

PORT OF SEATTLE  
MEMORANDUM

**COMMISSION AGENDA STAFF**  
**BRIEFING**

Item No.            7d

Date of Meeting    April 21, 2009

**DATE:**            April 21, 2009

**TO:**              Tay Yoshitani, Chief Executive Officer

**FROM:**          Ralph Graves, Managing Director, Capital Development

**SUBJECT:**      New Port Procedure for Engineer's Estimates

**SYNOPSIS**

Under the Chief Executive Officer's authority, Port staff is proposing a new procedure governing the Engineer's Estimate. The Engineer's Estimate is prepared when a construction contract is advertised for bids to assist accomplishing the project within budget and to assess the contractors' bids. Recent audits and investigations of Port contracting procedures have pointed out inconsistent and incomplete policy for the development and use of the Engineer's Estimate. The new procedure is based on State law, Resolution 3605, and best practices of other government agencies.

**BACKGROUND**

The 2007 State Performance Audit of Port Construction Management identified problems with the way the Engineer's Estimates were handled in the past, and the 2008 Report to the Special Investigative Committee by McKay Chadwell PLLC recommended that the Port clarify policies relating to the Engineer's Estimate and specifically address when an Engineer's Estimate could be changed. The new procedure was drafted with these criticisms in mind.

Cost estimates are prepared during the course of project design in order to keep the scope of the work and the budget aligned. When a project is to be advertised for fixed-price bidding, the agency prepares an Engineer's Estimate (sometimes called the Government Estimate) "to reflect the amount that the contracting agency considers fair and reasonable and is willing to pay for performance of the contemplated work." (USDOT, 2004) To the extent that it takes market conditions into consideration, the Estimate also has the somewhat contradictory goal of predicting the winning bid price. Agency practices vary, but generally the Estimate is held confidential until bid opening. After opening, the lowest acceptable bid is compared to the Estimate, and the agency decides whether to award the contract.

Washington State Law (RCW 39.04.020) requires that before taking "further action" on a public works project, the agency shall make plans, specifications and a cost estimate. The law is unclear as to whether "further action" means advertisement, bid opening or contract award. Published agency guidelines are either silent on the question of when an Estimate can be changed

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or else assert merely that the cost estimate needs to be completed before bid opening. (The Corps of Engineers provides procedures for changing the Estimate *after* bid opening.) The Washington State Department of Transportation procedure is typical: plans, specification and estimate must be completed before contract advertisement, but procedures exist and are often used to amend any or all three prior to bid opening. Similarly, the proposed Port procedure requires all three elements to be completed before advertising but allows, with appropriate review and approval, that Estimate updates can be made up until bid opening.

Two past Port practices caused problems. Formerly, under a project-wide authorization, Resolution 3181 allowed the CEO and staff to award a construction contract without Commission notification or approval in the absence of bid irregularities, one of which was the low bid exceeding the Engineer's Estimate by 10% or more. This has led to accusations that staff was tempted to change the Estimate prior to bid opening for the purpose of avoiding Commission notification. Resolution 3605 removes this situation by requiring *all* bid opening results to be notified to Commission prior to award. Further, the proposed procedure requires notifying Commission if an Engineer's Estimate is changed after contract advertisement.

The second problem related to publication of the Range of Estimated Cost. As a courtesy to contractors, agencies include in the advertisement a rough idea of the anticipated value of the contract, so that prospective bidders can rapidly decide whether the work would be within the firm's performance capability and bonding capacity. Federal guidelines suggest that the upper and lower limits of such a Range be far apart, for example "\$100,000 to \$250,000." The Port has been publishing much tighter Ranges. For example, when the T-91 Cruise Terminal Engineer's Estimate was \$30 million, the published Range was \$28 to 32 million. Besides revealing a fairly close idea of the Estimate, this practice often resulted in the final Estimate and/or the award price falling outside the published Range. In the case of the Cruise Terminal project, design changes and an updated assessment of market conditions led the Estimate to be changed to \$38 million, within 2% of the low bid, but the published Range was never updated. The proposed procedure mandates publishing a broad Range and requires the published Range to be updated if the revised Engineer's Estimate approaches or crosses either limit.

## **PROCEDURE DESCRIPTION**

The new procedure may later be incorporated into broader project management or contracting procedure documents, but in order promptly to resolve questions related to the use of the Engineer's Estimate in project advertising, it is proposed to be published as Port Procedure CDD-1.

The procedure document is attached. It defines terms and specifies the preparation, approval and handling of the Engineer's Estimate and Range of Estimated Cost. Specific provisions include the following:

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- The Engineer's Estimate shall be prepared and approved prior to contract advertisement.
- The Estimate can be changed after advertisement, but changes will be subject to review and approval similar to the process for amending the plans or specifications.
- The Estimate should take into consideration market conditions, including the anticipated number of bidders, but for the purpose of establishing a fair and reasonable price, the Estimate will always assume that at least two bids will be received.
- The published Range of Estimated Cost shall be broad, and it must be amended if the changed Estimate approaches either the lower or upper limit.
- The Commission will be notified if an Engineer's Estimate is changed after contract advertisement, and if needed, a new range will be published by addendum to the advertisement.
- The Engineer's Estimate will remain confidential until bid opening, after which it is public information.
- Notification to Commission of intent to award a construction contract will include a complete listing of the Engineer's Estimate and bids received.

### **ALTERNATIVES CONSIDERED AND THEIR IMPLICATIONS:**

Alternative 1: Require that the Engineer's Estimate be established at time of advertising and not changed afterwards. This restriction would deny Port staff and Commission opportunity to assess the impacts of design and market changes after advertisement. Staff is unaware of any public agency that follows this restrictive procedure. It could lead either to project delays or to inflated Estimates. For these reasons, Alternative 1 is not recommended.

Alternative 2: Require that the Engineer's Estimate be prepared only prior to bid opening. Although this relaxed procedure is consistent with the practices of some agencies, it runs the risk of advertising the work with incomplete information. It may be inconsistent with State law. For these reasons, Alternative 2 is not recommended.

Alternative 3: Require that the Engineer's Estimate be prepared and approved along with plans and specifications prior to advertisement for bids. Allow that the Estimate be changed, subject to review and approval, if plans or market conditions change. Provide for updating the published Range of Estimated Cost. This procedure is consistent with the practice of WSDOT. Alternative 3 is recommended.

### **PREVIOUS COMMISSION ACTIONS OR BRIEFINGS:**

None

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**REFERENCES AND OTHER AGENCY POLICIES CONSIDERED:**

U.S. Department of Transportation, Guidelines on Preparing Engineer's Estimate, Bid Reviews and Evaluation, January 2004.

Washington State Department of Transportation, Ralph Graves experience and conversations with Rick Smith and Alec Williamson, January 2009.

Oregon Department of Transportation, Interoffice Memo: Management of the Engineer's Estimate, January 2004.

King County, Nora Huey experience.

Federal Acquisition Regulation part 36.203, Defense and Corps of Engineers supplements.

RCW 39.04.020.

Port of Seattle Resolution 3605.

# ENGINEER'S ESTIMATE

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## **I. PURPOSE:**

The purpose of this document is to provide guidance for the preparation and use of cost estimates in conjunction with advertising and award of construction projects. This is one part of the larger process of producing cost estimates and using them to control and adjust the scope of a project to ensure that cost, budget and scope achieve the business objectives of the Port while meeting code and other standards.

## **II. DEFINITIONS**

**Project Budget:** The Project Budget includes all costs for development, including the Construction Estimate; direct costs; contingencies; art; OCIP; taxes; design; project management; construction management; administration; environmental, legal, and permitting; environmental remediation, property acquisition and all other related project costs, whether performed by Port staff or crews or by contract.

**Construction Estimate:** Estimates of the cost of construction are prepared at various points along the course of planning and designing a project. The construction estimate is a prediction of the award price of the construction contracts and the cost of any materials purchased for the project separately by the Port. It should take into account all contractor costs, including prevailing costs of materials and labor as well as mobilization, overhead, profit, risk and escalation. Port-provided materials are a construction cost that is separated from the Engineer's Estimate.

**Engineer's Estimate:** The Engineer's Estimate is the final construction estimate for a specific contract established prior to bid opening against which the contractor bids are compared.

**Market Conditions:** Estimates need to reflect the market cost of production factors such as labor and materials as well as the construction bidding climate. Estimators adjust the profit element of the cost estimate based on the number of bidders anticipated for an award and the degree that competition or the lack thereof is expected to affect the bids submitted. In order that the Engineer's Estimate establishes a fair and reasonable cost for the work, estimates at the Port will be prepared assuming that at least two bids will be submitted, even if it is expected that only one bid will be received. If major components of cost, such as fuel or steel, are expected to fluctuate during the life of a contract, staff may consider using cost-price adjustment terms in the contract.

Range of Estimated Cost: At the time of advertisement a cost range is published in order to give prospective bidders a general idea of the magnitude of the work and the bonding capacity they would need in order to enter into a contract.

### **III. PROCEDURE:**

Port staff will use the following procedures with respect to Engineer's Estimates and contract advertisement and award:

1. Plans, Specifications and Estimate. Prior to the Port advertising a construction contract for bids, officials delegated by the Director of Capital Development will certify that complete plans, specifications and an estimate of cost have been prepared and appropriately approved by signing the cover sheet of the drawing packages and the Advertisement for Bids.
2. Advertisement. The advertisement for bids on fixed-price contracts will include a Range of Estimated Cost. The range will bracket the current construction estimate, and the lower and upper values of the range will differ by at least a factor of two.
3. Adjustments to the Cost Estimate. The project team may adjust the cost estimate after advertisement in order to take into account most current design information, changed scope, changed pricing of labor or materials or changed market conditions. Changes to the cost estimate will be subject to the same degree of review and approval as post-advertisement changes to plans or specifications. The Port Executive and Commission will be notified any time an Engineer's Estimate is changed after advertisement, and details provided if requested.
4. Addendum. If the adjusted cost estimate approaches within 5% of the upper or lower limit of the published Range of Estimated Cost, then a new range will be published by addendum to the advertisement.
5. Engineer's Estimate. Before bid opening the project team will provide to CPO the approved final Engineer's Estimate. Prior to the public reading of the Engineer's Estimate at bid opening, it is confidential. Release of the Engineer's Estimate to unauthorized personnel is a violation of Port and contracting ethics and may constitute civil fraud.
6. Bid Irregularity. If the lowest responsive bid is more than 10% over the Engineer's Estimate, then Resolution 3605 requires Commission action before proceeding with award.
7. Award Notification. Notification to Commission of intent to award a construction contract will include a bid tabulation stating the Engineer's Estimate and all bids received.

#### **IV. COMMENTS**

See related [RCW 39.04.020](#) and [Resolution 3605](#)

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For further information contact [Bob Maruska](#), Engineering or [Paul Powell](#), CPO.