



Improved 'EPC' Supply Chain Management / Oversight

NUPIC Annual Vendor Meeting

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June 22nd , 2016

ONTARIO**POWER**
GENERATION

Project Background – Contract Strategy

- Darlington Nuclear Refurbishment Project is a \$12.8 Billion project that will provide economic benefits that will arise from the 30 years of continued station operation
- OPG has selected an EPC model for contracting
- It was key for OPG to ensure we picked the right vendors to work with
- All successful EPC vendors were fully audited
- Procurement guidance and direction has been provided in the contracts to use vendors on our ASL when feasible and inform if new vendors are required

“The Need”

- OE indicated that “parts” would be an issue
- The Project was carrying the parts supply and visibility as a significant risk that required mitigation
- Creating a process to forecast and track deliveries was not enough, One consistent view of status across all the EPC vendors was required
- Support the EPC vendors to fulfill the contractual obligations to provide the Procurement Plan Status

“The How”

- We needed to collaborate with the EPC vendors to develop the process and required functionality
- Our Game needed “Stepping Up”
- OPG took the leap to lead the development of a integrated process designed to reduce the risk and ensure a single process was utilized to manage supply chain activities

“The What”

- A common database populated by the EPC vendors to track the entire “Procurement Process” was created
- This created visibility in to the “when” of the required source surveillance activities
 - FOAK / FIAW both EPC vendor based and joint activities
- Flexibility to match many procurement process's and data feeds was needed – “One View , One way”
- Security of the data provided

“The How”

- Logistics of post part delivery and pre field installation
 - Acquired on-site warehouse space for Parts staging , to be **EPC vendor Managed**
 - The staging process is fully managed under the EPC vendors QA including receipt inspection , PB control etc..
 - Acquired bar-coding Hardware/ Software to tie in to post delivery status , EPC vendor use
 - The warehouse is electronically access controlled and monitored by OPG
 - Collaboration with Nuclear Security to smooth out delivery in to the protected area
 - Common OPG supplied carrier to deliver the Prime's material from the staging area to the Protected area

“The How”

- Cages Constructed for Each Vendor
- Large Item Storage area included

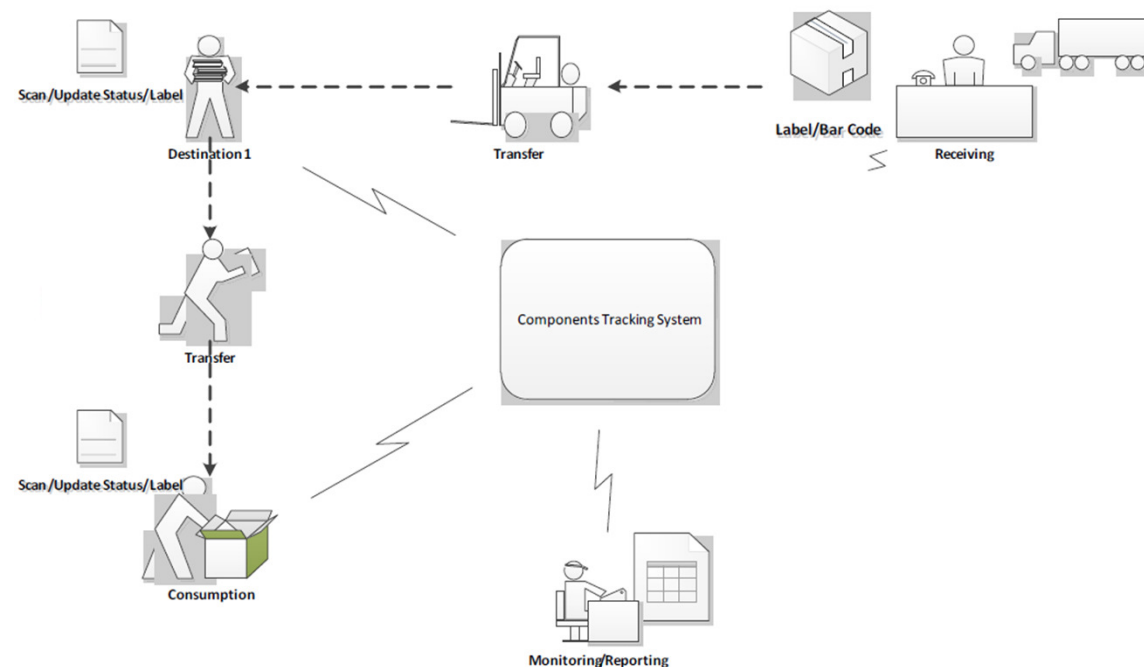


• **Safety** • **Human Performance** • **Reliability** • **Value for Money**

Darlington East Warehouse Staging Area
UPG INTERNAL USE ONLY

“The How”

- Bar-coding process adds traceability of parts to the work face
- Process is flexible and can be linked in to the EPC vendors QA requirements to aid in material traceability



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Darlington East Warehouse Staging Area
D E W S A I U S E O N L Y

“The How”

- X-ray machine provided common process efficiency to our entrances and reduced wait times at the gate
- Nuclear security and delivery in to the station has been scheduled and will have priority sequence at our sally port



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Darlington East Warehouse Staging Area
UPG INTERNAL USE ONLY

“So What”

- The data is telling us what items to focus on
 - Delivery date issues
 - Source surveillance activities
 - Same data driving visibility across all vendors
- Having visibility of potential problems many months in advance allows for multiple types of solutions
- Visibility of the required source activities aids in the planning and execution of the process
- No time spent aligning which versions of excel spread sheets to use when it was last updated and what the data fields mean

“So What”

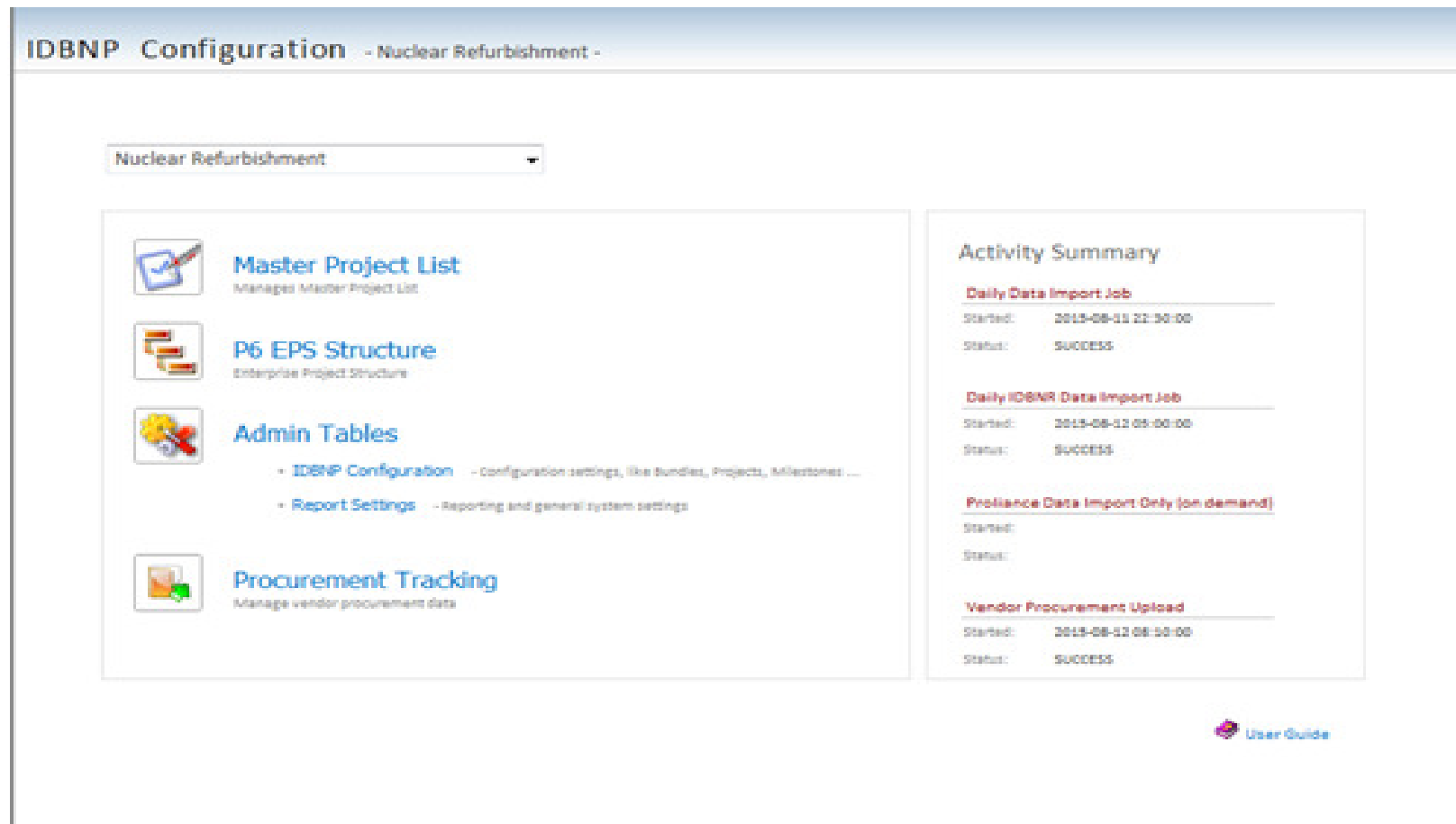
- The PTT (Procurement Tracking Tool) as it is now known as, has become the

“Single Source of the Truth”

- One data set not only drives OPG Project decision making but the Prime’s day to day priorities as well as the Prime’s Project decision making

“The Tool ”

- Scalable and Professionally supported



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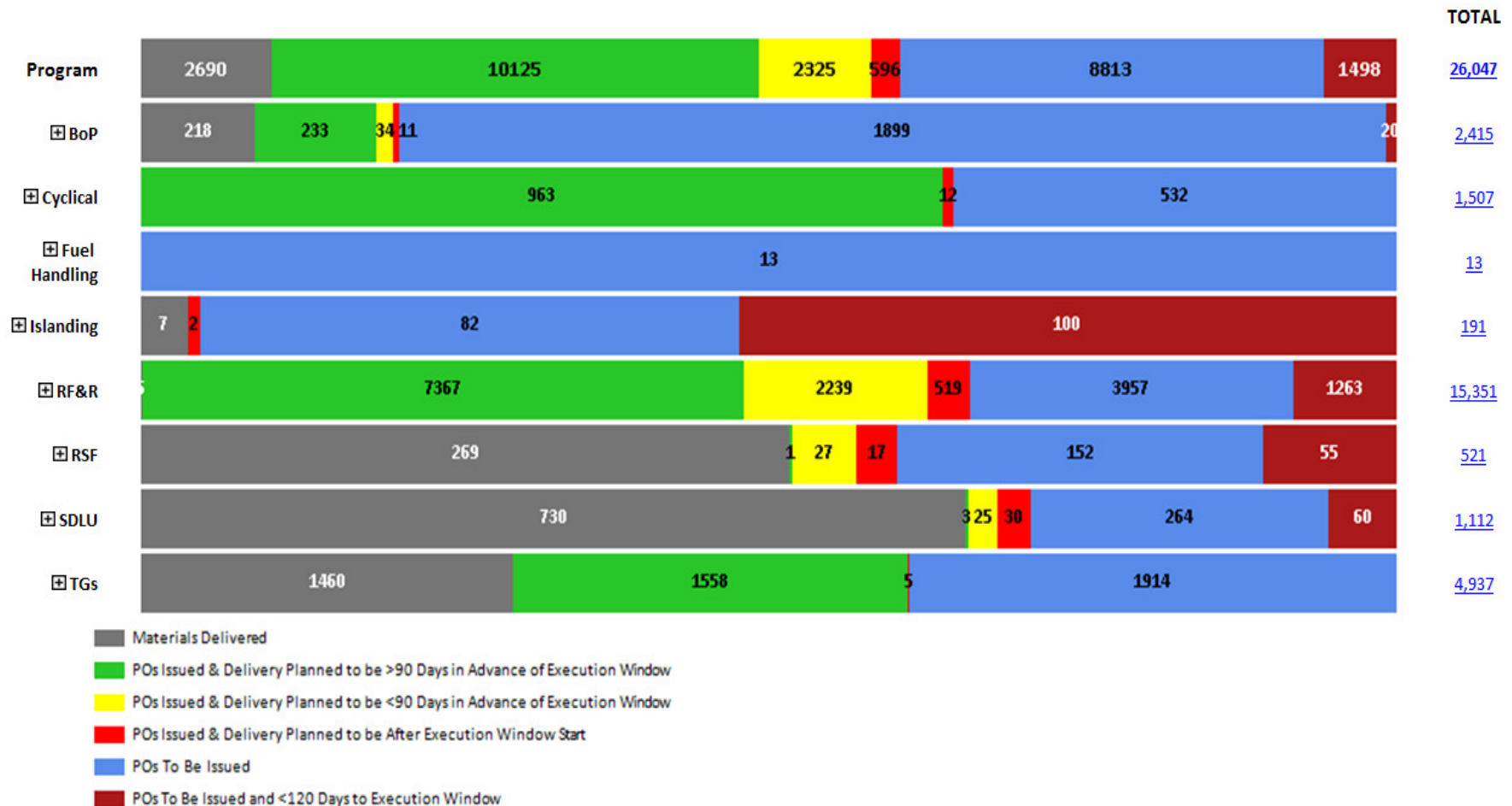
“The Tool ”

- Fully Auditable tables with full disaster recovery capability
- Security protocols for controlling who has access to change data
- Full suite of drill down Metrics

“The Tool ”

ONTARIO POWER GENERATION Forecast Delivery of Materials for Scheduled Windows NR Procurement Tracking Tool - Material Delivery

Report ID: 1404A [Tech Tips](#)
Report Owner: L. Greenland
Process Owner: S. Toohey
Data Refreshed: 29-Feb-16 12:01 AM



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“The Tool ”

ONTARIO POWER GENERATION Forecast Delivery of Materials for Scheduled Windows Details Report

Report ID: 14048
Report Owner: L. Gree
Process Owner: S. Toof
Data Refreshed: 29-Feb

Bundles Included: BoP

Statuses Included: POs Issued & Delivery Planned to be After Execution Window Start

Segments: 0, 1, 2, 3, 4, Unknown

Vendors Included: All Vendors Included

Projects Included: All Projects Included

Windows Included: All Windows Included

[11 Activities Found]

Vendor Procurement Key	Bundle	Sub Bundle	Project Number	Vendor Title Short	Scope ID	Work Order	Task	Work Order Title	Catalog ID	Q Level	Catalog Name	Quantity Ordered	Execution Window	Status	Expected Delivery Date	Actual Delivery Date
00000001	BoP	Conventional Systems	73782	ESFOX	7110				0000988641	1	Penetration Module with 55 #16 AWG STP cables, Mirion Technologies	1	00000104	POs Issued & Delivery Planned to be After Execution Window Start	5/31/2017	
00000002	BoP	Conventional Systems	73782	ESFOX	7110				0000988642	1	Penetration Module with 5 #16 AWG STP and 60 #16 AWG cables	1	00000104	POs Issued & Delivery Planned to be After Execution Window Start	5/31/2017	
00000003	BoP	Conventional Systems	73782	ESFOX	7110				0000988643	1	Penetration Module with 15 RG 11A/U and 64 #16 AWG cables	1	00000104	POs Issued & Delivery Planned to be After Execution Window Start	5/31/2017	
00000039	BoP	Conventional Systems	73782	ESFOX	7110				0000988571	1	Penetration Module with 50 #16 STQ cables Mirion Technologies module 75 NIOD 772 MODULE, ELECTRICAL CABLE PENETRATION, 50 CABLES #16 AWG STQ, C/W PIGTAILS, WESTINGHOUSE DESIGN, For 2 21130 EP2260 (Pos	2	00000104	POs Issued & Delivery Planned to be After Execution Window Start	5/31/2017	
00000040	BoP	Conventional Systems	73782	ESFOX	7110				0000988572	1	Penetration Module with 55 #16 STT cables Mirion Technologies module 75 MQD 773 MODULE, ELECTRICAL CABLE PENETRATION, 55 CABLES #16 AWG STT, C/W PIGTAILS, WESTINGHOUSE DESIGN, For 2 21130 EP2260 (Posi	3	00000104	POs Issued & Delivery Planned to be After Execution Window Start	5/31/2017	
											Cable Support Assembly for EP Module					

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“One Step of Many More”

- A great example of what an aligned and collaborative approach can accomplish
- We listened not only to the industry OPEX but our EPC vendors as well
- A trusted and completely aligned data source to allow for faster and better decision making

“One Step of Many More”

- This Collaborative Process has improved and increased the efficiency of how we manage the material piece of our Project
- Saving Time and Money for both parties is exactly what makes up the basis of a great vendor relationship