

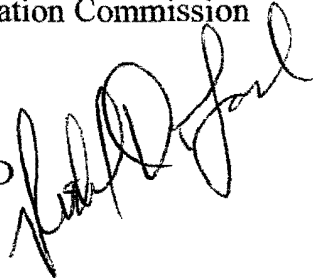
## Memorandum

*Flex your power!  
Be energy efficient!*

**To:** JOHN BARNA  
Executive Director  
California Transportation Commission

**Date:** February 17, 2006

**From:** RICHARD D. LAND  
Chief Engineer



**Subject:** Time-related Overhead and Mobilization

In response to recent inquiries from the California Transportation Commission regarding the time-related overhead and mobilization contract items of work used on Caltrans' construction contracts, the enclosed list of frequently asked questions, and corresponding responses, has been developed.

We hope this answers any questions you might have about these two important compensation aspects of our larger projects. However, if you do have any additional questions, please do not hesitate to contact me at (916) 654-6490.

Attachment

# **Caltrans**

## **Time-related Overhead / Mobilization**

### **Frequently Asked Questions (FAQ's)**

#### **What is contractor overhead on a construction project?**

Overhead is the general cost of running a business that cannot be directly attributed to a specific part of the work operation. A contractor's overhead costs can be separated into two main categories – overhead primarily proportional to the cost of the project, and overhead primarily proportional to the time to perform the work. Cost-related overhead includes licenses, permits, bonding, liability insurance and profit. Time-related overhead (TRO) includes most field office and home office costs.

#### **How does Caltrans pay for overhead on larger projects?**

For the work specified at the time of bidding, full compensation for cost-related overhead is considered included in the prices paid for the various contract items. Time-related overhead is paid for through the TRO contract item on projects estimated to cost \$5 million dollars or more. This contract item uses a bidding approach to obtain a daily overhead rate (cost / working day). The total item cost for TRO is based on the number of working days originally specified in the contract and the daily price competitively bid by the contractor. The contractor is paid for TRO for the original contract work by applying the daily TRO amount bid to the number of original working days. (Note that the total cost of the other contract items is likely reduced by an amount equal to the TRO item amount, as the TRO cost is now paid for through the separate TRO item instead of the various other contract items.)

If Caltrans directs the contractor to make a change to the work, the cost-related overhead is paid through markups that are applied to the direct cost of performing the changed work. Those markups have been reduced from the normal markup levels because the TRO is compensated through a bid item, and not through the markups. If that change, or any other act of Caltrans, delays completion of the project, then the contractor is paid for its additional TRO costs by applying the daily overhead rate bid to the number of time extension days.

#### **Why did Caltrans implement the TRO item?**

Caltrans implemented the TRO item to reduce overhead claims, to more accurately and timely compensate contractors for overhead costs, and to provide a project management tool for determining overhead costs resulting from state-caused delays. Before the TRO item, no contractual method existed to compensate a contractor for state-caused delays during construction of the project that were not the result of a change, such as delays due to project suspensions. The contractor was required to submit a CPA audit as part of a claim package after construction was complete in order to receive overhead compensation for these types of delays. Understandably, this resulted in a contentious and prolonged claims resolution process, the expenditure of significant resources by both the contractor and Caltrans, and delayed overhead payments to the contractor. Before implementation of the TRO item, contractors submitted numerous claims for additional overhead payments. The TRO item has not only reduced the number of overhead claims, but has also helped in completing the post-construction administrative process more quickly.

## **Frequently Asked Questions (FAQ's)** **(continued)**

Overhead costs are partially a function of time, and the previous method of only applying markups to change order costs did not take into consideration the time element of the overhead costs. For example, a contractor could be directed to perform extra work that is of low cost; yet the extra work extends the project significantly. In this instance, the contractor would not be adequately compensated for the overhead incurred while performing the changed work.

The use of the bid item approach for the payment of overhead is viewed by both contractors and Caltrans as more "fair." The contractor is able to set the overhead compensation based upon its true overhead costs, within the limits of competitive bidding.

Finally, TRO provides "real time" project management information by allowing the resident engineer and project manager to quickly quantify delay costs at the time proposed changes or disputes are recognized. More informed project management decisions can be made with this information.

Although TRO has improved Caltrans' practices regarding the compensation of contractor overhead, other delay costs exist that are not compensated through the TRO item. For example, costs for idle time of equipment and workers resulting from state-caused delays are not paid through the TRO item. When a delay occurs, these costs are mitigated to the extent possible, but any actual loss sustained by the contractor must be determined as part of the delay cost analysis.

### **What is an example of TRO payments on a project?**

Original Contract Cost:	\$10 million
Original Working Days:	400 working days
Daily TRO Bid Amount:	\$2,500 per working day
Original Contract TRO Cost:	\$1.0 million (400 days x \$2,500)
Ave. Working Days per Month:	20 working days
Ave. TRO Payments per Month:	\$50,000 (20 days x \$2,500)
TRO Payments for Original Days:	<i>\$1.0 million</i> (20 months x \$50,000)
Time Extension Days (CT Delays):	40 working days
Additional TRO Payments:	<i>\$100,000</i> (40 days x \$2,500)
Final TRO Payments:	<i>\$1.1 million</i> (\$1.0 million + \$100,000)

### **What are mobilization costs on a construction project?**

As defined in the Public Contract Code, mobilization "includes preparatory work and operations, including, but not limited to, those necessary for the movement of personnel, equipment, supplies and incidentals to the project site, for the establishment of all offices, buildings and other facilities necessary for work, on the project, and for all other work and

## **Frequently Asked Questions (FAQ's) (continued)**

operations which must be performed or cost incurred prior to beginning work on the various items on the project site.”

### **How does Caltrans pay for mobilization costs on larger projects?**

The mobilization contract item is used when the number of working days is 50 or more. If the contract price (bid amount) for mobilization is 10 percent or less of the original contract amount, then progress payments for mobilization are completed when 50 percent of the original contract amount is earned. If the contract price for mobilization exceeds 10 percent of the original contract amount, then the amount in excess is paid after acceptance of the contract. The rate of payout of mobilization and the limit on the amount of mobilization that is paid during prosecution of the work are conditions set forth in both the Public Contract Code and the construction contract.

Contractors normally bid their mobilization costs as 10 percent of the original contract amount, which is the maximum amount that can be paid during prosecution of the work. Contractors may use this bidding practice to provide a revenue source early in the project.

### **Why does Caltrans compensate for mobilization costs?**

Contractors expend significant preparatory costs early on a large construction project. These preparatory costs are incurred prior to beginning work on the various items of work on the project site, and mobilization is needed to compensate contractors for these costs in a timely manner. With mobilization, contractors are compensated shortly after they incur the preparatory costs. As a result of this timely compensation, Caltrans receives lower and more accurate bids, and contractors are not required to finance the preparatory costs.

### **How does Caltrans estimate costs for TRO and mobilization?**

Although many factors could be considered when estimating the cost of TRO and mobilization, the costs of these items are generally proportional to the overall cost of the project. Therefore, Caltrans bases the estimated costs of these items on historical comparisons with overall project costs.

***Time-related Overhead:*** Caltrans estimates the cost of the TRO item to be 10 percent of the sum of all contract items, supplemental work and contingencies. However, the amount bid for TRO can vary from as little as 1 percent to as high as 22 percent, depending on the project and the contractor.

***Mobilization:*** Caltrans estimates the cost of mobilization to be 10 percent of the sum of all contract item costs, including the mobilization item.

Because the estimated cost of the TRO and mobilization items are based upon a percentage of the overall project cost, when the cost of a project is revised, then the estimated cost of the TRO and mobilization items are changed proportionally. These estimating practices provide for statewide consistency and generally accurate values.