

Memo

To: DAVID SAENZ
From: TOBY WIGHTMAN
CC:
Date: 1/5/2005
Re: SLAC / LCLS REVIEW OF TITLE 1 CONSTRUCTION

RECONCILIATION OF JACOBS ENGINEERING & WDWC ESTIMATES

Pursuant to our discussion of yesterday, I have reviewed the spreadsheet comparison and reconciliation of the Jacobs Engineering (JE) and W. D. Wightman & Company (WDWC) cost estimates, along with your narrative explaining the reasoning by which you combined the two estimates into a single budgetary cost projection. My comments are as follows:

“HARD” CONSTRUCTION COSTS

The direct construction costs of the two estimates and the new SLAC budgeted costs are:

JE Estimate	\$41,944,695
WDWC Estimate	\$54,833,201
SLAC Reconciled Budget	\$48,985,405

Your reconciled cost reflects:

- Adjustments for material and labor cost escalation, which will be addressed elsewhere
- Post estimate design modifications
- Potential cost reductions for possible open shop labor manning and staffing
- JE agreed cost increases to their estimate

I agree that this reconciled budget projection is reasonable for the conditions known at this time.

GENERAL CONDITIONS, INDIRECT, OVERHEAD AND MARKUP COSTS

The respective estimated costs and the new SLAC budgeted costs are:

JE Estimate	\$ 7,924,644
WDWC Estimate	\$17,622,690
SLAC Reconciled Budget	\$10,776,789

In my discussions with the JE estimators, it was apparent that the wide disparity between our estimates resulted from philosophical differences in our assumptions as to the contracting methods appropriate for work of this type. JE assumed that the construction contract would be of the type typically utilized in building construction, whereby the general contractor is essentially a subcontract broker. In this scenario, the GC subcontracts virtually all of the construction work, self performing little or none. This type of construction is usually “low risk” work in that the construction conditions are well established and favorable. Consequently, the GC’s overhead and indirect costs are a relatively small percentage of the construction costs and his markup margins reflect low risk.

The WDWC approach, influenced by the tunnel construction element, viewed the work as higher risk heavy construction. This type of work normally requires a general contractor with experience in the special construction aspects and risks of all of the work and the capability to self-perform any element of the work that 1) cannot reasonably be subcontracted, or 2) for which the event of a subcontractor failure must be mitigated. Consequently, the GC’s management oversight, indirect costs, general expense and markup risk margins are a significantly higher proportion of the total project cost.

In reality, this work could reasonably be considered a mix of the two types of construction. SLAC’s reconciled budget for these costs assumes the building construction general contractor approach and incorporates adjusted costs to reflect that contracting philosophy. At the same time, I am told that SLAC has increased the contingency allowance to 30 % (or more) of the total estimated construction costs.

It is my opinion that, while the projected “building type general contractor” approach does reflect a more aggressive choice from a cost / risk standpoint, its reasonable possibilities for successful implementation cannot be denied. At the same time, I believe that the upward adjustment in the budgeted contingency cost is adequate to address my concerns with respect to these risks.

Please note that I have not addressed the CM Model alternative included in your materials, as I have not been involved in that study.