Schedule Acceleration/Schedule Compression Problem in Construction Projects and Its Solution

Schedule compression can only be achieved by acceleration of critical activities; acceleration of the activities that have float do not make any contribution to acceleration process.

What actions can be taken to compress the project schedule?

1. The relationships among the activities can be reviewed and modified: Finish-to-Start type relationships must be replaced with Start-to-Start or Finish-to-Finish type parallel relationships. This action has priority compared with the others since it does not affect the cost of production.

2. Actions related to the resources: The amount or performance of the resources can be increased. For instance, number of the laborers or capacity of excavator can be increased.

3. Actions related to construction process: Construction process can be accelerated by some additional processes such as curing the concrete or by using accelerating agents; modular formwork systems may speed up the erection and dismantling the formwork elements,

4. Actions related to the technologies of production activities: new technologies such as plaster board panels for interior walls instead of brickwork, using tunnel formwork instead of traditional wooden moulds, or ultimate prefabrication technology for structural systems instead of on-site technologies,

In decision making process the priorities of these actions must be determined by taking into consideration their additional costs. Actions that have no or less additional cost will have priorities in acceleration process.

After consecutive accelerations on the network the number of critical paths may increase and can be more than one. In this situation, activities that have minimum acceleration cost on each critical path must be accelerated concurrently to be able to compress the schedule. This means that each step of schedule compression will be more costly compared with the former steps.