





Speakers

Carla Carmichael – VP Nuclear Decommissioning Strategy, OPG

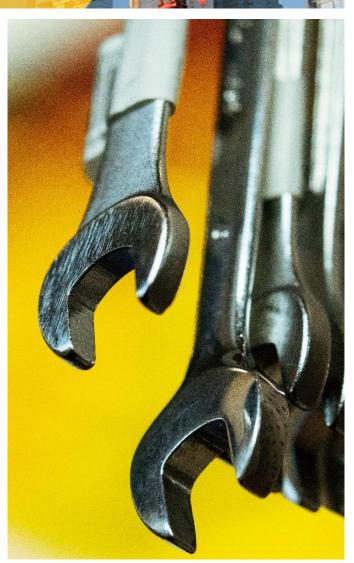


Eric Gould – Partner, Modus Strategic Solutions



Milt Caplan – President MZConsulting

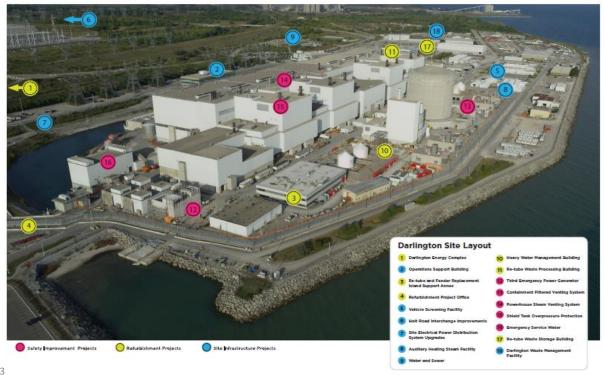






The Darlington Nuclear Station Refurbishment Project

- \$12.8B investment decision by Province for 8.2c energy
- \$2B investment before 1st reactor execution work began
- Highly technical, complex many first of a kind scopes
- Lack of successful mega nuclear projects
- Comprehensive oversight model one of keys to success



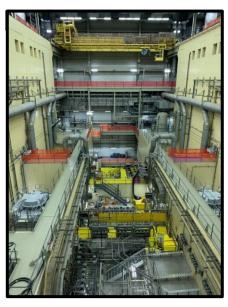


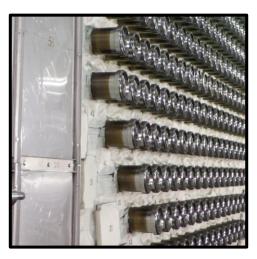


The Darlington Nuclear Station Refurbishment

Unit 2 synchronized to the electricity grid on May 13th

- 24 Million hours of work 1 LTA
- Quality of work has been excellent
 - exceeded past refurbishments
- Completed safely with COVID restrictions
- Four Unit Refurbishment remains on budget and on time
- ONE TEAM SUCCESS!
 - -Staff
 - Project Partner Vendors
 - contractors/skilled trades
 - manufactures
 - -government/community
- Building OPG/Community reputation: World Class

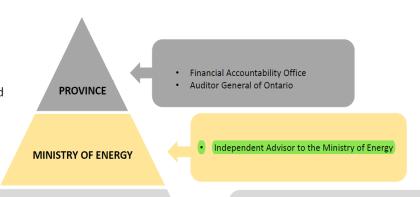






Layered assurance model to ensure:

- · Issues are identified early and resolved expeditiously
- Transparent and accurate information flows to appropriate levels of the organization and the OPG Board of Directors
- · Line management ownership and accountability for finding and fixing problems, without relying on external parties.



BOARD OF DIRECTORS/DRC

- · Internal Audit (IA)
- · Independent Oversight Advisor to the

- · Dedicated Committee of the Board
- Strategic risk-based audits
- External oversight team reporting to the Board

CHIEF EXECUTIVE OFFICER/ **EXECUTIVE LEADERSHIP TEAM**

- Law, People & Culture, Finance
- Supply Chain, Chief Information Officer
- Enterprise Risk Management

- Executive Leadership Team (ELT) Reviews
- Supplier Audits & Quality Performance (SA&QP)
- Refurbishment Construction Review Board (RCRB)

CHIEF NUCLEAR OFFICER

- · Nuclear Oversight (NO)
- Canadian Nuclear Safety Commission (CNSC)
- World Association of Nuclear Operators (WANO)

- Nuclear Safety Review Board (NSRB)

SVP NUCLEAR PROJECTS

- Project Management (Execution)
- Engineering
- Procurement Oversight
- Field Construction

- · Quality Management
- · Project Planning & Controls
- · Project Assurance & Performance Improvement
- · Vendor Oversight/Vendor Audits

- · Confirms implementation of Nuclear Management System
- · Compliance to license requirements (N286)
 - Key Performance Indicators/reports
 - Program and project risk registers
 - Continuous improvement initiatives
 - · Strategic oversight
 - Self-assessments/lessons learned
- Benchmarking
- OPG Corrective Action Program
- Managed system framework
- · Compliance to regulatory requirements (RD360)

VENDOR

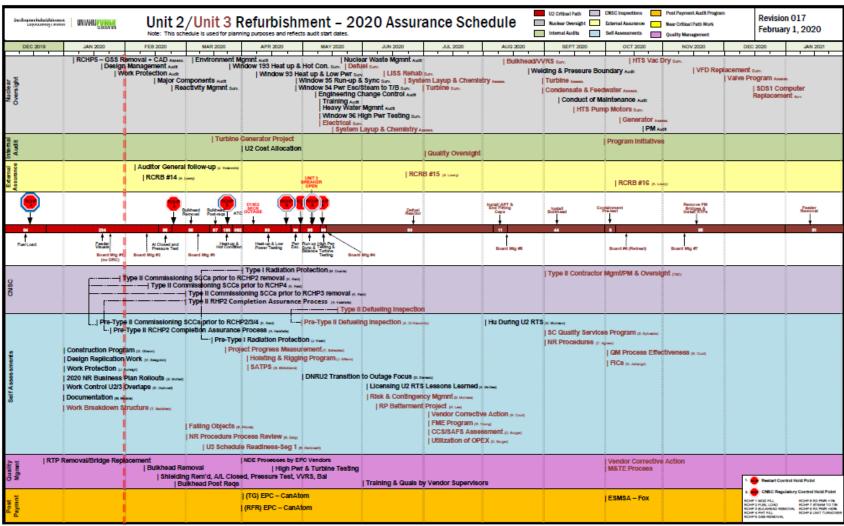
- Vendor Project Management
- Vendor Quality Assurance Program
- · Contractor Executive Steering Committees

Vendor Quality Assurance Program including:

- Subcontractor oversight
- Inspection & Test Plans (ITPs)
- · Comprehensive Work Packages (CWPs)
- History Dockets (HDOCS)
- · Vendor Corrective Action Program



Integrated Assurance Schedule – Key Risk Coverage/Alignment





Independent Board Oversight

- Scope
 - Independent Oversight provides verification of status, analysis of key project risks and identification of potential future rocks in the road
 - Provide perspective comparing lessons learned and Best Practices

Key Deliverables

- Provide succinct summary of observations based on critical observations
- Analyze performance metrics (key project indicators or KPIs) that summarize trends, velocity of change and summarize progress
- Ensure that information is flowing from management to BOD to properly inform and support prudent decision-making
- Verify accuracy of management's reporting to BOD
- Identify whether management is actively managing risks (performance, commercial, technical, etc.)

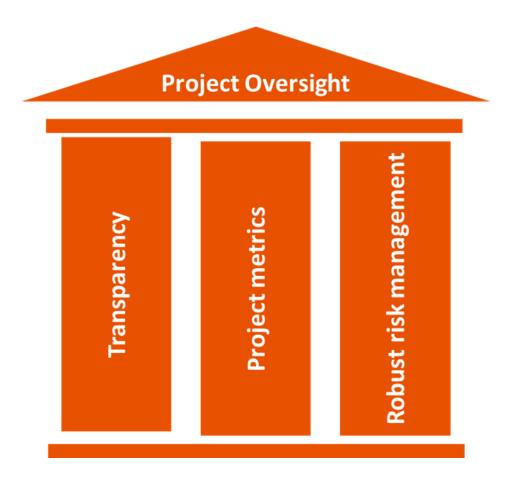


Government Independent Oversight - Mandate

- The Advisor will sit on the Darlington Refurbishment Committee (DRC) of the OPG Board and provide advice to the Ministry of Energy, Northern Development and Mines.
- The Advisor will report to the Minister/Deputy Minister of Energy on the following:
 - Progress of the refurbishment project against established targets and milestones, including project cost and baseline schedule;
 - Review of overall project management processes;
 - Evaluation of OPG's risk management strategy with respect to emerging project risks; and
 - Review of processes and ongoing progress on coordination of work between the Darlington and Bruce refurbishment projects.
- The objective of the oversight is to support project success, not search for failure



Three pillars of effective Oversight





Recommendations

- Oversight/Assurance provides an essential, independent verification for <u>useful information</u>
 - Megaprojects like Darlington Refurbishment produce massive amounts of raw data
 - Oversight/Assurance should verify and interpret data to separate the signal from the noise
- Oversight should focus on what is best for the Project, not its participants
 - Management is accountable for the Project Oversight provides perspective and assurance but has no stake in the outcome
- Oversight cannot over-burden the Project
 - Oversight should mesh with the other assurance providers to reduce "audit fatigue"
 - Assurance providers should be complementary (and not competitive) in focus no "battle of the experts"



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