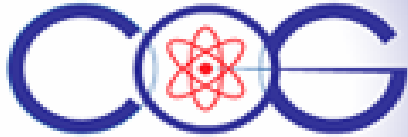


# John Froats. President & CEO of the CANDU Owners Group (COG), Canada

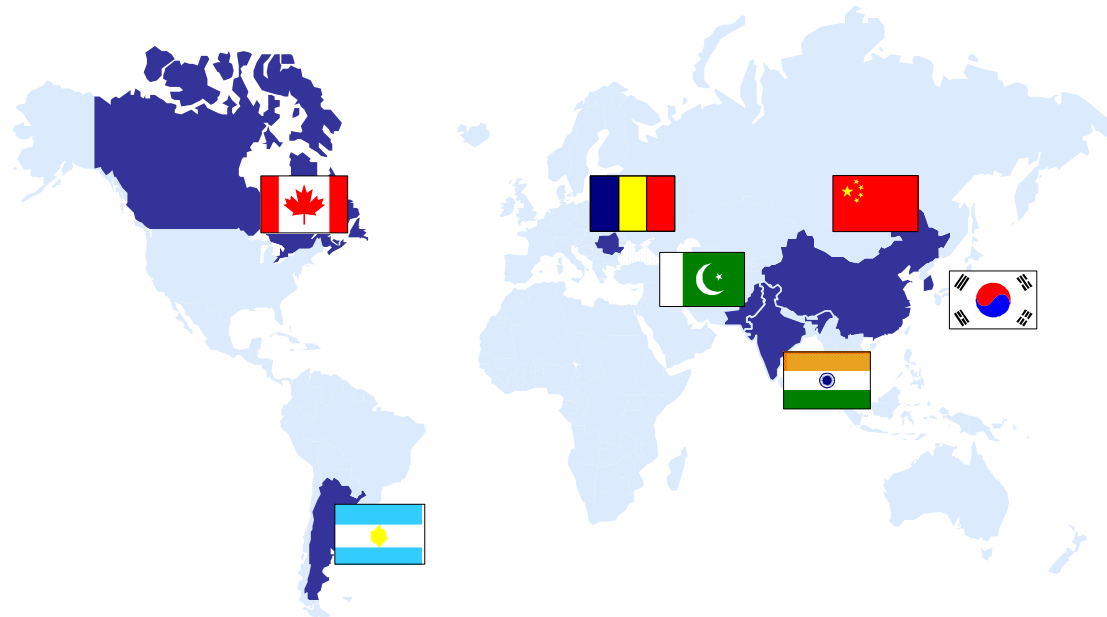
*"Strength Through Co-operation"*

- **Previously Vice President Engineering & Modifications and Chief Nuclear Engineer for OPG (Ontario Power Generation).**
- **Prior to joining COG, John held a number of leadership roles in Ontario Power Generation (OPG).**
- **Appointed to his current position in August 2006 and is responsible for the overall leadership, management and operation of the COG business.**

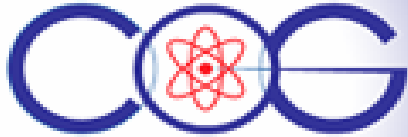




# Refurbishments & Life Extensions – Lessons from the Past to get it Right in the Future

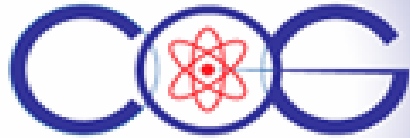


**John Froats  
President & CEO**

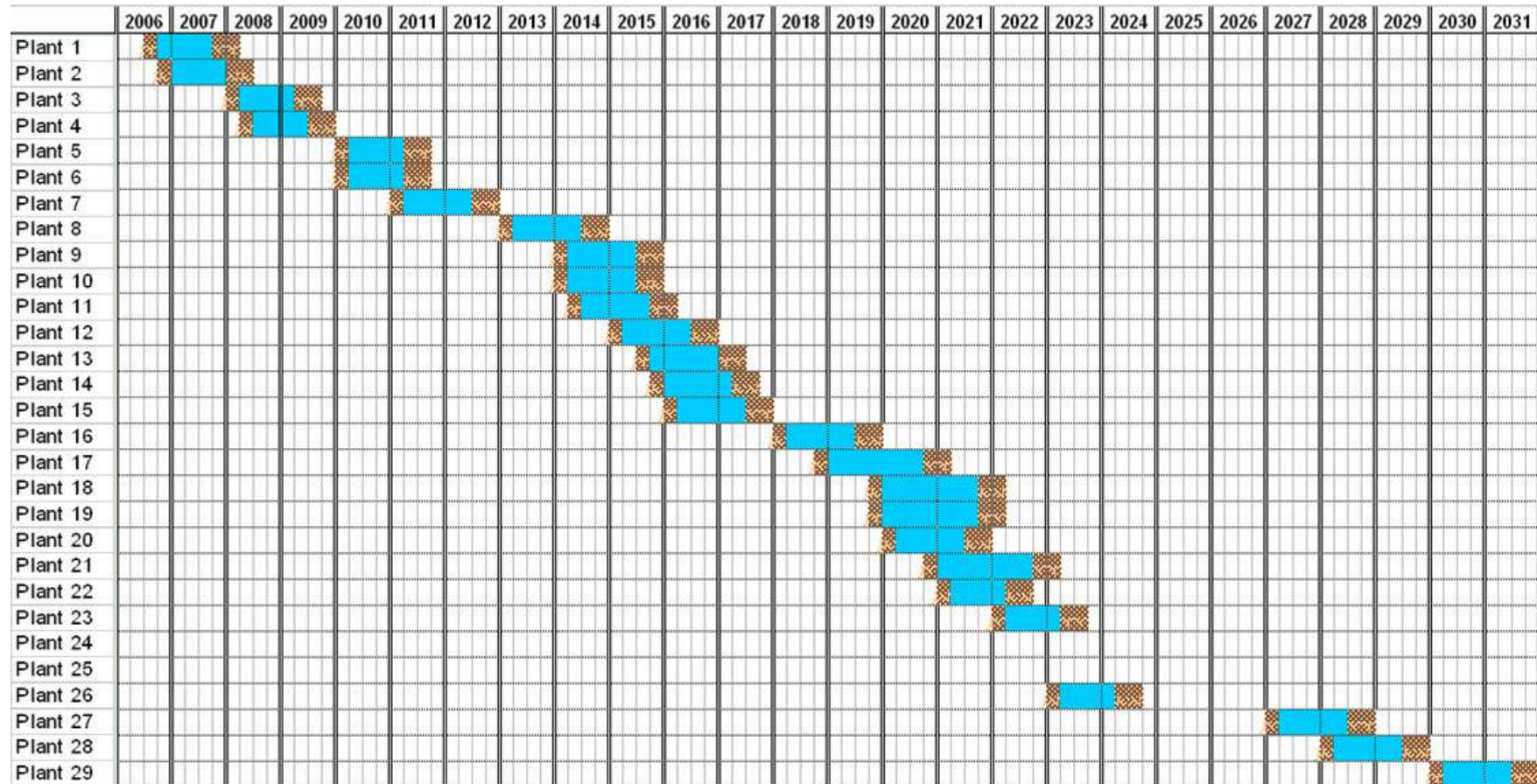


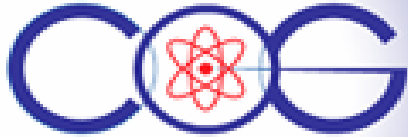
# Overview of Presentation

- Introduction / Overview
- Beginning with the end in sight
- The first CANDU re-tube / refurbishment
- Lessons learned
- Looking forward
- Concluding Remarks



# World-Wide CANDU Units Refurbishment Outlook



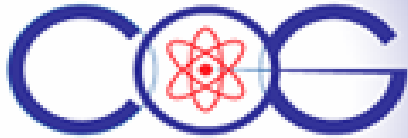


# Beginning With the End in Sight

"If you don't know where you are going  
any road will get you there."

"Begin with the end in sight."

Steven Covey

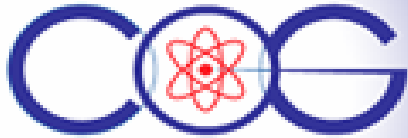


# Begin with the end in sight – clarity of setting the right scope

## Basis for scope

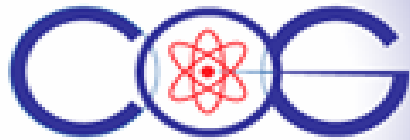
*What is the outcome you have set your sights on?*

- Meet Regulatory requirements ?
- Complete outage in X months ?
- Complete outage safely in X months ?
- Complete outage safely in X months & as a result run for 2 years 'breaker to breaker' ?
- Complete necessary work to achieve a 90% plus capacity factor over the next 30 year run and preserve option for a 2<sup>nd</sup> life extension?



# Plans that cover the full suite of needs

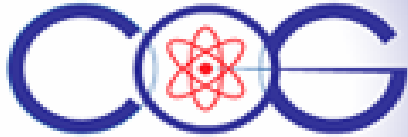
- Physical Plant Asset
- Human / Knowledge Asset
- Design Basis Asset ( 'Paper Plant' )
- Future R&D Plans



# Learning from history – the first CANDU Retube/ Refurb – Pickering A

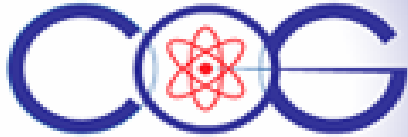






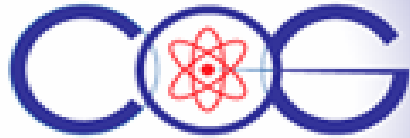
## Lessons Learned – high leverage

- Sound safety program generates productivity
- Experienced personnel from prior Units has high impact
- Aligned organization on reporting and quality management is the basis for improvement
- Work Series Teams
- Detailed production loss analysis – flows into corrective actions
- Training investment for both task execution AND how the Team will function



# Looking forward

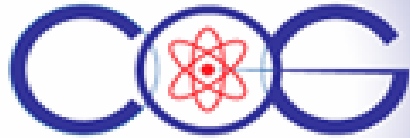
- Sharing experience and creating learning opportunities has huge leverage – we are going to repeat most of the work over 20 times !!
- By the time we finish the current program we will be planning for the next life extension – IF
  - ◆ We execute well
  - ◆ We operate well
  - ◆ We make the investment in understanding aging phenomenon necessary to be predictable



# What Success Looks Like

We all must succeed. If any of us fail we all fail.

We cannot afford to let history repeat !!



# Conclusion

As the Leaders in the Industry reflect:

- Have you got your organization focused on the right end in sight
  - Have you got the right attitude set to share experience and learn from others
  - Have you made sufficient investment to be prepared for the campaigns that we are about to undertake
  - This conference is a great opportunity to network and learn
- The Pickering first re-tube story shows us the gains are huge for those who get it right and the penalties are also huge for those of us that don't !