



COAA Industry Benchmarking

If you are not keeping score you
are just practicing





COAA Industry Benchmarking Committee Members

- Don Mousseau Suncor Energy Inc.
- Steve Revay Revay and Associates
- Lea Chambers Golder Associates Ltd.
- Bob Montgomery Colt Engineering
- Larry Sondrol Suncor Energy Inc.
- Dave Williams Bantrel
- Patricia Armitage Alberta Employment





COAA Industry Benchmarking

Committee Members (con't)

- Richard Haack Shell Canada
- Warren Rogers Flint Energy
- Lubo Iliev Bantrel
- Greg Taylor Nexen
- Korey Jackson Stantec





OBJECTIVES

- Identification of COAA **metric** requirements
- Development of a **custom benchmarking questionnaire**, and **tailored** to the characteristics and environment of the COAA projects
- Establishment of a **set of benchmarks for the Alberta** projects using this questionnaire
- Documentation of COAA project performance against the **Alberta benchmarks**
- Identification and documentation of **factors and practices impacting project performance**





Project Phases

- Phase I: Metric and report definition.
- Phase II: Program data collection instrument and report.
- Phase III: Conduct onsite training and commence data collection.
- **Phase IV: Collect and validate data, perform analysis, develop an Alberta data set for benchmarking, and prepare project and company reports.**
- Phase V: Prepare Alberta Report documenting performance and quantifying the impacts of local factors on productivity and performance metrics.

Current





COAA Industry Benchmarking

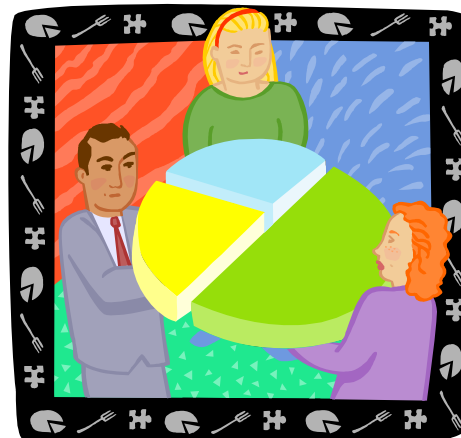
The following companies registered for the training:

- Shell
- Suncor Energy
- Opti Canada Inc.
- Imperial Oil Resources
- Petro-Canada (Oil Sands)
- Flint Energy Services
- Jacobs Canada Inc.
- Bantrel Inc.
- Canadian Natural Resources Ltd.
- Husky Energy
- Nexen
- Enbridge Pipelines
- Tri- Ocean Engineering
- Colt





Benefits of Benchmarking





Using Benchmarking to Improve Project Performance

- Review **project drivers** early on.
- Identify **Best Practices** to support goals.
- **Initiate questionnaire** at project sanction:
 - Enter general info, participant data, budget, target schedule and planned use of practices.
- Enter project closeout data and **submit project**.
- Use **reports** as part of project post mortem exercise for continuous improvement.





Monitor Project Performance

- The Confidential Online Key Report:
 - Is a “tool for self analysis”
 - **Assesses your performance** against
 - the database.
- Is pre-programmed to **compare** with similar projects.
- Can assist you in **identifying performance problems.**
- Can help you **locate sources of problems.**

Benchmarking & Metrics
Clear Small Project Key Report
WSD - Auto 104 (Global Estimate)

Project General Information

Company Name	Metco	Industry Group	Buildings
Project Name	Power Plant Database Estimate	Project Type	Lowrise Office
CII Project I.D.	07346	Cost Category	-SMM
Project Budget	\$2,989,490.00	Project Nature	Crans Root
Project Cost	\$2,866,078.00	Location	TX
Overall Project Duration	26 Weeks	Country Class	Domestic
Design - Startup Duration	16 Weeks	Country	USA

Performance Metric NORMS

Cost Performance			
Metric	Project Score	Database Mean	Percent Spending More
Project Cost Growth	-0.038	-0.078	37
Delta Cost Growth	0.038	0.108	30
Design Cost Growth	-0.174	-0.049	24
Procurement Cost Growth	0.000	-0.110	11
Construction Cost Growth	-0.078	-0.024	30

Phase Cost Factors

Metric	Project Score	Database Mean	Percent Spending More
Pre-Project Planning Phase Cost Factor	0.035	0.041	16
Design Phase Cost Factor	0.039	0.059	20
Procurement Phase Cost Factor	0.080	0.052	12
Construction Phase Cost Factor	0.804	0.882	31
Startup Phase Cost Factor	0.042	0.029	30





The Value of Benchmarking

- **Improves** project & company **performance** when used as an ongoing measure.
- **Establishes** improvement goals based on **external/competitive benchmarks.**
- **Enables** your company to understand & achieve **“best in class” performance.**



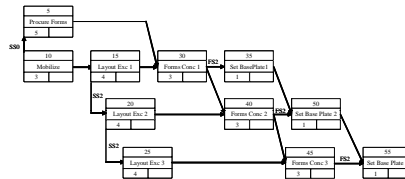


Performance Metrics

➤ Cost



➤ Schedule



➤ Safety



➤ Change

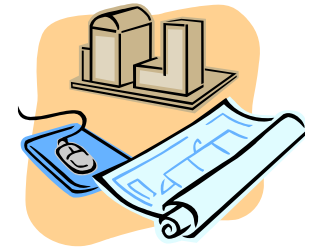


➤ Rework



➤ Engineering
Productivity

(Design Hours/IFC Quantities)



➤ Construction
Productivity

(Work-Hours/Installed Quantity)



➤ Estimating
Performance

(Actual / Estimated Productivity)

(Actual / Estimated Total Installed Unit Cost)





Benchmarking Associate Training





Join Us Now!

COAA Benchmarking Associate Training

Next session: Web-based Training

**→ June 20, 2007 @1pm - 5pm Mountain
Daylight Savings Time**

To register, please send an e-mail to

Deborah DeGezelle [debdeg@mail.utexas.edu]



Online Benchmarking System



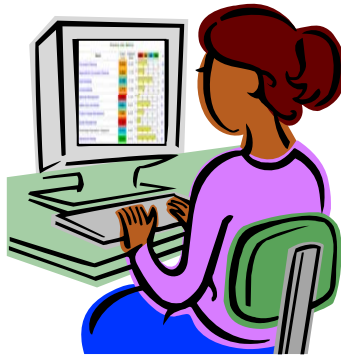
Remote Data Entry



COAA Database



Project Reports



Industry Analysis





COAA Industry Benchmarking

- Projects will be Benchmarked twice in the life cycle:
 - At Project Sanction or AFE
 - At Mechanical Completion

- The Questionnaire has been adapted to Alberta Projects to reflect our standards and typical metrics.

- Questionnaires are on web site





BM&M Project Central

<http://www.cii-benchmarking.org>

Construction Industry Institute
CIITM
benchmarking and metrics

Measure...
Assess...
Improve...
Repeat...



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[How Can My Company Get Involved?](#)

[Benchmarking Participants Program](#)

[Metrics](#)

[Benchmarking Staff](#)

The CII Benchmarking & Metrics program is a user friendly, resource efficient, statistically credible benchmarking system that provides quantitative data essential for the support of cost/benefit analyses.

Participants input their capital facilities project data into the Benchmarking online system, Project Central, and then assess their projects and company performance in real-time. Once data is entered, project performance is compared against a large sample of projects from some of the industry's most reputable firms.

Potential for improvement and actual cost savings can be quantified supporting further company self-analysis and improvement programs.

[How can my company get involved in CII Benchmarking?](#)

[Benchmarking Participants Only](#)

Log in to [Project Central](#)







Key Results



Benchmarking & Metrics

Owner Project Key Report

Testco

COMPANY CONFIDENTIAL

12-Feb-06



COAA

SAMPLE

Project General Information

Company Name	Testco	Imperial / Metric	Metric
Project Name	Test1	Industry Group	Heavy Industrial
Project I.D.	AO1001	Project Type	Oil Refining
Project Budget	\$ 527,000,000	Cost Category	> \$100MM
Project Total Installed Cost	\$ 546,000,000	Project Nature	Grass Root
Overall Project Duration	240 Weeks	Project Driver	Schedule
Design-Startup Duration	160 Weeks	Product Capacity	50,000 BOE / Day
Total Project Work-Hours	2,500,000	Project Location:	
Total Installed Cost / Major Equipment Cost	2.35	City	Ft. McMurray
Project Completion Date	N/A	Province	Alberta
Currency	CAD	Country	Canada
Historical Cost Index	N/A		





Key Results

Testco

COMPANY CONFIDENTIAL

AO1001

Actual Construction Productivity

Concrete						
Metric	Wk-Hrs	Installed Quantity	Unit Rate	Database Mean	4Q 3Q 2Q 1Q	n
Slabs						
On-Grade (CM)	0	0	N/A	DS	N/A	N/A
Elevated Slabs/ On Deck (CM)	25,117	5,791	4.34	6.80	1Q	16*
Area Paving (CM)	0	0	N/A	DS	N/A	N/A
Total Slabs (CM)	25,117	5,791	4.34	6.28	1Q	11*
Total Installed Unit Cost (\$/ CM)	Actual	Estimated	Act/Est	DB Mean		
	520	500	1.04	1.30	1Q	11
Foundations						





Key Milestones

- COAA and the Construction Industry Institute reached agreement to develop a “Made in Alberta” Benchmarking Program
- Government of Alberta agreed to fund 50% of the \$300,000 project cost
- Data has been or is being entered on 30 projects
- Training of 16 companies
 - 9 Owners
 - 7 Contractors
 - 69 Individuals





How to Participate?

Contact The Benchmarking Committee

- Steve Revay (Chair) sorevay@revay.com
- Don Mousseau (Chair) dmousseau@suncor.com





Benchmarking Workshops

12:45 – 2:00 Salon 8

2:30 - 4:00 Salon 8

- Larry Sondrol will be discussing the practical aspects of completing the questionnaire including the tools that have been developed to make the process simpler
- Dr. Steve Thomas of CII will be discussing the output from Benchmarking and current trends in benchmarking

Visit our Booth to Learn More!

