



## Alberta Megaproject Productivity – Challenges and Opportunities Industry Leaders Roundtable #3

**Breakout Group 1** – discussion & flip chart summary

### **Benefits & Business Case**

**for Twice as Safe, Twice as Productive by 2020**

#### **Benefits – Alberta Citizens**

- Improved capital effectiveness leads to more jobs (more projects will be sanctioned; ultimately more maintenance and sustaining work from operations)
- Construction and maintenance jobs are good jobs – high skill, challenging, well paying careers – for present generation and future generations
- Excellence in execution is attainable
  - Culture of accountability to deliver project promise
  - Alignment and trust lead to improved outcomes (win/lose is really lose/lose)
  - Fair share for all
- Keep sales tax at bay (construction and ensuing operations generate considerable revenue for all levels of government)

#### **Benefits - Workers**

- Job satisfaction and pride of accomplishment go up
- Shared involvement and engagement – recognize excellence at professional/trade levels
- Sustainable long term investment leads to career opportunities for current and future generations
- “Why do I care? My industry depends on me – and I depend on my industry.”

#### **Business Case**

- Realize the full potential of Alberta’s natural resources (production now 3 MMbbl/d, can be 5 MMbbl/d by 2020)
  - Match human resources with natural resources – realize potential of both of these Alberta Advantages
  - Sustainability of existing businesses, long term economic growth
- Better capital effectiveness reduces environmental impacts
  - Efficient technology and processes
  - Reduced rework and project waste
- Sustainable long term investment leads to stable business environment, which allows investment in R&D, technical innovation, business innovation, skills training, investment in capital - all foster capital effectiveness as well as individual careers and well being (career challenge and prosperity) of future generations

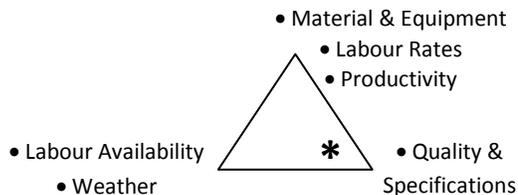
## Alberta Megaproject Productivity – Challenges and Opportunities Industry Leaders Roundtable #3

**Breakout Group 2** – discussion & flip chart summary

### Key Messages from Owners & Industry

re: **Twice as Safe, Twice as Productive by 2020**

- Multinational corporate investments are very sensitive to schedule and cost risks – Alberta must be perceived as reliable / predictable for these investments to continue
- Productivity is about shifting to excellent execution from concept to startup – involves all employees
- In next ten years, many mega-projects and hundreds of in situ projects are anticipated - adopt province-wide standard details, e.g. standard dimensions and structural members for pipe racks – a “manufacturing mindset”
- Encourage innovation within EPC firms (risks and rewards within same organization), or insist on collaboration between engineering and construction silos
- Alberta competitive position
  - Already below average in several other industries
  - Not as obvious in O&G - buoyed up by high resource prices, now eroding due to lower-cost completion from shale oil and gas
- What elements of risk associated with projects can we control? What elements are beyond our control, simply have to manage as they arise? Are we (all steps of the project) aiming too much to the lower right corner of the triangle?



- Owners can control execution strategies – set early in the process, then hold them
- An anecdote from the Roundtable discussions: In 2012, Fleur and other EPC’s were assigning engineers – several hundred of them - from offices around the world to work on projects in western Australia. In 2014, there are reportedly 4,000 unemployed engineers in Perth. The lesson: in our global economy, the investment tap can turn off quickly and dramatically. There is no room for complacency!



## Alberta Megaproject Productivity – Challenges and Opportunities Industry Leaders Roundtable #3

### Breakout Group 4

#### **The Call to Action** – discussion & flip chart summary **re: Twice as Safe, Twice as Productive by 2020**

Ian Silk's call to action at the Best Practices Conference:

#### **Owners**

- Provide leadership from the top, foster a culture of execution excellence
- Embrace change management to achieve execution excellence
- Unleash productive people – all through the project team

#### **Engineers and Contractors**

- Foster a culture of execution excellence
- Provide leadership within the project team
- Support apprenticeship system – the workforce of the future

#### **Labour Providers**

- Foster a culture of safety and productivity – the building blocks of execution excellence
- Partner with contractors and owners for industry-wide continuous improvement
- Support apprenticeship system – the workforce of the future

What will this look like?

#### Owners

- Provide leadership from the top, foster a culture of execution excellence
  - Stick to project strategy – do not plan on / default to schedule-driven decisions
  - Commit to a quality FEL, with decisions, drawings and materials on time.
  - Complete engineering before construction starts.
- Embrace change management to achieve execution excellence
  - Scrutinize current processes and procedures
  - Make use of best practices – COAA or others
  - Gauge effectiveness by benchmarking against the best
- Unleash productive people – all through the project team
  - Engage field execution team early – “alliancing” approach if appropriate
  - Establish craft strategy up front
  - Support apprenticeship system – internally and along supply chain



## Engineers and Contractors

- Foster a culture of execution excellence
  - Seek to understand client's business drivers
  - Commit to a quality FEL, with decisions, drawings and materials on time
  - Embrace the overarching goal of effective job planning - gauge effectiveness by field efficiency: "the right people with the right information, the right materials and the right tools, in the right place at the right time"
- Provide leadership within the project team
  - Be more proactive about innovation – may require "alliancing" with owner
  - Be passionate about management of change and using leading indicators to identify potential problems "ahead of the curve"
  - Embed efficiency - standardize/modularize
  - Speak plainly about imposed inefficiencies and developing problems
- Support apprenticeship system – the workforce of the future

## Labour Providers

- Foster a culture of safety and productivity – the building blocks of execution excellence
  - Encourage professionalism and pride
  - Encourage leadership (initiative and accountability) at the workplace
  - Invest in training and development, particularly in supervisor development (ICCS)
- Partner with contractors and owners for industry-wide continuous improvement
  - Be more proactive about grass-roots innovation – may require changed relationship with employers
  - Win-win solutions to enhance morale and manage craft turnover
  - Speak plainly about imposed inefficiencies and waste
- Support apprenticeship system – the workforce of the future



## Alberta Megaproject Productivity – Challenges and Opportunities Industry Leaders Roundtable #3

**Breakout Group 3** – discussion & flip chart summary

### **Suggested Messages for Consideration by Government**

**re: Twice as Safe, Twice as Productive by 2020**

- Long history of productive partnerships between Government of Alberta and COAA
  - 2002 – Alberta Human Resources and Employment & COAA – WorkSafe Alberta
  - 2012 – Alberta Jobs, Skills, Training and Labour – Construction Trades Workforce Projection
  - 2014 – Alberta Innovation and Advanced Education – Productivity Improvements
- Improving productivity is not about sacrificing safety – the goal is productivity and safety – government and industry are completely aligned on this goal
- Capital effectiveness is not about workers on site hammering faster – it is about excellence in execution, starting at the scoping and planning stages, through contracting, procurement and site work – the whole project value chain
- Productivity improvement will not happen by any silver bullet – it will take all of us together: GoA, citizens, owners, EPC, contractors, subcontractors, labour
  - Everyone has something to contribute – and the responsibility to do so
  - Everyone has something at stake – protect their own job – protect the economic strength of Alberta – protect the opportunities for future generations
  - GoA will work with COAA to understand productivity challenges and opportunities, to stimulate change and to measure progress
- We all need to feel a greater sense of urgency – perhaps we are the complacent frogs in the steaming pot, but the pot is boiling because the bridge beneath is burning
  - If we succeed at improving productivity ... we continue to lead the country in growth. If we fail ... the knock-on effect go beyond construction. Losing projects means losing jobs, losing investment, losing growth, losing opportunities to diversify our economy ... and losing quality of life through schools, hospitals not built, social services not provided
  - If the economy slows and jobs are lost even temporarily, could result in loss of training and development investment to date as construction skills migrate elsewhere
  - We watch other booming economies, watch how they lose their investor appeal, try to avoid their missteps. One common slip-up is complacency – when business is booming, hard to focus on changing global environment or increasingly aggressive competition.
- “Social license to operate” immediately brings to mind environmental responsibility – the less prominent but equally important flip side is the sustainability of our workforce and reliability of the societal wealth generation that our projects bring.
- Who can argue against better productivity – better use of resources – better able to compete in the global economy
- The entire country is counting on us to get this right – 40% of all engineered construction in Canada occurs right here in Alberta: we must continue to be leaders.
- Tell the GoA, through COAA, what we can do to improve the government/regulatory climate for “Twice as Safe, Twice as Productive by 2020”
- Industry and government can work together to better tell the story of the challenges and the opportunities



## Alberta Megaproject Productivity – Challenges and Opportunities Industry Leaders Roundtable

**Twice as Safe, Twice as Productive by 2020**

### **Twelve Tips – “What You Can Do in the Next 60 Days”**

1. Share the “Leadership from the Top” plan within your organization. Set up an event to launch and communicate our plan to collectively improve our industry and to restore the reputation of our province as a leading jurisdiction in which to invest
2. Invest management focus - appoint a key senior executive to champion the productivity improvement plan, to guide implementation as appropriate within the company, and to work co-operatively toward culture change across the industry  
**or ...**  
if you are already doing above, better communicate existing initiatives so as to be a visible corporate leader
3. Develop a shared written vision to improve productivity throughout your team or company – bring everyone onto the same page. (One example: COAA Ten-Year Productivity Vision.)

#### **COAA Ten-Year Productivity Vision**

- World class project execution
  - “Better than (global) average execution” attracts better than average capital investment
- Owners, Engineers, Contractors and Labour ... “fair mutual benefit”
  - Common goal
  - Aligned on success
  - Risk sharing understood and optimized
- Our Alberta Advantage is evident
  - Highly skilled workforce
  - Technical excellence in engineering-intensive projects
  - Workforce supply/demand challenge has been “cracked”
- Innovation and technology play a key role in solving the “productivity problem”

4. Read Ed Merrow’s book *industrial megaprojects – concepts, strategies and practices for success*, and have your project leadership do likewise. Pick a section each month and have your team members discuss how it applies to your operation.
5. Develop and initiate a plan to have your team regularly utilize the COAA Best Practices (or equivalent) which directly relate to productivity:
  - Benchmarking
  - Advanced Work Packaging / WorkFace Planning
  - Modularization Strategy
  - Project Productivity
  - Contracting Strategy



- Workforce Forecast
  - Supervisor Training & Qualifications
  - Apprentice Training/Mentoring/Retention
6. Develop and initiate a plan to have your team regularly implement the Productivity Alberta tools or training applicable to heavy industrial construction productivity:
- Aligned Project Execution
  - Eliminating waste and creating value
  - Effective and efficient supply chain
  - Improving project execution practices
  - Analysis and insight into how well major projects are executed
  - Benchmarking to determine opportunities for improvement

### **Owners**

7. Develop and share in your organization a vision to focus on long term owner/contractor relationships (trust and alignment). Remember, “Trust and Alignment” is a strategy, while process and data are just tools. Evaluate if your project teams could be more transparent about business drivers and project priorities, to enable better alignment.
8. Review and refresh internal processes for assuring adequacy of FEED efforts and deliverables, and for assessing realism of schedule proposed for project sanction. Owner leadership plays a pivotal role in setting up projects for success.
9. Implement a plan to participate in benchmarking and then mine the data to improve own operations, engineer operations, contractor operations. Owners must drive progress. COAA will facilitate and encourage Benchmarking by Member and other companies

### **Engineers and Contractors**

10. Develop and share in your organization a vision to focus on long term owner/contractor relationships (trust and alignment). Spinoff benefit: long term relationships can better support training investments.
11. Implement a plan to improve productivity (don't leave it to chance): Standardize project management processes and reporting, then participate in productivity benchmarking and mine the data to improve your organization. COAA facilitate and encourage Benchmarking by Member and other companies.
12. Develop a written plan to train and retain apprentices, skilled journeypersons, strong supervisors, experienced project managers, and seasoned executives.