



H.G. Acres 2026 + Powering Positive Change symposium

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HATCH

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Modernizing a Legacy Asset for the Next Generation

McCormick Dam

Jeremie Toupin

Timeline Experience with McCormick

1940

Number of T&G 2 | Total Power 88MW

1940-1949 | Hatch designed the McCormick dam complex and powerstation for SCHM

1950

Number of T&G 5 | Total Power 222MW

1952 | The first two generators, with a capacity of 41.9 MW each, were commissioned

1955 | The power station at the McCormick dam saw another three generators installed of 44.8 MW.

1960

Number of T&G 7 | Total Power 342MW

1964 | The final two generators with a capacity of 59.8 MW each, were commissioned

1980

Number of T&G 7 | Total Power 350MW

1987 | Units 1-5 Turbine upgrade study

1988 – 1992 | Units 1 & 2 Turbine replacement and generator rewind

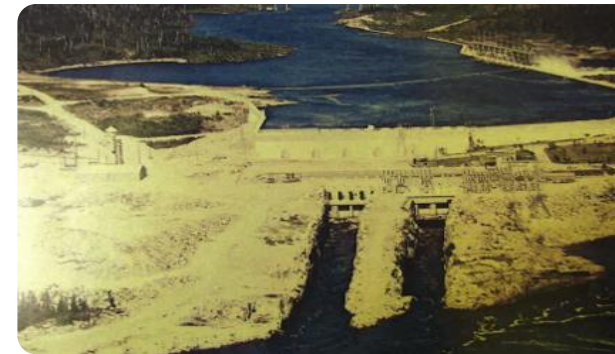
1990

1994 – 1995 | Fire protection system addition to step-up transformers

1998 | Units 3-5 refurbishment study

1998 – 1999 | HV Transmission study

1999 – 2000 | Unit 3 generator rewind, governor replacement and automation



Timeline Experience with McCormick

2000

Number of T&G 7 | Total Power 375MW

- 2001** | Replacement of 69:161 kV Auto-transformers
- 2002-2005** | Unit 3 to 5 generator rewind, turbine refurbishment and runner replacement governor replacement and automation
- 2005** | 69 kV Switchyard upgrade, design and construction management
- 2006-2010** | Unit 6-7 Generator refurbishment, design and construction management

2010

- 2016 – 2019** | Replacement of T&G sets 1 and 2
- 2017 – 2018** | Study to increase the power of T&G 6 and 7
- 2017 – 2021** | Replacement of transformers 6 and 7, modification of the structure, modification of the deluge system
- 2018 – 2021** | Replacement of the rotor spider of T&G 2
- 2018 – 2022** | Replacement of cooling system and filtration
- 2019 – 2021** | Cracks studies of rotors spider 3 to 7
- 2019** | Development of a platform for continuous monitoring of transformers on PI-Vision

2020

- 2020** | Study of the fire protection system for T&G 1 to 7
- 2020** | Spillway gates screw winches and diagnosis of lifting problems
- 2020** | NERC study
- 2020 - 2021** | Runner repair procedure 6 and 7
- 2021 – 2023** | Replacement of the rotor of T&G 5
- 2020 – 2025** | Draft tube platform 1 to 5

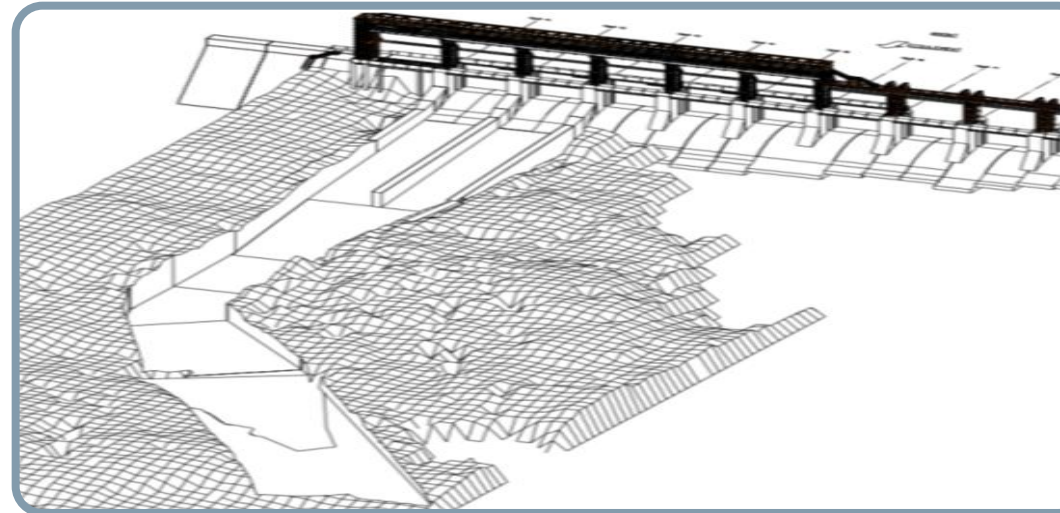


Future Projects with McCormick

Future

Number of T&G 7 | Total Power 420MW

2022 – Present | Replacement of T&G 6 and 7
2024 – Present | Spillway modernization



Various Aspects for Successful Delivery

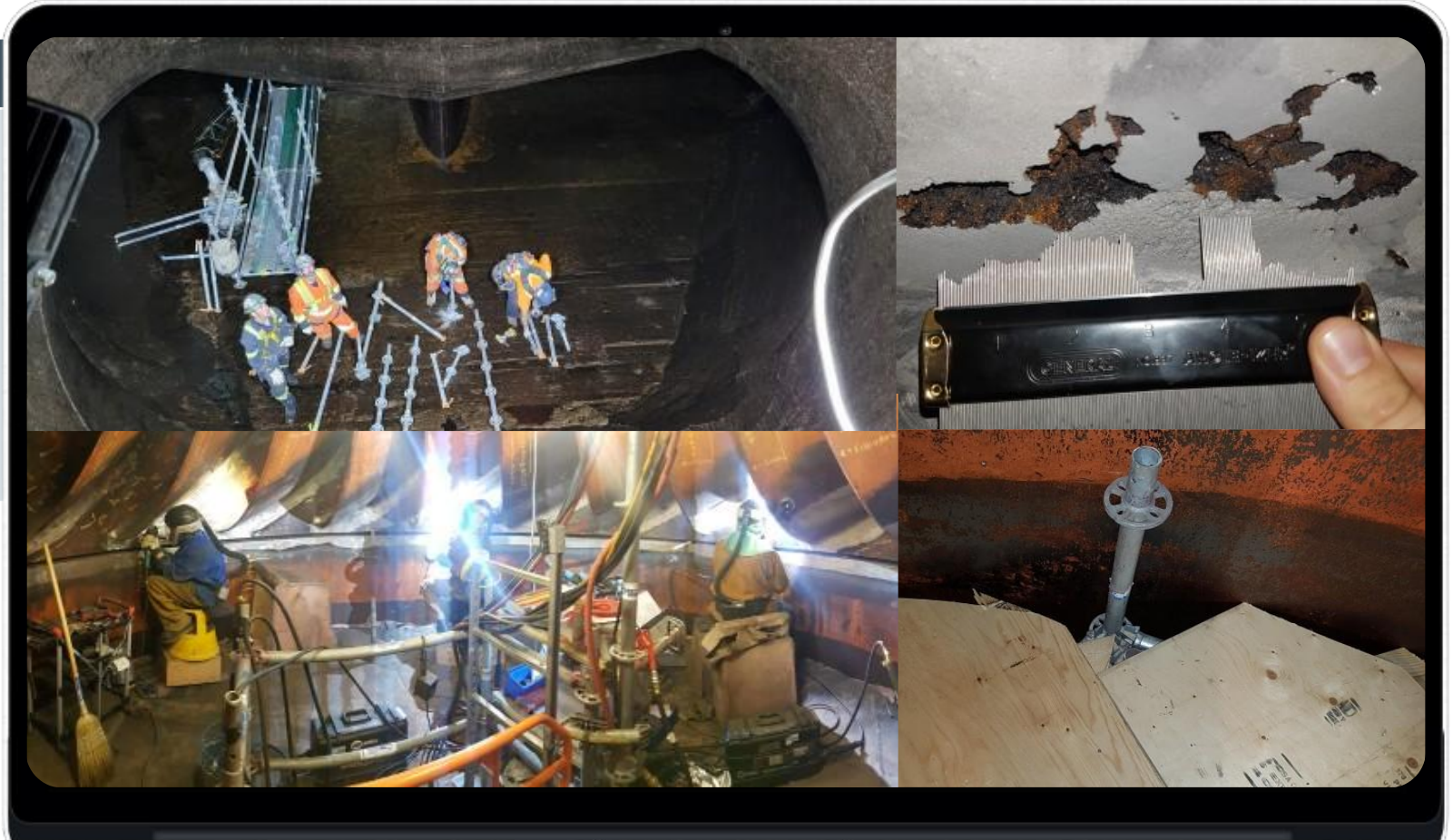




Health and Safety - Draft Tube Turbine Platform

Prior Major Drawbacks

- Logistic Complexity
- Health and Safety Risks in a confine space
- Technical Limitations





Health and Safety - Draft Tube Turbine Platform

Key Takeaways

- ✓ Significant safety improvement for inspection teams
- ✓ Simplified access method under the runner
- ✓ Faster and more reliable inspections
- ✓ A durable solution designed specifically for existing installations

**Installation de la
plateforme aspirateur
SCHM**

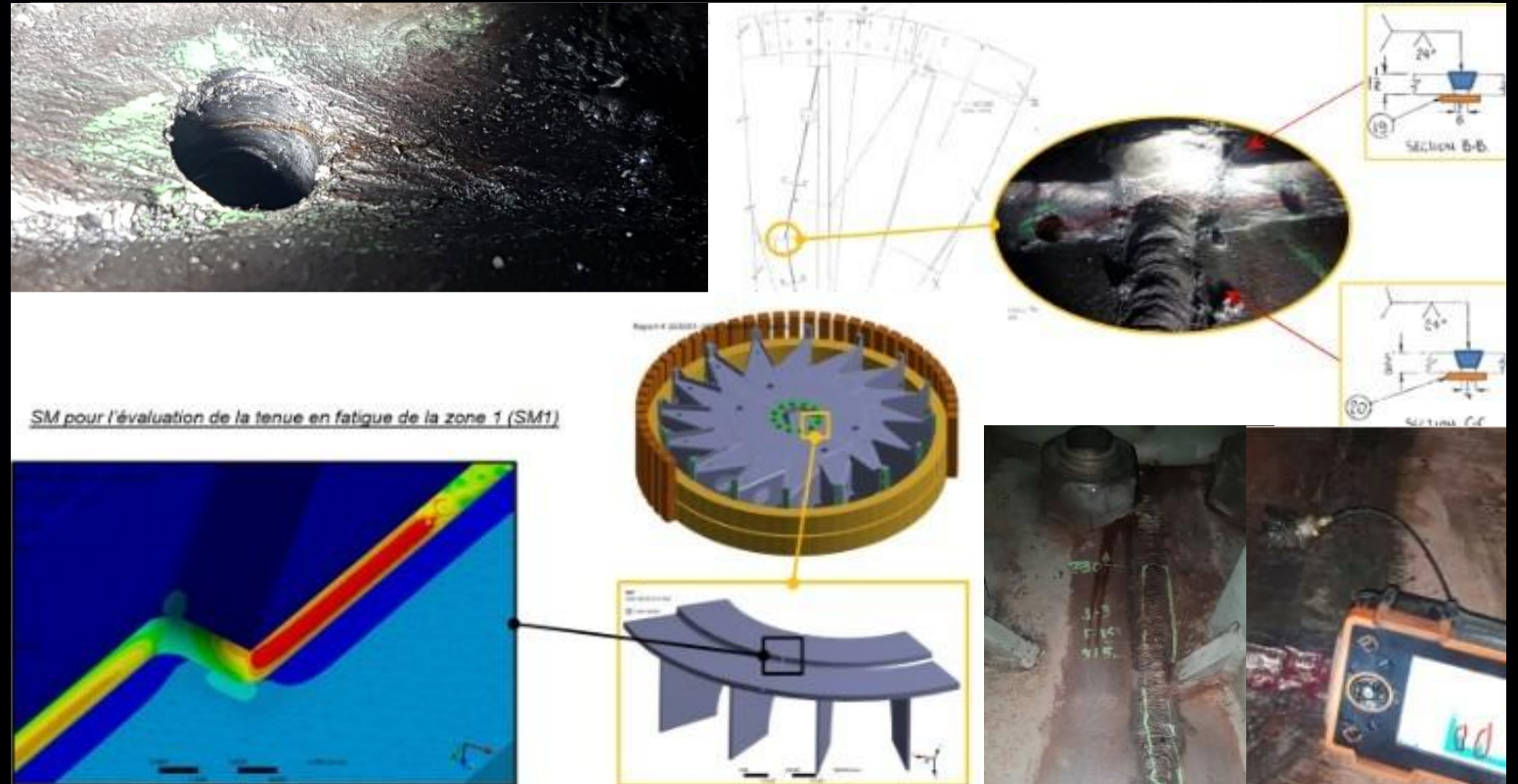
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Life Extension - T&G 2 and 5 Rotor Spider

Prior Major Drawbacks

- Existing units of 1952 and 1955 with multiple progressing crack
- Technical Limitations of OEM design
- Increase in inspection requirement
- Unplanned shutdown
- Increase of OPEX





Life Extension - T&G 2 and 5 Rotor Spider

Key Takeaways

- ✓ FEA and crack propagation
- ✓ Life extension campaign
- ✓ Risk/Cost/schedule study
- ✓ A custom designed rotor spider specifically pile rotor

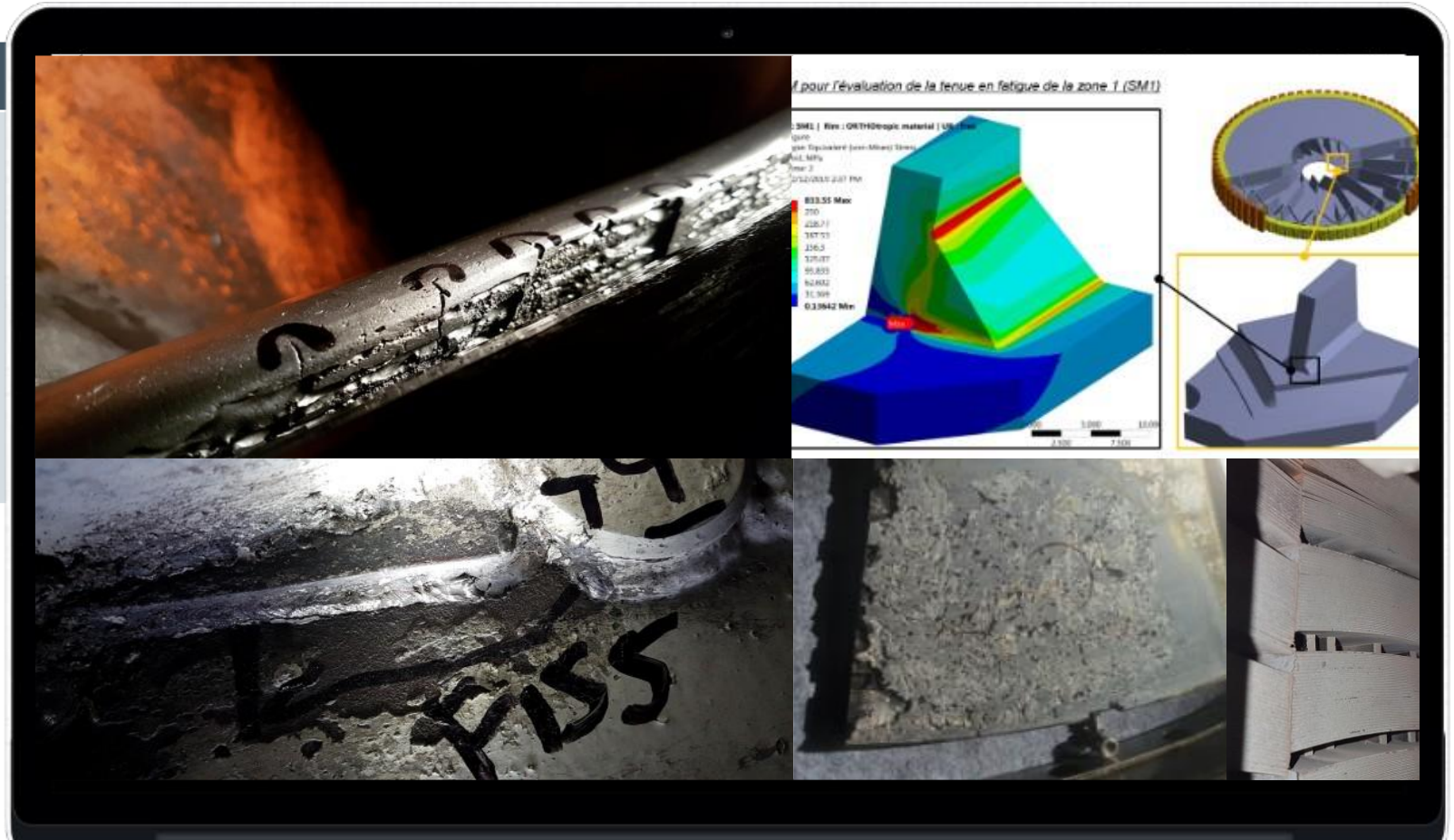




Opportunity for Power Upgrade - T&G 6-7

Prior Major Drawbacks

- Turbine Low efficiency
- End of live units
- Increase of unplanned shutdown
- Increase in OPEX

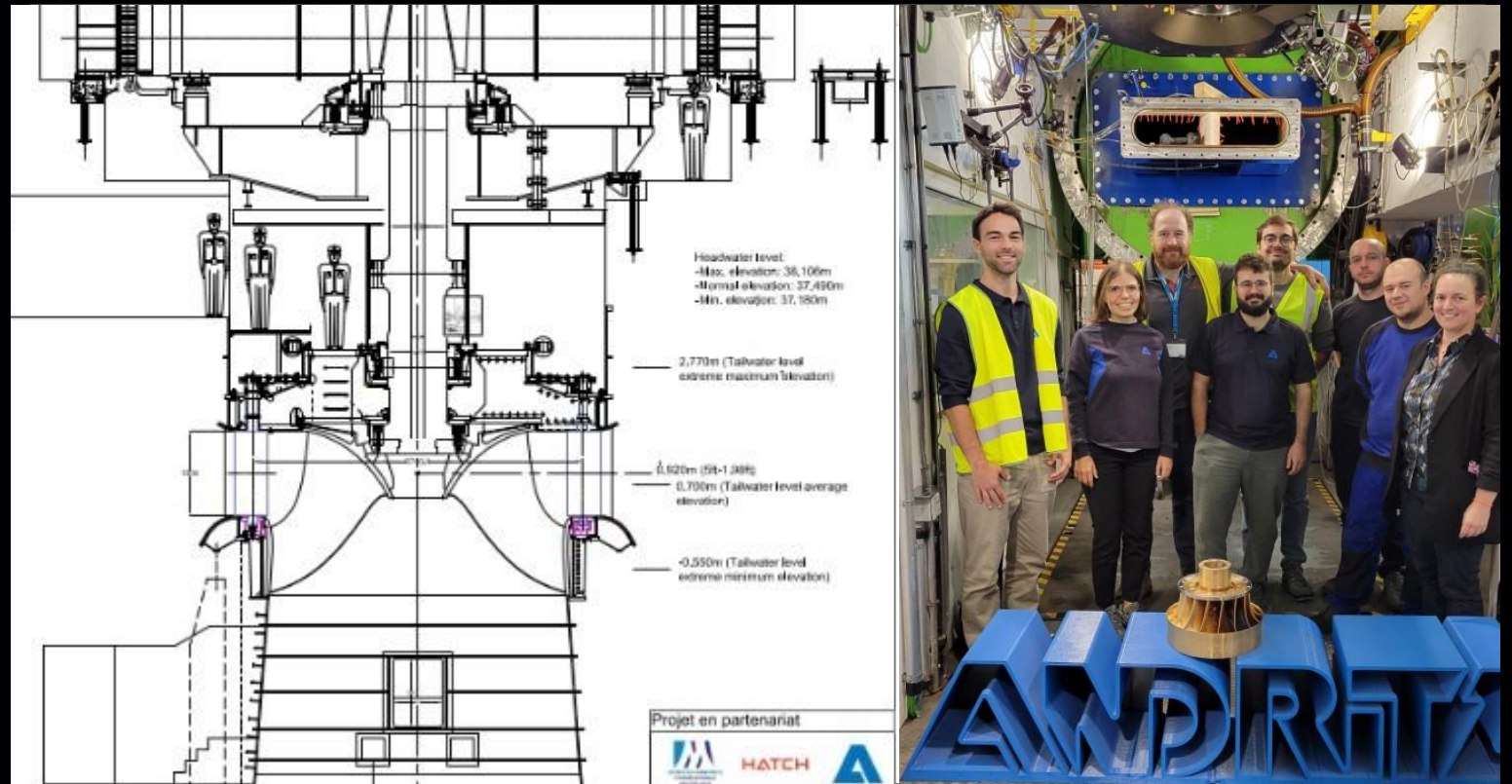




Opportunity for Power Upgrade - T&G 6-7

Key Takeaways

- ✓ Plan Outage 2029-2030
- ✓ 40% of power Upgrade
- ✓ Efficiency increase to 94.1%
- ✓ Increase in lifespan for another 70 years



Let's build positive
change, together.

Thank you.

For more information, please visit hatch.com



