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**Oral presentation by
Énergie NB Power**

**Exposé oral par
Énergie NB Power**

Follow up from January 25, 2023
Commission Meeting

Suivi découlant de la réunion de la
Commission du 23 janvier 2023

**Update on partial loss of Class IV
power and heavy water leak of
December 2022 at NB Power's Point
Lepreau Nuclear Generating Station**

**Mise à jour au sujet de la perte
partielle d'alimentation électrique
de catégorie IV et fuite d'eau lourde
de décembre 2022 à la centrale
nucléaire de Point Lepreau
d'Énergie NB**

Commission Meeting

Réunion de la Commission

September 20-21, 2023

Le 20 et 21 septembre 2023

Point Lepreau Nuclear Generating Station

Update on Partial Loss of Class IV Power
and Primary Heat Transport (PHT) System
Leak in December of 2022.

CNSC Commission Meeting
September 20, 2023



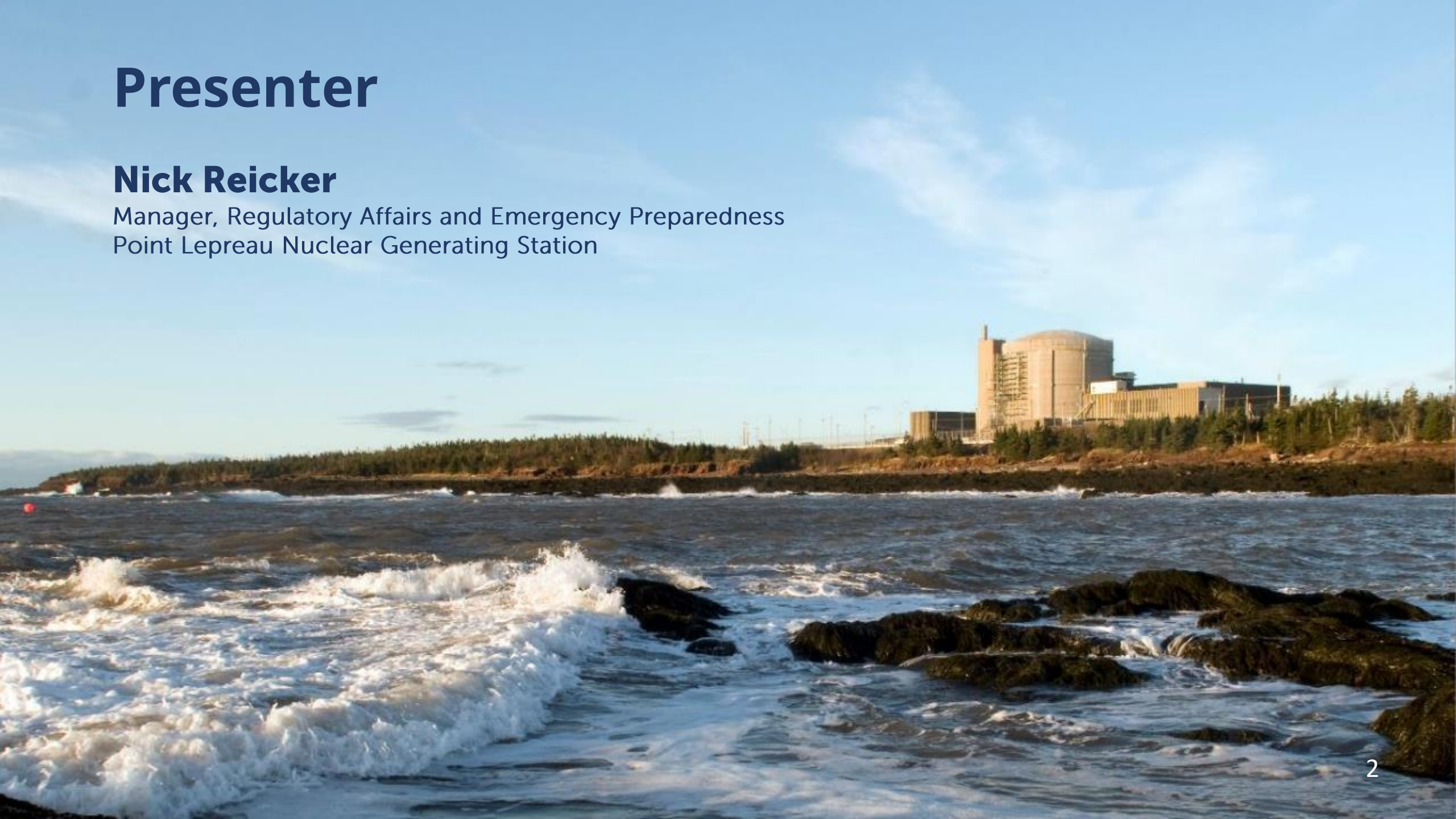
the power of possibility
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Presenter

Nick Reicker

Manager, Regulatory Affairs and Emergency Preparedness
Point Lepreau Nuclear Generating Station



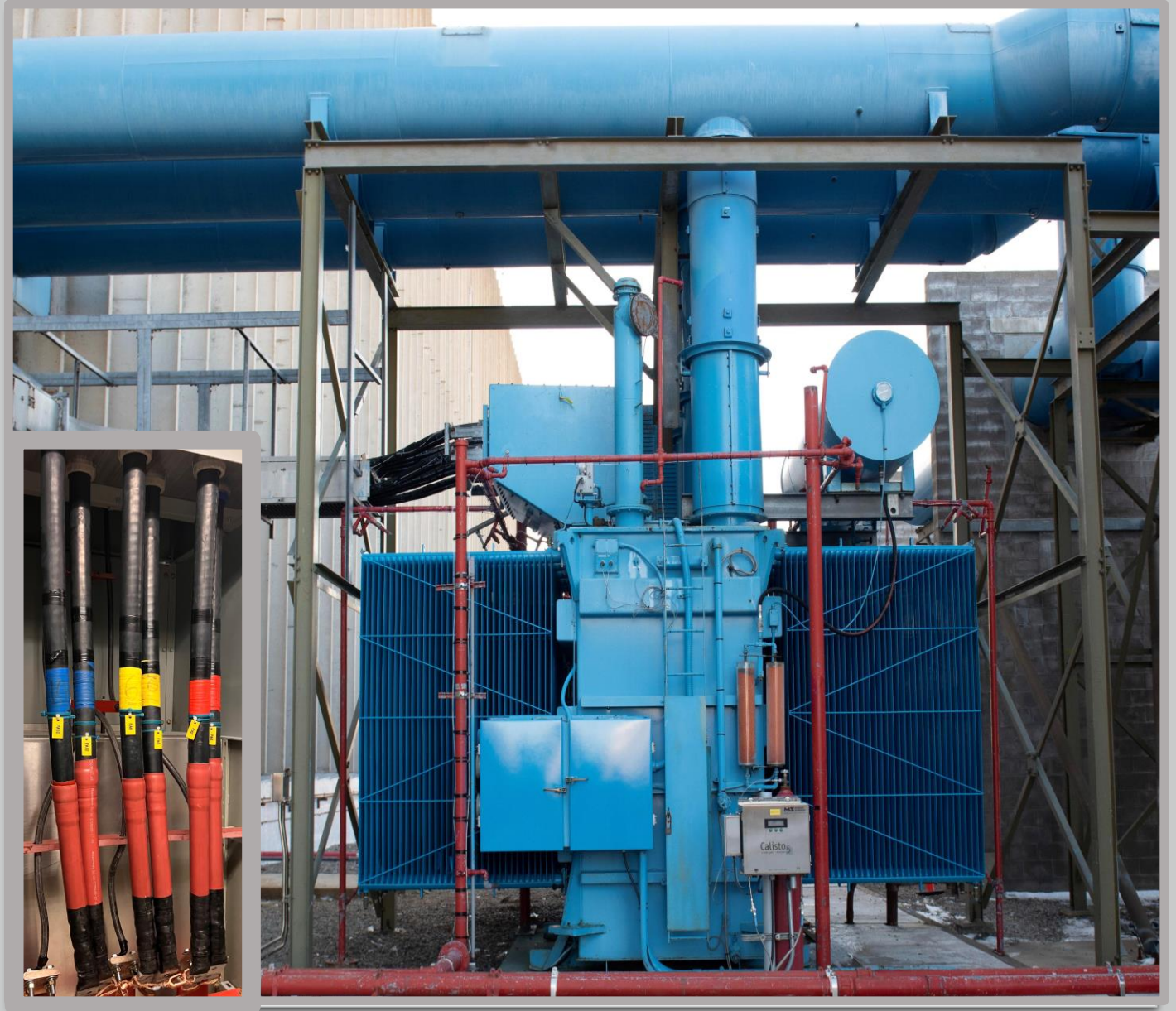
Event Summary

- On December 14, 2022, the station was taken offline due to a partial loss of Class IV power:
 - An electrical fault on the Unit Service Transformer (UST) initiated the automatic shutdown of the transformer.
 - The fault was determined to be due to a separation of the cable connector shielding on cable PA-18.
 - Shortly after, reactor building annunciators indicated the presence of a contained leak from the Primary Heat Transport system associated with a 3/8-inch instrument line.
 - The analysis of the instrument line determined that it was a result of high cycle fatigue.



Lessons Learned

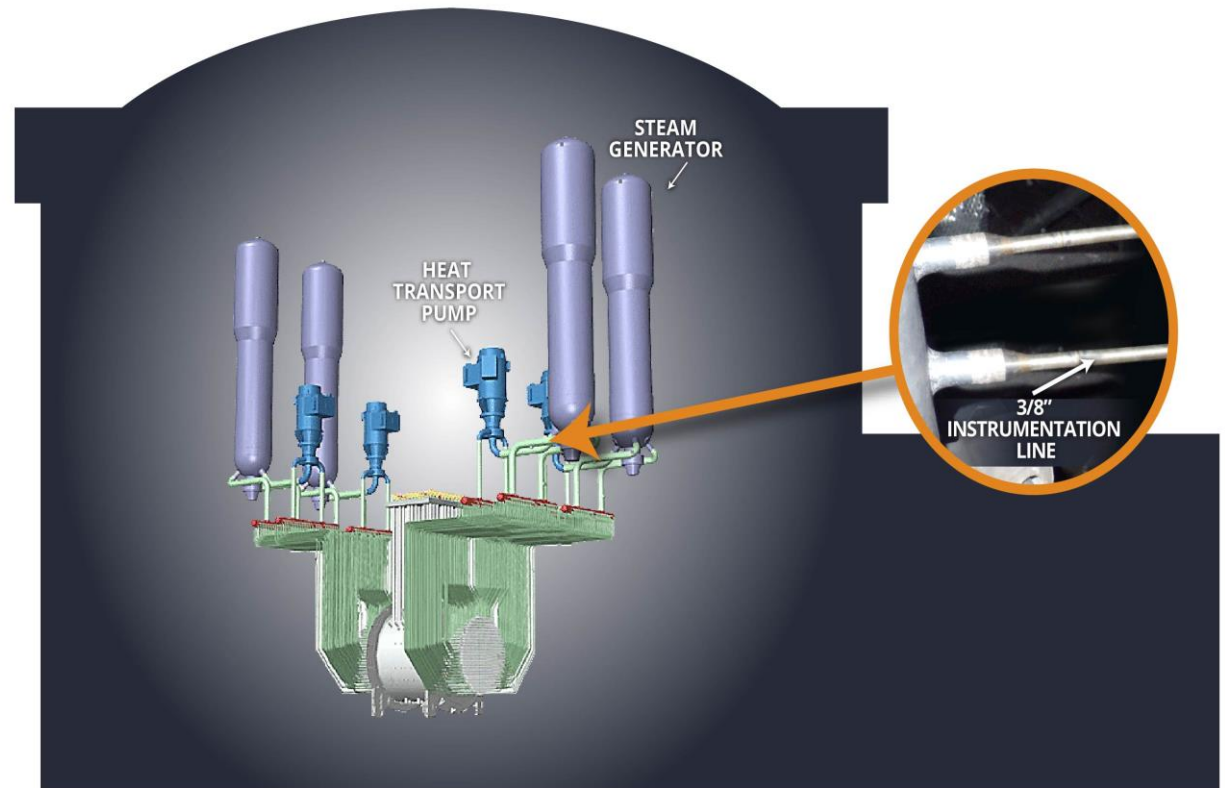
- Cable terminations performed in 2019 on the UST did not have the required overlapping of copper shielding.
- The procedure for conducting the cable terminations did not provide sufficient guidance for overlapping the copper shielding.
- The subject matter expert for the terminations had insufficient detailed technical direction.
- The station is updating our infrequently performed maintenance process to incorporate the lessons learned from this event.
- Extent of condition for all similar cables has been performed.



Lessons Learned (cont'd)

- Analysis determined the cause of the failure to be high cycle fatigue cracking on the instrument tube near a weld.
- Weld repairs to cut and cap the affected instrument line were successfully completed.
- Three similar instrument lines were cut and capped as an extent of condition and preventive measure.
- Instrumentation lines were associated with restriction orifice monitoring installed during original construction.

Reactor Building



Lessons Learned (cont'd)

- The stations Emergency Response Organization was assembled at the onset of the event, and transitioned into an outage organization.
- Response included CNSC, NBEMO along with industry and government response partners.
- Station staff responded in accordance with established plans and protocols.
- There were no unplanned radiation exposures to workers.
- The total dose to station staff was less than 74 mSv; this includes the dose received during the event response, repairs to the instrument line, and clean-up activities
- The dose to the public was estimated to be <0.01% of the public dose limit.
- No adverse impact on the environment as a result of the event.





First Nations, Community & Industry

- NB Power is committed to open and transparent communications and have shared the lessons learned with the First Nations, community and industry partners.
- Safety of the station, staff, public and environment are our overriding priority.

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