



Georgia Department of Transportation and FHWA - Georgia Division



Process Review On:

Consultant Design Errors and Omissions



September 2006
Report HTA-06-1

Joint Review



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EXECUTIVE SUMMARY

The Georgia Department of Transportation (GDOT) employs professional consultant engineers to develop construction plans and contract documents. Over the years, as legislation such as ISTEA, TEA-21, and SAFETEA-LU has increased transportation funding, the use of consultants has also increased. Today, consultants prepare approximately 60% of the projects let to contract by the Department. With the continued growth in GDOT's Construction Work Program and limited personnel available to perform the work, the percentage of consultants used by the Department is expected to become even larger.

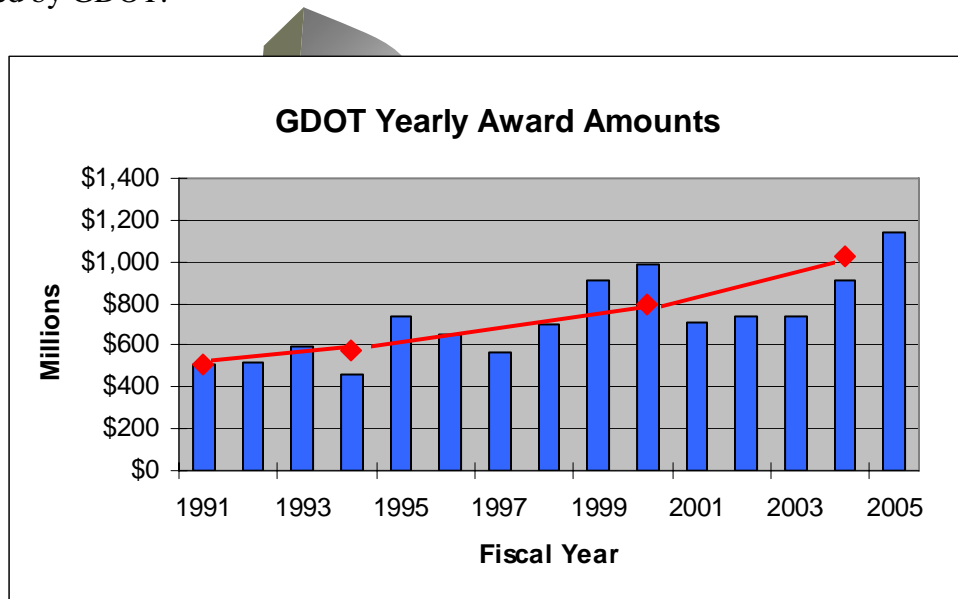
While consultants are accountable for the technical accuracy and quality of their work, design *errors and/or omissions*¹ (E&O) do occur. Depending on their significance, E&O may result in increased design, construction, and maintenance costs. In light of the increasing use of consultants and recent efforts by GDOT to improve its consultant procurement practices, senior-level management identified the need to evaluate the adequacy of its E&O cost recovery process. As a result, an "Errors and Omissions Cost-Recovery Committee" consisting of Chuck Hasty (GDOT), Edward Parker (FHWA), Sam Teal (GDOT), Monica Flournoy (GDOT), Shannon Shaneyfelt (GDOT), Ken Thompson (GDOT), and George Merritt (FHWA) was formed. The team was charged with reviewing the Department's E&O process and providing recommendations for improvement. In addition, the Committee was tasked with developing a means of using E&O information as a performance factor in the selection of consultants for future work. The Department currently has in place a Contract Modification Process that has proven useful in identifying E&O encountered in the field; documenting the problem and responsibility; and negotiating and approving a solution. However, the process does not include sufficient documentation necessary to support cost recovery, nor does it include procedures for determining a consultant's liability. Therefore, the E&O Cost Recovery Committee has outlined a plan for the creation of a new Consultant Performance Review Committee (CPRC). The function of the CPRC will be to review projects identified for cost recovery in order to ascertain compliance with policies/procedures, determine liability, and based on its findings, recommend the pursuit of cost recovery. Additionally, this review establishes a method by which consultant performance may be documented and tracked for purposes of future consultant selection processes.

¹ Errors and/or Omissions generally refer to design deficiencies in the plans and specifications, which must be corrected in order for the project to function or be built as intended. Errors are typically things shown incorrectly. Omissions are things [plan items] not shown [that should have been included]

I. INTRODUCTION

A. Background

Over the last 15 years, GDOT's average construction award amount has increased significantly. During the same period, the employment of consultants to deliver projects also increased. Between 1991 and 1997 under the Intermodal Surface Transportation Efficiency Act (ISTEA), GDOT's average yearly award amount increased approximately \$100,000,000. With the passage of the Transportation Equity Act for the 21st Century (TEA-21), between 1998 and 2003, the average yearly award amount increased approximately \$200,000,000. Since 2003, the average yearly award amount has risen an additional \$230,000,000. With the recent implementation of the Safe, Accountable, Flexible, Efficient, Transportation Equity Act – Legacy for Users (SAFETEA-LU), the average yearly award amount is expected to increase even further while GDOT's pre-construction work force will essentially remain the same, thus substantiating the need to hire more consultants. Presently, consultants prepare nearly 60 percent of the projects awarded by GDOT.



Consultants are accountable for the technical accuracy and quality of their work. In an effort to improve the quality of contract documents, GDOT conducts formal reviews at milestone events during the preliminary engineering (PE) process. Despite these formal reviews, GDOT recognizes E&O occur and may not be discovered until project construction is underway. Because an E&O may affect the Department's ability to deliver projects on time and within budget, controlling them is important.

The significance of an E&O can be measured by how it affects the contract schedule and/or construction costs. An E&O discovered during a pre-construction conference is typically resolved more quickly and at a lower cost than one discovered during construction and at a major point in the project's critical path. When an E&O is identified during construction, emphasis is placed on providing a solution to correct the

E&O as quickly as possible to avoid or minimize construction delays. In most cases, increases in costs to correct E&O result from contractor delays, additional work/re-work, or supplemental engineering due to redesign.

Resolving an E&O discovered during construction requires a change to the original construction contract. Modifying the original contract not only adds to a project's cost, but also places an administrative burden on GDOT. Although the recovery of costs associated with E&O is not mandated by state statute, a clause in the GDOT's Professional Services Agreement states "the Department reserves the right to pursue reimbursement for these additional costs from the professional design consultant if the E&O is determined to be a result of *ordinary negligence*² or *gross negligence*³".

The development of a perfect and error-free set of Construction Plans and Contract Documents is the goal of every state DOT and professional consulting firm. However, the costs associated with the level of effort to achieve such quality are prohibitive. Recognizing GDOT is not seeking a level of effort required to produce a perfect set of plans, minor design changes, conflicts, ambiguities, etc., that are within an acceptable standard of performance and cause only a small increase in project costs, are expected in the project delivery process. Guidance is necessary to clarify how GDOT and the professional design consultant should address accountability, as well as to process claims to recover premium costs attributed to design E&O. Obviously, a timely and equitable administrative dispute resolution procedure is desirable for both parties. Without an administrative dispute resolution procedure, costly litigation may be the only solution. Establishing benchmarks for professional design consultants' performance will be a valuable management tool for GDOT to improve consultant project management.

B. Review Objectives

The objective of the review was to evaluate the effectiveness of GDOT's procedures for the following:

- Identifying, documenting, and tracking E&O;
- Assessing their impact and determining the extent of consultant responsibility; and
- Recovering additional contractor claims due to delays, demolition work, rework; etc. associated with the E&O in a cost-effective manner.

² In Georgia, ordinary negligence is defined in O.C.G.A. §51-1-2 which reads as follows: In general, ordinary diligence is that degree of care which is exercised by ordinary prudent persons under the same or similar circumstances. As applied to the preservation of property, the term 'ordinary diligence' means that care which every prudent man takes of his own property of a similar nature. The absence of such diligence is termed ordinary negligence.

³ In Georgia, gross negligence is defined in O.C.G.A. §51-1-4 which reads as follows: In general, slight diligence is that degree of care which every man of common sense, however inattentive he may be, exercises under the same or similar circumstances. As applied to the preservation of property, the term 'slight diligence' means that care which every man of common sense, however inattentive he may be, takes of his own property. The absence of such care is termed gross negligence.

Further, the review was to provide recommendations for improving and/or establishing new GDOT procedures, including consideration of how E&O data could be used in selecting consultants for future work in Georgia. The effects may range from documenting results of E&O as part of a performance rating to recommending suspension/debarment for cases where gross negligence is proven.

C. Review Approach

The review was conducted as a team effort by GDOT and FHWA. Committee members consisted of the following:

- Chuck Hasty, GDOT, Co-Chair
- Edward T. Parker, FHWA, Co-Chair
- Monica Flournoy, GDOT
- Kenneth Thompson, GDOT
- Sam Teal, GDOT
- George Merritt, FHWA
- Shannon Shaneyfelt, GDOT

The Committee studied applicable state and federal regulations, policies, and procedures regarding E&O cost recovery. The Committee also researched current processes used by other state DOTs in recovering costs from consultants due to E&O. The Committee analyzed research results, noted best practices, and identified systematic problems associated with the E&O cost-recovery process. In addition, a questionnaire was sent to various Central and District Office GDOT personnel, as well as consultants prequalified to do work for GDOT, to obtain their understanding of and their role in the E&O identification, correction, and cost-recovery processes.

D. Scope of Review

The process review focused on the procedures used by GDOT to recover costs resulting from E&O in consultant-prepared construction plans and contract documents. It consisted of reviewing State policies and performing a survey of appropriate GDOT staff, consultants, and affected parties.

II. OBSERVATIONS AND CONCLUSIONS

A. Existing Regulations, Policy, and Guidance

Title 23 of the Code of Federal Regulations (§23 CFR 172.9) requires the State DOTs to have written procedures for its methods of procuring consultants. The procedures should include a provision for determining the extent to which the consultant, who is responsible for the professional quality, technical accuracy, and coordination of services, may be reasonably liable for costs resulting from E&O in design furnished under its contract. The GDOT typically includes in its Professional Services Agreement a clause which

states, “the Department reserves the right to pursue reimbursement for these additional costs from the professional design consultant if the E&O is determined to be a result of *ordinary negligence or gross negligence*”. Despite the inclusion of the clause, there is no state law or GDOT written policy which requires the recovery of costs associated with E&O. In fact, on November 8, 2005, FHWA approved GDOT’s Consultant Procurement and Management Process for Architectural and Engineering Services Manual. FHWA noted in its approval the need to revise the process to incorporate an E&O procedure. Although no formal practice is in place, GDOT has in the past, on a case-by-case basis, sought the recovery of costs from consultants.

FHWA’s policy on the participation in design and construction errors, which was established via memorandums in 1963 and 1978, essentially has not changed. The policy regarding participation on errors is summarized as, ‘Federal-aid participation in errors that may reasonably be expected to occasionally occur (despite the exercise of normal diligence) may be justified, as long as the State Transportation Administrator’s carelessness, negligence, incompetence, or under-staffing were not contributing factors’.⁴ The policy regarding recovery of E&O costs is summarized as, ‘the consultant should only be held accountable for the costs of the new design - not for additional construction costs resulting from such errors - unless the E&O are a result of gross negligence or carelessness’.⁵ The intent of FHWA’s policy is to provide the State DOTs with maximum flexibility in determining when and at what level to recover costs.

Conclusion: Federal regulations require State DOTs to have a provision in their consultant procurement procedures for determining the extent to which a consultant may be responsible for costs resulting from E&O. Although, GDOT has pursued the recovery of costs from consultants in the past, the Department does not have a formal E&O cost recovery process in its current consultant procurement procedures.

B. Review of Other State Error and Omissions Procedures

In order to gage the current state of practice, the Committee identified State DOTs which had written E&O cost recovery procedures and/or which had recently completed a review of their E&O process. A 2004 email survey by FHWA’s Headquarters Office aided the committee in determining which States had E&O procedures. The committee contacted each State DOT and requested a copy of their procedures, if available. The committee received an E&O policy or cost recovery process review from the following states:

State	Written Error and Omissions Procedure	Ongoing or Recent Process Review
California	✓	
Florida	✓	✓
Illinois	✓	
Massachusetts	✓	✓
Washington State	✓	

⁴ Letter from Chief, Operations and Maintenance Division, FHWA Office of Highway Operations to Regional FHWA Administrators, September 8, 1978 (Appendix A)

⁵ FHWA Contract Administration Core Curriculum Participant's Manual and Reference Guide 2005

State	Written Error and Omissions Procedure	Ongoing or Recent Process Review
South Carolina		✓

The committee also reviewed a September 8, 2005, draft of Cost Recovery Policy Issues for Departments of Transportation prepared by the American Council of Engineering Companies (ACEC). In addition, the committee reviewed the March 2006 Draft AASHTO Guide for Contracting, Selecting, and Managing Consultants in Preconstruction Engineering for guidance and recommendations on E&O procedures.

Conclusion: The review of other States' E&O policy was beneficial. It allowed the committee to identify useful provisions that could be easily incorporated into GDOT's existing practices for the development of E&O cost recovery process. The most important and common provisions found in the State E&O policies reviewed include:

- Purpose/Scope of Policy
- Definitions
- Emphasis of partnership and cooperation between owner and consultant
- Identification of who initiates the E&O process
- Criteria/thresholds to trigger the pursuit of recovery
- Qualification of Negligence
- Identification of offices and positions responsible for implementing the process
- A review panel or committee to perform an in depth review and determine the Departments position on liability
- An appeals and/or arbitration process

In formulating what GDOT should consider in its E&O cost recovery process, the committee agreed with most of the provisions given in the ACEC and AASHTO draft documents. However, the ACEC recommended in its document that the State not establish percentage thresholds to determine cost recovery against design engineers. The team did not fully agree with the provision and concluded that GDOT's procedures should include thresholds to account for administrative costs as well as the time and resources required of the Department's personnel to implement the procedures. The committee agrees that threshold values should be used only as a guide and not the sole factor in determining to pursue cost recovery. Depending on the circumstances, GDOT should have the discretion to pursue costs for any amount.

C. Field and General Office Construction Personnel Survey Results

In the Fall of 2005, the Committee conducted and completed a survey of Field and General Office Construction Personnel to determine the following:

- The current level of involvement in identifying E&O;
- The factors that are considered when determining if a contract modification is an error and/or omission;
- The estimated amount of time to adequately track an error and/or omission that resulted in a supplemental agreement; and

- The effects the cost recovery process may have on the contractor and construction schedule.

The survey targeted various personnel including, but not limited to, Construction Project Managers/Engineers, Area Engineers, District Construction Engineers, and Construction Liaison Engineers.

Conclusion: Over 30 responses were received. Based on those responses, there was no indication the proposed E&O cost recovery process would place an additional burden on construction personnel. (See Appendix B for summaries and responses).

D. Consultant Survey Results

Similarly in the fall of 2005, the committee conducted a survey of consultants who are prequalified with GDOT. The survey was used to ask the following:

- What business practice changes would be required as a result of enactment of E&O cost-recovery procedures?
- Based upon experience, if any, how effective have similar E&O cost-recovery procedures been in other states?
- What criteria should be used to determine whether costs associated with an E&O should be recovered?
- What impact will the E&O policy and cost-recovery procedures have on professional liability insurance?
- Will the proposed E&O policy and cost-recovery procedures result in an increase in the cost of professional services?
- What problems or concerns will be created by the proposed E&O policy and cost-recovery procedures?
- At what level should a consultant be held responsible for an E&O (when following direction or guidance provided by GDOT)?
- How long should consultants be held responsible for engineering decisions following the completion of a design contract?

Conclusion: Six responses were received. In general, responses stated if the E&O cost-recovery process is not transparent, it may create an adversarial relationship between GDOT and its consultant; consultants should not be held responsible for direction/guidance mandated by the Department, nor for plan changes effected by GDOT after PS&E submittal; and design fees and insurance premiums will probably increase to offset the increased liability on the consultant. See Appendix C for a survey response summary.

E. Existing GDOT Practice (Contract Modification Process)

The Department employs a Contract Modification Process to make changes to a construction contract after a project has been let. The process allows contract changes through either a Supplemental Agreement or an Allotment Request. A flow chart outlining the Contract Modification Process is shown in Figure 1. In 2003, the Office of Construction began maintaining a database to track E&O encountered in the field. This required GDOT Standard Form 357 Supplemental Agreements Appendix A) to be modified to record project changes due to E&O's. The Office of Construction maintains a record of all Supplemental Agreements and Allotment Requests executed and distributes a report, which includes costs, to senior-level management (specifically the Director of Preconstruction and Director of Field Districts/Operations) on a quarterly basis. Although initiating, documenting, and executing a Supplemental Agreement is not the focus of this Committee, successful recovery of costs generated by E&O is dependent on the initial work performed to prepare the Supplemental Agreement.

Conclusion: The committee agrees that the Contract Modification Process (i.e., Supplemental Agreement) serves as an adequate method for tracking and documenting E&O encountered in the field. Further, the committee concurs that it effectively addresses establishing a solution and negotiating a price to construct the solution. However, for the existing Supplemental Agreement to be used as the basis to pursue cost-recovery actions against the consultant, it needs to be supported by supplemental information, which details the known facts, findings, and costs regarding the E&O.

Currently, district construction personnel (DCEs) are required to document, in sufficient detail, the circumstances regarding the occurrence to support the costs included in the Supplemental Agreement. For the purposes of E&O cost recovery, more specific details on the costs associated with E&O need to be reported.

In addition, to needing additional information, to support the pursuit of costs due to E&O, the Department needs to implement a process to review E&O claims and to determine the liability of consultants. Most States accomplish this task by establishing a panel, consisting of mid and upper management, to make determinations of liability.

In any E&O policy the Department implements, the Design Office Administrators will need to have a significant role. Therefore, they should be included in the distribution of the quarterly report of Supplemental Agreements

F. GDOT's Consultant Performance/Selection Process

GDOT's current consultant selection process is defined in the Consultant Procurement and Management Process for Architectural and Engineering Services Manual. Consultant selection is based on the evaluation of three categories of criteria. Each category is assigned a percentage of weight. The categories include:

- Strength of the Project Team (45%)
- Project team's capacity to deliver the project (35%)
- Reputation of the firm (20%)

The “reputation of the firm” category considers the reputation and satisfactory performance evaluations and references of the consultant. The “reputation of the firm” category can also be adjusted +/- 5% by the Selection Committee.

The Department has contracted with The North Highland Group to review its existing consultant selection process. Their goal is to improve the selection process by making it less subjective and transparent. *The results of the committee’s review and recommended changes are expected August 2006.*

Conclusion: Although GDOT is in the process of improving its selection criteria, the E&O Process Review Committee does not anticipate the selection categories will change drastically. Therefore, the history of E&O recovery occurrences should be a significant factor in the weight allocated to the “Past Performance” category.

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Supplemental Agreement Process
 Revised 9/26/2005

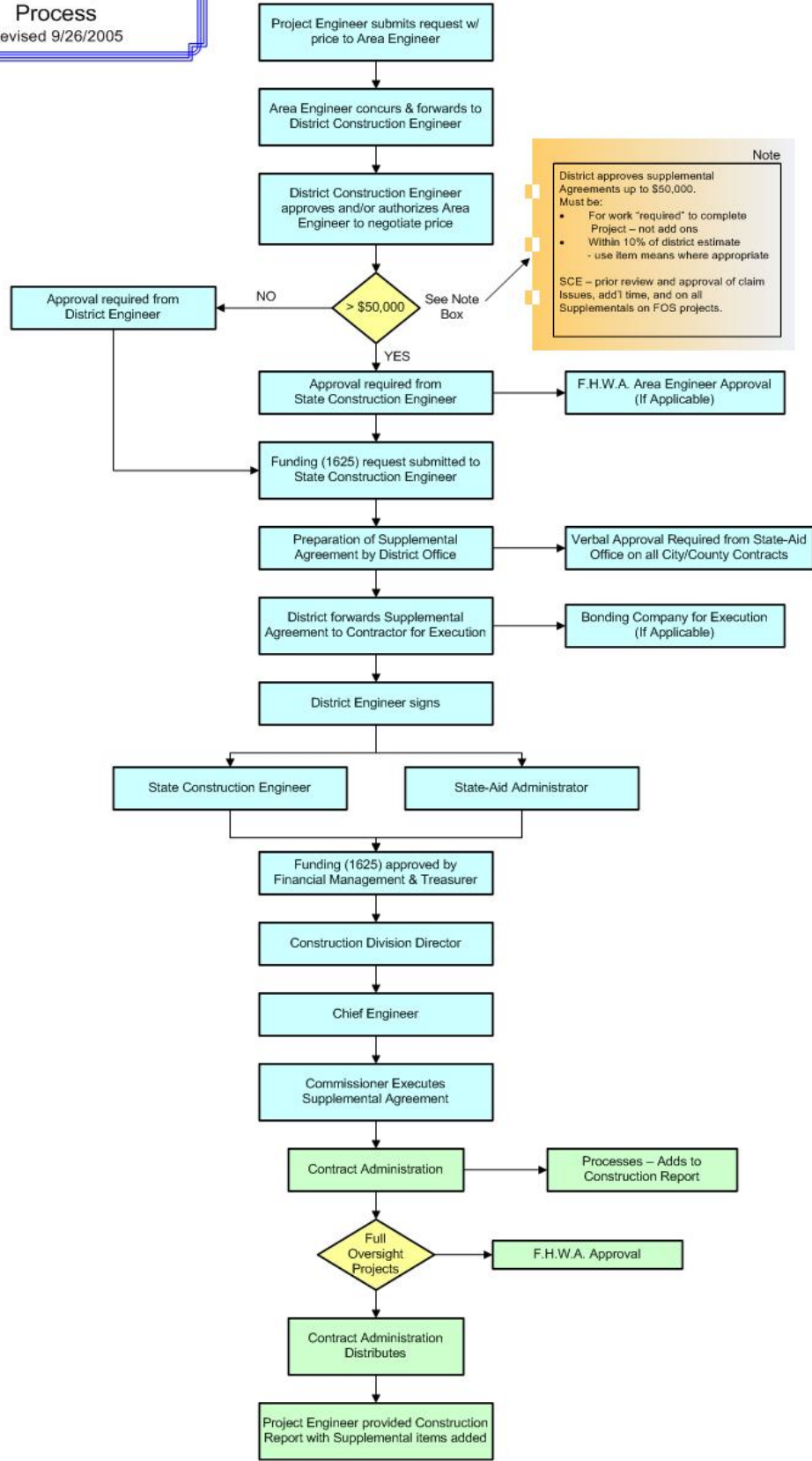


Figure 1

III. RECOMMENDATIONS

The committee has determined that GDOT's Contract Modification Process forms a good basis for identifying and tracking E&O. However, in order for the Department to have a full-fledged procedure where E&O are assessed, liability is determined, and costs are pursued/recovered, new processes must be created and integrated with the current Contract Modification Process. The following recommendations address changes and additions GDOT should make to its existing Contract Administration Process. In addition, the recommendations provide a proposed E&O policy and cost recovery procedure. Because many, if not all, of the recommendations are inter-related, they will require implementation as a whole to achieve the desired outcome.

- A. The Department should adopt the E&O Policy and Cost Recovery Procedure given in Tables 1 and 2.
- B. To support the adoption of the E&O policy and cost-recovery procedure given in Tables 1 and 2, respectively, the following changes and additions should be implemented:
 - The District Construction Estimator should generate two separate cost estimates for supporting Supplemental Agreements resulting from E&O, (1) the negotiated cost to correct the E&O and (2) the estimated cost of construction had the E&O not occurred.
 - The quarterly report of Supplemental Agreements and Allotment Requests documents needs to be modified to separately identify Supplemental Agreements and Allotments processed as a result of an E&O.
 - In addition, we recommend that the costs associated with the Supplemental Agreement be itemized into damage and non-damage claims.
 - The modified quarterly report should also be sent to the Design Office Administrators (Urban, Road, Consultant Design, Traffic Safety and Design, and Maintenance) for their review and further action.
 - To facilitate the execution of the proposed E&O process, the Department should establish a Consultant Performance Review Committee (CPRC) composed of the Director of Preconstruction, Director of Operations, Director of Construction, Director of Legal Services, Director of Administration, and a FHWA representative.
 - The Office of Engineering Services should be designated the depository of the detailed reports created by the Design Office Administrators and shall develop a consolidated report of E&O for distribution to the CPRC.

- C. A consultant’s history of E&O should be a 50% factor of the weight given to the “Reputation of the Firm” in the consultant selection criteria.
- D. When implementing the proposed E&O policy, the GDOT should provide training to all Central Office and field personnel. The Department should also consider developing training for consultants.
- E. After two years, the Department should conduct an assessment of the E&O policy and cost-recovery process to determine if the procedures are effective and if any improvements need to be made.

Table 1 – Proposed Errors and Omissions Policy

The purpose of GDOT’s Errors and Omissions (E&O) policy is to recover additional project costs due to carelessness or negligence. A desired outcome of enforcing the policy is higher-quality plans and contract documents, which in-turn will enable the Department to deliver projects according to approved schedules and within fiscal constraints. Further, GDOT desires a process that is fair and equitable and cultivates a working partnership between the Department and consultants. GDOT’s objective is to communicate to the design consultant as soon as possible when an E&O is discovered to minimize potential delay costs. Furthermore, it is to provide the consultant the first opportunity to participate in determining a solution, in an effort to resolve issues and mitigate damages. If E&O results in additional quantities being added to the project that would have been required anyway and no other quantities, delays, or costs are created, no compensation from the consultant is necessary.

In order for the procedure of cost recovery to be effective if negotiations fail and the case is litigated, the evaluation of consultant liability due to E&O should be based on “ordinary or gross negligence”, as defined in Georgia statutes, which, at a minimum, is the degree of care exercised by ordinary prudent persons under the same or similar circumstances. However, the description of what particular contractor actions or behaviors constitute negligence can use terminology consistent with descriptions of standard prudent engineering behaviors or actions. For example, in Florida, engineering negligence is defined in Rule 61G15-19.001(4) of the Florida Administrative Code, which states: “A professional engineer shall not be negligent in the practice of engineering. The term negligence...is herein defined as the failure of a professional engineer to utilize due care in performing in an engineering capacity or failing to have due regard for acceptable standards of engineering principles.” Such a definition could be adopted by the Committee.

GDOT should consider administrative costs when deciding to recover additional project costs associated with an E&O. The administrative costs include the cost of researching and documenting the E&O. Typically, administrative costs, which do not include litigation costs, are estimated to be \$10,000 to \$15,000 for cases in which cost recovery is pursued. Administrative costs of pursuing E&O cost recovery should be taken into consideration prior to initiating the cost recovery process. The recovery of costs less than \$20,000 may be considered unsound due to the investment of time and resources to develop the

administrative report and loss of employee productivity. However, regardless of the amount of an individual E&O loss, when considering cumulative losses due to multiple E&Os from a single consultant design contract, GDOT should pursue recovery when the cumulative losses exceed \$50,000.

These recommended threshold values are guidelines to aid GDOT in determining when it is cost-effective to pursue recovery. However, GDOT should retain the right to pursue recovery of any amount when justified.

Table 2 - Proposed Errors and Omissions Procedure

Definitions:

Errors – items in plans or other contract documents that are shown incorrectly.

Errors and Omissions - design deficiencies in the plans and specifications, which must be corrected in order for the project to function or be built as intended

Gross negligence – the absence of slight diligence or the degree of care which every man of common sense, however inattentive he may be, exercises under the same or similar circumstances. As applied to the preservation of property, the term ‘slight diligence’ means that care which every man of common sense, however inattentive he may be, takes of his own property.

Omissions – items in plans or other contract documents that are not shown or included.

Ordinary negligence - the degree of care which is exercised by ordinary prudent persons under the same or similar circumstances. As applied to the preservation of property, the term ‘ordinary diligence’ means that care which every prudent man takes of his own property of a similar nature. The absence of such diligence is termed ordinary negligence.

Net cost – the difference between the negotiated cost to correct the E&O and the estimated cost of construction had the E&O not occurred.

Engineering Negligence – failure by a professional engineer to utilize due care in performing in an engineering capacity or failing to have due regard for acceptable standards of engineering principles

Threshold values - for most circumstances, the Department should only pursue the recover of E&O cost greater than \$20,000. The recovery of cost less than \$20,000 is considered unsound due to the investment of time and resources to develop the administrative report and loss of employee productivity.

If there are multiple E&O losses on a single consultant design contracts, GDOT should pursue recovery when the cumulative losses exceed \$50,000.00

Identification, Assessment, and Documentation

1. When the Project Engineer determines that a Supplemental Agreement is needed as a result of an E&O, the Project Engineer should contact the District Construction Engineer to request that the net cost be calculated. The net cost should be added to the Supplemental Agreement.
2. All Supplemental Agreements and Allotment Requests including costs are summarized in a quarterly report that is distributed to the Director of Preconstruction, Director of Field Districts/Operations for Review, and Design Office Administrators.
3. For each E&O identified in the quarterly report that are greater than the E&O threshold values, the Office Administrator (or his designee) should develop a detailed report that contains the following information:
 - general contract information (consultant, design service contract, construction contract, project manager, etc.);
 - a summary of the problem;
 - a summary of the solution implemented in the field;
 - GDOT's accountability related to the E&O;
 - and a recommendation to pursue or not to pursue cost-recovery actions against the consultant.

The Office Administrator will forward this information (within three months of receiving the quarterly report) to the Office of Engineering Services to develop a consolidated report of all Supplemental Agreements processed due to E&O. The consolidated report will be distributed to the Chief Engineer, FHWA, and the Consultant Performance Review Committee (CPRC). The projects on which the Office Administrator recommends cost recovery actions will be reviewed by the CPRC.

Evaluation of Cost Recovery

1. The CPRC is comprised of the following personnel: Director of Preconstruction, Director of Operations, Director of Construction, Director of Legal Services, Director of Administration, and a FHWA representative. The Directors of Preconstruction, Operations, and Construction will be voting members. The CPRC mission will be to review all recommendations for E&O cost-recovery pursuit against the consultant and either concur or not concur with the recommendation of the Office Administrator.
2. In reaching its decision, the CPRC will consider the following criteria:
 - The CPRC will verify the threshold loss of more than \$20,000 (Cumulative losses of more than \$50,000) has been sustained. This determination will help insure the cost effectiveness of going forward with cost-recovery efforts.

However, the CPRC will have the latitude to make a finding that, due to special circumstances, cost recovery will be initiated regardless of whether threshold amounts have been reached.

- The CPRC will determine whether the E&O was due to negligence or gross negligence (as defined in Georgia law) on the part of the consultant. If so, then cost-recovery efforts will be directed not only to the cost of new design/redesign (if these costs are defined), but also to the additional construction costs attributed to the E&O. In making this determination, the CPRC will review the obligations (such as scope of work) agreed to by the consultant in the contract.
 - The CPRC will take into account any mitigating circumstances relating to the consultant, such as an analysis of GDOT's responsibility to have identified the E&O during earlier stages of project plan development.
3. All cost-recovery actions approved by the CPRC will be forwarded to the Chief Engineer for approval. Regardless of the disposition of the CPRC concerning an E&O, documentation of a consultant's performance will be forwarded to the Office of Consultant Design for record keeping.

Cost Recovery Approach

1. Once the Chief Engineer approves a recommendation, the Office Administrator will be responsible for notifying the consultant of GDOT's decision. The Office Administrator also will have the responsibility to enter into negotiation discussions. He or she will present the facts surrounding the E&O to the consultant and attempt to resolve the issue without formal legal action. The Office of Legal Services, in conjunction with the Attorney General's Office will provide guidance and direction to ensure any cost-recovery negotiations do not jeopardize GDOT's ability to recover the costs.
2. If negotiations are successful and mutual resolution is proposed, the Office Administrator will obtain approval from the Chief Engineer and implement the resolution.
3. If the consultant and GDOT are unable to mutually agree during negotiation, non-binding mediation may be considered to aid in reaching a resolution. The GDOT and the consultant shall agree on a mediator. GDOT and the consultant shall share the costs and expenses of the mediator on a pro rata basis. The mediator shall be required to (i) have at least six years of experience in dispute resolution of claims involving the design and/or construction process. Within 10 days after appointment of the mediator, GDOT and the consultant shall agree on the rules for, and scope of, the mediation phase.

The mediation phase shall begin upon expiration of the negotiation phase and will last 120 days, unless concluded earlier or extended by mutual agreement of GDOT and the design consultant. Upon expiration of the 120-day period (or as otherwise

extended by mutual agreement), GDOT and the consultant shall be authorized to pursue whatever remedies are available, including litigation.

In the event the representatives of GDOT and the consultant agree to resolve the cost recovery claim, the agreement shall be in writing.

4. If cost-recovery negotiations are successful, two methods are recommended by the committee to recover costs associated with E&O: direct payment to GDOT, and/or additional, pro-bono design services. However, if cost-recovery negotiations fail, the Office of Legal Services will act as a liaison between GDOT and Attorney General's Office in cost-recovery litigation.

Consultant Performance

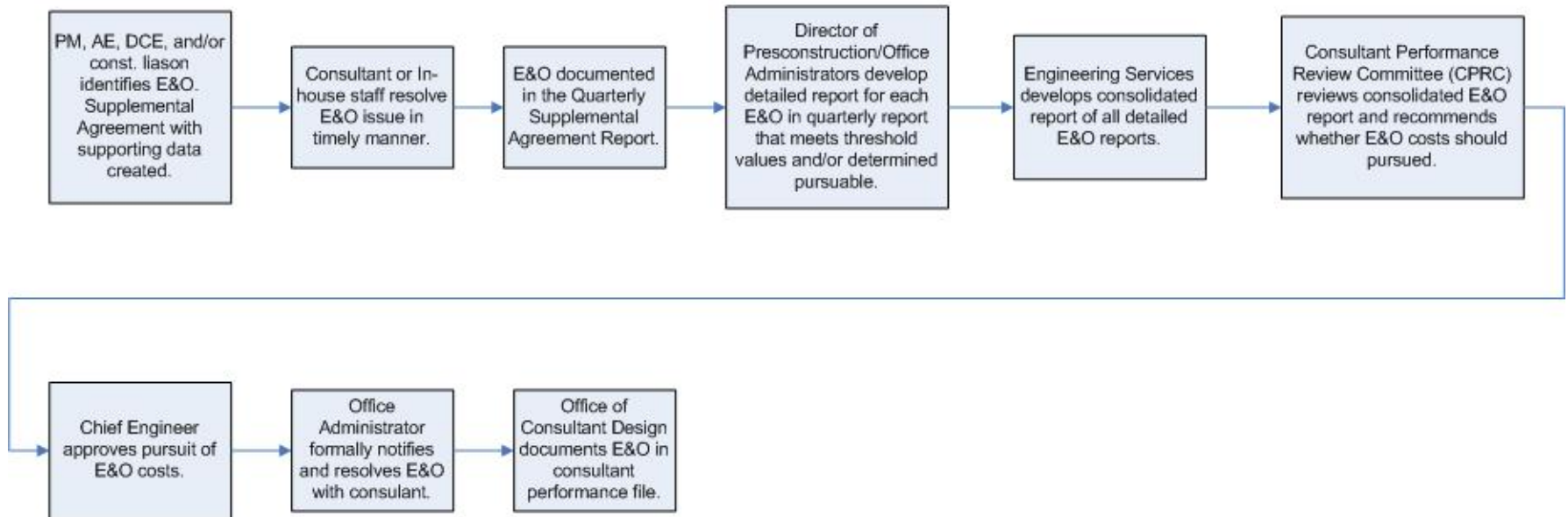
All occurrences of E&O should be documented, especially if performance is to be considered as a basis for consultant selection on future contracting opportunities. A consultant's performance documentation file should include the CPRC's recommendations to pursue or not to pursue cost-recovery actions for every occurrence reviewed, as well as the final resolution of those occurrences that proceeded to cost recovery.

The Office of Design should maintain a database of all E&O cost recovery pursuits. The database should be used to generate E&O history reports that will be used in GDOT's consultant selection process.

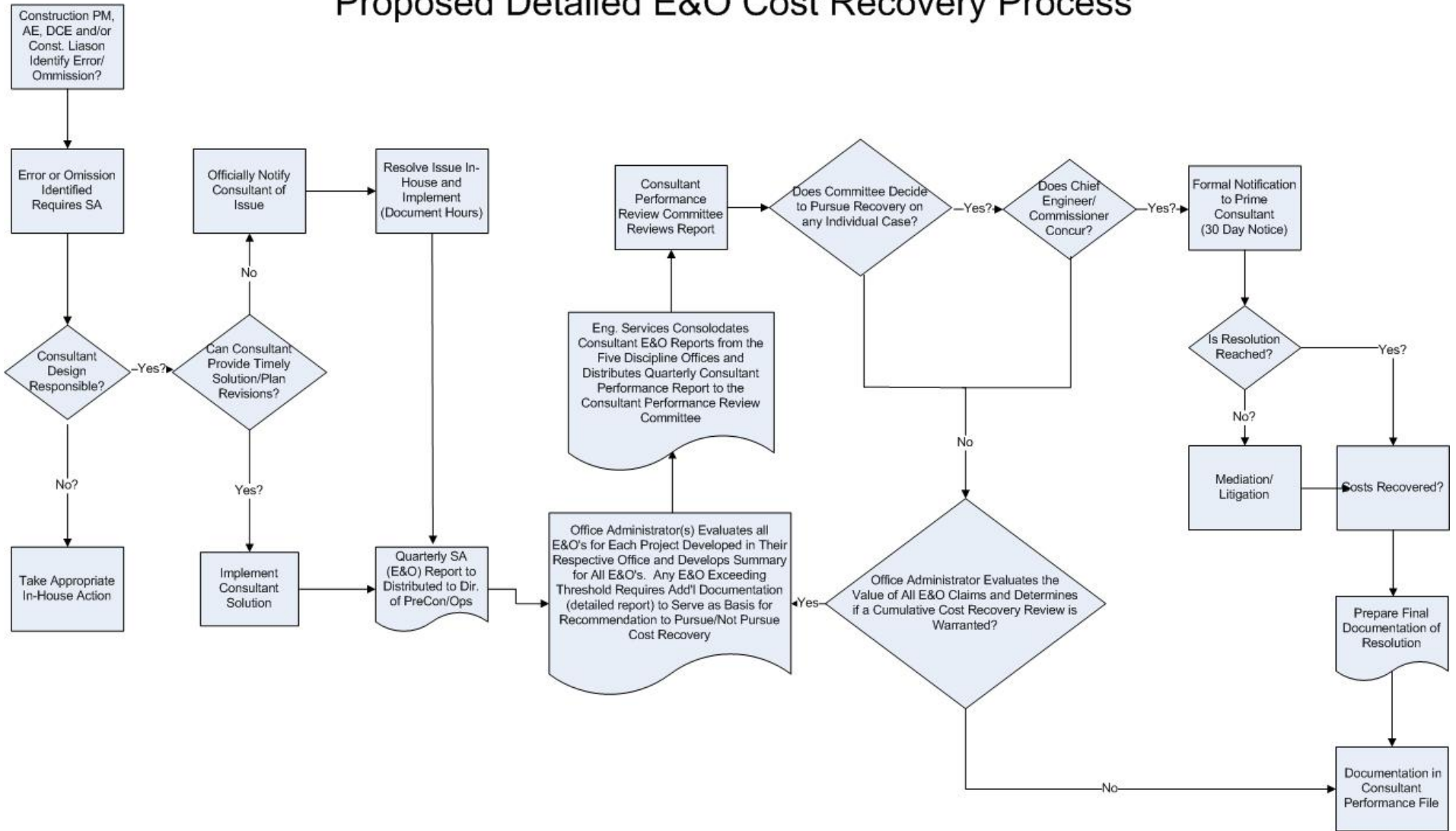
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IV. APPENDICES

Proposed E&O Cost Recovery Process Process



Proposed Detailed E&O Cost Recovery Process



Consultant E&O Questionnaire Results	
Question	Actual Responses
How might your business practices change when the Department implements an Errors and Omissions Cost-recovery process?	
What are your experiences of how similar cost-recovery processes have worked in other states?	
What criteria or guidance would you suggest for determining whether the costs associated with an error or omission should be recovered?	
How much impact will professional liability insurance have on the ability of the Department to recover costs?	
The proposed cost recovery process will place the QC/QA responsibility squarely on the design consultant. Will this responsibility result in an increase in the cost for professional services? Quality Control/Quality Assurance is a top priority in plan production for the Department; current Professional services Agreements communicate this priority, therefore, recovering costs associated with plan errors and omissions should not result in a rise in the costs for professional services to the Department. What is your view?	
What problems or concerns do you have with the proposed cost-recovery process? What	

Consultant E&O Questionnaire Results	
Question	Actual Responses
recommendations do you have to ensure that this process is fair, both to the consultant and to the Department?	
What level of responsibility do you feel a design consultant should carry, even when following the guidance and direction of the Department?	
How long are design consultants typically held accountable/responsible for engineering decisions following the completion of a design contract?	

Consultant E&O Questionnaire Results	
Question	Summarized Responses
How might your business practices change when the Department implements an Errors and Omissions Cost-recovery process?	
What are your experiences of how similar cost-recovery processes have worked in other states?	
What criteria or guidance would you suggest for determining whether the costs associated with an error or omission should be recovered?	
How much impact will professional liability insurance have on the ability of the Department to recover costs?	

Consultant E&O Questionnaire Results

Question	Summarized Responses
<p>The proposed cost recovery process will place the QC/QA responsibility squarely on the design consultant. Will this responsibility result in an increase in the cost for professional services? Quality Control/Quality Assurance is a top priority in plan production for the Department; current Professional services Agreements communicate this priority, therefore, recovering costs associated with plan errors and omissions should not result in a rise in the costs for professional services to the Department. What is your view?</p>	
<p>What problems or concerns do you have with the proposed cost-recovery process? What recommendations do you have to ensure that this process is fair, both to the consultant and to the Department?</p>	
<p>What level of responsibility do you feel a design consultant should carry, even when following the guidance and direction of the Department?</p>	
<p>How long are design consultants typically held accountable/responsible for engineering decisions following the completion of a design contract?</p>	

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PART 172—ADMINISTRATION OF ENGINEERING AND DESIGN RELATED SERVICE CONTRACTS

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Authority: 23 U.S.C. 112, 114(a), 302, 315, and 402; 40 U.S.C. 541 *et seq.*; sec.1205(a), Pub. L. 105–178, 112 Stat. 107 (1998); sec. 307, Pub. L. 104–59, 109 Stat. 568 (1995); sec. 1060, Pub. L. 102–240, 105 Stat. 1914, 2003 (1991); 48 CFR 12 and 31; 49 CFR 1.48(b) and 18.

Source: 67 FR 40155, June 12, 2002, unless otherwise noted.

§ 172.1 Purpose and applicability.

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This part prescribes policies and procedures for the administration of engineering and design related service contracts under 23 U.S.C. 112 as supplemented by the common grant rule, 49 CFR part 18. It is not the intent of this part to release the grantee from the requirements of the common grant rule. The policies and procedures involve federally funded contracts for engineering and design related services for projects subject to the provisions of 23 U.S.C. 112(a) and are issued to ensure that a qualified consultant is obtained through an equitable selection process, that prescribed work is properly accomplished in a timely manner, and at fair and reasonable cost. Recipients of Federal funds shall ensure that their subrecipients comply with this part.

§ 172.3 Definitions.

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As used in this part:

Audit means a review to test the contractor's compliance with the requirements of the cost principles contained in 48 CFR part 31.

Cognizant agency means any Federal or State agency that has conducted and issued an audit report of the consultant's indirect cost rate that has been developed in accordance with the requirements of the cost principles contained in 48 CFR part 31.

Competitive negotiation means any form of negotiation that utilizes the following:

- (1) Qualifications-based procedures complying with title IX of the Federal Property and Administrative Services Act of 1949 (Public Law 92–582, 86 Stat. 1278 (1972));
- (2) Equivalent State qualifications-based procedures; or
- (3) A formal procedure permitted by State statute that was enacted into State law prior to the enactment of Public Law 105–178 (TEA–21) on June 9, 1998.

Consultant means the individual or firm providing engineering and design related services as a party to the contract.

Contracting agencies means State Departments of Transportation (State DOTs) or local governmental agencies that are responsible for the procurement of engineering and design related services.

Engineering and design related services means program management, construction management, feasibility studies, preliminary engineering, design, engineering, surveying, mapping, or architectural related services with respect to a construction project subject to 23 U.S.C. 112(a).

One-year applicable accounting period means the annual accounting period for which financial statements are regularly prepared for the consultant.

§ 172.5 Methods of procurement.

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(a) *Procurement.* The procurement of Federal-aid highway contracts for engineering and design related services shall be evaluated and ranked by the contracting agency using one of the following procedures:

(1) *Competitive negotiation.* Contracting agencies shall use competitive negotiation for the procurement of engineering and design related services when Federal-aid highway funds are involved in the contract. These contracts shall use qualifications-based selection procedures in the same manner as a contract for architectural and engineering services is negotiated under title IX of the Federal Property and Administrative Services Act of 1949 (40 U.S.C. 541–544) or equivalent State qualifications-based requirements. The proposal solicitation (project, task, or service) process shall be by public announcement, advertisement, or any other method that assures qualified in-State and out-of-State consultants are given a fair opportunity to be considered for award of the contract. Price shall not be used as a factor in the analysis and selection phase. Alternatively, a formal procedure adopted by State Statute enacted into law prior to June 9, 1998 is also permitted under paragraph (a)(4) of this section.

(2) *Small purchases.* Small purchase procedures are those relatively simple and informal procurement methods where an adequate number of qualified sources are reviewed and the total contract costs do not exceed the simplified acquisition threshold fixed in 41 U.S.C. 403(11). Contract requirements should not be broken down into smaller components merely to permit the use of small purchase requirements. States and subrecipients of States may use the State's small purchase procedures for the procurement of engineering and design related services provided the total contract costs do not exceed the simplified acquisition threshold fixed in 41 U.S.C. 403(11).

(3) *Noncompetitive negotiation.* Noncompetitive negotiation may be used to procure engineering and design related services on Federal-aid participating contracts when it is not feasible to award the contract using competitive negotiation, equivalent State qualifications-based procedures, or small purchase procedures. Contracting agencies shall submit justification and receive approval from the FHWA before using this form of contracting. Circumstances under which a contract may be awarded by noncompetitive negotiation are limited to the following:

- (i) The service is available only from a single source;
- (ii) There is an emergency which will not permit the time necessary to conduct competitive negotiations; or
- (iii) After solicitation of a number of sources, competition is determined to be inadequate.

(4) *State statutory procedures.* Contracting agencies may procure engineering and design related services using an alternate selection procedure established in State statute enacted into law before June 9, 1998.

(b) *Disadvantaged Business Enterprise (DBE) program.* The contracting agency shall give consideration to DBE consultants in the procurement of engineering and design related service contracts subject to 23 U.S.C. 112(b)(2) in accordance with 49 CFR part 26.

(c) *Compensation.* The cost plus a percentage of cost and percentage of construction cost methods of compensation shall not be used.

§ 172.7 Audits.

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(a) *Performance of audits.* When State procedures call for audits of contracts or subcontracts for engineering design services, the audit shall be performed to test compliance with the requirements of the cost principles contained in 48 CFR part 31. Other procedures may be used if permitted by State statutes that were enacted into law prior to June 9, 1998.

(b) *Audits for indirect cost rate.* Contracting agencies shall use the indirect cost rate established by a cognizant agency audit for the cost principles contained in 48 CFR part 31 for the consultant, if such rates are not under dispute. A lower indirect cost rate may be used if submitted by the consultant firm, however the consultant's offer of a lower indirect cost rate shall not be a condition of contract award. The contracting agencies shall apply these indirect cost rates for the purposes of contract estimation, negotiation, administration, reporting, and contract payment and the indirect cost rates shall not be limited by any administrative or de facto ceilings. The consultant's indirect cost rates for its one-year applicable accounting period shall be applied to the contract, however once an indirect cost rate is established for a contract it may be extended beyond the one year applicable accounting period provided all concerned parties agree. Agreement to the extension of the one-year

applicable period shall not be a condition of contract award. Other procedures may be used if permitted by State statutes that were enacted into law prior to June 9, 1998.

(c) *Disputed audits.* If the indirect cost rate(s) as established by the cognizant audit in paragraph (b) of this section are in dispute, the parties of any proposed new contract must negotiate a provisional indirect cost rate or perform an independent audit to establish a rate for the specific contract. Only the consultant and the parties involved in performing the indirect cost audit may dispute the established indirect cost rate. If an error is discovered in the established indirect cost rate, the rate may be disputed by any prospective user.

(d) *Prenotification; confidentiality of data.* The FHWA and recipients and subrecipients of Federal-aid highway funds may share the audit information in complying with the State or subrecipient's acceptance of a consultant's overhead rates pursuant to 23 U.S.C. 112 and this part provided that the consultant is given notice of each use and transfer. Audit information shall not be provided to other consultants or any other government agency not sharing the cost data, or to any firm or government agency for purposes other than complying with the State or subrecipient's acceptance of a consultant's overhead rates pursuant to 23 U.S.C. 112 and this part without the written permission of the affected consultants. If prohibited by law, such cost and rate data shall not be disclosed under any circumstance, however should a release be required by law or court order, such release shall make note of the confidential nature of the data.

§ 172.9 Approvals.

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(a) *Written procedures.* The contracting agency shall prepare written procedures for each method of procurement it proposes to utilize. These written procedures and all revisions shall be approved by the FHWA for recipients of federal funds. Recipients shall approve the written procedures and all revisions for their subrecipients. These procedures shall, as appropriate to the particular method of procurement, cover the following steps:

- (1) In preparing a scope of work, evaluation factors and cost estimate for selecting a consultant;
- (2) In soliciting proposals from prospective consultants;
- (3) In the evaluation of proposals and the ranking/selection of a consultant;
- (4) In negotiation of the reimbursement to be paid to the selected consultant;
- (5) In monitoring the consultant's work and in preparing a consultant's performance evaluation when completed; and
- (6) In determining the extent to which the consultant, who is responsible for the professional quality, technical accuracy, and coordination of services, may be reasonably liable for costs resulting from errors or deficiencies in design furnished under its contract.

(b) *Contracts.* Contracts and contract settlements involving design services for projects that have not been delegated to the State under 23 U.S.C. 106(c), that do not fall under the small purchase procedures in §172.5(a)(2), shall be subject to the prior approval by FHWA, unless an alternate approval procedure has been approved by FHWA.

(c) *Major projects.* Any contract, revision of a contract or settlement of a contract for design services for a project that is expected to fall under 23 U.S.C. 106(h) shall be submitted to the FHWA for approval.

(d) *Consultant services in management roles.* When Federal-aid highway funds participate in the contract, the contracting agency shall receive approval from the FHWA before hiring a consultant to act in a management role for the contracting agency.