

THE ROLE OF AN INDEPENDENT ENGINEER IN THE IMPLEMENTATION AND MANAGEMENT OF THE SYDNEY TAR PONDS REMEDIATION PROJECT

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TODAY'S OBJECTIVES

- Quick overview of the Sydney Tar Ponds Remediation Project
- Describe the Independent Engineer role
- Describe the value added by the Independent Engineer
- Describe the Benefits and Challenges



SYDNEY TAR PONDS REMEDIATION PROJECT

- ① What is the project?
 - A very large project, \$400 million
 - A long project, 10 year design and construction, complete by March 31, 2014
 - Publicly funded by Canada and Nova Scotia
 - History of previous cleanup attempts
 - Subject to intense public scrutiny



SYDNEY TAR PONDS REMEDIATION PROJECT

- ① Commonality with other very large projects
 - Objectives are defined but path to completion is variable
 - Multiple Stakeholders have different interpretation of objectives
 - Field Conditions are never exactly as defined
 - Budget and Schedule under constant pressure
 - Change is inevitable and must be managed consistent with original objectives



SYDNEY TAR PONDS REMEDIATION PROJECT

In summary, the project is...

A very large, long term, publicly funded, project that has to satisfy several important stakeholders while adapting to change under intense public scrutiny.



Independent Engineer

🌐 What is the Independent Engineer?

An independent third party that monitors and validates technical, financial, schedule and health and safety aspects of the Project.

An integral part of Project Governance.



Independent Engineer

🌐 Why have an Independent Engineer?

Represent the interest of the “project” and the public separate from the individual interests of the owners, managers, designers contractors.



Projects with Independent Engineer

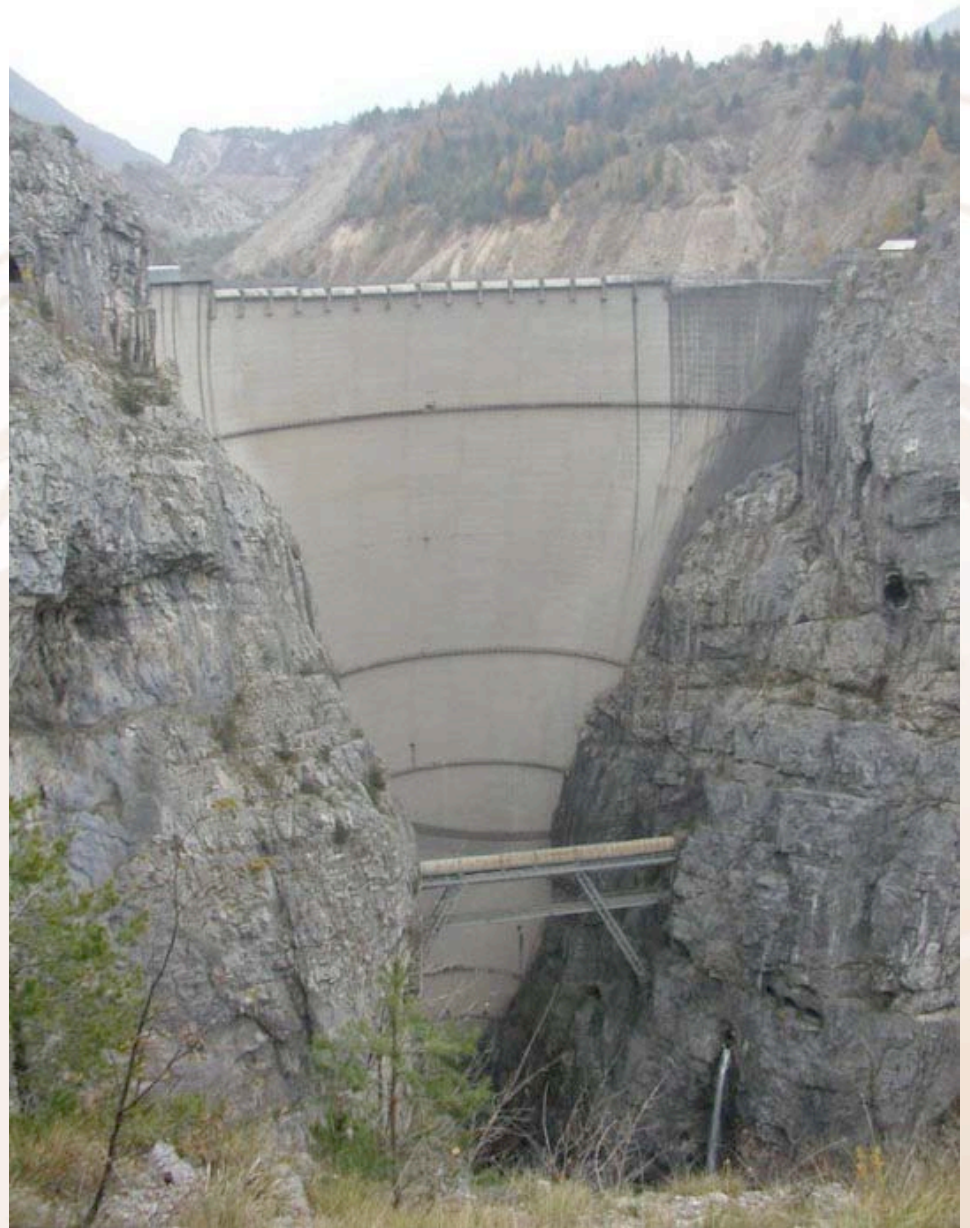


Confederation Bridge
PEI – New Brunswick



Projects That Would Have Benefitted

Vajont Dam, Italy
Landslide and Overtopping
in 1963 of 262m dam by
250m wave killed 2,000



Independent Engineer

PURPOSE

- Ensure that strategic objectives are achieved throughout the implementation process
- Confirm that expected value has been received



Independent Engineer

INDEPENDENCE

- Separation of Contractual and Reporting responsibilities:
 - Contractual: Hired by Nova Scotia and managed by a person not otherwise involved in the Project
 - Reporting: Report to Project Management Committee



Independent Engineer

DUTIES

- Financial Monitoring
- Schedule Monitoring
- Technical Quality Oversight
- Health and Safety Monitoring
- Risk Monitoring

All defined in IE Operating Manual



Independent Engineer

Financial Monitoring

- “Certify” monthly STPA payment applications
- Review and comment on:
 - Quarterly Cost to Complete reports
 - Budgets and budget revisions
 - Contemplated Change Orders and Change Orders



Independent Engineer

Schedule Monitoring

- Consistent with MOA and Implementing Agreements
- Schedule addresses complete scope
- Schedule is achievable with planned resources
- Focus on achievement of critical path



Independent Engineer

TECHNICAL QUALITY OVERSIGHT

- Value for funding requires appropriate quality
- Ensure development and implementation of relevant QA/QC Plans
- Technical review documented in a tracked comment and response to comment format with timelines attached to each document



Independent Engineer

TECHNICAL QUALITY OVERSIGHT

- Issue milestone documentation to PMC
 - Compliance Letter for design packages
 - Verification of bidding process
 - Acceptance Letter - Substantial Completion and Completion
 - Letter Documenting overall completion



Independent Engineer

HEALTH AND SAFETY MONITORING

- Ensure that STPA fulfills its H&S mandate
- Review Master HASP
- Passive monitoring role
- Monitor implementation of site-specific HASP



Independent Engineer

RISK MONITORING

- Monthly review
- Identify, monitor and track internal and external risk factors
- Reported in monthly report to PMC



BENEFITS and CHALLENGES

BENEFITS

- Transparent third party validation in a timely manner
- Additional level of assurance and risk management
- Additional resource for problem identification and solving



BENEFITS and CHALLENGES

CHALLENGES

- Maintaining independence
- Separating IE bias from accepted practice
- Achieving universal understanding of IE role



CONCLUSION

VALUE ADDED

- Early detection and definition of potential to exceed budget and schedule while there is still time and budget balance to react
- Transparent third party validation of work in progress



APPLICABILITY

Most applicable to some or all of:

- Large multiple stakeholder projects
- Projects requiring transparent accountability
- Court ordered actions
- Owners that require additional expertise
- Large projects heavily financed by banks



Thank You



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