaptable

- There is an increasing desire to look for smaller power plants as a solution
 - SMRs
 - Micro-Reactors
- Large new power plants like AP1000 still have a place in meeting electricity demands

AP1000[®] Plant

eVinci[™] Micro-Reactor



Small Modular Reactor





AP1000 and eVinci are trademarks or registered trademarks of Westinghouse Electric Company LLC, its affiliates and/or its subsidiaries in the United States of America and may be registered in other countries throughout the world. All rights reserved. Unauthorized use is strictly prohibited. Other names may be trademarks of their respective owners."

© 2020 Westinghouse Electric Company LLC. All Rights Reserved.



