

0080032 Responses to Industry Review Comments

\*\*\*\*\*

Bob Graham

Comment:

I know this is not a change but, in 8-3.2.1, the initial submittal time frame of 30 days after execution is not nearly enough time on a good sized project. Submittal at the precon should be soon enough. BG

*Response: It is understood that for some jobs this timeframe may be tight. DCE's have been given the authority in CPAM to revise the specification to allow for a longer timeframe for schedule submittals when they have delayed the NTP date or extended the project lead time. This should help on good sized projects.*

\*\*\*\*\*

Robert Robertson

Comment:

There are numerous sentences that are not in "active voice". I do not have the time to point out each individually.

*Response: State Specifications Office typically reviews this for spec submitters.*

\*\*\*\*\*

Bob Burluson (from Internal Review)

Comment:

A comment I received:

I have sent this proposed spec out to my Project Managers for their input. We will not be able to respond within 5 days. I can tell you we will have plenty of comments. It appears this specification will require a full-time scheduler on most projects that we build. There is a requirement to cost load the schedule, and to keep this balanced, which will be a full-time job by itself with changing quantities, extra work, etc. This is especially difficult as schedule items do not match bid items, so as the scope of work changes it is very hard to keep the cost loading balanced. The spec is very one sided as it does not allow the Contractor to resource load the schedule. Many of our issues with utility impacts or design errors result in resource problems later in the project as the same type of work gets crowded into one time frame. And FDOT wonders why bid prices are escalating! I will forward the comments I get as soon as I can, hopefully sometime next week.

*Response: The requirements identified in these comments, except for the resource leveling*

*restriction, were unchanged from the current CPM specifications that are used in contracts.*

\*\*\*\*\*

Granite Construction Company  
J.C. Miseroy  
4-25-2006

Comment:

**Introduction** – There has been much discussion recently about the ever increasing costs of construction bids and the impact this will have on the work program. This proposed specification is just one more example of why contract costs are increasing. The specification will require additional project staff to maintain the schedule, assigns increased risks and responsibilities to the contractor and remains a tool for the Department rather than the contractors. Specific issues with this specification are given below.

*Response: To say that the proposed change, which restricts resource leveling and eliminates the preliminary schedule, is an example of why construction costs are escalating is off base and just an excuse. The other requirements in the scheduling spec are unchanged from current versions used on projects throughout the state. There should be no need for additional staff to maintain the schedule as these requirements have been in place for many years.*

**8-3.2.1 Contract Schedule** – On large complex projects it is not reasonable to expect that a cost loaded schedule with durations less than 20 days per activity can be developed within 30 days. This may work for some simple resurfacing projects but not for multi-phased, multi-year contracts with extensive utility relocation. It is interesting that the Department gave themselves as much time to review the schedule as the Contractor gets to build the schedule. We suggest that 90 days is more appropriate for large complex projects.

*Response: There is flexibility afforded the DCE's on timeline for submittal of CPM schedules outlined in CPAM where the DCE delays the NTP or increases the project lead time on projects where the NTP has been delayed. This should help with the larger, longer duration projects.*

**8-3.2.2 Schedule Submissions** – Requiring that these schedules be submitted on 3.5” diskettes is totally outdated. File formats are limited to P3 and Suretrak. Primavera is stopping support of Suretrak and developing alternate software. This section requires the week to start on Monday. On most projects now, the week starts with the Sunday night shift. Requiring a color print of the schedule on Size D or E paper will require that each project office have a plotter. Most of the time these plots will not be used for review of the schedule updates. The schedule narrative report submitted with each monthly update must indicate whether the project is ahead or behind schedule. If behind schedule, the report must include a detailed recovery plan to put the project back on schedule or a properly supported request for a time extension. Does this mean that FDOT will give time extensions for delays relating to aggregate shortages if supported by the schedule? If they deny time extensions for this type of impact, they will force the contractor to accelerate. In this report the Contractor is to identify specific activities that may impact the critical path. In addition to a plotter, each project will also now require a crystal ball. (See also

comments on resource loading). Not everything is fixable, especially not month by month. Solutions to impacts and delays may require meetings, approval of submittals, delivery of materials beyond the control of the contractor, etc. We suggest that an item indicating a delay be added to the schedule. This would be a place holder that could be adjusted as the situation is resolved. 3d requires that we identify all activities that require Department participation, review, approval, etc. What is the purpose of this? Typically FDOT is involved in every aspect of the project. If we fail to identify something will that be used against us? Isn't this something that should be picked up by whoever is reviewing this schedule? Making corrections to a complex schedule and resubmitting it in 7 days may not be reasonable.

*Responses:*

*If the software becomes a problem with the schedules, FDOT will revise at that time to accept newer products. The spec requirement of starting the schedule on Monday has been a requirement for as long as this spec has been in existence. However, FDOT has accepted and will continue to accept project schedules that have specific work days defined (i.e., night work, Sundays). As for plotters required, there are commercial printing locations (i.e., Kinkos, etc.) that can make these without having to purchase plotters. Schedule narrative – correct in understanding of narrative as stated in the spec. Time impacts for delay issues would be evaluated using the schedule as they should be done now. FDOT's granting of time presently, regardless of schedule type, should be based on evaluation of impacts to schedule. Regarding recovery plan and analysis of schedule impacts, FDOT should now be looking at CPM analyses for projects with CPM's as part of its determination for granting time. FDOT is not looking for a crystal ball prediction of possible impacts but does expect a contractor to indicate things that are known to impact the schedule – like redesign of a part of the project; delay in fabrication of an item of work; shortage of liquid asphalt. These kinds of things can be identified as things that will potentially impact the schedule. I agree that not everything is fixable in a month and believe that you will agree that FDOT has worked with contractors on when it comes to submittals. The specification allows for adjustments so an item could be added. The purpose of the requirements of 3d is to alert FDOT as a look ahead of things in the schedule that need FDOT action. It is not part of a schedule review but is part of the narrative and meant to tell FDOT of things that could potentially impact the schedule if FDOT does not act. For example, identifying in a narrative that approval of submitted drawings is due within the next 30 days to allow ordering of the component and avoiding a delay is what is being sought by part of the spec. As for resubmitting corrections, again I think you'd agree that in cases where it takes longer than this, FDOT has worked with you.*

**8-3.2.3 Schedule Content** – The schedule should include the ordering of major materials and equipment. Is this where we include asphalt aggregates, liquid asphalt, cement, structural steel, etc? *Yes if these are major materials or equipment for the project.* How do we show impacts from design errors or omissions? *The same way that you currently show in the schedule impacts due to design errors or omissions.* Do we add a schedule activity for each RFI or design revision to show schedule impacts? *There is nothing that prohibits this.* Item b requires that we include estimated procurement costs for major items for which stored materials will be requested. We might be able to estimate these materials, but the schedule for submission will be hard to pin down. Detailed schedule data requirements include showing defined holidays and suspension days as non-work days. How does this work when we can request to work some of these days? *If*

*request to work any of these days is approved, the calendar would be changed to reflect that day(s) as work day.* How do we allow for events at venues or local events with unknown dates for future years that restrict work activities? *These would be added as non-work periods, if contractor not allowed to work, at the earliest point they become known.* Many projects allow FDOT to restrict lane closures on X nights during the project. How would this be shown on the schedule? *If the restricted lane closure results in no work on the project, the calendar should be adjusted for that date to reflect this.* The Specification requires that we cost load the schedule consistent with the bid breakdown. Typically schedule activities may be part of a bid item or a combination of several bid items. Keeping the cost equal with the current contract value will be a very difficult task for major projects. One of our current projects has more than 2000 activities. This is one of the requirements that will necessitate a full-time schedule engineer on our projects. Each schedule activity will include the activity number, description, original duration, remaining duration, ES, EF, TF, % complete, budget, responsibility, MOT Phase, quantity and unit. There won't be any room left for the schedule bars. Showing quantity and unit will be difficult for activities made up of combinations of bid items. If FDOT requires the cost loading to be updated, there should be a reasonable level of accuracy applied to this. Why does FDOT want the schedule to be cost loaded? *To be able to evaluate actual earnings compared to scheduled earnings. Regarding other comments in this section, I agree that there are projects that warrant full time scheduling engineer. Like you, I've seen and participated in the development with the contractor of cost loaded schedules of over 2500 activities so I know what is involved with this process.* There may be a simpler, more accurate way to give them what they need. All changes to activities shall be recorded. The log shall include reference to a document wherein the Engineer acknowledges and accepts the change. This is getting the cart ahead of the horse. Changes will be submitted with the schedule update for review and acceptance. Once accepted, we could go back and add reference to acceptance of the change by the Engineer.

*Responses embedded in comments from reviewer for this section.*

**Resource Loading** – At some point, the Department must acknowledge that there are limited resources available in the construction industry in Florida. This limitation includes materials and personnel and in many cases equipment and subcontractors. If we are going to use schedules to truly manage our projects (as indicated by this proposed specification) it will only work if we are allowed to resource load and resource level our schedules. We estimate projects with assumed resources, and often have trouble actually realizing these resources on the project. Projects are frequently impacted by design errors, utility conflicts, added work and other external (Department caused) factors beyond the control of the contractor. This is in addition to weather, delays on other projects, MOT restrictions and other impacts. These impacts effect the utilization of our limited resources, and yet we cannot show these impacts in our schedule updates. Until this is changed, the scheduling specification will remain a one sided tool for the exclusive benefit of the FDOT. One of the main uses of resource loading for contractors is to add logic to a schedule that truly reflects the limitations on how many places we can work on a project at one time. “Float suppression techniques such as preferential sequencing will be cause for rejection of the schedule or updates”. We are not quite sure what this phrase means, but think it takes away our right to restrain activities that might be available for work, but for which there are no resources available.

*Response: Comments noted. Float suppression techniques is defined in the specification.*

**8-3.2.4 Weekly Meetings** – The proposed specification will require that the schedule be updated for each weekly meeting. In most cases we could be progressing a schedule update that is under review by the Department three or four times prior to receiving approval of the update. This will create extensive added work, especially when an update is rejected for some reason.

*Response: The intent is for the schedule to be updated for each weekly meeting.*

**8-3.2.5 Float** – (See comments above on resource loading). Without the right to impose limitations on float due to resource limitations, the Department can impact the project without having to provide a time extension. This will require the contractor to accelerate, add resources or subcontract out work in order to maintain the schedule. This section also gives the Department the right to withhold payments when the schedule indicates the project is in negative float. This will be a battle every month on every project from day 1.

*Response: The Department is looking for a logic driven schedule. Prohibiting the use of artificially applied constraints will allow for evaluation of the schedule, and possible impacts, based on logic. There are times when work that does not affect the critical path is added by the Department where FDOT intends for the contractor to mobilize additional resources, sequence the non-critical work with the resources already committed to it, or subcontract the work to maintain the schedule. This is what is intended most of the time by FDOT. All of these types of changes to a project need to be evaluated against the schedule to determine if there is an impact.*

**8-3.2.6 Time Extensions** – This section states that time extension requests must be submitted in accordance with sub-article 8-7.3.2. Requests must be submitted within 10 days after the commencement of a delay to a controlling item of work. However, extensions of time will only be considered for a delay to an activity that exceeds the total float of the project. Does this mean we have to update the schedule for each impact to determine if it exceeds the total float? *Yes. How else would you be sure that the schedule has been impacted?* This whole section is inequitable. FDOT preaches about completing projects ahead of schedule, and awards extra points on Contractor evaluations for early completion. To walk-the-walk FDOT should allow project schedules and updates to reflect early completion, and should treat impacts to these schedules the same as a schedule with zero or negative float. The contractor is disincented to submit a schedule showing early completion. This means that CPM schedules will almost always show zero float for project completion, which means that every month the contractor will have to submit a recovery plan to show how time will be made up, and will be fighting with the Department about withholding progress payments. *This statement assumes that the contractor will not be progressing according to its schedule.*

*Responses embedded in comments from reviewer for this section.*

**8-3.2.7 Performance of Work** – “By submitting a schedule, the Contractor is making a positive assertion that the project will be constructed in the order indicated on the schedule”. Will this limit our ability to adjust the construction sequence? *No. The specification allows the contractor to make revisions to the schedule. Revisions need to be identified in the schedule narrative*

*report.* We often adjust construction sequence due to utility conflicts, design issues, subcontractor and material availability, contractor issues, weather, resources and numerous other reasons. This sub-article appears to take away that right, and will lead to more claims, time extension requests and ultimately the increased cost of the projects. *As stated above, the contractor is still allowed to make revisions to the schedule.*

*Responses embedded in comments from reviewer for this section.*

**8-3.2.8 As-Built Schedule** – What is the purpose of this schedule? The Department already has schedule updates for the project. Who is going to use these as-built schedules and for what purpose?

*Response: The as-built schedule should not be a problem to submit as the specification requires weekly updating of the progress so it would be being developed as the project progresses. As for intended use of the as-built schedule, SCO intends to use the information in the as-built schedule to help update work item production rates to improve establishment of contract time.*

\*\*\*\*\*

Jack Knowlton, P.E.  
EISMAN & RUSSO, INC.

Comment:

I have two comments about the sign installation proposed specification:

1) Are we having a problem with the bolting as it is performed now? The proposed spec requires a lot of work by the CEI if we are not having a problem. If the sign is over traffic, this would require that the CEI be present at the time of the installation (tying up an inspector for the entire duration of the installation) or a separate lane closure.

*Response: Comment is not for this spec revision.*

2) What is the purpose of the lubrication? The spec does not specify what type of lubrication. A light oil like WD 40 would be fine if the intent is just to lubricate the bolt to reduce friction during hand tightening. If the intent is to lubricate and provide corrosion protection, a heavier lubricant (like a grease) would be required.

*Response: Comment is not for this spec revision.*

\*\*\*\*\*

David O'Hagan

Comment:

Sorry I just got around to this review, but it's been one of those months. My only comment is as follows:

8-3.2.2 :

In 1) and 2), why aren't we also asking for late start and early finish for each activity in the CPM diagrams and report? P3 gives them to us anyway. Late start is particularly important.

Nice work.

*Response: There hasn't been a need for it. I agree that it is available in P3 and submittals come with a diskette so we can get it if needed. FDOT construction has measured progress of the contractor against his Late Finish dates. If the work has gone beyond its Late Finish dates, its behind schedule.*

\*\*\*\*\*

Ronda Daniell

Comment:

8-3.2.1 Contract Schedule- What teeth do we have if they do not submit in a the time frame requested? Need something to make them submit with enough time for the Department to review before they start construction.

*Response: Tool for evaluating contractor performance on submittals is CPPR – Timely and Complete Submittal of Documents.*

8-3.2.2 Schedule Submissions- number 4 or by CD

*Response: Agree, will make the change to include CD as delivery method.*

8-3.2.7 Performance of Work- something to get the contractor to work with their personnel in the field on how they intend the project to be built. Most times the Schedule never makes it to the field. The field personnel build it as they see it in the plans and could really care less about the schedule or how to read it

*Response: We have an obligation to be involved with this process. If the contractor is not following its schedule, we need to be alerting them to this fact, especially since granting of contract time is measured against the schedule. If the schedule is not followed or does not represent the way the project is being built, determination of granting of contract time will be limited to FDOTs analysis.*

\*\*\*\*\*

Andrew F. Penny

Comment:

The problem with the current spec is, and has been, (ever since Richard Helms retired), that the FDOT nor any CEI under contract with the FDOT has no one employed that evens understands

what a CPM is or what it is used for. It is very apparent that your intentions are to place all liability on the contractor. Please have the courtesy to either hire competent people or CEI's, or at very least, train them so they understand what they are analyzing and criticizing. The road ahead for all contractors is rocky enough with the escalating prices for trucking and materials, and the supplier's unwillingness to hold prices. Why do we need the FDOT throwing more boulders in the way? This is just another example of the one-way partnering the FDOT has become so proficient at. The CPM, when used correctly, is a tool, not a whip.

*Response: Thanks for your comments, although there are others within FDOT, besides Richard Helms, that know and understand CPM scheduling. I agree with you that the CPM should be used as a tool to evaluate progress on the job and impacts to that progress and that is the intent behind this revision.*

\*\*\*\*\*

David Morgan

**Comment:**

General Comment: These same revisions should also be incorporated into the present specification D0080032, which has the 120-Day Preliminary Schedule. The Preliminary Schedule specification should not be abolished, since it works quite well for very large and complex projects. These types of projects take a while for the contractor to establish who his subcontractors and material suppliers are going to be, dates of delivery of certain materials and/or equipment, and to obtain input from the contractor's supervisory personnel, etc. Hence, the Preliminary Schedule gives us a fairly good idea of what the contractor is to be working on as he establishes all of these items in the early stages of the contract. (Revised document submitted.)

*Response: The intent is to combine the two special provisions into one specification that eliminates the 120 preliminary schedule.*