

## **Why Weekly Work Plans do not work ?**

### 1.0 Current Scenario

We often hear that in a typical project one is able to realize only 50% of what one plans for in the weekly plan. So the consequential action or re-action (more appropriate?) is --- “do not plan meticulously since anyway it is likely to yield mediocre results”.

If a question is posed as to why plans fail, there would be countless answers (excuses ?), typical ones being:

- a) Too much work was planned
- b) Pre-requisite work / drawing / material was not available in time
- c) Priorities changed during the week
- d) Quality issues in respect of material to be used for the job or non-acceptance of the job by the downstream contractor / customer.
- e) Particular resource being not available – particularly scarce resources like welders or equipment like cranes etc
- f) Clashes / interference with other contractors in the same work front

And the list goes on ..... even setting aside external uncontrollable factors like weather etc etc.

### 2.0 So what specific outcomes of plan would excite us ?

Imagine if someone were to tell you that there was a project (Zeneca) where week after week the project was reporting realization of more than 90% of the weekly plan.

Will it not excite us ?

What did they do differently ? will be the next logical question. Before answering that, let us look at what will make a weekly plan tick.

### 3.0 Characteristics of a good weekly work plan:

#### 3.1 Ownership

All of us would agree that the first requirement is ownership of the plan. The field supervisor or the field engineer who is assigning the work finally and getting it done should be the person who should also plan and commit on achieving the plan.

#### 3.2 Definition

Assignment / Actionable line item in the plan should be “well defined”, meaning it must be specific enough that the right type and amount of materials / resources can be collected, work can be co-ordinated with other trades as needed, and it is possible to tell at the end of the week if the assignment was completed. In other words, it must be described sufficiently so that it can be made ready or completion can be unambiguously determined.

This will avoid excuses such as :

- i) Did not understand fully what the customer needed and why they needed it
- ii) Re-definition of applicable criteria / specification occurred during the plan week
- iii) Incorrect specification of inputs, resources, processes and output for the assignment.

#### 3.3 Soundness or Practicability of the plan

This must answer questions like Are all materials on hand ? Is the design / pre-requisite work complete ? Are all resources available ? etc.

During the planned week, the supervisor will have additional tasks to perform in order to make assignments ready to be executed e.g: Co-ordination with trade working in the same area, movement of materials to the point of installation etc. However, the intent should be to get the work ready before the week, in which the work is assigned to be completed.

### 3.4 Right “Sizing” or “Quantity”

It is the amount that the site supervisor (actual planner) in his judgement and experience is confident of completing given the resources at his command or promised resources and it should not be dictated by the central planner or section-in-charge. However, the site supervisor must constantly review whether he can produce enough work for the next crew well in time and demand additional resources as needed.

### 3.5 Right ‘Sequence’

The sequence must be consistent with the internal logic of work itself, aligned to project commitments and goals and execution strategies. Otherwise customer may intervene and stop. The questions that must be answered here are :

- i) Are assignments selected from those that are sound in the constructability order needed and in the order needed by the customer process / requirement ?
- ii) Are additional lower priority assignments identified i.e., additional quality tasks available just in case original assignment fails or productivity of crew exceeds expectations ?

### 3.6 Learning loops

However, sound or robust a weekly plan may be but unless the root cause of non-realisation of an assignment is analysed, identified and counter measures put in place it will not lead to further improvement. So a weekly review of the achievement on weekly work plan is a must. The idea here is not to fix the blame on someone but to find the system related problems that lead to non-achievement, for corrective action.

## 4.0 Case study of Zeneca

Following were the directives given by the company for the weekly planning and monitoring:

1. Hold weekly subcontractor co-ordination meetings on each project. Insist subcontractors give input into weekly work plans and look ahead schedules.
2. Select weekly work plan assignments from those that meet quality criteria of definition, soundness, sequence and size. Issue weekly work plans and expect every superintendent and foreman to have them in their pocket. Use the weekly work plan form and be sure to complete all sections, including make ready needs and workable backlog. When assigned tasks extend beyond one week, specify what work is to be completed within the week.
3. Each week, calculate the percent plan complete (PPC) for the previous week and identify reasons for each assignment that was not completed. Try to get to root or actionable causes. Don't beat people up for plan failure, but insist that they learn from their experience.
4. Maintain a 5 week look ahead schedule at a level of detail needed to identify make ready needs. Add one week each week.
5. Do constraints analysis on each activity on the 5 week look ahead schedule, using the constraints analysis form. Remember to mark an activity as unconstrained only if you have positive knowledge that the constraint does not exist or has been removed ('guilty until proven innocent').
6. Each week, e-mail or fax the constraints analysis form to each subcontractor that has activities scheduled on the look ahead and ask them to provide status information.
7. Assign make ready actions as appropriate; e.g., the technical design engineer will resolve RFIs, the project manager will expedite outstanding payments, the project planner will deal with contract and change order issues, etc. Obviously, subcontractors / supervisor will also have make ready tasks such as generating submittals, expediting fabrication and deliveries, acquiring necessary equipment and tools, reserving labour etc.
8. Maintain a statused and current master project schedule.

9. Involve subcontractors in producing master and phase schedules, Phase schedules are detailed plans for completing a specific phase of project work; e.g., site preparation, foundations, superstructure, skin etc. Use the team scheduling technique in which participants describe activities on sheets that they stick on a wall, then negotiate details, sequencing etc.

#### 5.0 Zeneca – Project Checklist for monitoring

1. Does the project hold weekly subcontractor co-ordinating meetings ?
2. Are weekly work plan forms completed each week, including make ready needs and workable backlog ?
3. Are weekly assignments adequately defined; e.g., is the work to be completed during the week specified ?
4. Are weekly work plans used in the field; e.g., does every foreman and superintendent carry it with them?
5. Are weekly work plans reviewed in the co-ordinating meetings, PPC calculated, and reasons identified ?
6. Is a 5 week look ahead schedule maintained, with one week added each week ?
7. Are sub-contractors requested each week to provide status information regarding constraints on the activities listed on the project look ahead schedule?
8. Which subcontractors provide information each week for constraints analysis?
9. Are make ready actions assigned each week?
10. What people carry out their make ready assignments ? Who doesn't ?

11. Is the rule followed that activities keep their scheduled dates only if the planner is confident they can be made ready in time ?
12. Of those activities scheduled to start within the next 3 weeks, what percentage are not made ready ?
13. Is the rule followed to only allow activities onto weekly work plans that have had all constraints removed that could be removed before the start of the plan week?
14. What is the project's PPC ? Is it rising, falling, or staying the same?
15. What are the dominant reasons for failing to complete assignments on weekly work plans?
16. Is the master project schedule and phase schedule maintained current and updated once a week?
17. Are subcontractors involved in producing master and phase schedules using team schedule?

## 6.0 Observations – Zeneca

The extremely high level of plan reliability achieved on Zeneca may have resulted in part from the project being relatively simple, not technically but rather operationally. A relatively few subcontractors were involved, and few were required to work in close proximity, either temporally or spatially. On the other hand, the project weekly planning and control processes and techniques employed appear to have made a huge contribution.

## 7.0 Conclusion / Way forward

It is possible to achieve or realize 90% of the weekly work plan or more consistently over an extended period of time through rigorous implementation of weekly work plan. This and the associated structured approach to planning described above are called the “Last Planner System”.

If the above interests you, then please contact us for a comprehensive presentation on "Last Planner System".