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DESIGN MEMORANDUM NO. 05-10

TO: Chief District Engineers
Design Engineers
Design Consultants

FROM: Jeff D. Jasper, P.E.
Director
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DATE: August 17, 2010

SUBJECT: Value Engineering Study Requirements

The KYTC Value Engineering (VE) program was established in 1995 as an independent review process to examine potential ways to improve a project's design or reduce its cost. A VE study may be done for any project, but FHWA regulations require that a VE study be conducted on highway projects over $25 million and bridge projects over $20 million on the National Highway System. These cost thresholds include the summation of all project development costs: design, environmental, right-of-way, utility relocation, and construction. Recommendations developed in a VE study are shared with the project development team to consider for implementation.

VE studies may be done at various times during project development, but the maximum benefit is derived when performed near the completion of preliminary design and before final design begins. A study is required to follow a systematic process and issue a formal written report.

Frequently, it has been asked, "What defines a project?" Some projects begin development as a large corridor or bridge and then are divided into smaller sections, commonly for funding or implementation purposes. For the purpose of the VE requirements, the termini, as defined in environmental document, should be used. Therefore, the cost threshold, explained above, is for the entire project within the termini, not just the smaller sections. The staging of the preliminary design will affect whether a single VE study or multiple VE studies are needed for the whole project. This concept is illustrated in the following example:

Example: An Environmental Analysis was completed on a nine-mile corridor. The project was then divided into three projects, each estimated at $7 million in construction costs. Design, right-of-way (ROW) acquisition, and utility relocation of section 1 is scheduled for completion in the current year; it will be let to construction the following year. It is unknown when the subsequent sections will enter the ROW, utility, and construction phases. Total estimated ROW and utility costs for the entire project are estimated at $4 million. Total design and environmental costs are $1 million.

For this example, total estimated cost for the project is $26 million, therefore requiring a value engineering study. It is irrelevant that one section is planned on being let to construction sooner than the others. If design is performed one section at a time, a VE study will be needed on all three sections independently. If all three sections are designed concurrently, a single VE study covering the entire corridor could suffice.

The VE Coordinator maintains a database of all completed studies and projects that will require a study. To ensure that KYTC complies with the federal regulations, it is imperative that project managers, through their location engineers, notify the VE Coordinator of projects that are in the pipeline so that a timely VE study can be conducted. If a section of a project did not receive a VE study in the past, future sections are not exempt from the VE requirement. Completing the VE requirements is critical to advance projects to construction and to guarantee the continued flow of federal funds.

Finally, upon completion of a VE study, the project manager, in conjunction with the VE Coordinator, shall review and consider each recommendation from the study. The project manager will document on the VE Punch List form which recommendations should be accepted, be rejected with the reasons for rejection, or undergo further analysis. After receiving a completed Punch List from the project manager, the VE Coordinator will transmit this information to necessary KYTC personnel. For example, it will be sent to construction personnel, who may use the Punch List to assist in making decisions related to VE Change Proposals submitted by the contractor.

Additional details and policy requirements are outlined in the FHWA Value Engineering Policy, dated May 25, 2010, which replaces the previous policy issued in 1998.

JDJ/BAS