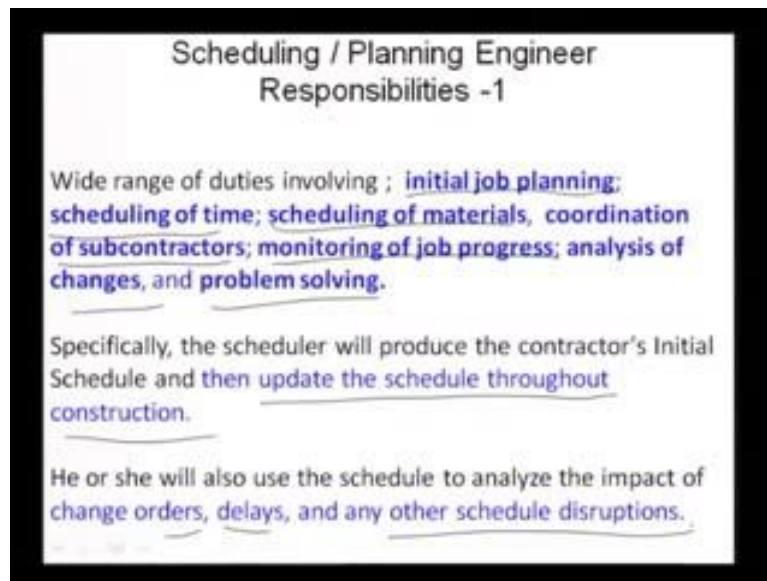


**Project Planning & Control**  
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**Lecture - 06**

**Project Scheduling Levels (Scheduling Engineer Responsibilities)**

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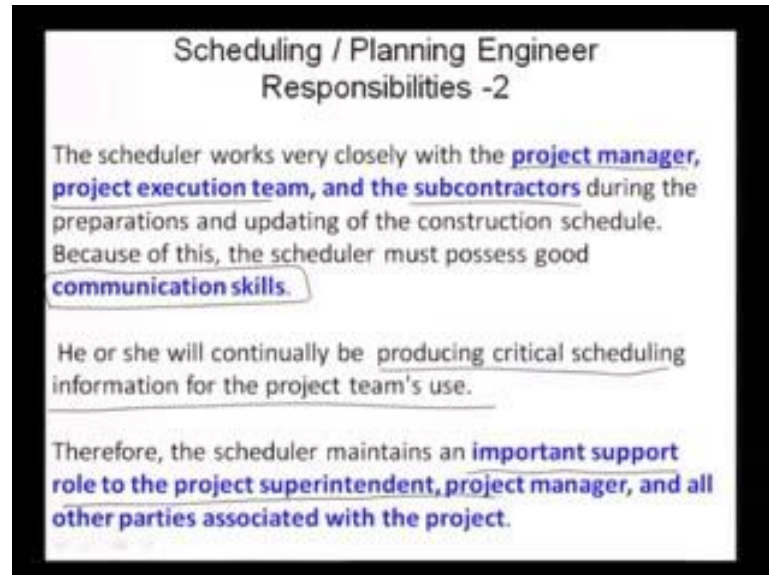
So, moving into the scheduling present let us see, what is responsibilities are. So, this is a relatively... I will not say new position, but it is a position which is becoming more and more and more critical because the time constrained on our project is more. So, if you go to today's projects, you will find that we talked about earlier; people need to know, people need to have knowledge and experience to be able to manage large projects.

But, today there are so many large projects that a person out of college with very, very little experience with very, you know basic knowledge gets put in as a scheduling engineer. So, you really have to learn a lot on the job, and if you take the responsibility of the scheduling engineer, there is a lot of text on this, but let us just see it is a lot of work. It is to, look initial job planning, scheduling of time, scheduling of materials, coordination of subcontractors, monitoring of job progress, analysis of change, problem solve.

When I take up a project, these are the duties involved. You have to make the initial schedule, then update. So, you talk about monitoring and updating the schedule throughout construction, the responsibility of the scheduling engineer, change orders, delays, other

schedule disruptions. The schedule is going to be disrupted. How do you actually take care of all these disruptions? Very critical.

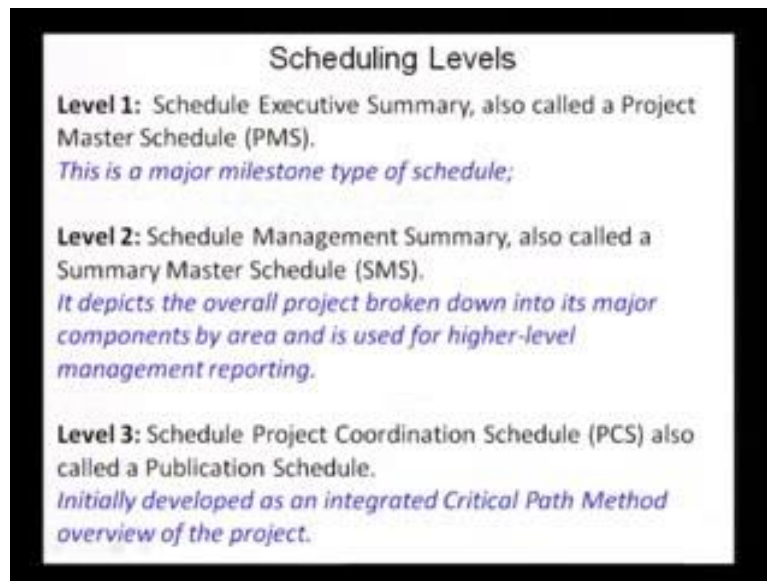
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Scheduler works very closely with the project manager, project execution team and the subcontractors. You do not do your job they are all going to be kind of your; you are almost like the conductor of the orchestra, or you are writing all the scores so that the project manager can conduct the orchestra. But, basically you are in the middle of this whole orchestra of the project and one of the very, very critical ability; you should be able to have good communication skills in addition to the knowledge and skills of scheduling tools.

They will continuously be producing critical scheduling information for the project team. So, without the schedule is the backbone of the project, without the schedule, the project is going nowhere, and the scheduling function becomes really, really the important part of this whole project management exercise. So, it is a support to project superintendent, project manager and all other parties associated with the project. Without a good scheduling engineer, things do not go well.

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**Scheduling Levels**

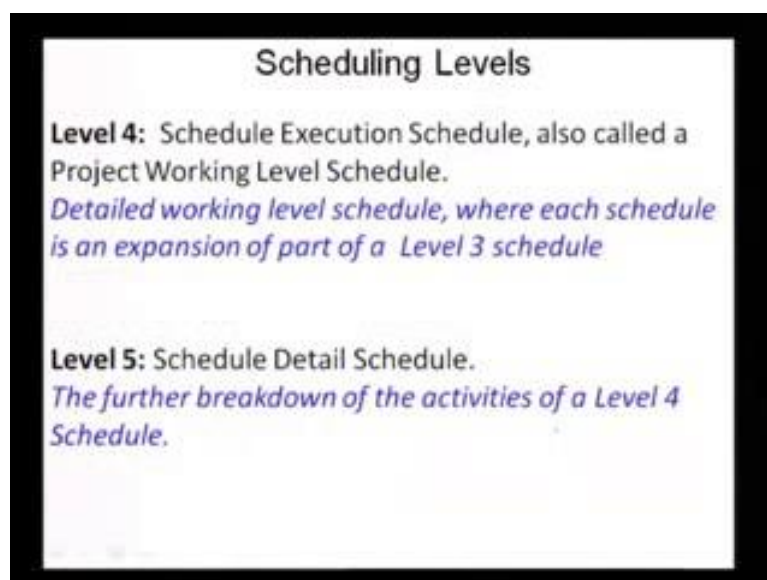
**Level 1:** Schedule Executive Summary, also called a Project Master Schedule (PMS).  
*This is a major milestone type of schedule;*

**Level 2:** Schedule Management Summary, also called a Summary Master Schedule (SMS).  
*It depicts the overall project broken down into its major components by area and is used for higher-level management reporting.*

**Level 3:** Schedule Project Coordination Schedule (PCS) also called a Publication Schedule.  
*Initially developed as an integrated Critical Path Method overview of the project.*

Now, when you look at the schedule, so we will take this up from the next class as to how we are going into the detail of scheduling. But, when you look at the schedule it is very important to understand scheduling can be done at different levels. So, I want you to kind of look at this. So, you have what we call in executive summary or master schedule, you have what is level 2 schedule, it is called a summary master schedule, you have project coordination schedule.

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**Scheduling Levels**

**Level 4:** Schedule Execution Schedule, also called a Project Working Level Schedule.  
*Detailed working level schedule, where each schedule is an expansion of part of a Level 3 schedule*

**Level 5:** Schedule Detail Schedule.  
*The further breakdown of the activities of a Level 4 Schedule.*

And then, when you go into level 4 you have the project working level schedule and a detailed schedule. Now, I leave it you to go into the definition and look at it, but this is the basic framework for what we are going to be starting from the next lecture. But, we will not

be looking at all five schedules, we will primarily be looking at level 3 schedule, which is where the critical path method is brought in a big way.

But, you have to understand that the level 3 schedule has to interface with the other schedules; otherwise, it is meaningless; that is, the point 1. Point 2, can you think who would be the use of level 1 schedule, who would be the use of level 2 schedule. So, higher you are in the project hierarchy or other things, so typically the owner or what we talk somewhere the regional manager from the contractors point of view will be discussing level 1 schedule with the owner. What about level 2 schedule?

**Student:** The project manager.

Level 2 will be at the project manager's level. Level 3 will be the scheduling engineer.

**Student:** ((Refer Time: 05:02))

The scheduling engineer, he is primarily responsible for level 3 schedule, and this is where that the all the nitty-gritty details of the overall coordination plan are. Level 4...

**Student:** ((Refer Time: 05:15))

Mostly the execution team, so from level 4 it will be going to the execution team, and level 5 will be the detail, at the craft level they should know what the detail schedule is. So, by going through these levels you also get an understanding that your organization of a project and your scheduling functions, they have to be correlated and without that you will not be able to, I mean you have to give the right report to the right person.

If you give, you know if you only schedule at level... I mean there I have seen a project where people try to schedule at level 4 throughout, saying more detail is better. You are run into; you cannot do level 4 schedules from the beginning because you cannot anticipate some their activities required at that level of detail. You can, you know it is up to level 3 it is must right at the beginning, but so level 4 and level 5 the details become as you look ahead.

So, in another way to look at or to classify this schedule is how much of time period are you planning for, how frequently will the schedule change. So, level 1 ideally should not change, level 2 if there are major changes might change, level 3 has more chance of changing than level 2 depending on major changes in the project requirements or unforeseen circumstances. What about level 4 and level 5?

**Student:** It can change.

It can change, at the monthly level, it can change, you know. So, if you do a very detail schedule you know at level 3 and make it level 4 detail, you are asking for trouble, because it is going to change on you so much that just changing the schedule will be your full-time job. So, we will, so I mean I might not get the opportunity to keep coming back to the scheduling levels, but this is something you have to keep in mind from a broad perspective. This is so important because a lot of time this is where scheduling does not get done properly.

You have to produce a right schedule for the right requirement. Are there any question?

**Student:** What is the difference between PMC and project manager.

A project management consultant is a person, who is professionally, who is actually more representing the owner. So, if there is a company that requires a construction service to be done and that company does not have an in-house expert on the construction of the facility, they will hire a project management consultant from to be their representative to get that done. So, the project management consultant will ensure that you know design is done properly, will coordinate between design and construction; they will take on that role.

The project manager is just the person or the role, who can you know... So, the owner might have a project manager to look after it, but it might be only his part time job. The contractor will have a project manager, but the project management consultant typically is the person who takes over the owner's interest in the construction project. I think that would be in a summary form that could be written.

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So, again summarizing this lecture, we have covered this issue of how the construction

industry is so important for national growth and you know, why we nearly need to emphasis scheduling and other skills required for doing successful projects. We are looked at projects stakeholders and how important stakeholders management is, we looked at the different phases of our project, understood how projects are organized in a very broad contacts and then, looked at levels of scheduling and how they interface with the project organization to produce the right level for the right level of the organization.

So, we will continue next lecture in talking the basic concepts, which drive the scheduling practice.