

**Contract Administration Section  
Winter Construction/Design Conference 2007**

**Apprenticeship Utilization**

Legislation was passed during 2006 that will require the use of apprentices on contracts the Washington State Department of Transportation advertises after July 1, 2007. Revised Code of Washington, RCW 39.04.320 phases in apprentice utilization requirements over three years as follows. Contracts that have an Engineers Estimate of five million dollars or more and are advertised for bid on or after July 1, 2007 will have an apprenticeship utilization requirement of ten percent. The apprenticeship utilization requirement rises to 12 percent on contracts advertised on or after July 1, 2008 with an estimate of three million dollars or more. It steps up from 12 percent to 15 percent on or after July 1, 2009 on all contracts with an estimate of two million dollars or more.

Specifications are under development that will implement this RCW. The major elements of the specification include the contractor providing a plan to deliver the apprentice utilization, reporting requirements, and good faith efforts. The contractor will begin the process by submitting a plan demonstrating how and when they will have the apprentices on the site and what work they will be doing. Even though the requirement is not met until the end of the contract, the plan will give us the ability to monitor the contractors' progress toward achieving it.

The contractor will report their accomplishments through DOT form 422-110 EF on a monthly basis when work is being accomplished. The contractor will be reporting the total hours and number of apprentices and journeymen working on the contract during the reporting period. The apprentices will be listed by craft or trade as well as which contractor or subcontractor they were working for. In addition, the contractor will be reporting the name and registration number of each apprentice. The reporting period starts on the first day of the month and runs through the last day of the month, and is reported on the second Tuesday on the following month.

All this information is collected and sent on to the Department of General Administration. We will also use this information to prepare a report to the legislature and the governor. Your roll at the project office will be to insure that we receive the required information, that it is complete and accurate and then to forward copies to the Region Documentation Engineer and Headquarters Construction Office. The Headquarters Construction Office will consolidate the information into the necessary reports. You will also be involved in the evaluation of any good faith efforts that are turned in as well as any compliance issues that may arise. In both cases you will need to contact your Region Construction Manager, and the Headquarters Construction Office for guidance and concurrence. Copies of any good faith documentation will need to be sent on to the Headquarters Construction Office.

## **Payment for Asphalt and Fuel Cost Adjustment**

Selected projects may include the specifications for Asphalt Cost Adjustment or Fuel Cost Adjustment (or both) as a General Special Provision. Not all projects will contain these provisions, since their use depends on the type of work, the duration of the contract, and Region preference. For those contracts containing either of the cost adjustment bid items an adjustment (payment or credit) will be calculated monthly for qualifying changes in the index price of the commodity. No adjustment (payment or credit) shall be made if the 'Monthly Cost' is within 10 percent of the 'Base Cost', and only those items that are included in the provision are eligible for adjustment.

It is important to understand that the adjustments provided by these provisions are not a guarantee of full compensation for changes in the contractors cost, and that they are intended only to absorb some of the risk of severe cost escalation during contract performance. Because of this, the method of computing the adjustment has been simplified to eliminate tedious considerations that would otherwise be required to provide precise reimbursement of actual costs.

The provisions for this item are prescriptive, and should result in the correct adjustment if they are followed to the letter. The adjustment is made to the quantity of work reflect in the estimate by using the most current monthly index value to the quantity paid in the current estimate, regardless of when the work was actually preformed. Example the work may have been preformed in late May, but is being paid in June you would use the index for June not May. This applies to payments that are deferred from one estimate to a later estimate as well.

## **Construction Schedules**

The project office will perform four distinct functions with a contractor's progress schedule.

- A) Reviewing progress schedules for approval
- B) Using progress schedules to administer working day charges
- C) Using progress schedules for adding/reducing time due in change orders
- D) Evaluating when the progress schedule no longer represents the project, and must be updated.

### **A) Reviewing for Approval**

1. **Start of contract time.** Time will begin one of three different events. The first working day twenty one calendar days after execution; the day the contractor begins on – site work; or a date specified in the contract (requires a GSP).
2. **What if we don't get a schedule?** In the past, the provisions stated that all payments may be withheld if the contractor does not submit a schedule, but this statement is no longer included in Section 1-08.3. This statement was replaced with a bid item for Type B and Type C schedules. It is appropriate to withhold

payment for the schedule if it is not received, but not for work that otherwise conforms to the contract.

The project engineer still has the ability to withhold all progress payments for failure to comply with the terms of the contract, as specified in Section 1-09.9. Applying this provision should be a rare event.

In addition, the P.E. may suspend work and continue to charge each day as workable as defined in Section 1-08.6. However, this sends a message that, “We are so concerned about your progress and that we are going to delay your work.” This provision should only be implemented when the Agency is harmed by lack of knowledge of the contractors intended approach to the work.

The Agency may determine that the Contractor is in breach of contract according to section 1-08.10. This should only occur in the most extreme cases, and is usually accompanied by other more serious breaches.

Determining contract time charges while lacking a progress schedule means that the P.E. must base progress on their best judgment by using the information available to them. A contractor may protest working day charges according to section 1-08.5, but they must support the protest in sufficient detail to enable the PE to ascertain the basis and amount of time disputed. This provides another opportunity for the PE to communicate our need for a progress schedule.

Without a schedule, the PE has no way to evaluate time extensions, and any request for a time extension must include an updated schedule that supports the request according to Section 1-08.8.

- 3. Evaluating Sequence and Durations.** The reviewer should remember that some work is sequenced by factors inherent to the work, but the contractor has the right to sequence the work by their preference as long as the project is completed within the authorized time.

Durations of work are a function of resource allocation. Determining whether a “reasonable duration” is shown may require the PE to estimate production rates using estimating manuals, experience or other resources, or ask the contractor to explain their planned resource allocation to support the duration.

- 4. Date Constraints.** Watch for fixed date constraints that override network logic and force activities critical. Some fixed constraints such as specified work windows or open to traffic milestones will legitimately influence the sequence and duration of related activities. Resource constraints (such as availability of a large crane) may be preferential, and may be explained by the Contractor if needed. Other date constraints, such as completion milestones for work that is susceptible to the affects of unsuitable weather, are inappropriate because completion may be extended by the determination of unworkable days.

5. **Content – what is meant by all activities?** By definition, activities consume time and usually consume resources. However, it is not normally necessary to include individual activities for things like concrete cure time or slope staking for earthwork. This kind of work may be rolled-up into the overall duration of the activity. The reviewer should keep in mind that the level of detail required in a progress schedule is driven by the amount of precision required to perform and monitor the work. Fabrication activities and activities for review of shop drawings are normally not required except as specified in the GSP for Type C Progress Schedules, or when they appear in other parts of the contract. Typically, TESC plan implementation and electrical (ITS) special provisions contain requirements for specific activities to be shown on the schedule.
6. **Terms and definitions related to scheduling.** It is important to understand the meaning of terms like: Type A, B and C Schedules, Look-Ahead Schedule, Schedule Updates, and Completion Date (Substantial, Physical, and Completion). These terms are defined in the Standard Specifications, or in the specified reference, *Construction Planning and Scheduling, second edition*.
7. **Dual Critical Paths.** It is not unusual so see dual critical paths on a CPM schedule, nor is it prohibited. The occurrence of multiple critical paths is generally very short in duration, and don't usually span the entire contract. Lengthy occurrences of parallel critical activities should be cause for careful scrutiny of activity durations and sequencing. It may be that a parallel critical path is a result of a date constraint, or because limited resources are allocated to the activity, thereby inflating the duration. Again, the contractor may schedule resources at their preference, so long as the project is completed within the time allowed.

## **B) Administering Working Days**

1. **Calendar Dates.** Except for defining nonworking days, the calendar has no relationship to administering contract Time. Because of the affects of unsuitable weather, an activity can be stalled for days or even weeks and remain “on schedule.”
2. **Unworkable Weather.** Weather and the affects of weather are the only reasons for granting an unworkable day or portion of a day. A time extension may be granted for other reason beyond the control of the contractor that prevents them from prosecuting the work. See the Construction Manual guidance related to change orders, and Section 1-08.8 of the Standard Specs.

3. **Critical path of a bar chart.** All Type A Schedules (including bar charts) must display the critical path. Even though bar chart schedules do not contain network calculations to determine start and finish times or float, the Critical Path may still be determined by observation. The Critical Path is defined as the longest continuous chain of activities through the schedule that establishes the minimum overall project duration. A bar chart can still be evaluated for this chain of activities, regardless of the presence of red ink or zero float.
4. **Hours of Work.** The specifications require that the Look-Ahead Schedule show the contractors planned hours of work. This information is necessary in order to determine impacts of unworkable weather and to assess working day charges correctly. A contractor may plan to work multiple shifts, long hours or nighttime only. Impacts of weather on one of several multiple shifts may still result in a partial unworkable half, even though a full shift of productive work was accomplished during a separate shift. A rainstorm during the daytime may not prohibit nighttime paving from advancing the critical path.
5. **Multiple Critical Paths.** Multiple critical paths must be monitored carefully during contract performance, because even one day of overproduction or underproduction will alter the critical path and affect the activities that must be evaluated when charging working days.
6. **Near Critical Activities.** Activities that are near critical can become critical if production rates are less than planned. This may affect how working days are charged, and should be monitored during contract performance.

### C) Change Orders

1. **Impacts to Schedule.** Change orders often have an impact on contract time. No evaluation of these impacts can be made without a schedule that accurately reflects the project conditions. Time extensions due to delays and added work must be based on impacts to the critical path. See Section 1-08.8 of the Standard Specs and the Construction Manual.
2. **Float.** It is important to understand float ownership, and that float is not exclusively owned by either the contractor or the contracting agency. When adding work that consumes float, understand that noncritical activities may become critical, or the critical path may change for future work.
3. **Reserving Time.** Contractors may not agree to a time extension, but reserve their rights for a future time extension because the impacts of a change are not fully known at the time of the change order. It is important to use the progress schedule to quantify these impacts as fully as possible, and to include the impacts that are evident when the change order is written. By doing this, the amount of time that is unresolved or disputed is minimized, and WSDOT is at least

somewhat protected from claims that the Agency “accelerated” the work by not granting a time extension.

- 4. Near Critical Activities.** Change orders that affect near critical activities should be evaluated for affects on the critical path. A non-critical activity may become critical, and could alter the critical path substantially for future work.

#### **D) Schedule Updates**

- 1. When is an update required?** It is important to note that schedule updates are only required when they are requested by the Project Engineer, when a contractor submits a request for a time extension, or monthly in the case of a Type C schedule. A Project Engineer may request a schedule when any of the four specified triggers occurs, but may choose to forego the update if the impacts to the schedule are readily evident. The four triggers include:
  - a. The project has experienced a change that affects the critical path.
  - b. The sequence of work is changed from that in the approved schedule.
  - c. The project is significantly delayed.
  - d. Upon receiving an extension of contract time.
- 2. Content of Update.** The specification lists five main components of a schedule update. It is important to know the difference between an as-planned and an as-constructed progress schedule. All updates must show the as-constructed sequence and actual durations of all work prior to the status date.
- 3. Measurement and Payment for Updates.** Schedule updates are not free to the contractor or to the Department. The contractor must pay somebody real money for this, and WSDOT pays real money to contractors in the form of overhead that is a component of each bid item. When the need for a schedule update is triggered by an event that is the contractors doing, then they control that need - and they are therefore responsible for the cost of the update. The Contractor cannot estimate when the Owner may cause an event or make a request for an update for their need, so payment for the update is made as part of an equitable adjustment. Usually, the owner is adding time or adding work by change order anyway, and the update can be priced as part of the other work (normally wrapped up in the markups for overhead).
- 4. Time extensions.** A contractors request for an extension of time must **always** be accompanied by a schedule update according to Section 1-08.8.
- 5. Disputed Time Extensions.** The standard specifications require that unresolved requests for time extensions be reflected on the schedule update by assuming that no time extension will be granted, and by showing project completion within the remaining authorized time. Failure to grant a time extension that a contractor is entitled to receive is the same as ordering a contractor to accelerate performance, thereby completing the project earlier than they are required to. The owner that

does this will be responsible for all of the additional costs of the contractors' acceleration.

- 6. Near Critical Activities.** When production rates are less than planned on activities that are near critical, the critical path may shift and result in the need for a schedule update.

### **Condition of Award (COA) Change Order Procedures**

On most federally funded projects a Condition of Award is established in order to ensure the utilization of Disadvantaged Business Enterprises (DBE). The Condition of Award is just that a Condition on which the project is awarded to the Contractor. The Contractor guarantees that they will grant work to DBE firms at a level of at least the contract Goal.

When the Contractor submits their bid during the advertising period, they also submit a DBE Utilization Certification. The Certification is a list of DBE firms that the contractor is committing to use. The WSDOT Office of Equal Opportunity reviews this list. The Office of Equal Opportunity will then issue a letter setting the attainment level and clearing the contract to be awarded to the contractor. The attainment level of DBE participation becomes a contract requirement.

The Contractor is required to submit a list of bid items that each DBE firm will be performing before the Contracting Agency executes the contract.

Any time the work reflected by these items changes, the Condition of Award has to be changed through a Change Order. If they are not changed the COA remain the same and the contractor is required to achieve that level of attainment. Change Orders that affect the COA can only be executed at the Headquarters (State) Construction Office. See Checklist item 3 on the Change Order Check list.

### **What might cause a change in the COA and require a Change Order?**

If the contractor proposes a reduction or deletion in the work assigned to a DBE firm as a COA, they are required to seek written approval before they make the change. They will also be required to substitute other work for the COA DBE firm. If the COA DBE firm is unable or unwilling to perform the substitute work the contractor must replace the DBE firm with another certified DBE firm, or show a good faith effort to do so.

If the contractor is proposing a work method change they are required to first offer the work to the DBE firm affected, as long as that firm is certified in the work to be performed. If they are not qualified, or have declined to, perform the work at a reasonably competitive price, the contractor can substitute another certified DBE firm. The contractor may either have the other certified DBE firm perform the proposed work, or they can substitute other work of equivalent value to a certified DBE firm, or show a good faith effort why they can't obtain certified DBE participation.

The contractor is not required to substitute work for a DBE firm that graduates from the DBE program during the life of the contract. The Contractor will not be required to substitute a DBE firm that becomes decertified after contract execution, provided the contractor had a contract with the subcontractor in force before decertification and the contractor did not influence the DBE's decertification.

When the Contracting Agency reduces quantities or deletes work item that impacts a DBE's work and insufficient work remains on the contract, the Contracting agency may relieve the prime contractor from attaining that portion of the COA.

In the event that work committed to a DBE firm as part of the COA under runs the original planned quantities and that work is completed according to the contract, the contractor is not required to substitute work for the portion of the COA not achieved.

**Who do I contact to change the Condition of Award?**

Contact your Region Engineering Manager and the Headquarters (State) Construction Office for approval prior to the needed change. The Headquarters Construction Office will coordinate with the Office of Equal Opportunity and gain their concurrence.

Send an email to David M. Jones at [jonesda@wsdot.wa.gov](mailto:jonesda@wsdot.wa.gov) with an explanation of what work is changing and why. Include a list of the DBE firms affected and how much their Conditional of Award is changed.

Example:

David,

Changes are being proposed to Condition of Award Items.

Here are the proposed Changes:

Proposed Change Order 50:

The planned location of a cast in place reinforced concrete retaining wall is in the middle of Tenny Creek. This was a plan error. This is a WSDOT Change. The decision has been made to use a different type of wall system in order to reduce the impact on the Creek. The wall system selected is a Soldier Pile/Sheet pile wall. This type of wall system does not have a footing, but is supported by metal H or I beams and Sheet pile. This change also changes the drainage in the area by deleting 12 inch Ductile Iron Storm Sewer Pipe and the Neenah Inlet and replacing it with 12 inch Schedule A Storm Sewer Pipe and Catch Basin. The two DBE effected by this change include Rainier Steel, Inc. and Meko Construction Inc.

DBE Firm	Original COA	Revised COA	
Rainier Steel, Inc.	\$1,014,757.00	\$695,508.65	Cast In Place Reinforced Concrete Wall
Meko Construction, Inc.	<u>\$971,593.26</u>	<u>\$935,582.96</u>	12" Ductile Iron Storm Sewer Pipe
Total this Change Order	\$1,986,350.26	\$1,631,091.61	