

IN-FIELD TRACK

WHAT ARE THE EXPECTATIONS FOR CONSTRUCTION CONTRACTORS & ENGINEERING FIRMS REGARDING INFIELD WFP?

Speakers:

- Mike Eichhorn – General Manager Major Projects, Nexen
- Al Wahlstrom – Director of Central Construction, Suncor Energy

Moderator:

- Lloyd Rankin – President, Ascension Systems Inc.

Questions to Panel:

1. How does the in-field portion differ from the front-end portion?
 - Al Wahlstrom – In terms of expectations in-field, Suncor is targeting getting to and keeping at workface to be productive; optimizing time. Front-end focus is on right deliverables to the field at the right time – engineering, materials & construction sequence, coming to the field when needed. The engineering group running into difficulty will shift resources to other work that may or may not be needed. Planning & delivering information to be delivered to field one workface at a time.
 - Mike Eichhorn – Executing plan in field. Counterproductive in field if there isn't work available to meet the expectations of the plan.
2. What evidence is needed from contractor or engineering firm that they understand WFP & are competent?
 - Al Wahlstrom – They must have experience & understand WFP; not necessarily exactly to COAA model but understand and expect that planning functions are critical to the contractor as well as owner. Integrate factors between all services with planning functions that arrive at solutions. Owners' expectations are that plans are followed. Expect engineer & contractor to understand that early planning will be done by owner. Have to show that they can work with that plan and they need to be able to rationalize any changes recommended.
 - Mike Eichhorn – Check the webpage for contractor and review their Mission Statement. Want to see that productivity is of a value to

company. Formal procedures & practices for WFP should already be in place & evidence that their people have been trained in WFP. See Organization Chart & importance of WFP in that chart & that they are auditing their procedures & making sure they are following them.

3. What would be your expectation regarding composition of FIWP? Do you feel type or location of work would change packages – disciplines, fabrication shops, work at site.
 - Al Wahlstrom – If we look at where COAA is work packages should be 1000 – 2000 man hours. Look at the crew size and make sure work packages are placed within one crew and complete within their particular shift eg. 10 & 4. The composition of WP is easy to file electronically and only the documentation that is necessary for use is physically put into packages to make manhandling the package easier. Eg, 1 drawing, 5 documents – only that which is needed at the workface. Everything else be electronically controlled. Suncor is trying to get the size of field teams into a more solid, reduced focus. To do that, to run quantity surveyors, unit rate process must be an extensive team in the field and progress through construction & FIWP packages – tailor monthly schedule around FIWP.
 - Mike Eichhorn – setting up packages. Make the packages how you want executed. Excavation, rebar, concrete are separate packages.
 - Al Wahlstrom – In the mod shops the workers go to the material. In the field, the materials go to the workface and the worker. A mod shop is easier to work off 100% electronic info because you can physically scroll through quickly. With workface planning or planning for construction, the information must be delivered to the mod shop in a timely fashion.
 - Mike Eichhorn – A fabrication shop is closer to a manufacturing process. Know how to move the materials – process or WFP?
4. How important are audits to support contractor & engineering claims?
 - Al Wahlstrom – Most people on projects don't appreciate audits; however, with a lot of information in one area, it is easier to look at the information and compare what happened from activity perspective. Work packaging allows pulling information to one area for governance.

- Mike Eichhorn – Internal audits are more important to stay efficient & flexible. That is the value of an audit.
5. Importance of education – what are you looking for to show organization is serious about education?
- Al Wahlstrom – We like to see from contractors (engineering & construction) proof of people trained in programs along with experience. The long term goal is to drive toward consistency. The education in place already is driving in this direction.
 - Mike Eichhorn – Need to change the mindset of people. Break bad habits – break them with education
6. Importance of education for subcontractors & the expectations of them and for companies employing them?
- Al Wahlstrom – Suncor holds the same position from training/planning perspective for a subcontractor as for a main contractor.
 - Mike Eichhorn – ditto
7. How are WFP expectations reflected in the various type of contracts?
- Al Wahlstrom – We cannot direct a contractor within a contract to use WFP. This would be an attachment to the contract and geared around execution plans of project. Part of the bid or pre-qualification process would present WFP information, including execution plans and it would be up to the contractor to apply response to those specifics. Otherwise, the contract won't move to the next level if this expectation is not met.
 - Mike Eichhorn – In a reimbursable contract, Nexen is more prescriptive toward WFP but in a lump sum, just front-end planning.
8. WorkFace Planners – Engineering vs Construction
- Al Wahlstrom – Key deliverables are FIWP & CWP. The Engineer delivers into the CWP; however, Suncor does not believe the engineer is the right person to prepare CWP and work out a CWP schedule. This requires a certain construction experience level. A joint effort will produce the best solution. Those components of WFP need to be provided by someone with construction experience.

- Mike Eichhorn – EWP feeds to CWP. Nexen does strategy on CWP, fill with engineering info and work packages follow.

Audience questions:

1. Highly repetitive work – pipeline across prairie – how would you break into 1000 hr packages?
 - Al Wahlstrom – In civil and piping packages with long sessions of repetitive work, the size can be adapted. You can use different criteria to separate work and package for crews.
2. John – Shell Scotford Upgrader – FIWP in place for contractor. Material missing. 1 per 380 packages had enough material. Undermined whole program and at the last months when material arrived became successful. When are owners going to get serious about material arriving in proper sequence?
 - Al Wahlstrom – Participants need to be in game together. Owners do not always have the most say, but the reality is that there are many players. We need to recognize that more than engineering deliverables are expected, supply chain as well. Whoever is supplying materials needs to be engaged. A key component is the material list.
 - Mike Eichhorn – There needs to be pre planning of which materials should be there first and this is a major failing of many projects across Alberta.
3. Could payment on work packages be tied to supply chain as well as engineering?
 - Al Wahlstrom – The focus is on construction activities and an extensive effort to develop front-end activities. We need to structure project organizations to get planning exercises into project development.
 - Dennis – There is too much focus on FIWP for trades person. We need to step back and be more observant that the package does not come together without all the other factors coming together and participate.

4. What do you think the challenges are to get engineers engaged?
 - Mike Eichhorn – Engineering is a different process from planning packages. Engineers are not who should be doing the workforce planning.
 - Al Wahlstrom – The expectations of engineering are that they are expected to work in the environment of execution even if it is not optimum to them. This is an area that is a challenge right now. Project schedule is developed best for the project and not necessarily engineering. There a slowly changing attitude in this area. As we work through a broader acceptance of WFP in industry, engineers will eventually come in line. They do not like to engineer on a speculative basis but they have to follow the project plan.
 - Mike Eichhorn – Engineers take the path of least resistance and are not in tune with construction.
5. Process Integration – Who should take the role of planning process from beginning to end?
 - Al Wahlstrom – In the last 35 years of experience, the EPC model started out as simple and contractors could put processes in place and supply the complete package. Now, we have gating processes from conceptual DBM to FEED and contractors are not present in those stages; although, they should have the accountability to employ WFP for that phase of project development. The strategy based on large capital project work and major projects group's prime focus is to provide these processes. When contractors are brought into the picture, they have to be engaged into this process. Contractors have to be able to be open and discuss these plans with the owner. Fundamentally, contractors are not involved in early phases. A lot of projects are large and need multi-contractors on site that should be split by process units. There needs to be a larger entity to take control & owners are taking this role.
 - Mike Eichhorn – Lump sum work was not popular 5 – 6 years ago and contractors were not willing to take risks. Owners have had to come in and take control of overall projects. This is good because the owner is the go-between for engineering & construction.

6. Owners have been reluctant to pay extra costs for integration?
 - Mike Eichhorn – Owners should be looking long term when deciding on spending – spend now to prevent extra cost later.
 - Al Wahlstrom – When are owners going to smarten up on spending? This is happening now.
7. When is owner/engineering going to identify systems early on for planning with regard to electrical planning?
 - Mike Eichhorn – We need to define major systems first, then break them down into subsystems. Nexen couldn't turn over Long Lake Phase 1 because of this issue. We need to define electrical systems early on so we can track progress on system as well as CWP basis. This is a big labour saving.
 - Al Wahlstrom – Start with the end in mind. Look at the systems that need to be delivered first which is the critical execution plan. Develop the structure for CWP as early as possible and build from initial FIWP structure based around systems and move them into the CWP to form around contracting structures and physical layouts of plant. Then the FIWPs are broken out in line with this plan. We need to deal with the issue of getting systems operational in a timely fashion.
8. How WFP changes contracting strategy & timing of getting contractor in?
 - Mike Eichhorn – Constructors on staff need to have long time experience. There should be construction input at the start. In a reimbursable contract, we will bring the General Foreman in 3 months before mobilization to finalize CWP and tailor FIWP. In a lump sum contract, we need to make sure there is proper planning properly that is communicated to contractor before work starts.
 - Al Wahlstrom – We want to own planning. Early phases of planning are usually without contractors and take owner accountability/responsibility. If contractors struggle with execution plan, there must be flexibility to discuss issues.

9. Manpower based on schedule with no correlation to backlog of work. Is there alignment coming to where backlog will properly represent schedule?

- Al Wahlstrom - Suncor will not go schedule critical on projects. Suncor has a process in place at a high level – RFFC - Ready for Fabrication & Construction with a 14 week period between IFC delivery and start of work. Packages goes into backlog during this 14 week period. The checks & finalization of materials occur during this 14 week period but this is still not a perfect process. Delivering a high rate of work into a project – contractor goes into field with all the work and the backlog is down. Owners are prepared to accept that contractors do not want to release men into the field if work is not available – a recurring problem.

- Mike Eichhorn – Need a shift in thought by owners to keep backlog full and remove constraints.

10. In WFP, a schedule is a catalogue of detailed scope. When a schedule is integrated tightly with WFP, a backlog will naturally be generated. There will always be a list of activities that need to be addressed and assist with the labour curve.

- Al Wahlstrom – A Planner is a scheduler, but scheduler is not necessarily a planner. Drive planning function first, then integrate into schedule.