

ONE  
TEAM  
ONE  
GOAL

# Darlington Refurbishment Project

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Project Director, Fuel Handling Projects

Safety  
Quality  
Schedule  
Cost



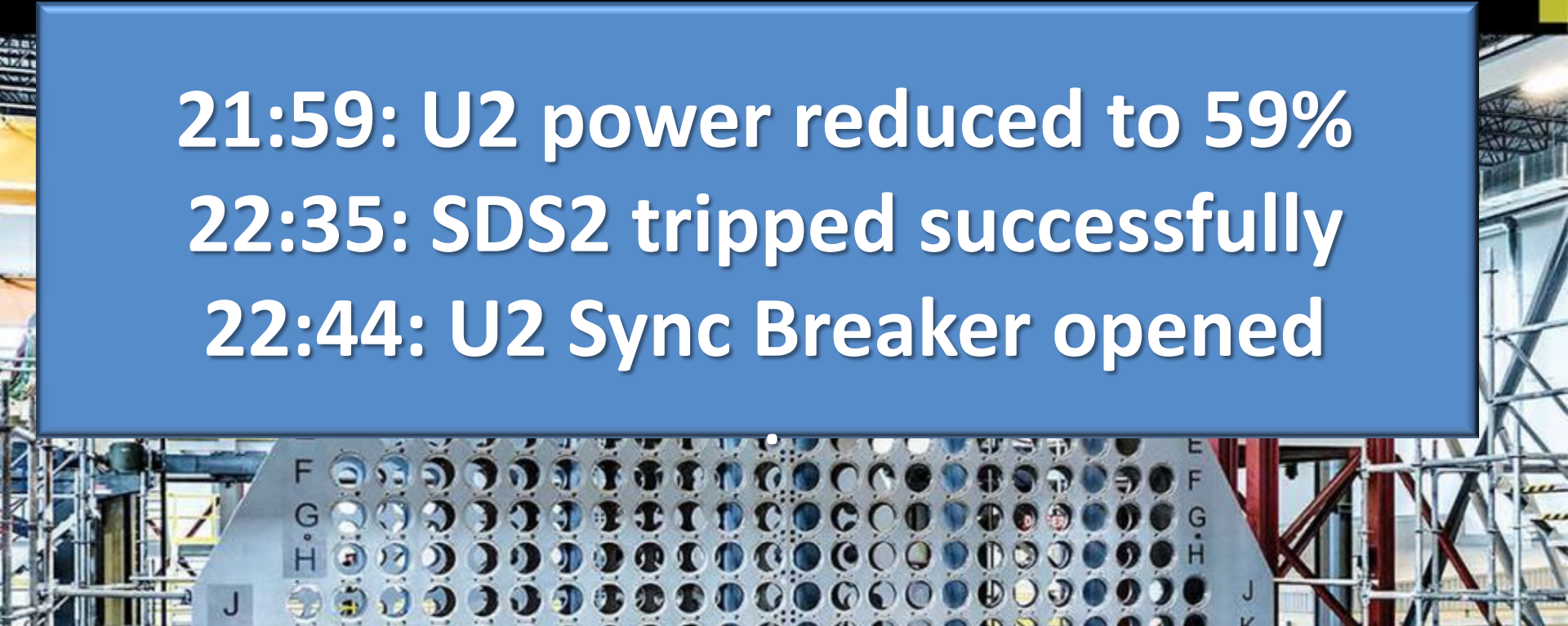
**ONTARIO** POWER  
GENERATION



# ONE TEAM POWERING SUCCESS

**Refurbishment of  
Darlington Unit 2 began Oct. 14....  
..as Promised**

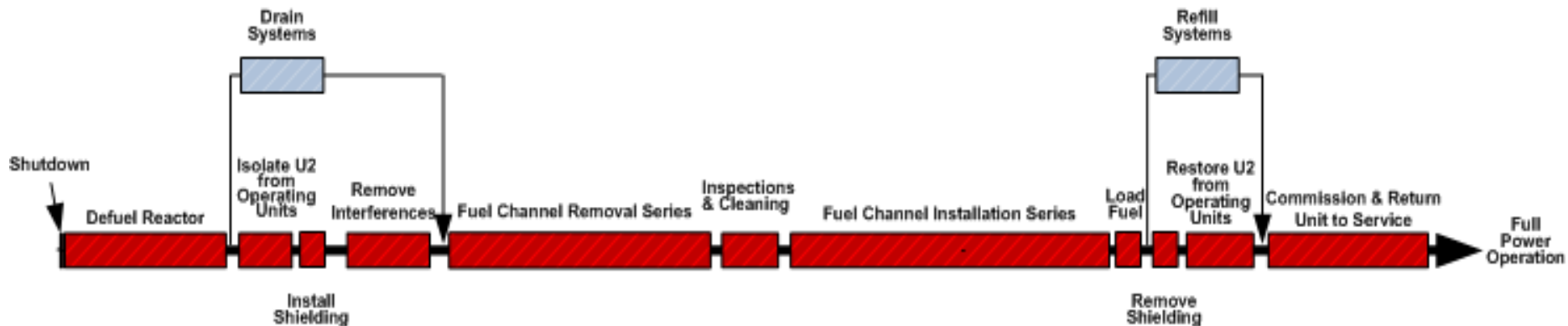
**21:59: U2 power reduced to 59%**  
**22:35: SDS2 tripped successfully**  
**22:44: U2 Sync Breaker opened**



# Where We Are Today



## Unit 2 Refurbishment Simplified Critical Path



- |               |                            |   |                |                               |
|---------------|----------------------------|---|----------------|-------------------------------|
| <b>STEP 1</b> | SHUTDOWN The Reactor       | ✓ | <b>STEP 6</b>  | REPLACE feeder pipes / tubes  |
| <b>STEP 2</b> | REMOVE fuel/heavy water    | ✓ | <b>STEP 7</b>  | REFURBISH major components    |
| <b>STEP 3</b> | ISLAND the unit            |   | <b>STEP 8</b>  | PLACE new fuel in the reactor |
| <b>STEP 4</b> | SET-UP platforms and tools |   | <b>STEP 9</b>  | RETURN heavy water to reactor |
| <b>STEP 5</b> | REMOVE tubes/ feeder pipes |   | <b>STEP 10</b> | RETURN reactor to service     |

← EXECUTE and overhaul other systems and equipment during project →

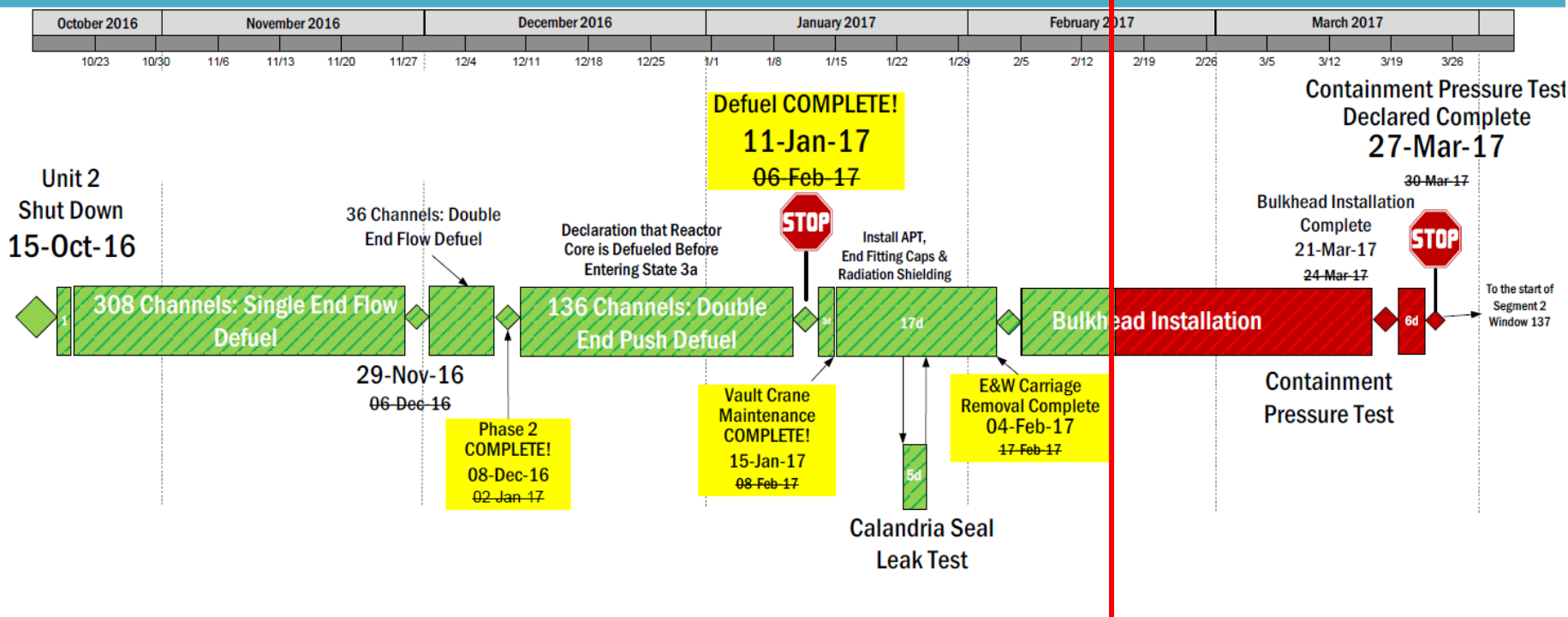
# Current Project Status



Day 130

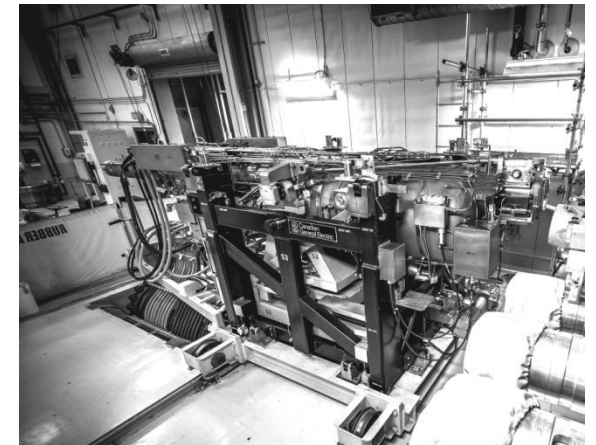
- Ahead of schedule
- On budget

## CRITICAL PATH STATUS - SEGMENT 1 - DEFUEL AND VAULT PREPARATIONS



480  
CHANNELS

6,240  
BUNDLES



DARLINGTON UNIT 2 REFURBISHMENT

**CONGRATULATIONS!**

**DEFUEL  
COMPLETE**

ONE TEAM POWERING SUCCESS



# Defueling Innovation



- **Dummy Fuel Bundles** – mimics bundles where there is limited flow – push fuelling



- **Dummy Bundle Push Tool** – helps safely remove fuel



- **Flow Restrictive Outlet Bundle** – mimic flow resistance of a fuel string



- **Universal Carriers** – fuel and defuel with the need to swap tools





# Key Successes



## Lessons Learned:

- Early formation of the team- early planning
- Equipment reliability investments
- Building the right team – staffing and training
- Risk management and contingency planning
- Comprehensive reporting

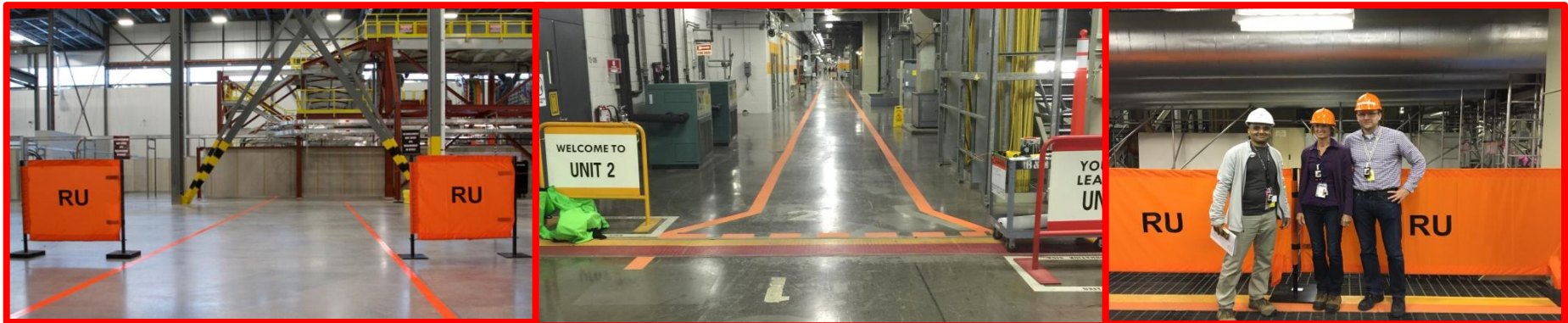


# Current Project Focus



## Islanding the Unit:

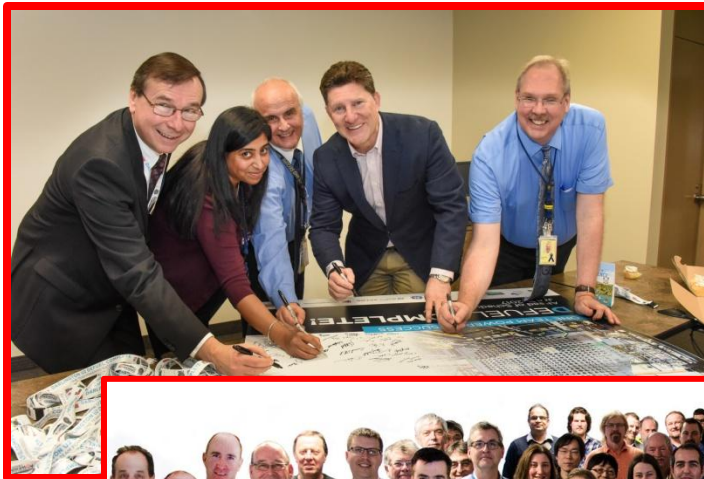
Creating a safe, precise work area separated from the operating units through a system of physical barriers and controls



# Team Recognition



- Recognition event for staff and suppliers
- ONETEAM!



# Thank You



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