

# History of Workface Planning at Syncrude

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- **First piloted on Upgrader Expansion 1 (UE-1), 2000 – 2006 (multi-billion \$)**
  - Many learning's helped the formation of the COAA model in 2005
- **Used on Syncrude Emissions Reduction Project (SERP), 2006 – present (\$1B+)**
  - WFP not introduced until detailed engineering was 100% complete and construction 30% complete
- **2008 Prepared formal WFP Application Manual based on the COAA WFP model**
  - This document forms the basis for Contractor expectations
- **2008 – 2010, Some experience on 4 projects valued <\$500M each**
  - 2 projects have been completed and 2 are currently under construction
- **2010 hired a Construction Management Contractor to be a general contractor for a suite of Mining/Tailings projects**
  - WFP a requirement of the contractor
- **2010 Implemented a System for Managing (short interval management) for identifying barriers to executing the daily schedule**
  - SFM requires a daily plan from the Contractor, contractor identification of barriers that have arisen on the day, process for Owner representatives to work with the Contractor to break down barriers
  - WFP is the tool to remove barriers prior to field execution whereas SFM is the tool to collect and address barriers that come up daily

## Key Learning's

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- **Include Owner expectations for workface planning in contract documents**
  - Set specific expectations with detailed procedures
- **Involve the Construction Contractor in constructability and the path of construction during the Engineering and Procurement phase**
  - EWP's and CWP's constructed with consideration of FIWP's
  - Engineering 3D models support FIWP's
  - Procurement knows the requirements for WFP (electronic information and piece marking)
  - Fabricators required to follow requirements for electronic information and piece marking
- **The Project Management Team must manage to the procedures and take timely actions to correct deviations**
  - Owner PMT must understand the procedures, own the procedures and ensure alignment in the Owner team and the Contractor team
- **Construction contractor needs to drive the application of WFP**
  - Superintendents need to feel ownership for the FIWP's
  - Need to drive FIWP continuous improvement by ensuring field feedback to the planners
- **Manage the application of WFP to the right work – don't default to doing everything**
  - Civil/Earth and Pipeline work (single discipline with separation from other scope) may not require WFP
  - Earthworks does not require FIWP but rather needs daily equipment line up, standard packages for sand haul, sand placement, excavation
  - Consider WFP for mitigating the consequences of cost or schedule on critical scope

# Project Experience

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- **Expectations**

- **8 weeks of signed off work packs on the shelf ready to go**
- All aspects considered (safety, quality, RFI's, execution plan, materials, scaffold, cranes ...)
- Reflect the execution schedule
- Superintendent, GF and Foreman buy-in sought

- **Went Well**

- **Planners initiate RFI's prior to execution**
- **Minimize Foreman paperwork (helps with less experienced Foremen)**
- Cross trade jurisdictional conflicts almost non existent
- QC requirements identified early so issues can be resolved before work pack is in the field
- QC validates FIWP at completion before progress is earned
- Less rework than historical and shorter punch lists
- Few scaffold delays
- No waiting on materials
- Safety considerations reflected

- **Things to Watch**

- Superintendent buy in is critical for success
- FIWP's initially dissected by foremen to cherry pick activities
- Build in a feedback cycle from the field to the Planner to improve FIWP effectiveness
- **Consider having a planned value for each FIWP for progressing**
- Manage the squad check process for FIWP to avoid too many approvals (restrict to Safety, Quality and Superintendent)



# **Onshore Projects Business Improvement**

Work Face Planning Update

MRM Flare Upgrade Project

Nov 30, 2010

Upstream Americas  
Heavy Oil Onshore Projects

Duncan Lancaster

## Work Face Planning

COAA – Improve planning of workforce activities to improve productivity and reduce costs

- *better utilization of expensive resources*
- *improve HSE performance*

Implemented COAA model on MRM Flare Upgrade Project with:

- *focus upfront in home office vs field*
- *supplemental resources*

## Process Description

FIWP's are created for each discipline for an average of 10 workers X 10 Days X 10hrs (1000 Hours – Productivity included)

Approx. 600 FIWP will be created for the Flare Upgrade project based on the EWP'S and CWP'S.

Planning started in December, start FIWP's when dwgs IFC

Backlog Target - 8 weeks

One planner (GF level) for each discipline (Piping-Structural-Mechanical- Electrical- Civil-E&I-Scaffolding...etc.)

## Work Packages include:

Work scope

HSE info

Safe work practices

Bowties

Permit info

Sign off sheet

Inspection Test Plan

Materials

Tools / Consumables

Equipment

GF Check list

Drawings

Critical lift plans

3-D Shots

Scaffold request

Lessons learned

## Scaffolding

Upfront plan on scaffold

Scaffolder planner determines multi discipline use

Coordinator tags scaffolding accordingly for use by number of trades

Supervisors sign off when complete

This eliminates needless tear downs and rebuilds



## Planning

Permit Coordinator meetings, planning lead determines priorities (PL performs integrator role)

8 week look ahead schedule reviewed per discipline every Monday

Leading indicators include:

- Number of FIWPs complete 8 weeks prior to field execution
- Number of packs created monthly per planner / discipline
- Graph to show packs completed by due date. (Green, yellow & red)



# Owner Requirements



**COAA Workface Planning Forum**  
Calgary, Alberta December 1 2010

Presented by: Sean Przy



# Owner requires...

**Describe your WFP program  
&  
What projects have you implemented it on?**

## Owner requires...

**What are the contractor's internal procedures for managing key workface planning interfaces with other contractors and owner supplied services.**

# Owner requires...

**Describe the content and purpose of your Field Installation Work Packages.**

# Owner requires...

**How does the contractor organization define and progress the direct field labor scope?**

## Owner requires...

**In the capacity of a General Contractor, describe your processes and procedures to develop WorkFace Plans that address at a minimum the following requirements:**

- *Level 5 multi-discipline look-ahead schedule*
- *Access and Infrastructure Plan (including scaffolding, trailers etc.)*
  - *Crane and Equipment Plan*
  - *Material Handling Plan*