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

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Office of Program Administration
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I. GENERAL

This course has been prepared by the Federal Highway Administration (FHWA), Contract Administration Group. This Group is located within the Office of Program Administration (HIPA) office, which is a part of the Office of Infrastructure.

The Contract Administration Group has responsibility, on a national level, for construction contract administration matters as contained in the following sections of the Code of Federal Regulations (CFR):

23 CFR 230 A & B
23 CFR 633 A
23 CFR 635 A, B, C & D

As part of its nationwide oversight role, the Group maintains the following Orders, Technical Advisories, and guides:

- Order 2000.2A - FHWA Non-procurement Suspension and Debarment Process,
- TA T 5080.10 Incentive/Disincentive (I/D) for Early Completion,
- Guide on Internet Bidding for Highway Construction Projects, and
- Guide on Preparing Engineer's Estimate, Bid Reviews and Evaluation

A. Course Objectives

This course is designed to discuss contract provisions, administrative procedures, and applicable policies related to Federal-aid design and construction contracts. Discussions will include those contract procedures, policies, and requirements prescribed in 23 CFR Sections 230, 633, and 635; and their applicability to construction contracts. There will also be discussion about the reporting of fraud to the Office of the Inspector General (OIG), U.S. Department of Transportation (USDOT), and detecting of fraud in all phases of the contract award process for highway construction projects.

Upon completion of the course, the participants should be able to:

- review construction contract provisions and contracting procedures for conformance with Federal-aid requirements,

- show an improved ability to discuss construction contract administration issues,

- research FHWA policy via statutes, regulations, and directives in a systematic manner, and

- use fraud indicators to detect the possibility of fraud and refer any matters involving fraud, bribery, kickbacks, gratuities, etc. to the USDOT/OIG.

B. FHWA Structure

FHWA is an agency within the United States Department of Transportation. Its fellow agencies include the Bureau of Transportation Statistics (BTS), Federal Aviation Administration (FAA), Federal Railroad Administration (FRA), Federal Transit Administration (FTA), Maritime Administration (MARAD), National Highway Traffic Safety Administration (NHTSA), Federal Motor Carrier Safety Administration, St. Lawrence Seaway Development Corporation and the Surface Transportation Board. Public Law 108-426, the Norman Y. Mineta Research and Special Programs Improvement Act of 2004, disestablishes the Department of Transportation's Research and Special Programs Administration (RSPA). In its place, two new Federal agencies will be established--the Research and Innovative Technology Administration (RITA) and the Pipeline and Hazardous Materials Safety Administration (PHMSA).

From its small beginning as the Office of Road Inquiry in 1893, FHWA grew substantially during the 1950s, 1960s, and 1970s at the start of the Interstate construction era. Outside of its headquarters in Washington, D.C., the agency maintains a field office, commonly referred to as a Division, in every State (typically in the State capitol), the District of Columbia and in the Commonwealth of Puerto Rico; and a resource center with offices in Baltimore, Atlanta, Chicago and San Francisco. The resource center was founded to provide FHWA's customers with technical expertise is such areas as in a wide variety of areas, including contract administration, innovative contracting, quality assurance, and specifications. The Divisions work closely with the State Transportation Agency (STA) in their state to carry out the Federal-aid highway program while ensuring that Federal requirements for the program are met.

Beyond the Federal-aid highway program, FHWA provides project development and construction services to Federal land-managing agencies, such as the National Park Service (NPS) the U.S. Forest Service (USFS), and the Bureau of Indian Affairs (BIA). These services are provided by the Federal Lands Highway Office and its three Divisions. This program may also be referred to as the Direct Federal program. The Federal Lands Highway Divisions must comply with the Federal Acquisition Regulations (FARs) because they directly procure design and construction activities. The FAR requirements differ somewhat from the requirements used in the Federal-aid highway program which is the primary focus of this manual.

C. The Federal-aid Highway Program

In order to understand the reasons behind some of the regulations, it is helpful to know something about the operating environment of the Federal-aid highway program. First, the "Federal-aid highway program" is a term which encompasses all the activities funded through the FHWA and administered by the STAs. However, the word "program" may also refer to one of the component activities such as the Surface Transportation Program (STP), Bridge Program, or Congestion Mitigation and Air Quality Improvement Program (CMAQ).

The Federal role in the Federal-aid highway program has primarily been to set minimum national standards, ensure system compatibility, and to provide capital assistance and oversight for highway construction. Prior to 1991, four Federal-aid (FA) systems existed: the Interstate, Primary, Secondary and Urban. These systems included 22% (1 363 000 km (847,000 miles)) of the total road network in the U.S. but carried over 80% of the Nation's travel.

Following the passage of the Intermodal Surface Transportation Efficiency Act of 1991 (Pub. L. 102-240) (ISTEA), only the National Highway System (NHS) exists as a Federal-aid system. This system of roads was formally approved through the National Highway System Designation Act of 1995 (Pub. L.104-59). The total NHS system includes approximately 258 000 kilometers (160,000 miles) of the Nation's nearly 6 million kilometers (4 million miles) of public roads. The NHS, which includes the Interstate system, carries 42% of the Nation's total travel on 4% of the Nation's total road network. The NHS includes the routes that carry and will continue to carry a large percentage of the Nation's highway travel as well as those routes that serve strategic priorities. It also emphasizes connections to major military installations, border crossings, airports, ports, and rail-highway transfer facilities.

D. System Management

Nearly 6 440 000 kilometers (4,000,000 miles) of roads and streets are open to public travel in the United States. The Federal Government, through a variety of land-managing agencies, owns 4.6%, or 291 000 km (181,000 miles) of the Nation's roadways, mostly through national parks, forests, Indian reservations, military bases, and other Federal properties. All other roads are under State or local control. Therefore, the responsibility for planning, construction, operation and maintenance of the Nation's highways rests primarily with State and local governments.

State governments manage roughly 1 300 000 km (800,000 miles) of highways. Although 88% (1 114 000 km (692,000 miles)) are through rural areas, State routes are

heavily traveled and therefore are typically classified as arterial or collector roads. Minor arterial roads and collector streets are typically under local government control, except in States that manage most or their entire road network such as North Carolina and Virginia.

Local Government Agencies (LGAs) administer the largest percentage of roads (69% or 4.3 million km (2.7 million miles)), with the majority of these roads being property access routes functionally classified as local roads which are generally ineligible for Federal-aid funding.

E. Program Administration

The Federal-aid highway program is a Federally-funded, State-administered program. Therefore, the Federal-State partnership is the basic element of the successful administration of the Federal-aid highway program. For a State to be eligible for Federal-aid funding, it must have a transportation department capable of carrying out the duties required by law (23 U.S.C. 302). The FHWA provides funding, guidance and technical assistance to the STAs. Local agencies may receive Federal funding through the STA. While a local agency, through an agreement with its STA, may administer its own Federally-funded highway projects, the STA remains responsible for ensuring that all Federal requirements are met for these projects. Figure 1 shows a simplified process diagram for the Federal-aid highway program.

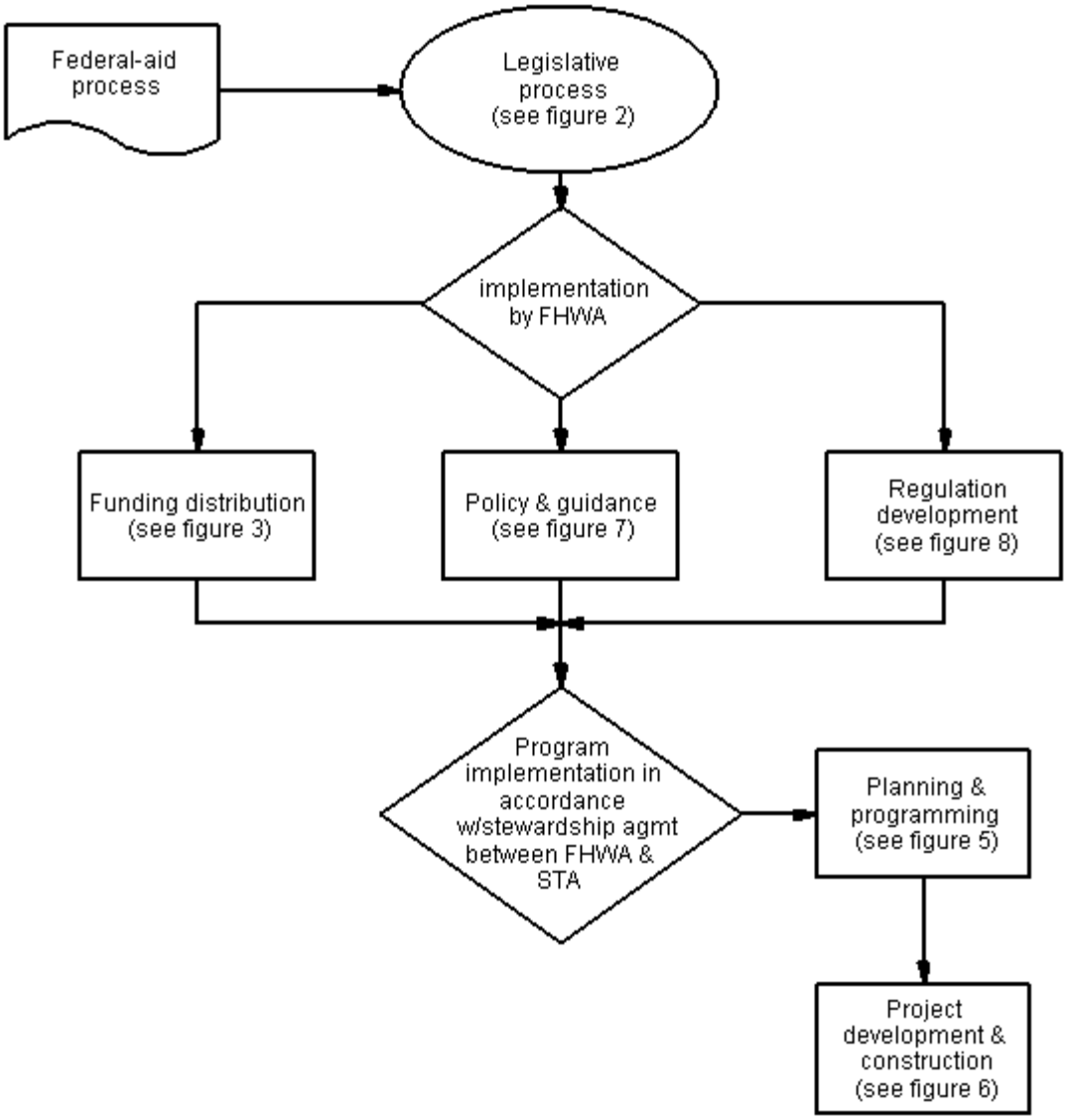

Figure 1: Federal-aid Process

F. Legislation

Unlike other federal assistance programs, the Federal-aid highway program does not require the passage of an appropriations bill before projects can be approved. FHWA through periodic authorization legislation receives contract authority which allows obligation of funds in advance of appropriations. Signed on June 9, 1998, the Transportation Equity Act for the 21st Century (TEA-21) (Pub. L. 105-178, as amended by Pub. L. 105-206) is the most recent authorization act for the Federal-aid highway program (Note: at the time of the final editing of this document, the FHWA is still awaiting long-term re-authorization legislation. The US Congress passed a number of re-authorization extensions in 2003 and 2004. The current extension expires May 31, 2005.). Figure 2 shows the simplified legislative process.

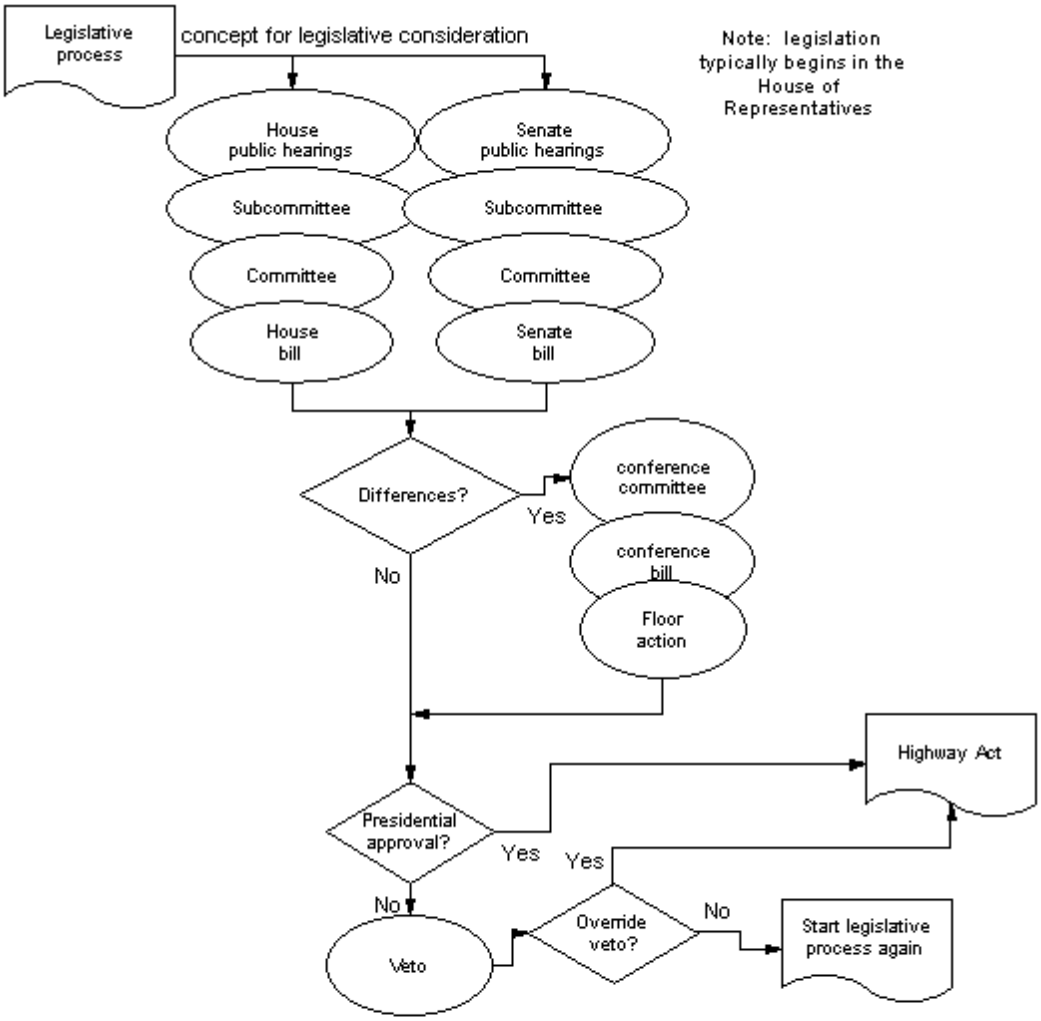

Figure 2: Legislative Process

The authorization act, which typically covers several years, will establish maximum program authorization levels, funding distribution formulas, and may establish, modify, or abolish the various components of the Federal-aid highway program. The act may also "earmark" or set aside funding for specific activities, including demonstration projects, studies, or for specific component activities. For example, some funds may only be expended for construction or safety-related activities on NHS or Interstate routes. All other roads, which have been functionally classified higher than a local road or rural minor collector, are eligible for Federal-aid funding under the Surface Transportation Program (STP).

The appropriation act covers one Federal fiscal year (October 1 through September 30). This act provides funds to liquidate prior obligations and may provide a limit on the amount of new obligations during the fiscal year. The appropriations act may also include modifications to the highway laws, program activities, etc.

Once both acts are in place, FHWA distributes the funding within the various program categories to the STAs. Note: with few exceptions, almost all authorized funds are apportioned or allocated; it is the obligation authority that is limited by the appropriation act. Figure 3 shows the funding distribution process. A good reference on Highway Account of the Highway Trust Fund is the *Trust Fund Primer.* This report can be found in hard copy or on the Internet (see www.fhwa.dot.gov/aap/primer98.pdf).

Historically, Federal-aid funding has been focused on capital construction activities, most prominently the Interstate construction program. While some funding could be used for resurfacing, rehabilitation, or restoration (3R), the emphasis was on new or major reconstruction efforts. With construction of the Interstate system essentially complete, and recognition that resources are shrinking, the Federal emphasis has shifted to 3R, preventive maintenance, and management/operations efforts.

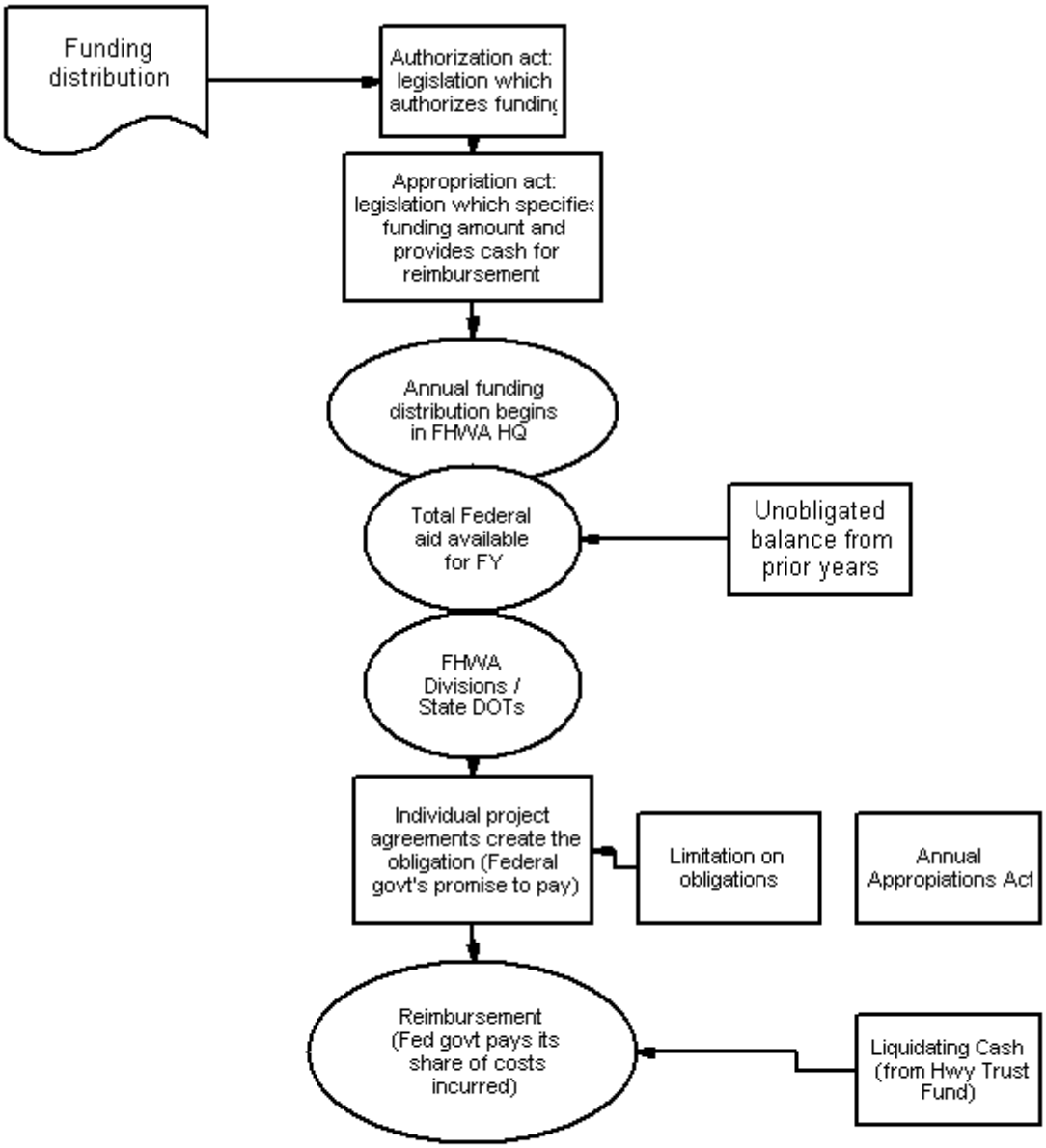

Figure 3: Funding Distribution Process

Most of the costs for non-construction activities (referred to as non-capital costs) are the responsibility of the State and local governments. Non-capital costs include routine maintenance, administration, law enforcement, and debt service on highway bonds and notes. Routine maintenance includes those activities required to keep the highway open for public travel such as snow removal, mowing, sign replacement, and pothole patching. The following summary table shows the distribution of all costs for all levels of government in 2003 (the latest year for which final numbers are available – Highway Statistics, Total Disbursements for Highways, By Governmental Units.

2003 for all units of Government	$ (billion)	%
Capital Outlay	69.9	48.6
Maintenance	35.5	24.7
Administration and Research	12.1	8.5
Highway Law Enforcement and Safety	13.6	9.4
Interest on Debt	5.8	4.1
Bond Retirement	6.8	4.7
Total	143.8	100.0

Although highway capital improvements attract most of the public and political attention, they represent only about half of the total outlay for highways. In most States, non-capital expenses have first claim on available revenue.

In 2003, the most recent year for which data is available, $the 29.2 billion available in Federal-aid funding accounted for about 42 percent of all capital outlays by all units over government but only 20 percent of total disbursements.

State highway programs in many States must share some percentage of their road-user tax revenues with local governments. Although the local agencies carry out the same basic functions, spending patterns vary between localities. At the national level, capital spending by local governments represents 28% of their total highway spending. Of all functional classifications, local roads require the highest level of spending per unit of travel.

The national highway expenditure database does not include private sector contributions. Most new roadways added to the inventory are property access roads and streets built by private land developers. In addition, several States require private developers to pay for any capital improvements required by their development activities adjacent to existing roads. The construction costs for these roads or improvements are then absorbed by the purchasers of homes and offices within the developments. Following construction, these roads are turned over to the State or local government for operation and maintenance.

G. Project funding

The Federal-aid highway program was designed to be a jointly administered and funded program. With few exceptions, FHWA does not provide full funding. Each funding category has an established funding ratio which defines the Federal share of the project cost. The remaining funding comes from the State or local agency. State and local funds may come from a variety of sources including toll credits, private donations, fair market value of any donated right-of-way for the project, and in some cases, may include Federal funds from another agency when permitted by that agency.
In addition, the Federal-aid program is a REIMBURSEMENT program, meaning that FHWA reimburses the STA for the Federal share of the actual expenses it incurs on a project as the project proceeds (See figure 4). Typically the billing and reimbursement are done electronically. Usually the U.S. Treasury credits the State's account within three days after the State submits a voucher. The apportionments discussed earlier are actually lines of credit against which the STA may draw as it administers the Federal-aid highway program.

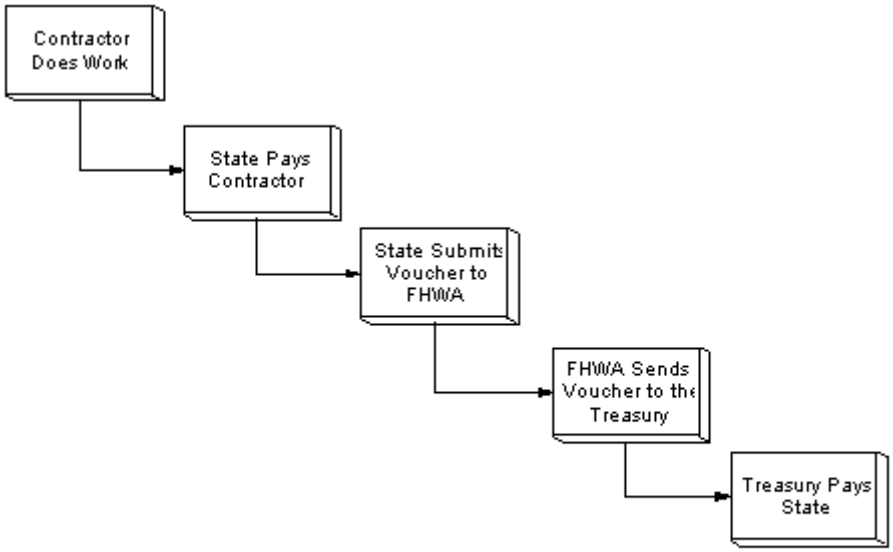

Figure 4: Reimbursement Process

Prior to TEA-21, FHWA reimbursed the STA at the pre-established ratio for each progress payment. Section 1302 of TEA-21 amended 23 U.S.C. 121 such that FHWA may reimburse the STA for 100% of each progress payment up to the participation limit for the project. STAs interested in evaluating the tapered match financing provisions should review the eligibility criteria in Mr. Wright's July 7, 1999 memo.

H. Standards and Program Oversight

For many years, FHWA approved certain standards and had direct stewardship responsibilities for the Federal-aid program. However, the 1991 ISTEA and the 1998 TEA-21 provided significant changes in these areas. Section 1016 of the ISTEA defined certain standards for NHS and non-NHS projects. It also provided for State approval of plans, specification and estimates (PS&E) for certain projects in-lieu-of FHWA's approval. TEA-21 further expanded the STA's role in project administration in-lieu-of FHWA approval.

Applicability of Standards

ISTEA Section 1016 modified Title 23 U.S.C. Section 109 - Standards. This revision required state-developed / FHWA-approved standards for NHS projects. It also specified that non-NHS projects be designed, constructed, operated and maintained in accordance with State laws, regulations and directives. FHWA interpreted this section to mean that States would follow their own laws and procedures for the design, construction and maintenance of non-NHS projects as they would for State-funded projects. Mr. Carlson's March 11, 1992 memo (Appendix A-129), provided further guidance on this subject. Certain Federal-aid requirements would continue to apply to all Federal-aid projects. These requirements include non-Title 23 requirements (NEPA, Uniform Act, etc.) and general Title 23 requirements pertaining to contracts and procurement procedures (competitive bidding, bid proposal content, Davis-Bacon, Disadvantaged Business Enterprise, Brooks Act, etc.).

For all projects, FHWA Headquarters' approval is necessary for any construction contracting technique which falls within the competitive bidding framework of 23 U.S.C. 112 but does not fully comply with the law. Any construction contract that utilizes a method of award other than the lowest responsive bid shall be evaluated under FHWA's Special Experimental Project No 14 (SEP-14) - Innovative Contracting (Headquarter's approval required with the exception of A+B bidding, lane rental, and warranties which are operational).

Most sections in this manual contain a subheading titled "Applicability" which provides more specific guidance for the policy discussed.

FHWA Project Oversight

ISTEA Section 1016(b)(1) allowed States to approve PS&E's for certain NHS projects (in-lieu-of FHWA's approval) if certain standards are met. Section 1016(b)(2) allowed States to approve PS&E's on non-NHS and certain low-cost NHS projects in-lieu-of FHWA's approval. Note that ISTEA only provided for the State's approval of PS&E

documents in-lieu-of FHWA's approval. For the purposes of this manual, projects which were formerly labeled as "exempt projects" are now labeled as "State-approved".

The 1998 TEA-21 provided additional changes in FHWA's project oversight role in the Federal-aid program. TEA-21 Section 1601 replaced existing Title 23 - Section 117 - Certification Acceptance (CA) with the High Priority Project Program, thus eliminating CA. TEA-21 Section 1305 provided further modifications to 23 U.S.C. Section 106. It provided that the States **may** assume FHWA's responsibilities for non-Interstate NHS projects for design, PS&E approval, contract award and inspection unless the State or the Secretary determines that such assumption is not appropriate. For non-NHS projects, the State **shall assume** FHWA's responsibilities unless the State determines that such assumption is not appropriate.

TEA-21 also requires that FHWA and the State to enter into an agreement documenting the types and classifications of projects for which the State will assume the responsibilities under Title 23 (Appendix A-141). This State-specific agreement forms the basis for FHWA's project level and program level oversight activities.

While the ISTEA and TEA-21 provided for changes in the applicability of certain standards and approval responsibilities, it is noted that Title 23 U.S.C. Section 114(a) continues to require that Federal-aid highway construction projects are " . . . subject to the inspection and approval of the FHWA." When project approval authority has been delegated to the STA, any deviations from FHWA policy or regulations must be documented in the project file. Deviations from statutory requirements are not permitted.

The FHWA continues to have oversight and stewardship responsibilities for **all** FHWA programs. The changes to 23 U.S.C. Section 106 do not preclude FHWA from reviewing any Federal-aid highway project under State responsibility. FHWA will be conducting program level oversight of all FHWA programs regardless of which agency has project approval authority. Randomly selected projects administered by the STA will be included in program reviews.

Full project level review requires FHWA participation in all major decisions, from project initiation to design and construction, and to FHWA final acceptance and voucher payment. As indicated above, unless the STA/FHWA agreement differs, full FHWA involvement projects will tend to be new construction or reconstruction projects on Interstate routes with an estimated value greater than $1 million.

I. The Planning Process

Figures 5 and 6 illustrate the typical planning and project development processes. Individual STAs may vary in the details of this process, but all should include these steps in their process. For a more detailed explanation of the special contract administration planning process and procedures for planning and research projects, please refer to the FHWA "Planning and Research Administration" course manual.

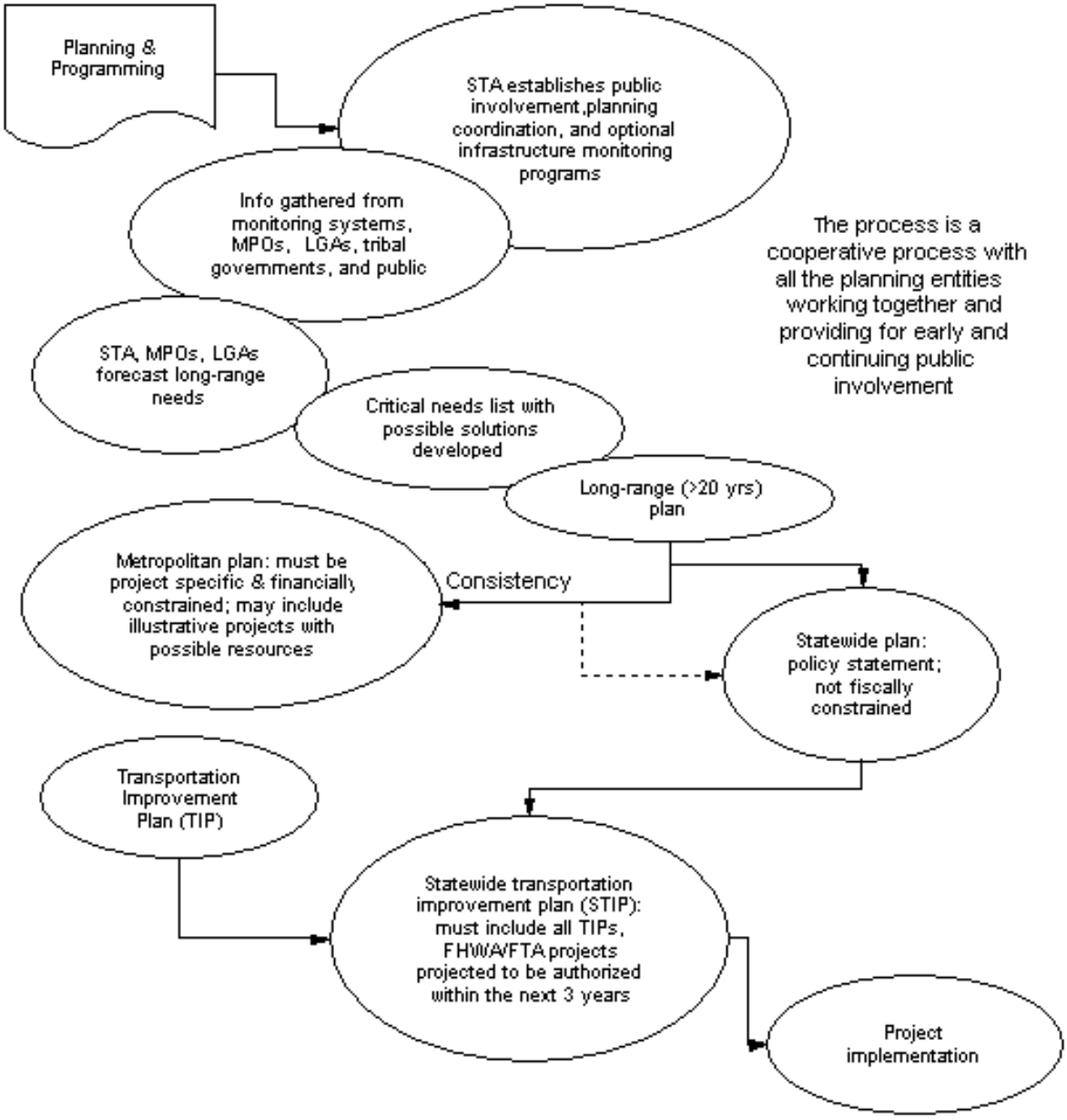

Figure 5: Planning Process

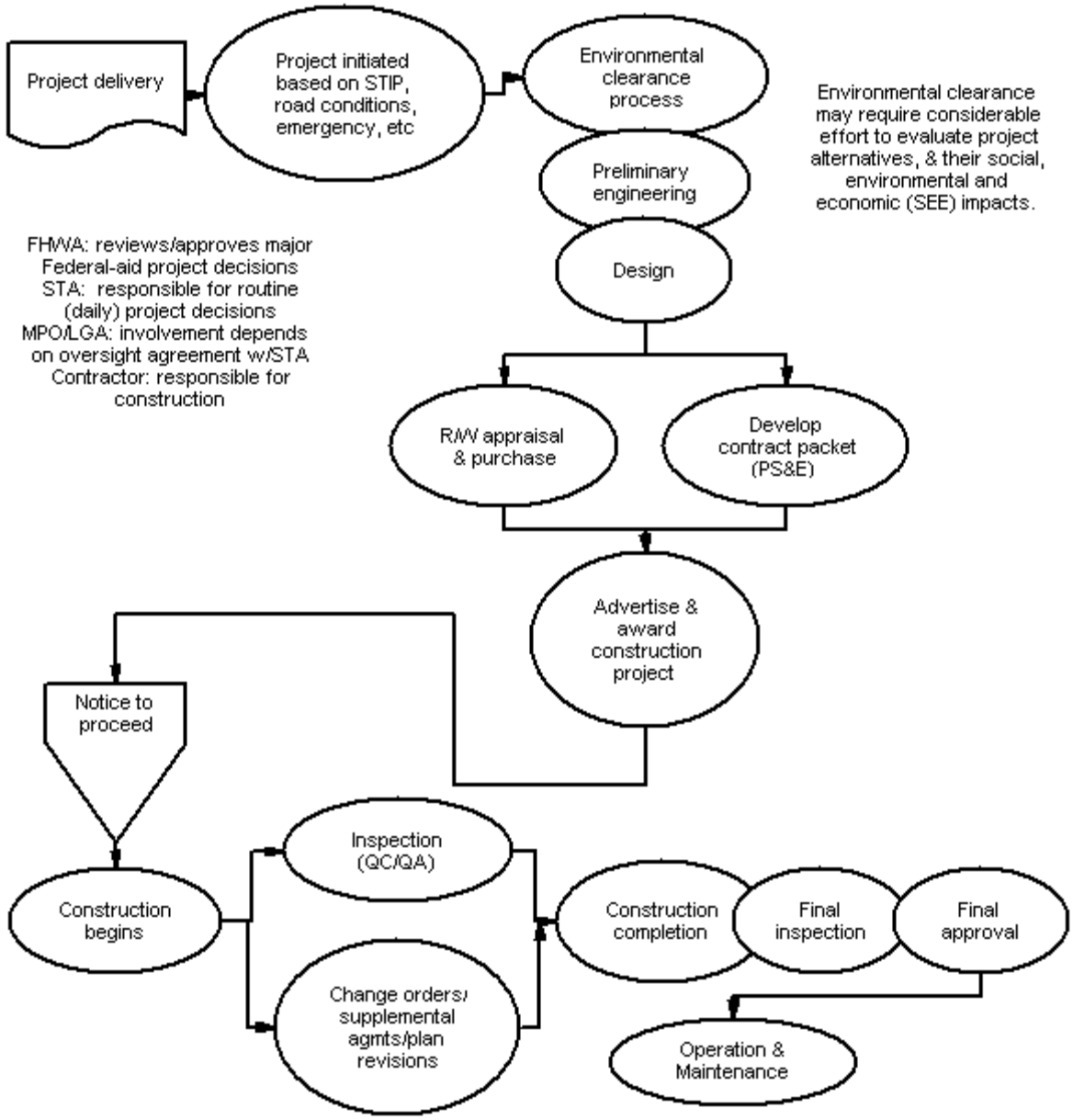

Figure 6: Project Development Process

J. Project Authorization / Project Agreement

Title 23 U.S.C. 106 requires that the STA enter into an agreement with FHWA for each Federal-aid highway project. This agreement, normally referred to as the "project agreement", is a formal contract between the State and the Federal government defining the scope of work and other project-related commitments. The project

agreement assures FHWA that the project will be constructed by the State in accordance with Federal requirements. More important, the project agreement is the document which constitutes the Federal obligation to pay its share of the project costs.

Prior to 1997, the project agreement was the PR-2 form. However, on February 14, 1997, FHWA published a final rulemaking that permitted the development of a single document to serve as both the project authorization and the project agreement document. Rather than requiring that a State use the PR-2, 23 CFR 630C allows the State to use whatever format is suitable for providing the required information. Among the changes is the incorporation by reference of several provisions. Section 1305 of TEA-21 further changed FHWA's procedures for the Project Agreement by providing statutory changes which require FHWA to combine the actions of project authorization, and the obligation of funds with the execution of the project agreement form.

The STA must still prepare a modification to the project agreement as changes occur in the project development phase. As with the project agreement, the STA may use its own format for providing the required information about the modification.

The regulations allow electronic submission of the project agreement and modifications, provided the format is compatible with the FHWA's Fiscal Management Information System (FMIS).

K. Federal Funding for Construction – Applicability of Requirements

Title 23 U.S.C. Section 145 provides the statutory authority that allows STAs to select projects for the Federal-aid highway program. If a STA uses Federal funds for early phases of project development (preliminary engineering, environmental documentation, right-of-way, etc.) there is no requirement to use Federal funds for construction. If the STA chooses to use State funds for construction, Federal requirements such as the use of form "FHWA-1273 Required Contract Provisions Federal-aid Construction Contracts" would not be required.

The court cases on de-federalizing a project have centered around the environmental area. In one case a State had proceeded through preliminary engineering using Federal funds, and was beginning right-of-way acquisition when a suit was brought against the State for failure to prepare an Environmental Impact Statement. At that point the State decided to de-federalize the project and payback all Federal funds used on the preliminary engineering phase, but the court ruled that the State's seeking and receiving Federal approval at various stages of the project made the project a Federal project that required compliance with Federal environmental laws.

If the STA has used federal funds for preliminary engineering or environmental phases of the project development, and now wants to use State funds for construction, this would not free them from compliance with federal environmental requirements, such as NEPA & 4(f). However, if the STA was in compliance with federal environmental law and was choosing to use State funds for construction for another reason, that is their right under 23 U.S.C. 145, and, if they do so, compliance with Federal requirements for construction projects, such as the form FHWA-1273 requirements would not be required.

If federal funds have been obligated for construction and the STA, for what ever reason, wants the project to revert to a state-funded only project, the issue of de-obligation / re-obligation under Federal appropriation law comes into play. Under the Principles of Federal Appropriations Law, "a proper and unliquidated obligation should not be de-obligated unless there is a valid reason for doing so." Absent a valid reason (reduction of costs, correction of recorded estimates, initial obligation determined to be invalid, cancellation of project) funds can not be de-obligated to free the funds up to be used for new obligations. To avoid Federal requirements for construction projects is not a valid reason for de-obligating the funds. If the STA decides not to use federal funds for construction, that decision should be made before authorizing the construction project.

When do FHWA's construction contracting requirements apply to a project or a contract?

Generally speaking, FHWA's construction contracting requirements apply when the Division Office authorizes traditional Federal-aid funding, loan or credit assistance for a specific construction contract. The requirements will apply to a specific contract regardless of the level of Federal investment. Federal construction requirements under title 23 and its implementing regulations apply to the specific activity or contract carried out with Federal funds, whether those funds are in the form of a grant or TIFIA credit assistance. See Mr. Gribbin's August 3, 2004 memorandum.

L. Office of the Inspector General

The Office of Inspector General, Investigations, is the investigative arm for the U.S. Department of Transportation. The USDOT OIG is responsible for investigating highway contract fraud when Federal funds are involved. Between January 1998 and August 2004, the USDOT OIG investigations resulted in 246 convictions, 306 indictments, and fines, recoveries and restitutions of nearly $150 million in contract fraud cases.

If for any reason a person feels that fraud has occurred, they should contact the nearest USDOT/OIG office. This may be based on a suspicion or actual evidence of fraud, waste, and abuse on any project funded by FHWA. Appendix A-1 to A-4 provides a list of potential fraud indicators as published by the USDOT/OIG and a list of USDOT/OIG Regional Office locations. Anyone may call an office directly and speak to a special agent about their suspicions.

Individuals concerned about reprisals from their employers should know that there are five separate laws which protect "whistle-blowers" from reprisals such as removal or reassignment. They are the Civil Service Reform Act of 1978, the Military Whistleblower Protection Act of 1984, the Whistleblower Protection Act of 1989, the Federal Acquisition Streamlining Act of 1994 and the IG Act.

The USDOT/OIG employs a nationwide, toll free, hotline for reporting suspected fraud; 1-800-424-9071 (or 202-366-1461).

Or, write to the USDOT/OIG by directing your letter to:

Inspector General
P.O. Box 23178
Washington, D.C. 20026-0178

A person may also direct an E-Mail to **hotline@oig.dot.gov**. Phone or letter inquiries can be anonymous. Or you may remain confidential and your identification will not be divulged. When making contact with the USDOT/OIG, please provide as much information as possible, such as names, dates, company names, why you think something is illegal, how we can verify your facts, where we can go to obtain additional information, etc. The more information that is provided, the greater the likelihood of success.

M. Development of Directives

The Directives System Handbook, which was originally issued in 1980 and has been subsequently revised, is the primary source document for information contained in this section. The handbook was furnished to the field offices under (FHWA) Order H1321.1A, dated December 5, 1980. The latest revision came with Order H1321.1A, Change No. 3, dated December 9, 1991. All Division Offices should have this document and its subsequent revisions.

The directives system is used to prescribe or establish policy, organizational makeup, methods, procedures, requirements, guidelines, and delegations of authority.

Directives convey information essential to the administration or operation of the FHWA. Directives are not intended for FHWA personnel only, but also for personnel working for the STAs, the Governors' Highway Safety Representatives (GHSR), metropolitan planning organizations (MPOs) and other collaborating agencies. Figure 7 illustrates how non-regulatory directives are developed.

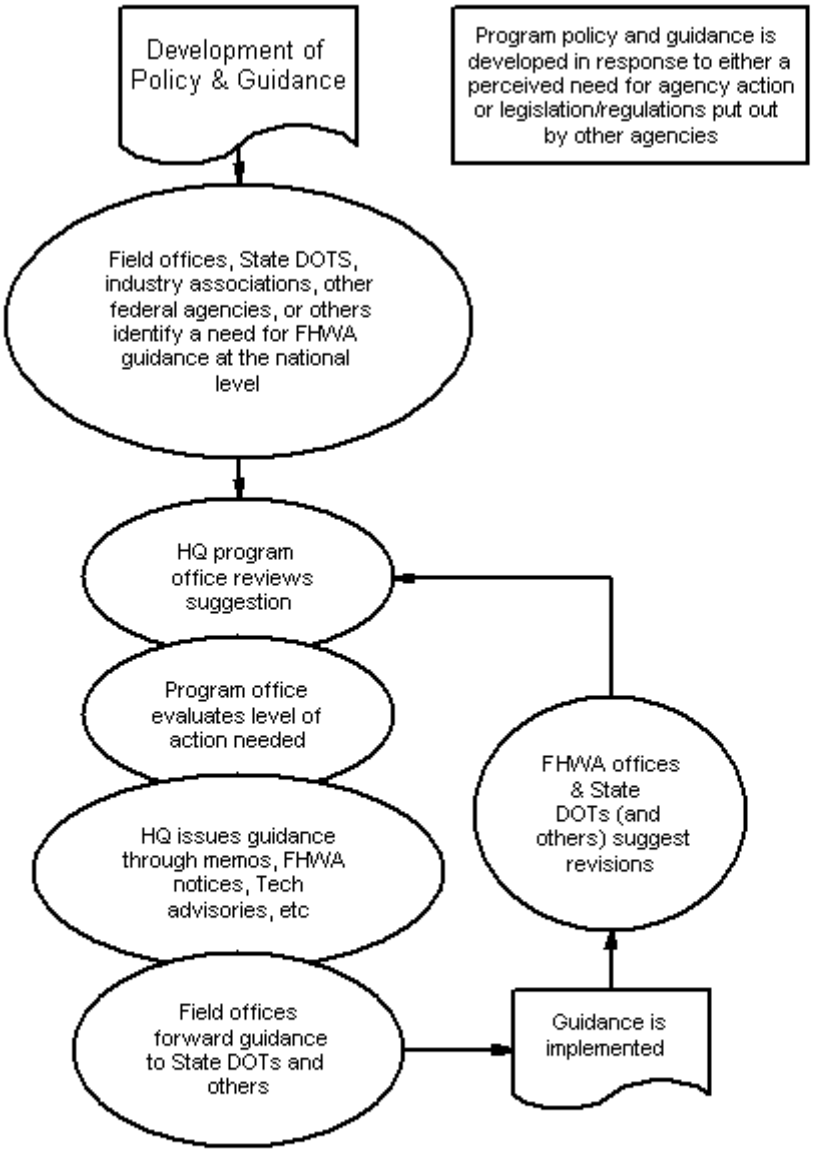

Figure 7: Policy Development Process

The objectives of directives are to:

- provide instruction that is necessary, current, complete, readily accessible, easily understood and consistent with FHWA policy,

- ensure adequate public participation in the development of both policies and procedures, and

- clarify and improve organizational relationships by coordinating instructions, thereby eliminating conflicts and duplications.

Directives are produced in several formats:

Regulations are issued to implement and carry out the provisions of:

- Title 23 U.S.C., relating to administration of both the Federal-aid and the Federal Lands Highway Programs, and

- other applicable laws and programs under the jurisdiction of the FHWA.

The Federal-aid Policy Guide (FAPG) is our primary means of issuing material that establishes, modifies or supplements policies, requirements, standards, procedures, or guidelines relating to the Federal-aid highway program. The FAPG parallels the 23 CFR in the document's organization. The FAPG may be found on the FHWA Internet web site.

Orders are internal directives that contain permanent or long-lasting policy, instructions, and procedures.

Policy Memoranda are interim documents used to issue policy interpretations to the field offices. The memoranda are valid until superceded by new policy.

Technical Advisories (TA) contain permanent or long lasting technical information that is advisory in nature. They are not to be used to impose requirements or issue policy. TAs are directed to the STAs, the GHSRs, and local governments, as well as the FHWA.

Notices are temporary directives that are used to furnish either one-time or short-term instructions that are expected to remain in effect for a period of less than one year. An example would be the annual notice of funding distribution to the States.

N. The Rulemaking Process

Simply put, the rulemaking process is the process all Federal agencies must use to adopt, revise or clarify regulations; or adopt emergency procedures. It is not unusual for the process to take a year or more for a low priority issue. Issues that are highly controversial may take several years to complete the process. Figure 8 shows the typical rulemaking process.

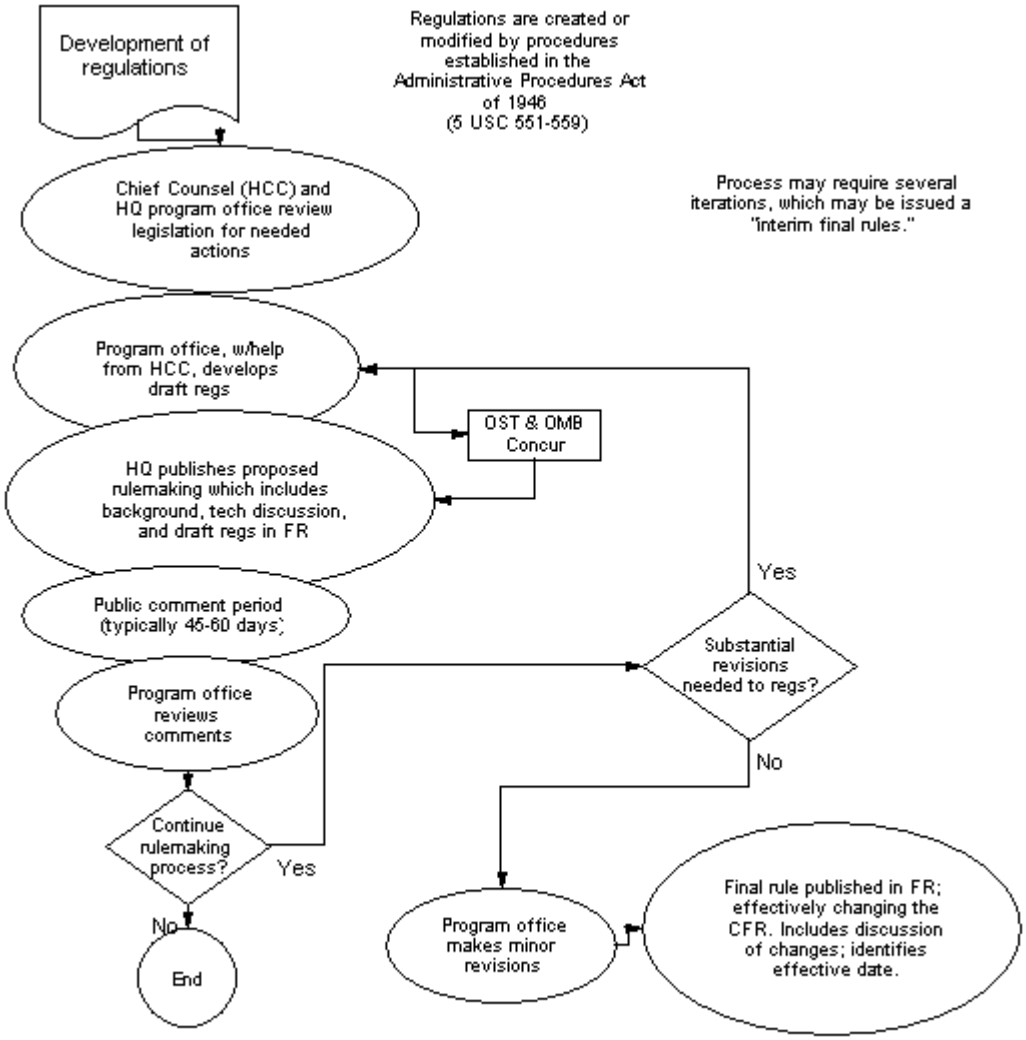

Figure 8: Regulatory Development Process

The primary objective of the rulemaking process is to ensure adequate public participation in the development of new or modified regulations. To accomplish this, a Federal agency publishes notices of its rulemaking actions in the Federal Register. As the daily publication of Government proceedings, the Federal Register is an integral component of the rulemaking process. The Federal Register is available through the Government Printing Office (GPO), by subscription, through Federal depository libraries around the country, or on the Internet at http://www.gpoaccess.gov/nara/index.html .

Regulations are the only directives subject to the rulemaking process. Codified in the CFR, regulations are the rules, policies, procedures, and other requirements needed to carry out Federal programs. These regulations apply to Federal, State, and local agencies, as well as the public. Regulations have the force of law. Detailed technical or housekeeping procedures for carrying out specific actions, unless they affect the substantive rights of grant recipients or the public, are not normally included in the CFR.

The FHWA is primarily involved with 23 CFR and 49 CFR, which contain regulations issued by the FHWA and the Department of Transportation (DOT), respectively. Other CFR sections which may affect the Federal-aid highway program are 28 CFR (Judicial Administration), 29 CFR (Labor), 40 CFR (Protection of Environment), and 41 CFR (Public Contracts and Property Management).

The CFR includes:

- requirements and conditions that must be followed to qualify the project or work in question for Federal participation,

- material which confers a right or benefit, imposes an obligation, or otherwise affects the substantive rights of grant recipients or the public relative to FHWA programs, and

- material which contains statements of general policy or interpretations of general applicability.

Classification of Regulations:

Regulations are classified based on their economic or operational impact.

A significant regulation is one that may result in a significant impact and consequently requires a regulatory analysis. A significant regulation is one that:

- concerns a matter for which there is substantial public interest or controversy,

- has a major impact on the operating administrations within the DOT or other Federal agencies,

- has a substantial effect on State or local governments,
- has a substantial impact on a major transportation safety problem,
- initiates a substantial regulatory program or change in policy,
- is substantially different from international requirements and standards, or
- otherwise involves important DOT policy.

> EXAMPLE: DBE regulations are significant regulations because they affect everyone who procures goods or services with Federal funds. When implemented, the regulations caused a substantial change in current policy and consequently have a substantial effect on state and local governments.

An emergency regulation is one that would ordinarily be published for comment, but circumstances warrant that it be issued without notice and opportunity for comment. Frequently an agency will issue emergency regulations in response to a change in law.

> EXAMPLE: The 1984 Highway Act eliminated "cement" from the Buy America provisions of the 1982 Surface Transportation Assistance Act (STAA). The regulations were changed very rapidly to correct the CFR using the emergency regulation procedures. The revision was simply published as a final rule because the change was required to comply with the new law.

Lastly, a nonsignificant regulation is simply one that does not fit into the significant or emergency classes.

> EXAMPLE: Form FHWA 1273 was deleted from the regulations but kept by reference. Nothing really changed since the requirements remained in force.

The Regulatory Development/Adoption Mechanism:

The process has six basic phases:

An internal decision that some regulatory action is needed. The needed action may be that an existing regulation needs to be modified, or there is a new legislative requirement. This phase includes in-house coordination to avoid conflicts and duplications. The proposed regulation is classified as a significant regulation, an emergency regulation, or a non-significant regulation.

A "regulatory analysis" is required for each proposed regulation that will:

- result in an annual effect on the economy of $100 million or more,

- result in a major effect on the general economy in terms of cost, consumer prices, and production,

- result in major price or cost increases for individual industries, levels of government, or geographic areas,

- have a substantial impact on the balance of trade, or

- be determined by the Secretary of Transportation or the Federal Highway Administrator to deserve such an analysis.

Following internal review and coordination, the proposed rule is subjected to "external" coordination. By this time the proposed regulation has cleared the FHWA; however, it has not yet been released to the public sector. Other Federal agencies that have an interest or concern with the proposed regulation are given the opportunity to review and comment.

- With the concurrence of the Office of the Secretary of Transportation (OST), the proposed rule is submitted to the Office of Management and Budget (OMB). Upon OMB clearance, it is published in the Federal Register.

- Except for emergency regulations, as discussed earlier, the proposed regulation is normally first issued as a Notice of Proposed Rulemaking (NPRM). The public is generally provided 60 days to comment on a proposed significant regulation and 45 days for one classified as nonsignificant. The Federal Highway Administrator has the authority to extend the comment period in response to extension requests.

- In some cases, the first public notification may be in the form of an Advanced Notice of Proposed Rulemaking (ANPRM). Rather than a proposed rule, an ANPRM describes a problem and solicits recommendations or proposals. In either case, the public is given the opportunity to participate and comment early in the process.

- Comments from the docket as well as those received internally from the field offices are analyzed after the comment period closes. This action forms the basis for decisionmaking.

- Depending upon the issues raised in the comments, the decision may be to cycle through the process with a revised proposal. The cycle may be repeated several times before development of the final regulation.

- The final rulemaking (FRM) is drafted by the originating program office, and is assembled in the required format of a preamble and final regulation. The preamble

summarizes the contents of the proposed and final rule, identifies the major issues involved, and summarizes principal differences between the proposed and adopted regulations. The preamble also summarizes the significant docket comments and their disposition.

- After internal coordination and concurrence by the Federal Highway Administrator the Notice of FRM is transmitted to the OST and the OMB for clearance.

- The final rule is published in the Federal Register to announce to the public that the CFR has been amended. The final rule becomes effective on the date indicated in the Notice of FRM. Typically, the effective date is 30 days after publication of the Notice of FRM. Normally, this 30-day period provides affected agencies sufficient time to transition to the new rules.

O. Information Resources

The Internet now hosts a variety of Web sites with useful information. The following sites are just a sampling:

http://www.fhwa.dot.gov/	FHWA's home page contains general information such as the organizational chart, field office info, and a breakdown of the major program areas; and specific information about pertinent legislation, regulations, policy, publications and statistics. Also hotlinks to other transportation-related sites such as AASHTO and STAs.
http://www.fhwa.dot.gov/programadmin/contracts/index.htm	FHWA Contract Administration homepage includes information on Buy America, innovative contracting, etc.
http://thomas.loc.gov/	Library of Congress search engine for legislation. This site includes information about members of Congress; the Congressional Record; and hot links to other government sites.
http://www.access.gpo.gov/	Government Printing Office Searchable database for Federal Registers back to 1994, and some other government documents. W/hotlink to the Superintendent of Documents for purchasing government publications.

www.epls.gov/	General Services Administration's list of excluded parties. This site allows you to search the suspended and debarred parties, or to download the most current listing for reference. Free service.
http://www.dol.gov/esa/whd/	Department of Labor's Wage and Hour Division homepage
http://www.library.ucsb.edu/istl/96-fall/choinski.html	Internet Resources for Highway Engineering by Elizabeth Choinski. Has links to the Bureau of Transportation Statistics, Oak Ridge National Lab, some professional societies and several list servers.
http://www.asce.org/	American Society of Civil Engineers. Has links to a variety of resources, and copies of all policy statements
http://www.cerf.org/hitec/index.htm	Highway Innovative Technology Evaluation Center
http://www.transportation.org/aashto/home.nsf/FrontPage	American Association of State Highway and Transportation Officials; includes the AASHTO Metric Clearinghouse
http://www.artba.org/	American Road & Transportation Builders Association. Headquarters
http://www.agc.org/	Associated General Contractors
http://www.truckline.com/	American Trucking Association
http://www.ite.org/	Institute of Transportation Engineers
http://www.nas.edu/trb/	Transportation Research Board
http://www.itsa.org/	ITS America
http://www.senate.gov/~epw/	Senate Environment & Public Works Committee; contains the committee membership; legislative calendar; and copies of some legislation

http://www.house.gov/transportation/	House Transportation & Infrastructure Committee; contains the committee membership; legislative calendar; and agenda
http://wzsafety.tamu.edu/	Work zone safety information clearinghouse developed by FHWA and ARTBA; maintained by TTI. Information includes design guidance, research reports, public awareness campaigns, laws, enforcement campaigns, and safety products.
http://www.nibs.org/projcmc.html	Construction Metrication Council, includes copies of all their newsletters and hot-links to other metric sites.
http://199.79.179.82/sundev/search.cfm	Transportation Research Information Services is an online transportation research library.
http://www.ic.usu.edu	Utah State University, Technology Transfer Center, Innovative Contracting Web Site

II. Federal Statute or Regulation

A. Required Contract Provisions (Form FHWA-1273)

References:

23 U.S.C. 114
23 U.S.C. 315
23 CFR 633
49 CFR 1.48

Purpose:

The Form FHWA-1273, Required Contract Provisions, is a convenient collection of contract provisions and proposal notices that are required by regulations promulgated by the FHWA and other Federal agencies. For example, the payment of prevailing wages is promulgated by the U.S. Department of Labor (DOL) regulations implemented through contractual requirements in the Form FHWA-1273.

Applicability:

The provisions contained in Form FHWA-1273 are generally applicable to all Federal-aid construction projects and must be made a part of, and physically incorporated into, all contracts, as well as, appropriate subcontracts and purchase orders.

Background:

The "Required Contract Provisions" were initiated as the Form PR-1273 in 1974, with subsequent revisions made in 1975, 1983, and 1986. In 1987, the Form PR-1273 was replaced by the Form FHWA-1273. At this time, the regulations were modified to remove the text of Form PR-1273 from 23 CFR 633, thus eliminating the need to amend the regulations each time the form is revised.

In 1989, the Form FHWA-1273 was revised to include a new section, "Certification Regarding Debarment, Suspension, Ineligibility, and Voluntary Exclusion-Lower Tier Covered Transactions" and to delete the Final Certificate requirement on wages paid, which is no longer applicable to Federal-aid construction contracts.

In 1993, the current version of the Form FHWA-1273 was issued. The Form FHWA-1273 was updated primarily to incorporate the required equal employment opportunity (EEO) special provisions (23 CFR 230, Subpart A, Appendix A); the requirements of the American Disabilities Act of 1990 (ADA); and to include the certification regarding the

use of contract funds for lobbying. Clarification was made as to the applicability of various provisions of the Form FHWA-1273 to be consistent with the ISTEA.
In addition, a new attachment was added that incorporates the additional requirements for Appalachian contracts, previously in the Form PR-1316. The revised Form FHWA-1273, along with this attachment, replaces the Form PR-1316 on Appalachian contracts. The attachment is printed on a separate sheet, as Form FHWA-1273A, and should only be included in Appalachian contracts.

At the time of the printing of this manual, FHWA was revising Form FHWA-1273 to include some changes required by TEA-21 and other miscellaneous revisions; however, FHWA will most likely wait until re-authorization legislation is enacted before proceeding with a revision to Form FHWA-1273.

The Form FHWA-1273 is provided to the STAs by the FHWA. Copies of the Form FHWA-1273 may be ordered, through the FHWA Division Office, or from the U.S. DOT, Utilization and Storage Section M-443.2, 400 Seventh Street, S.W., Washington, D.C. 20590. Several STAs have elected to reproduce the form. To assist in the reproduction, the FHWA has an electronic version of the Form FHWA-1273 that is available to the STA through the Division Offices. (The current electronic version of form FHWA-1273 is dated March 10, 1994.)

Modification. STAs are not permitted to modify the provisions of Form FHWA-1273. Minor additions covering State requirements may be included in a separate supplemental specification, provided that they do not conflict with State or Federal laws and regulations and do not change the intent of the required contract provisions.

Copies of the current versions of the Form FHWA-1273 and Form FHWA-1273A are included in the Appendix (see pp. A-5 to A-14). The following are brief summaries of the provisions in each of the sections of the Form FHWA-1273.

1. General

This section sets forth the general provisions of the Form FHWA-1273.

Section I.1. The Form FHWA-1273 provisions apply to all work performed on the contract including work performed by subcontract.

Section I.2. The Form FHWA-1273 provisions are required to be physically incorporated into each subcontract and subsequent lower tier subcontracts and shall not be incorporated by reference. The prime contractor is responsible for compliance with the Form FHWA-1273 requirements by all subcontractors and lower tier subcontractors.
Section I.3. Failure to comply with the Required Contract Provisions may be considered as grounds for contract termination.

Section I.4. Furthermore, failure to incorporate the Form FHWA-1273 into all subcontracts or failure to comply with the requirements of Section IV, Payment of Predetermined Minimum Wage, and Section V, Statements and Payrolls, may be considered as grounds for debarment under 29 CFR 5.12.

Section I.5. Since the payment of a predetermined minimum wage and the submission of payrolls are requirements of DOL programs, disputes pertaining to these provisions (Sections IV and V) shall be resolved in accordance with DOL procedures.

Section I.6. This Section sets forth general requirements pertaining to labor and employment as contained in 23 CFR 635.117.

a. Use of Local Hiring Preferences

Reference:

23 USC 112
23 CFR 635.117(b)

Applicability:

Applies to all Federal-aid construction projects

Guidance:

The STAs may not include a provision that require a contractor to give any preference in hiring on a Federal-aid project. Furthermore when an STA or local public agency has a policy that requires or creates a preference for local hiring, the contracting agency may not require or encourage a contractor to comply with this policy on Federal-aid projects (even if the hiring requirement is not included in the contract itself).

While the STAs (or local governments) are precluded from enacting such preference requirements on Federal-aid projects, this requirement does not apply to the Federal Government. Therefore, Federal hiring preference requirements, such as, EEO/Affirmative Action, Appalachian Preference, and Indian Preference are not in conflict with this policy.

Some states and local public agencies have implemented policies which encourage or mandate the use of local employment or local contracting. In such cases, Federal-aid contracts (including invitations for bids or request-for-proposal documents) should contain specific provisions which state that such preferences are not applicable to contracts funded by FHWA. Compliance with local preference provisions will not be a

condition of responsiveness in the consideration of bids or a condition of responsibility prior to the award of contract.

b. Use of Convict Labor

References:

23 U.S.C. 114(b)
23 CFR 635.117

Applicability:

FHWA's prohibition for the use of convict labor only applies to Federal-aid highways. It does not apply to projects on roadways functionally classified as local roads or rural minor collectors (reference Mr. Schimmoller's May 9, 1996 memorandum and Mr. Baccus's May 14, 1997 legal opinion).

Guidance:

FHWA's regulation in 23 CFR 635.117(a) states: "No construction work shall be performed by convict labor at the site or within the limits of any Federal-aid highway construction project from the time of award of the contract or the start of work on force account until final acceptance of the work by the STA unless it is labor performed by convicts who are on parole, supervised release, or probation."

The principle behind the prohibition of convict labor is that use of convict labor restricts competition, because convict labor can be furnished at rates well below market labor costs or force account rates.

The terms "parole, supervised release, or probation" refer to the status of a person who has completed the condition of imprisonment. "Supervised release" does not include inmates currently serving their imprisonment terms while performing supervised work either inside or outside the walls of the incarcerating facility. Thus, it is not acceptable to have inmates who are currently serving the terms of their incarceration performing work on a project where convict labor is prohibited.

Use of materials produced by convict labor is discussed in more detail in Section II.C.5.a.

2. Nondiscrimination

References:

23 U.S.C. 140
23 U.S.C. 324
23 CFR 200
23 CFR 230A and D
28 CFR 35
29 CFR 1630
41 CFR 60
49 CFR 21
49 CFR 23
The Civil Rights Act of 1964, Title VI
The Age Discrimination and Employment Act of 1967
The Age Discrimination Act of 1975
The Americans with Disabilities Act of 1990

Applicability:

Applies to all Federal-aid construction contracts and to all related subcontracts of $10,000 or more.

Background:

The basic statutory authority for a nondiscrimination provision is Title VI of the Civil Rights Act of 1964, which is implemented by 23 CFR 200. Title VI mandates that Federal assistance not be used to discriminate. Through expansion of this mandate and the issuance of parallel legislation, the prescribed basis for discrimination now includes race, color, religion, sex, national origin, age, and disability.

Title VI assures that the STAs guarantee that no person is subjected to discrimination in connection with any activity, including any contract, for which the State receives Federal assistance. In the event of noncompliance by a contractor and/or subcontractor, payment may be withheld or the contract may be canceled in whole or in part.

This section of the Form FHWA-1273 is essentially the Standard EEO Construction Contract Specifications, as included in 23 CFR 230, Subpart A, Appendix A.

The goal of EEO is increased participation of minorities and women in the work force, and extends to contractor practices in recruitment, hiring, pay, training, promotion, and retention.

Guidance:

No person is to be subjected to discrimination because of race, color, religion, sex, national origin, age, or disability. The nondiscrimination provisions extend to the

contractor's employment practices, solicitations for employment, selection of subcontractors and suppliers, and procurement of materials.

Section II.1. The contractor is required to have an EEO policy that prohibits discrimination and provides for affirmative action in employment practices. The contract shall adopt the following statement as his operating policy:

> "It is the policy of this company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, national origin, age, or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training."

Affirmative action is defined as a good faith effort to eliminate past and present discrimination and to ensure that future discriminatory practices do not occur. Actions aimed at addressing under-representation of minorities and women are outlined in the "Sixteen Steps" in 41 CFR 60.

Section II.2. The contractor is required to have a designated EEO Officer who has the responsibility and authority to administer the contractor's EEO program.

Section II.3. All of the contractor's employees who have an active role in the hiring, supervision, or advancement of employees are required to be aware of and to implement the contractor's EEO policy. In addition, it is required that employees, including applicants and potential employees, be informed of the contractor's EEO policy through posted notices, posters, handbooks, and employee meetings.

Section II.4. The contractor shall not discriminate in his recruitment practices and should make an effort to identify sources of potential minority and women employees.

Section II.5. The contractor is required to periodically review project sites, wages, personnel actions, etc., for evidence of discriminatory treatment. The contractor is to promptly investigate all alleged discrimination complaints.
Section II.6. The contractor is required to advise employees and applicants of training programs available and to assist in the improvement of the skills of minorities, women, and applicants, through such programs.

Section II.7. The contractor is not, and cannot be, required to hire union employees; however, if the contractor relies on unions as a source of employees, the contractor is encouraged to obtain cooperation with the unions to increase opportunities for minorities and women. The contractor should use his best efforts to incorporate an EEO clause into union agreements.

Section II.8. The contractor's EEO policy also pertains to his selection of subcontractors, including material suppliers and equipment leasing companies. Contractors are encouraged to use Disadvantaged Business Enterprises (DBEs) or other subcontractors that employ minorities and women. Furthermore, contractors are

required to exercise their best efforts to ensure that subcontractors comply with the EEO requirements.

Section II.9. Records that document compliance with the EEO policy are to be prepared and retained by the contractor for a period of 3 years after project completion. These records should include the numbers of minority, women, and non-minority employees in each work classification on the project; and the progress and effort being made to increase the employment opportunities for minorities and women.

The contractor is required to submit an annual EEO report to the STA each July, for the duration of the project. If the project contains on-the-job training (OJT), this information is also required to be collected and reported.

Compliance:

Enforcement responsibilities have been vested with the contracting agency - ultimately the STA project engineer. The project engineer should be cognizant of the contractual requirements and observe the contractor for compliance. Specifically, the project engineer's concern should center on whether discriminatory practices take place, particularly in the hiring, firing, training, promotion, and utilization of employees.

Non-compliance with the EEO specifications may be considered a breach of contract for which payment may be withheld or the contract canceled. However, see FHWA Order 4710.8 for enforcement guidance. The US DOL Office of Federal Contract Compliance Programs (OFCCP), is the only agency which has authority for enforcing Executive Order 11246 and its implementing regulations (USDOL regulations - 41 CFR 60). The State compliance staff may conduct reviews to ensure compliance with FHWA policy (23 USC 140 and Title 23 CFR).

3. Nonsegregated Facilities

References:

23 CFR 633A

Applicability:

Applies to contractors, subcontractors, and material suppliers on all Federal-aid contracts and related subcontracts of $10,000 or more.

Background:

The intent of this provision, also derived from Title VI, is to ensure that past discriminatory practices of providing separate facilities or prohibiting minorities access to facilities are eliminated.

Guidance:

By entering into the contract, the organizations and firms certify that they maintain nonsegregated facilities that conform to requirements of 41 CFR 60.1.8. The prime contractor is required to obtain a similar certification from each subcontractor and supplier, as applicable.

One exception to the nonsegregated facilities provision is for the disabled when the demands for accessibility override (e.g., disabled parking). In addition, single-user or separate bathrooms or dressing facilities are also allowable for privacy purposes.

4. Payment of Predetermined Minimum Wage

References:

23 U.S.C. 113 - as amended by ISTEA, Section 1006(g)(2)
40 U.S.C. 276(a) - Davis-Bacon Act
40 U.S.C. 276(c) - Copeland Act
23 CFR 633 Subpart A
23 CFR 635.309
29 CFR 1, 3, 5

Applicability:

Applies to all Federal-aid construction contracts exceeding $2,000 and to all related subcontracts, except for projects located on roadways classified as local roads or rural minor collectors, which are not covered.

Prior to the 1991 ISTEA, Davis-Bacon was applicable to Federal-aid contracts exceeding $2,000 that were on the Federal-aid system. Section 1006 of the 1991 ISTEA amended Title 23 U.S.C. 113(a) to make Davis-Bacon wage rates applicable to Federal-aid highways. The ISTEA defined the term “Federal-aid highways” as roadways “ . . . other than highways classified as local roads or rural minor collectors.” Therefore, FHWA’s statutes limit the applicability of Davis-Bacon prevailing wage rates to FHWA funded construction projects on Federal-aid highways. This includes roadways functionally classified as freeways, arterials and collectors but exempts projects located on highways functionally classified as local roads or rural minor collectors.

Note that Davis-Bacon coverage applies to any "contract", (not to be confused with the term "project"). Thus, any FHWA-funded construction contract, regardless of the level of Federal-participation, will be a covered contract if it meets the functional classification criteria described above.

Background:

The payment of predetermined minimum wages on Federal-aid contracts is derived from the Davis-Bacon Act of 1931 and is prescribed by 23 U.S.C. 113. The Davis-Bacon Act requires the payment of locally prevailing wages and fringe benefits to laborers and mechanics employed on Federal contracts in excess of $2,000 for construction, alteration, or repair (including painting and decorating) of public buildings or public works. Davis-Bacon was enacted as a means to prevent contractors from importing cheap labor from outside the area, thereby, keeping capital at home with the local labor force where it would do the most good. See the US DOL's Wage and Hour Division Web site for additional information regarding the DOL's labor policies (http://www.dol.gov/esa/whd/contracts/dbra.htm.)

FHWA-1273 Provisions Regarding Davis-Bacon

Section IV.1. This section sets forth the general requirements for the contractor, and subcontractors, to pay employees working at the site at least the minimum wage rate and fringe benefits specified for the classification of work performed.

The STA is responsible for incorporating the applicable wage rate decision into each Federal-aid contract. The DOL requires that an amendment for a general wage rate determination be incorporated into a Federal-aid contract if notification of the change is published in the Federal Register 10 days or more prior to the opening of bids. During the period between August 30,1990 and May 24, 1995, the FHWA modified the effective date for applying the 10-day rule as the date the rates are actually received by the STA rather than the date of publication in the Federal Register. The FHWA's current policy is that the DOL's "10-day rule" as contained in 29 CFR 1.6(c)(3) applies to Federal-aid highway projects. (refer to Mr. William A. Weseman's May 24, 1995 memorandum.

Section IV.2. All employees covered by Section IV are to be classified in conformance with the wage rate determination. If an additional classification is deemed appropriate, either DOL approval or a DOL determination for the classification is required. In this case, the contracting officer should submit Standard Form SF-308 - "Request For Wage Determination And Response To Request." Detailed procedures for submitting this form to the US DOL are provided on their web page.

Section IV.3. This section sets forth requirements for the paying of fringe benefits.

Section IV.4. The provisions of this section set forth the requirements for paying less than the full specified wage rate for employees who are registered in DOL apprenticeship and trainee programs or for those who are classified as helpers.

Section IV.5. This section clarifies that the DOT apprenticeship and trainee programs are not subject to the DOL program provisions stated in Section IV.4.

Section IV.6. The STA has authority to withhold funds from the contractor, as may be determined necessary, to pay employees of the contractor the full amount of wages required by the contract.

Withholdings are maintained by the contracting agency until restitution is evidenced. These withholding provisions also apply to wage underpayment by a subcontractor; however, the actual withholding is taken from progress payments to the prime contractor.

Section IV.7. The contractor is required to pay overtime at the rate of one-and-one-half times the employee's basic pay rate for all hours worked in excess of 40 hours per week.

Section IV.8. This section provides for the assessment and withholding of liquidated damages for days on which the contractor did not pay overtime in accordance with Section IV.7.

This withholding is a liability assessment against the contractor or subcontractor of $10 per day for each employee that was underpaid. The liquidated damages are furnished to the DOL for its overall enforcement activities. Liquidated damages should be forwarded to FHWA Headquarters (–Office of Budget and Finance (HOBF), Finance Division, Washington, D.C. 20590) for deposit into the United States Treasury.
Section IV.9. The STA has authority to withhold funds from the contractor, as may be determined necessary, to pay the liquidated damages and to pay employees of the contractor the overtime wages required by Section IV.8.

Additional Guidance:

The DOL has responsibility for enforcing these statutes and determining the prevailing wage rates. The DOL establishes the prevailing wage rates by either a determination based on an in-house review of payroll data, or by a survey based on wage data from active projects. The affected STAs are consulted during the formulation of the wage rate decision.

Notices of wage rate decisions are published in the Federal Register.

After many years of operating a subscription service for the publication of prevailing wage rates, the US DOL is now posting this information on the Internet. As of March 2, 2001, Davis-Bacon wage rates are available electronically at http://www.access.gpo.gov/davisbacon/.

Refer also to the US DOL, Employment Standards Administration, Wage and Hour Division website at:
http://www.dol.gov/esa/whd/contracts/dbra.htm.

Applicability of Davis-Bacon – Site of the Work

The Davis-Bacon Act limits coverage to laborers and mechanics " . . . employed directly upon the site of the work." Since 1972, the US DOL and the courts have been addressing various aspects of the applicability of Davis-Bacon requirements to site-of-work facilities.

The US DOL's implementing regulation, 29CFR 5.2(l)(2), extends coverage to off-site facilities that are dedicated exclusively and in proximity to the actual construction site. In the 1990's, DOL's regulation was challenged in the court system and two U.S. District Courts issued decisions against the US DOL.

On December 20, 2000, the US DOL issued a final rule making for the "site of the work" issue in light of the US District Court Decisions. The proposed rule uses the court terms "significant portion" and "adjacent or virtually adjacent" in describing sites that are covered, however, the rule does not define these terms.

Revised Title 29 CFR 5.2 (l)(1) now states "The site of the work is the physical place or places where the building or work called for in the contract will remain; and any other site where a significant portion of the building or work is constructed, provided that such site is established specifically for the performance of the contract or project . . ." One example would be a casting or fabrication yard for a segmental concrete bridge which is specifically established for a project after the award of contract. State DOTs should contact the US DOL Regional Offices regarding a determination of what percentage of the work would constitute a "significant portion" and the potential coverage of such sites.

If a significant portion of the work is to be constructed off-site, the contracting agency should attempt to include the wage determinations covering potential off-site location in the bid proposal. Reference is made to comments on page 80275 in the December 20, 2000 Federal Register.

Revised Title 29 CFR 5.2 (l)(2) also indicates other work areas not located on the site of permanent construction (job headquarters, tool yards, batch plants, borrow pits, etc.), may be part of the site of the work " . . . provided they are dedicated exclusively, or nearly so, to performance of the contract or project, and provided they are adjacent or virtually adjacent to the site of the work." Permanent, previously established facilities are not covered, even where the operations for a period of time may be dedicated exclusively, or nearly so, to the performance of the contract.

Revised Title 29 CFR 5.2 (j)((1)(iv) provides that transportation between locations which are included in the "site of the work" are covered. This includes transportation between the permanent location of construction and covered sites where a "significant portion" (l)(1) of the work will be accomplished or covered sites which are dedicated exclusively and adjacent or virtually adjacent to the site of the work (l)(2).

The US DOL has made the determination that when transportation will take place in more than one wage determination area, the applicable wage determination will be the wage determination for the area in which the construction will remain when completed. This determination will apply to all bidders, regardless of where they propose to construct significant portions of the project (refer to FR 12/20/00, page 80276).

FHWA has taken the position that while this is the US DOL's program, it is inappropriate for FHWA to provide guidance in this area. FHWA encourages STAs to work jointly with their division office and the US DOL regional offices to resolve "site of work" issues.

Applicability of Davis-Bacon – To Specific Work Types

Additional discussion on the following can be found in the US DOL's Field Operations Handbook (FOH). In November 2002, the US DOL replaced the Field Operations Handbook with the "Prevailing Wage Resource Book". (See: http://www.wdol.gov/docs/WRB2002.pdf) However, the Resource Book does not include all previous US DOL guidance and in some cases, the Field Operations Handbook provides the best available guidance on specific work types.

The following summary is FHWA's interpretation of the applicability of Davis-Bacon provisions to Federal-aid construction projects based both FHWA policy and the USDOL's requirements:

Force Account Work by Public Agencies – In some circumstances, the STA or local public agency may perform the construction work using their own forces. Davis-Bacon provisions do not apply to governmental agencies and states. Public agencies are not considered "contractors" or "subcontractors" within the meaning of the Davis-Bacon Act. See DOL FOH 15b05(a).

Exploratory drilling services – Subsurface utility engineering or utility location services are considered to be exploratory drilling services. These contracts provide the location of utilities for engineering or planning purposes. The Davis-Bacon Act does not cover them. See DOL FOH 15d03(b).

Railroad and Utility Adjustments – Davis-Bacon provisions are not applicable to:

- the relocation work done by a public utility or railroad forces, or
- the relocation done by a contractor engaged by the utility or railroad.

This has been a long-standing FHWA policy and has a basis in a May 15, 1985 legal opinion from FHWA's Chief Counsel.

However, Davis-Bacon provisions apply when utility relocation work is part of a highway construction project to be performed by the highway construction contractor and/or subcontractor.

Summer Youth – The US DOL has strict requirements for the employment and payment of summer youth. See DOL FOH 15e03.

Helpers – Helpers are permitted on covered contracts if the helper classifications are specified in the applicable wage rate determinations. The US DOL has a long-standing policy of recognizing helper classifications only where:

- their duties are clearly defined and distinct from those of journeyworker and laborer classifications in the area,
- the use of such helpers is an established prevailing practice in the area, and
- the term "helper" is not synonymous with "trainee" in an informal training program.

See DOL FOH 15e04 and the November 20, 2000 Federal Register.

Project Engineers – The contractor's project engineers are generally not considered to be laborers or mechanics, and therefore, are not covered. See DOL FOH 15e06.

Flaggers – The US DOL has determined that the duties of flaggers are manual or physical in nature, and therefore, are covered by the Davis-Bacon Act. See DOL FOH 15e09(a). Employees of traffic service companies which rent equipment and perform only incidental functions at the work site in conjunction with the delivery of equipment are not covered. See DOL FOH 15e09(b).

Inspectors – The contractor's employees who make inspections for quality and contract compliance (including quality control or quality assurance) are not usually considered to be laborers or mechanics, and therefore, are not covered. See DOL FOH 15e13.

Survey Crews – The actual duties of the survey crew members must be considered. Generally speaking, instrument persons, party chiefs and rod persons are not considered laborers or mechanics, and therefore, are not covered. However, a crew member who primarily does manual work (clearing brush) is covered for the time so spent. See DOL FOH 15e19.

Materialmen and Suppliers – The manufacturing and delivery of supply items such as sand, gravel and ready-mixed concrete at the work site, when performed by companies serving the general public, are generally not activities covered by Davis-Bacon. See DOL FOH 15e15.

Owner-operators of Trucks and Other Hauling Equipment – As a matter of policy, the US DOL exempts truck owner-operators from Davis-Bacon coverage. The contractor's certified payrolls should show the names of the truck owner-

operator with the notation “Owner-operator” but need not list hours worked or rates paid. This policy does not pertain to owner-operators of other equipment such as bulldozers, scrapers, backhoes, etc. See DOL FOH 15e16.

Truck Drivers (not truck owner-operators) – After 10 years in the courts, in May 1991, the Court of Appeals for the District of Columbia reached a final decision in the case of the Building and Construction Trades Department vs. Midway.

The regulation in question, 29 CFR 5.2(j), included the "transporting of materials and supplies to or from the building or work by the employees of the construction contractor or construction subcontractor" in the definition of work covered by the Davis-Bacon Act. The Court ruled that this regulation is inconsistent with the Act and that it conflicts with the statutory objective of the Act. In the Court's view, the Act covers only mechanics and laborers who work on the site of the Federally-funded projects and does not cover those employed off-site, such as suppliers and material delivery truck drivers.

In its review of the legislative history of the Act, the Court concluded that Congress clearly intended the Act to apply only to on-site workers. Thus, the Court ruled that truck drivers who come onto the site of the work to drop off construction materials are not covered by the Act, even if they are employed by the contractor. For additional guidance concerning truck drivers, see the US DOL’s Prevailing Wage Resource Book”. (See: http://www.wdol.gov/docs/WRB2002.pdf)

Transportation Enhancement Projects – Davis-Bacon only applies to projects located on highways functionally classified as Federal-aid highways (not local roads, rural minor collectors or projects not located on a highway system). Therefore, Davis-Bacon does not apply to TE projects that are not on Federal-aid highways unless they are tied to a Federal-aid highway project (See Appendix A-145).

Warranty Work – Davis-Bacon coverage applies to warranty or repair work if it is provided for in the original construction contract. This is true regardless of whether there is a pay item for the work. If an employee spends more than 20% of his/her time in a workweek engaged in such activities on the site of the original work, he/she is covered for all time spent on the site. The contract minimum wage rates apply regardless of whether the work is done 5, 10 or even 20 years after the contract execution.

Compliance:

Enforcement of the provisions in Section IV of the Form FHWA-1273 is the STA's responsibility. In addition to withholdings and liquidated damages, as provided for by

Sections IV.7. and IV.8., the following actions may be considered for continued violations:

- termination of the contract, or

- for more serious violations, legal prosecution and debarment (however, only the US DOL has the statutory authority to pursue a debarment for Davis-Bacon violations).

FHWA's April 13, 1998 memorandum outlines the revised procedures for submitting Form FHWA-1494, "Semiannual Labor Compliance Enforcement Report". The FHWA Division Offices have the option of: 1) sending the report directly to the US DOL or 2) allowing the STA to forward the report directly to the US DOL. Electronic submittals may be sent to Helm.Timothy@dol.gov. Hard copies may be sent to: US DOL Wage and Hour Division, Office of Enforcement Policy, Government Contracts Team, Room S-3018, 200 Constitution Avenue, N.W., Washington, D.C. 20210 (faxed copies to (202) 693-1425).

Additional Guidance:

State Wage Rates. Approximately two-thirds of the States have laws establishing minimum wage rates. These laws are commonly referred to as "Little" Davis-Bacon Acts. The wage rates for about 15 of these States are predominately higher than the DOL rates. The FHWA has generally accepted the States' right to establish their own prevailing wage statutes, and rates higher than the Federal rates are implicitly approved for Federal-aid contracts.

Application of Davis-Bacon Act to Ferryboat Projects. The FHWA participates in projects for the construction and reconstruction of ferryboats. An inquiry asked whether or not Davis-Bacon applies to ferryboat projects. At question was whether or not Davis-Bacon requirements had to be included in the contract provisions.

While the US DOL's current guidance, the "Prevailing Wage Resource Book", does not address the construction of ferryboats, the former guidance in the Field Operations Handbook is still applicable:

> "The building, alteration, and repair of ships under Government contracts is work performed upon 'public works' within the meaning of the Davis-Bacon Act. Wage determinations are issued only if the location of contract performance is known when bids are solicited." (Section 15d08 - Shipbuilding, Alteration, Repair, and Maintenance)

If Davis-Bacon is not included in a ferryboat project, the DOL requires that the contract provisions include:

- a statement clause that explains why the wage rate determinations are not included,

- a reminder that the contractor must pay at the very least the Federal minimum wage rate,
- a reminder that the contractor must submit weekly certified payroll statements, and
- a reminder that the contractor must comply with all other DOL labor standards.

5. Statements and Payrolls

References:

40 U.S.C. 276(a) - Davis-Bacon Act
40 U.S.C. 276(c) - Copeland Act
23 CFR 635.118
29 CFR 3, 5

Applicability:

Applies to all Federal-aid highway construction contracts exceeding $2,000 and to all related subcontracts, except for projects located on roadways classified as local roads or rural minor collectors, which are not covered.

Background:

This section is prompted by the Copeland Act. Under the Copeland Act, workers are protected from paying "kickbacks" to employers for the "privilege" of being employed.

FHWA-1273 Provisions Regarding Payrolls:

Section V.1. The DOL regulations which implement the Copeland Act are incorporated by reference in the Form FHWA-1273.

Section V.2. These regulations require that the contractor, and subcontractors, furnish weekly certified payroll statements to the STA. The weekly payroll statement is to include information on employees and wages in order that compliance with the Davis-Bacon requirement of Section IV can be verified.

Guidance:

FHWA's August 7, 1996 memo titled, "Electronic Submission of Weekly Payroll Records" provides guidance on the use of electronic documentation of payroll records. When such methods are used, the records must be acceptable from an engineering, audit and legal perspective. While the US DOL has agreed that electronic weekly payroll records are acceptable under their regulations, the US DOL still insists on an

original signed hard copy “Statement of Compliance”. The US DOL’s form WH-347, “payroll”, is available at the following website: http://www.dol.gov/esa/programs/dbra/wh347.htm.

Compliance:

The STA should review the payroll statements for completeness and certification, and then "spot-check" items, such as: classification, hourly rate, authorized deduction, fringe benefits, overtime hours and rate, and net wages paid. Through employee interviews, good cross-reference checks can be made on classifications and hourly rates. The STA should refer any discrepancies to the USDOT/OIG.

Although out of date in the policy area, the "FHWA Labor Compliance Manual" contains pertinent information on responsibilities and procedures.

The US DOL Davis-Bacon and Related Acts (DBRA) requirement for payment of prevailing wages may be found in 29 CFR Part 5. Enforcement provisions are addressed in found in Section 5.6. It states in part that, "The Federal agency shall cause such investigations to be made as may be necessary to assure compliance with the labor standards clauses required by 5.5 . . ." Also, "Investigations shall be made . . . with such frequency as may be necessary to assure compliance." It further states that "Such investigations shall include interviews with employees, . . examination of payroll data . . ."

The FHWA's implementation of the US DOL requirement is found in Title 23 U.S.C. § 113. Section 113 states in part that, "(a) The Secretary {Dept. Of Transportation} shall take such action as may be necessary to insure that all laborers and mechanics employed by contractors and subcontractors on the construction work performed on highway projects on the Federal-aid highways . . . be paid wages at rates not less than those . . . as determined by the Secretary of Labor . . ." The FHWA "Labor Compliance Manual" was developed to provide guidance in carrying out the above requirement. Although the manual is out of date in the compliance policy area, the information on responsibilities and procedures is still applicable.

The Labor Compliance Manual defines Contracting Agency as the governmental unit in charge of the construction of a project. In the case of Federal-aid projects, it will usually be the STA but may be a subdivision of the State which acts as the agent of a State. The contracting agency is required to ensure that: “(a) a representative sampling of employees is interviewed . . . to verify contractors' compliance; (b) on a sampling basis, contractors' and subcontractors' payroll records . . . are reviewed.”

The regulation does not require 100% coverage; it requires coverage frequency " . . . as may be necessary to assure compliance.” It is recommended that the division office and STA agree on what that coverage is appropriate. It is also recommended that all

contractors and subcontractors on the project be included in spot-checks, and that contractors or subcontractors with violations be reviewed in more detail.

6. Record of Materials, Supplies, and Labor

References:

23 CFR 635.126

Applicability:

Applies to all Federal-aid projects in excess of $1 million that are on the National Highway System (NHS), excluding force account, beautification, and railroad protective device projects.

Background:

The purpose of the Form FHWA-47 is to supply information to support a database on usage factors for various construction materials. A series of four reports are published that cover aggregates, cement and bitumens, lumber, and steel construction materials. This information is compiled by the Office of Program Administration, Federal-aid Programs (HIPA-10).

Guidance:

Section VI.1. The contractor is required to complete and submit a "Statement of Materials and Labor Used by Contractors on Highway Construction Involving Federal Funds", Form FHWA-47.

Section VI.2. The contractor may either submit a single Form FHWA-47 covering all contract work or may submit individual Form FHWA-47's covering himself and each subcontractor.

Compliance:

The contractor is required to submit the Form FHWA-47 to the STA to be verified for reasonable accuracy. If the contractor submits individual forms for the subcontractors, all the information is to be combined onto one Form FHWA-47, covering the entire project. The Form FHWA-47 is forwarded to the Office of Program Administration, Federal-aid Programs (HIPA-10) where the data is checked, coded, and computerized.

Both inch-pound and metric versions of Form FHWA-47 are available on FHWA's web site at the following address:
http://www.fhwa.dot.gov/programadmin/contracts/fhwa47.htm

Common errors made on the Form FHWA-47 include:

- failure to complete all the items that have been pre-marked on the Form FHWA-47 with an asterisk,
- unreasonable gross labor earnings,
- unrealistic data entries (i.e., rebar data where there is no corresponding cement or concrete data),
- lumber reported in board feet instead of thousand board feet,
- the cost of materials and labor is greater than the final construction cost (with no indication that the contractor lost money), and
- culvert sizes reported which do not exist, etc.

A review of Form FHWA-47 should detect these and similar errors and appropriate corrections should be made before the information is transmitted to Headquarters.

7. Subletting or Assigning the Contract

References:

23 CFR 633
23 CFR 635.116

Applicability:

Applies to all Federal-aid construction projects except non-NHS projects.

Background:

The intent of this long-standing FHWA policy was to prohibit the “brokering” of a contract by a prime contractor (subletting all contract work). The FHWA policy on subcontracting was eased in 1982, in part as a result of the red tape reduction effort. The former requirement that at least 50 percent of the contract work be performed by the prime contractor was reduced to 30 percent.

Current FHWA policy requires that the prime contractor perform at least 30 percent of contract work with it's own organization. This percentage shall be of the original contract price, exclusive of specialty items, but include the cost of materials and manufactured

products purchased or produced by the prime contractor. The STA's may be more restrictive and specify a higher percentage if they so desire. Conversely, with adequate justification, the Division Administrator may approve a reduction or a waiver of the 30 percent self-performance requirement on a project-by-project basis.

Specialty items are defined as work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organization qualified and expected to bid on the contract. In general, these items are to be limited to minor components of the overall contract. As noted earlier, the amount of identified specialty work is deducted from the original contract amount before determining the total amount that may be subcontracted. The definition of specialty items is included in 23 CFR 635.102.

Guidance:

Section VII.1. The contractor is required to perform work amounting to not less than 30 percent of the original contract amount, excluding specialty items, with his own organization. Specialty items are to be designated by the STA and include items that require highly specialized knowledge, abilities, or equipment.

Section VII.2. This section clarifies that the contract amount indicated in Section VII.1. includes the cost of materials and manufactured products that are purchased or produced by the contractor.

Section VII.3. The provisions of this section require the contractor to provide competent supervision of the project. The contractor must employ a superintendent or foreman who will have full authority to direct the work, and be in charge of the operation. In addition, the contractor shall furnish other resources (i.e., supervision, management, and engineering services), as required by the STA.

Section VII.4. No portion of the work may be sublet, assigned, or otherwise subcontracted without the written consent of the STA. Subcontract approval shall be based on satisfactory evidence that each subcontract is in writing and contains all the pertinent provisions. The approval of a subcontract does not relieve the contractor of responsibility for fulfillment of the contract.

When is it necessary to have a formal written subcontract? FHWA does not have a regulatory definition of a "subcontract". Instead we rely on the State DOTs specifications or policies for subcontracting requirements. While it is generally understood that a subcontract is appropriate where a firm other than the prime contractors is responsible for the satisfactory completion of a specific element of the contract, the actual need for a written subcontract will depend upon State DOT requirements.

Employee lease agreements

When a contractor enters an agreement with a firm to lease employees, does this constitute a subcontract and, thus, be subject to the 30% subcontract limitation?

In response to an inquiry from Texas DOT, Mr. Horne's July 5, 2000 memorandum states that employee lease arrangements are acceptable for Federal-aid projects if the leased employees are under the direct supervision and control of the contractor's superintendent and/or supervisor. Leased employees may be considered to be part of the prime's "own organization" if:

- The prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;
- The prime contractor remains responsible for the quality of the work of the leased employees;
- The prime contractor retains all power to accept or exclude individual employees from work on the project; and
- The prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

The key issue is supervision and control of any leased personnel. If the leased personnel are treated as employees of the prime contractor, and would be considered as such but for their actual employment by a leasing agency, then for purposes of 23 CFR Section 635.116(a), they should be considered employees of the prime contractor's organization.

For the purpose of Davis-Baconcompliance, the prime's agreement with the employee leasing firm must ensure compliance with minimum wage requirements. The prime is also responsible for providing the appropriate payroll information for all leased employees.

Subcontract approval

The FHWA requires each subcontract to be approved in writing by the SHA. This allows some control to screen subcontractors that are not qualified or that may be ineligible (e.g., debarred). It also assures that all Federal and State requirements will be included in the subcontract. In order to reduce the amount of paper flow, the FHWA Division Administrator may permit the STA to satisfy the subcontract approval requirement by instituting a certification process. This process must require the contractor to certify that each subcontract arrangement will be in the form of a written agreement containing all the pertinent provisions and requirements of the prime contract. The STA must demonstrate that it has an acceptable plan for monitoring such a certification.

8. Safety: Accident Prevention (Compliance with OSHA Regulations)

References:

40 U.S.C. 333
23 CFR 635.108
29 CFR 1926

Applicability:

Applies to all Federal-aid construction projects.

Background:

The administration of the national program for occupational safety and health rests with the Occupational Safety and Health Administration (OSHA) of the DOL. Many States have their own comparable programs administered by one or more State agencies. An excellent summary of safety concerns and responsibilities is presented in the 1972 AASHTO "An Informational Guide on Occupational Safety."

In response to problems experienced by DOL representatives regarding access to project sites, Section VIII.3. was added to specifically grant DOL representatives right of entry.

Guidance:

The FHWA is required by law to ensure compliance with construction safety standards.

Section VIII.1. The provisions of this section require the contractor to comply with all applicable Federal, State, and local laws governing safety, health, and sanitation. The contractor is required to provide all safeguards, safety devices and protective equipment and is required to take such actions, as deemed necessary, to protect the life and health of employees and the safety of the public and property.

Section VIII.2. Furthermore, the contractor or subcontractor may not require or permit a laborer or mechanic to perform work under conditions which are unsanitary, hazardous, or dangerous to health or safety as determined by construction safety standards.

Section VIII.3. This section specifically sets forth the right of entry of DOL representatives to any site of contract performance for the inspection or investigation of compliance with OSHA standards.

Compliance: The STA has enforcement responsibilities of State standards. In addition, the STA agency should cooperate with and alert other responsible agencies in regard to serious violations and provide full cooperation and assistance as required.

9. False Statements Concerning Highway Projects

References:

18 U.S.C. 1020
23 CFR 633
23 CFR 635.119

Applicability:

Applies to all Federal-aid construction projects.
Background:

This provision is an anti-fraud statute originating from the Federal-aid Road Act of 1916.

Guidance:

The making or use of false statements is a felony, punishable by fine of not more than $10,000, or imprisonment of not more than five years, or both. Making or using false claims for the purpose of obtaining payment against Federal funds subjects violators to forfeiture of $2,000 for each violation.

Section IX. This section specifically provides that "willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law" and requires that the "false statements" poster, Form FHWA-1022, shall be posted on the project. A list of required job site posters and project forms is provided in Appendix A-15. A reproduction of Form FHWA-1022 is included in Appendix A-26).

The STA is to conduct investigations on complaints and to review records that are potentially vulnerable to fraud. It is also the STA's responsibility to furnish the prime contractor with the required poster (Form FHWA-1022) and to ensure that it is posted accordingly.

The STA should conduct a preliminary inquiry and review of records concerning any allegations of fraud. If the preliminary inquiry and review validates any of the allegations, the STA should retain any real or potential evidence, such as documents, interview notes, etc., and contact the USDOT/OIG.

10. Implementation of the Clean Air Act & Federal Water Pollution Control Act

References:

33 U.S.C. 1251
42 U.S.C. 1857
23 CFR 633
23 CFR 635.107
40 CFR 15
Applicability:

Applies to all Federal-aid construction contracts and related subcontracts of $100,000 or more.

Background:

There may be facilities (e.g., asphalt or concrete plants) which are proposed for use in construction operations that do not meet air or water quality standards of the Clean Air Act or Federal Water Pollution Control Act. The Environmental Protection Agency (EPA) regulations, 40 CFR 15, require that these facilities be listed and not be used on government contracts. These facilities are included on the GSA "Excluded Parties List System" (GSA List).

Guidance:

The Form FHWA-1273 implements EPA regulations that prohibit the use of violating facilities on government contracts. The Form FHWA-1273 provision constitutes a certification by the contractor that facilities to be used by the contractor or subcontractor in the execution of the contract are not violating facilities (or potential violating facilities) by EPA. The contractor is also required to inform the STA of any notification from EPA indicating that a facility to be used for the contract is under consideration by EPA as a violating facility.

11. Certification Regarding Debarment, Suspension, Ineligibility, and Voluntary Exclusion

References:

49 CFR 29

Applicability:

Applies to all Federal-aid contracts, and related subcontracts, purchase orders, and other lower tier transactions of $25,000 or more.

Background:

Government-wide suspension and debarment regulations became effective on October 1, 1988 (49 CFR 29). As part of the Administration's initiatives to curb fraud, waste, and abuse, the President's Council for Integrity and Efficiency created an interagency task force to study the feasibility and desirability of a comprehensive suspension and debarment system encompassing the full range of Federal activities.

Guidance:

The prime contractor and lower tier participants are required to certify as to their current eligibility status. Certification is also required of all prospective participants in lower tier transactions. This includes subcontractors, material suppliers, vendors, etc.

Each participant in the Federal-aid highway program must certify "that it and its principals are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency . . . and that they have not been convicted or had civil judgment rendered within the past three years for certain types of offenses."

The General Services Administration maintains a government-wide list of excluded parties. This web-based system titled, "Excluded Parties List System" (GSA List), is located at www.epls.gov.

More discussion of the suspension and debarment process is contained in Chapter III.

12. Certification Regarding the Use of Contract Funds for Lobbying

References:
23 CFR 635.112(g)
49 CFR 20

Applicability:

Applies to all Federal-aid construction contracts and subcontracts exceeding $100,000.

Background:

Lobbying limitations were established by Section 319 of Public Law 101-121 (Department of the Interior and Related Agencies Appropriations Act for fiscal year 1990). The law prohibits Federal funds from being expended to influence, or attempt to influence, a Federal agency or Congress in connection with the awarding of any Federal contract or grant. This prohibition applies to all recipients, including lower tier subrecipients of a Federal contract or grant.

Interim guidance on implementation of the lobbying certification requirements was issued by OMB as an Interim Final Rule and published in the Federal Register on February 26, 1990. The FHWA field offices were advised of the interim guidance by memorandum dated February 7, 1990.

Guidance:

Prior to receiving funds in excess of $100,000 per grant, the STA must submit to the FHWA a certification that it has not and will not make any prohibited payments for lobbying. By signing the project agreement form, the STA certifies to FHWA that it will agree to comply with the lobbying restrictions in 49 CFR Part 20 (see 23 CFR 630.307(c)(5). Local agencies subrecipients, contractors, subcontractors and consultants on contracts and subcontracts that exceed $100,000 are also required to make a lobbying certification. By signing a contract or subcontract, a prime contractor or subcontract is certifying that it will comply with lobbying restrictions.

The STA certification is to be retained by the FHWA Division Office. Likewise, lower tier certifications are to be retained by the next higher tier (i.e., prime contractors retain their subcontractors' certifications, etc.).

Any participant that has made, or agreed to make, payments for lobbying activities using non-Federal funds, is required to disclose such activities. Payments of non-Federal funds to regularly employed officers or employees of the agency or firm are exempt from the disclosure requirement. All disclosure forms, including those by lower tier recipients, are to be forwarded to the Division Administrator by the STA. Formerly, the disclosure forms were forwarded to the FHWA Office of Program Administration (HIPA-30) for further processing in accordance with OMB guidance. However, the Lobbying Disclosure Act of 1995 eliminated the requirement for agencies to forward this information to Congress. Thus the lobbying disclosure forms should be maintained at the Division Office.

Note: The fiscal year 2002 appropriations bill (Public Law 107-87 Section 325) included an anti-lobbying provision that also prohibits the use of Federal funds for lobbying **State** legislatures. It is noted that the US DOT anti-lobbying certification requirements in 49 C.F.R. Part 20 do not address **State** legislatures. The temporary nature of an appropriations bill does not warrant a change in the US DOT regulation, however, contracting agencies may elect to include a clause in their project agreements to reference this law and ensure compliance with the intent of Congress. It is also noted

that the FHWA's regulations concerning the Federal-aid project agreement (23 C.F.R. 630.112(a)) require compliance with all Federal laws and regulations.

13. Employment Preference for Appalachian Contracts (Attachment A)

References:

40 U.S.C. Appendix 201
23 CFR 633B

Applicability:

Applies to projects funded under the Appalachian Regional Commission (ARC). These provisions only apply to ARC funded projects and not all projects in the Appalachia region (even if they are on the Appalachia Development Highway System).

Background:
Appalachian Development Highway projects are comparable to Federal-aid projects. The "Appalachian" projects are administered by the STA under the auspices of the Appalachian Regional Commission (prior to the 1993 revisions to the Form FHWA-1273, the required contract provisions for Appalachian projects were contained in the Form PR-1316). The Commission, established by the Appalachian Regional Development Act of 1965, is comprised of the Governors of the thirteen States of the Appalachian Region. The Commission is empowered to formulate rules for the use of funds earmarked for the Appalachian Region. These funds are appropriated from the general fund and have been used, in addition to highways, for schools, libraries, water and sewer treatment plants, medical treatment facilities etc. The 13 States of the Appalachian Region are Alabama, Georgia, Kentucky, Maryland, Mississippi, New York, North Carolina, Ohio, Pennsylvania, South Carolina, Tennessee, Virginia, and West Virginia.

However, since the text of the Form PR-1316 is physically incorporated into the regulations (23 CFR 633), updating of the form must be done through the rulemaking process. The only significant difference between the Form PR-1316 and the Form FHWA-1273 is the Appalachian local labor hiring preference requirements of the Form PR-1316. The additional requirements for Appalachian projects have been included in Attachment A, Form FHWA-1273A. By replacing the Form PR-1316 with the Form FHWA-1273 and Form FHWA-1273A, consistent contract requirements are applied to Federally funded highway projects.

Guidance:

This provision requires that 80 percent of the employees, excluding supervisory personnel, be from the local labor market. Certain craft classifications that require specific experience or expertise may be also be excluded. Rates of less than 80 percent may be permitted upon certification by the State Employment Board that

sufficient employees from the specified area are not available. To verify compliance with this requirement, the contractor is required to indicate on the payroll records whether or not each employee normally resides in the specified labor area (refer to Section V.2.b. of the Form FHWA-1273).

The material preference provisions of 23 CFR 633.207(e) where inadvertently omitted when Form FHWA-1273 - Attachment A was revised in 1994. This provision allows STAs to give a special preference for the use of mineral resources native to the Appalachian region. Future revisions of Attachment A will include this provision.

B. Other Contract Provisions

1. Buy America

References:

23 CFR 635.410
1982 STAA Section 165
ISTEA Section 1041(a) and 1048(a)

Applicability:

Applicable to all Federal-aid construction projects

Background:

Federal domestic procurement requirements have been around since 1933. The original requirements, commonly referred to as the "Buy American" requirements, are found in 41 CFR 10a-10d, and apply only to direct Federal procurement activities. A direct Federal procurement occurs when a Federal government agency makes the purchase or awards a contract. Construction contracts done under the Federal Lands Highways program are examples of Federal direct procurements.

The STAA of 1978 (Pub. L. 95-599), §401 expanded domestic procurement coverage to the Federal-aid highway program by establishing "Buy America" requirements. Current Buy America policy is based on §165 of the STAA of 1982 (Pub. L. 97-424), as amended by ISTEA, and applies to all Federal-aid construction projects. Projects located on highways classified as local roads and rural minor collectors, and transportation enhancement projects are also covered by these requirements.

Section 165 initially covered cement, steel and manufactured products. However, in developing the implementing regulations, FHWA determined that Congress had not intended to cover all manufactured products and, therefore, FHWA's regulations cover only manufactured products containing iron and steel. Due to concerns about an inadequate domestic supply of cement, §165 was amended in 1983 to limit the coverage to steel materials and products only. Subsequently, ISTEA §1048(a) amended §165 to include iron. Further, ISTEA §1041(a) defined the action of applying a coating to a covered material and products (i.e., steel or iron) as a manufacturing process subject to Buy America requirements. In 1994, FHWA issued two nationwide waivers: the first in February covered a list of specific ferryboat parts; and the second in August, covered pig iron, scrap, raw alloy materials, and processed, pelletized or reduced iron ore. These waivers are still in effect.

Guidance:

Simply stated, the current regulations require the use of domestic steel and iron in Federally funded construction projects. All foreign steel and iron materials and products are covered by Buy America regardless of the percentage they comprise in a

manufactured product or the form they may take. The regulations allow bidders and the contracting agency some latitude through minimum use, waivers, and alternate bids.

All manufacturing processes must take place domestically. Manufacturing begins with the initial melting and mixing, and continues through the coating stage. Any process which modifies the chemical content, the physical size or shape, or the final finish is considered a manufacturing process. These processes include rolling, extruding, machining, bending, grinding, drilling and coating. "Coating" includes epoxy coating, galvanizing, painting, or any other coating that protects or enhances the value of the material.

Buy America does not apply to raw materials (iron ore and alloys), scrap, pig iron or processed, pelletized, and reduced iron ore. Insufficient domestic supplies of raw materials caused FHWA to issue a nationwide waiver allowing foreign source supplies of these items. The waiver may be found in the August 23, 1994 Federal Register on page 59 FR 43376.

If domestically produced steel billets or iron ingots are shipped overseas for any manufacturing process, and then returned to the U.S., the resulting product does not conform with the Buy America requirements. Mr. Weseman's memorandum of July 6, 1989 (Appendix A-32) provides further guidance.

The manufacturing process for a steel/iron product is considered complete when the product is ready for use as an item (e.g., fencing, posts, girders, pipe, manhole cover, etc.) or could be incorporated as a component of a more complex product through a further manufacturing process (e.g., the case for a traffic signal head). The final assembly process does not need to be accomplished domestically so long as the steel/iron component is only installed and no manufacturing process is performed on the steel/iron component.

> Example: shapes produced domestically from foreign source steel billets are not acceptable under Buy America since the initial melting and mixing of alloys to create the steel occurred in a foreign country.
>
> Example: all welding must take place domestically since the welding rod itself is typically an iron/steel product and the welding process substantially alters the rod.

Buy America does not apply to minimal use of iron/steel materials provided that the total cost of all foreign source items used in the project, as delivered to the project site, is less than $2500 or one-tenth-of-one-percent of the contract amount, whichever is greater. If a supplier or fabricator wishes to use a partial fabrication process where domestic and foreign source components are assembled at a domestic location, the "as delivered cost" of the foreign components should include any transportation, assembly and testing costs required to install them in the final product.

For the Buy America requirements to apply, the steel or iron product must be permanently incorporated into the project. Buy America does not apply to temporary steel items, e.g., temporary sheet piling, temporary bridges, steel scaffolding and falsework, etc. Further, Buy America does not apply to materials which remain in place at the contractor's convenience.

The practice of making otherwise eligible items nonparticipating for the purpose of circumventing the Buy America requirements is unacceptable and should not be approved in Federal-aid projects. There is no clear-cut rule for resolving an after-the-fact discovery of an inadvertent incorporation of an excess amount of foreign materials into a project. Each situation should be resolved on a case-by-case basis.
Buy America provisions apply to all material incorporated in a Federal-aid project, even if an item is rendered as a "donated material" in accordance with 23 U.S.C. 323 - Donations and Credits. While States and local governments may receive a credit for donated material, this material must generally comply with Buy America requirements. There have been instances where FHWA Divisions have approved Buy America waivers for the donation of material from existing stockpiles of locally owned material. The use of existing material was determined to be in the public interest; however, the procurement of new material for a donation would not generally be considered for a waiver.

Waivers. With prior concurrence from Headquarters, the FHWA Division Administrator may grant a waiver of the Buy America requirements for specific projects if it can be shown that:

- following the requirements is inconsistent with the public interest, or
- insufficient quantities of satisfactory quality domestic products are available.

Only under very limited circumstances will materials delivery delay be considered as grounds for a waiver. The cost differential between domestic and foreign products is generally not grounds for a waiver. Approval authority for waivers of Buy America requirements cannot be delegated to the STA for any FHWA-funded contract.

When domestic steel products are available, we should not be granting a Buy America waiver to assist in meeting the contractor's schedule. The contracting agency should be aware of our Buy America requirements and consider these issues in the design and specification development process. Contractors must be aware of the Buy America contract provisions and take this into account in developing their anticipated schedules and bids for a construction project.

Only the Federal Highway Administrator may grant nationwide waivers, which are done through the public rulemaking process. To date, two nationwide waivers have been approved. One dealt with the issue of raw materials and includes scrap; pig iron; processed, pelletized, and reduced iron ore; and raw alloys. The second waiver deals with specific equipment and machinery items required for ferryboats. The items included in the waiver are marine diesel engines, electrical switchboards and switchgear, electric motors, pumps, ventilation fans, boilers, electrical controls, and electronic equipment. Items not specifically included in these waivers remain subject to the Buy America requirements.

A State may apply for a waiver of the Buy America provisions if it believes that a waiver is warranted. The STA should submit the waiver request with supporting information to the FHWA Division Administrator sufficiently in advance of need (preferably during the preliminary engineering stage, in order to allow time for proper review and action).

For Headquarters's prior concurrence review of the waiver request, the supporting information must include:

- the project number/description, project cost, waiver item, item cost, country of origin for the product and reason for the waiver, and

- an analysis of re-design of the project using alternate or approved equal domestic product.

FHWA Division Offices should correspond directly with Mr. Edwin Okonkwo, HIPA-30, Phone 202-366-1558; Fax: 202-366-3988.

NAFTA

On March 17, 1994, the Federal Highway Administrator wrote to the American Road and Transportation Builders Association to indicate that the North American Free Trade Agreement (NAFTA) does not affect the Buy America requirements for the Federal-aid highway program. Article 1001 of NAFTA expressly exempts grants, loans, cooperative agreements, and other forms of Federal financial assistance from its coverage. Unless future negotiations among the US, Canada and Mexico create additional requirements, or additional statutory requirements are implemented, the NAFTA does not affect Buy America requirements.

Alternative Bidding Procedures. An alternative bidding procedure may be used to justify the use of foreign steel or iron. Under this procedure, the total project is bid using two alternatives: one which is based on foreign source products, and the second using domestic products. The use of foreign products may be justified if the lowest total bid based on domestic steel or iron products is 25 percent more than the lowest bid using corresponding foreign steel or iron products. The 25 percent differential applies to the total bid for the entire project, not just the bids for the steel or iron products.

State Restrictions. States may have "Buy America" provisions that are more restrictive than the Federal requirements (for example: products such as crumb rubber, glass, plastic, aluminum that are not covered by the FHWA Buy America provisions). However, the more restrictive provisions must be required by State law. If more restrictive requirements are imposed as a matter of State policy, directive or regulation, the FHWA requires a State legal opinion that the requirements are authorized under State law and do not conflict with the competitive bidding statutes of the State. The State law or policy may not establish an in-State materials preference.

Enforcement. The State is responsible for enforcing the Buy America provisions. Generally, the materials certification process has been adequate for determining compliance; however, there are some products for which origin is difficult to ascertain. The contract provisions should require the contractor to provide a definitive statement about the origin of all products covered under the Buy America provisions.

Another option is to use step certification for products. Under step certification, each handler of the product (supplier, fabricator, manufacturer, processor, etc.) certifies that their step in the process was domestically performed. Both AASHTO and FHWA encourage the use of step certification. Refer to AASHTO guidance on step certifications.

Cargo Preference

The Cargo Preference Act: P.L. 83-644 (August 26, 1954), as amended, contains permanent legislation concerning the transportation of waterborne cargoes in U.S.-flag vessels. The Act requires that certain products be shipped on privately owned U.S.-registered vessels.

Mr. Farris's February 19, 1988 memorandum clarified that the Cargo Preference Act requirements are not to be imposed on any materials, supplies or equipment used on or in Federal-aid projects.

2. Disadvantaged Business Enterprise

References:

49 CFR Part 26 – DBE Regulations
49 CFR Part 21 – Title VI Regulations
23 USC 140(c)
23 CFR 200 & 230

US DOT, Office of Small and Disadvantaged Business Utilization, Disadvantaged Business Enterprise home page

FHWA, Disadvantaged Business Enterprise, Community of Practice for contract administration issues

Applicability:

Applies to all Federal-aid highway construction projects.

Background:

Title VI of the Civil Rights Act of 1964 is the legislation that forms the foundation for the creation of the DBE Program. Other efforts that followed include:

Executive Order 11625 (October 13, 1971).

DOT Regulations (1980) – These regulations required the States to develop and implement Affirmative Action Programs to promote Minority Business Enterprise (MBE) and Women Business Enterprise (WBE) participation in Federal-aid contracts. As a result, the States achieved 3.0% MBE and 0.6% WBE participation rates on Federal-aid contracts during the year the regulations became effective.

STAA of 1982 – This legislation established a national minimum annual goal of 10% MBE participation across the board in all the States.

STURAA of 1987 – This act included the following key provisions:

continuation of the annual 10% national goal,
inclusion of women business enterprises (WBE) as DBE's,
establishment of DBE maximum business size standards, and
establishment of DOT uniform certification criteria.

ISTEA 1991 – This act continued the basic program elements as established or modified by the STURAA of 1987. The program changes included a modification to the business size standard, increasing its threshold to $16,600,000 average gross receipts over three years, and a change in the reporting requirements to Congress on DBE program participation.

February 2, 1999 Final US DOT DBE Rule – These regulations provided sweeping changes in the DBE program to implement the "narrow tailoring" requirements of the Adarand v. Pena Supreme Court Decision (see narrative below).

Guidance:

By regulatory definition, a DBE is " . . . a for-profit small business concern -- (1) That is at least 51 percent owned by one or more individuals who are both socially and economically disadvantaged or, in the case of a corporation, in which 51 percent of the stock is owned by one or more such individuals; and (2) Whose management and daily business operations are controlled by one or more of the socially and economically disadvantaged individuals who own it".

All Federal-aid projects, regardless of system or "state-approval" status are subject to the legislative and regulatory DBE requirements. FHWA must continue to approve each State's DBE program and its annual goals to ensure compliance with all DBE Program requirements. The main objective of the DBE Program is to ensure that DBE firms have an opportunity to participate in DOT funded contracts.

Effective administration of the DBE program requires full understanding of the program, including its goals and objectives. It is not the intent of this manual to provide detailed information on the DBE Program. An excellent reference source, in addition to the cited Federal regulations, is the "DBE Program Administration Manual." This manual was developed from a collaborative effort between the Contract Administration Group (HIPA-30) and the Office of Civil Rights (HCR) and is used as a participant's manual in a training course with the same title.

It is desirable from a contract administration perspective to highlight the following points:

- The DBE participation requirements in Federal-aid highway contracts are contract provisions like any other contract provisions (i.e., predetermined minimum wage, Buy America provisions, and statements and payrolls, etc.), and should be administered as such.

- DBE administrative issues that will require review and attention may arise during a project. These issues will require the reviewer to have an adequate background of the DBE Program and may include such items as:

  DBE Specifications and contract provisions should include the following:

- DBE Program Policy;
- Definitions;
- DBE Contract Goal;
- Eligibility Criteria;
- Good Faith Effort Provisions;
- DBE Obligations;
- Sanctions on Failure to Comply with DBE Requirements;
- Determination Procedures on Counting DBE participation towards the DBE Goal;
- Award Documentation and Procedures;
- Post Award Compliance Provisions; and
- Records and Reporting Requirements.

The two most prevalent forms of fraud and abuse that occur in the DBE Program are:

- an ineligible firm is certified, and
- a legitimate DBE firm fails to perform a commercially useful function.

Certification decisions address the nature of a firm's ownership and structure, and serve as the first safeguard for preventing fraud and abuse. Commercially useful function is primarily concerned with the role a certified firm has played in a particular transaction, and serves as the second line of defense against fraud and abuse. Commercially useful function determinations occur during the administration of the project. Items to review in these determinations include:

- the DBE's management of the work,
- whether the DBE is utilizing his/her work force,
- whether the DBE owns/rents his/her equipment, and
- whether the DBE is utilizing his/her own materials.

Other contract administration items include:

- replacement or substitution of DBE's during the contract,
- Good Faith Effort determinations on the part of the prime contractor to comply with DBE program requirements,
- crediting DBE participation in a contract,
- record keeping/reporting requirements of the State and contractor,
- program monitoring by the STA, and
- sanctions for non-compliance.

Difficulties with any matter regarding the DBE Program should be brought to the attention of the STA's Office of Civil Rights, or equivalent. This office contains the

expertise needed to deal with contract matters that may arise involving the DBE Program.

FHWA Responsibilities. The FHWA field engineers should be familiar with the general provisions of the DBE Program and have responsibility to:

- encourage the utilization of DBE contractors and subcontractors,
- encourage the utilization of DBE consulting firms,
- include DBE considerations in such functions as:
    - PS&E reviews,
    - authorization actions,
    - contract solicitation and award processes,
    - project inspections, and
    - process reviews, etc.
- provide technical advice, assistance, and services to the STA in regard to the administration of the DBE program,
- coordinate with the FHWA Resource Center Office of Civil Rights and other program office activities,
- maintain liaisons with DBE organizations, and
- provide required or requested reports to FHWA headquarters.

DBE Support Services

DBE supportive services funding was first authorized under the Surface Transportation Assistance Act of 1982. It is FHWA's policy to promote increased participation of DBEs in Federal-aid highway contracts, in part, through the development and implementation of cost effective supportive services programs through the STAs.

Subject to the availability of funds under 23 U.S.C. 140(c), a State highway agency may establish procedures to develop and conduct training and provide technical assistance specifically for the benefit of disadvantaged firms. The assistance may include training in estimating, plan reading, basic accounting skills, record keeping and many other skills associated with operating a construction business.

Supportive services funds cannot be used to finance the training of State DOT employees, to provide services in support of such training or to provide bonus payments to supportive services contractors.

3. Indian Preference on Federal-aid Projects

References:

23 U.S.C. 140
23 CFR 635.117

Applicability:

Applies to any Federal-aid highway construction project meeting the criteria described under "Guidance."

Background:

In 1985, the FHWA determined, based on the opinion of the Chief Counsel, that Title 23 precluded States from requiring contractors on Federal-aid contracts to give Indians preference in employment. Subsequently, Congress, in Section 122 of the STURAA of 1987, amended Section 140 of Title 23 to permit States to show such preference on Federal-aid projects located on "Indian reservation roads," as defined in Section 101 of Title 23. The preference is not mandatory.

Therefore, by memorandum dated May 8, 1987, the FHWA established its policy based on the legislative change. The FHWA advised its field offices that the revised 23 U.S.C. 140 allowed, but did not require, Indian employment preference on qualified Federal-aid projects.

Subsequently, the FHWA received correspondence from the Chairman of the EEO Commission and the leadership of the Senate Committee on Environment and Public Works. Both expressed concerns that the FHWA had not gone far enough in its implementation of Section 122 of the 1987 STURAA. In response, the FHWA issued a memorandum to the field offices dated October 6, 1987, which further clarified of the Agency's Indian preference policy. This memorandum supplemented the May 8, 1987 memorandum and addressed the significant issues contained in the Senate Committee Report which accompanied the 1987 STURAA.

The passage of the ISTEA continued the basic program elements as established in the 1987 STURAA. The only noted change was that States may now implement an Indian employment preference provision on projects near Indian reservations. The FHWA Notice N 4720.7, dated March 15, 1993, addresses this legislative change to Section 140(d) of 23 U.S.C. and consolidates all previous guidance to the field on Indian employment preference. This Notice sets forth the FHWA's current policy on this subject.

Guidance:

An STA may implement procedures or requirements which extend preferential employment to all Indians. Recruiting efforts may be targeted toward those living on or near a reservation or Indian lands. Indian preference shall be applied without regard to tribal affiliation or place of enrollment.

Indians previously hired by a contractor shall be included as part of the contractor's core-crew. In no instance should a contractor be compelled to layoff or terminate a core-crew employee (regardless of Indian or non-Indian status) to meet a preference goal.

Projects eligible for Indian employment preference are those located on roads within, or providing access to an Indian reservation or other Indian lands (as defined under the term "Indian reservation roads" in Section 101 of Title 23), and projects located on roads that are "near" the boundaries of reservations. Roads "near" an Indian reservation are defined as those within a reasonable commuting distance from the reservation.

Accordingly, States are encouraged to work together with Indian tribes and their Tribal Employment Rights Offices (TERO's) to develop contract provisions which will promote employment opportunities for Indians on eligible Federal-aid highway projects. Reasonable overall employment goals for Indians, and the requirements which can be used to achieve such goals, should be agreed upon in advance and made part of the contract documents.

In setting the employment goals, consideration should be given to the scope of the contract and the potential employment requirements of the contractor beyond its core-crew. Once established, the goals should only be changed by the State following consultation with the Indian tribal representative and the contractor and only after good faith efforts to achieve the original goals. Sanctions for failure to meet the employment goals should be determined in advance and be made a part of the contract to facilitate enforcement.

TERO Tax

Many tribes have established a TERO tax, which is applied to contracts for projects performed on the reservation. TERO tax receipts are used to support the TERO. The tax may only be imposed on a project within the reservation's boundaries, as Indian tribes do not have any tax authority off the reservations. However, in off reservation situations, the TERO may bill the contractor at an agreed upon rate for services rendered, e.g., recruitment, employee referral and related supportive services. TERO service fees are not eligible for Federal participation. If a portion of a proposed project is not within the reservation boundaries, that portion which will be subject to the TERO tax should be clearly indicated.

FHWA will participate in any State or local tax provided the tax does not discriminate or single out Federal-aid highway construction contracts. Therefore, if the TERO tax rate on highway construction contracts is the same as that imposed on other contracts on the reservation, such costs are eligible for Federal-aid reimbursement.

Tribal Construction of Federal-aid Projects

In general, Federal-aid projects are subject to 23 U.S.C. § 112, and therefore, competitive bidding requirements. However, there may be instances where it is appropriate to allow the tribe to perform the work with its own forces. Title 23 U.S.C. Section 112(b) provides for another method of contracting, where it can be demonstrated that it is more cost effective or an emergency exists. The authority to determine cost effectiveness has been delegated to the FHWA Division Administrator in each State.

If the STA desires, the Stewardship Agreement could delegate the cost effectiveness determination to the STA for non-NHS projects. FHWA does have experience where Transportation Enhancement projects have been funded on Indian lands. In some instances, a determination was made by the STA that it was more cost effective to have the tribe construct the project. The STA entered into a formal agreement with the tribe (similar to a local agency project agreement) which allowed the tribe to both administer and construct the project. On Federal-aid projects, the STA determines whether the tribe is equipped to administer the work, including accounting procedures, prior to the agreement being signed. Because the project is not administered by the Bureau of Indian Affairs, P.L. 93-638 procedures do not apply. Instead, State contracting procedures apply.

4. Noncollusion Statement

References:

23 U.S.C. 112
23 CFR 635.112(f)

Applicability:
Applies to all Federal-aid highway construction projects.

Background:

The submission of a noncollusion statement protects the integrity of the Federal-aid highway program by serving as a deterrent to bid rigging activities. The certification also becomes evidence in prosecuting cases involving construction contract bid rigging.

Prior to 1986, noncollusion affidavits were required only from the successful low bidders although the AASHTO encouraged States to require a signed certification from all bidders. A copy of the 1981 AASHTO publication Suggested Guidelines for Strengthening Bidding and Contract Procedures is included in the Appendix (see Appendix A-34 to A-45) Also, the U.S. Department of Justice (DOJ) Antitrust Division strongly encouraged that noncollusion affidavits be required from all bidders (Appendix A-46 to A-61). In response, the FHWA changed the regulations and now all bidders are required to submit a noncollusion statement.

Guidance:

A noncollusion statement is required from all bidders and is to be submitted as part of the bid proposal package. Failure to submit the required certification will result in the bid being considered as non-responsive and ineligible for award consideration.

The STAs are required to include provisions in the bidding proposals that require all bidders to include a noncollusion statement with their bid. The FHWA, in consultation with the DOJ, has concluded that the noncollusion statement may be either an unsworn declaration made under penalty of perjury under the laws of the U.S., or a sworn affidavit executed and sworn before a person who is authorized to administer oaths by the laws of the State.

All noncollusion certifications shall be retained by the STA in accordance with the retention policy of 49 CFR 18.42. These certifications could serve as important evidence in the event that collusion or bid rigging is discovered at a later date.

If for any reason, a person feels that fraud has occurred, they should contact the nearest USDOT/OIG office. This may be based on a suspicion or actual evidence of fraud, waste, and abuse in any project funded by FHWA. See Appendix A-1 to A-4 for details.

5. On-the-Job Training

References:

23 CFR 230 Subpart A
23 U.S.C. 140(a) - Federal-aid Highway Act of 1968 (OJT Program)
23 U.S.C. 140(b) - Federal-Aid Highway Act of 1970(OJT Supportive Services Program)

Applicability:

Applies to all Federal-aid highway construction projects.

Background:

During the late 1960's and early 1970's it was recognized that a need existed to train minority employees in the highway construction trades. Though minorities had been employed in highway construction for a number of years, they were usually assigned the more labor-intensive jobs or the lower paying jobs in the semi-skilled or unskilled labor classifications.

Discrimination based on sex has always been prohibited in the highway construction industry; however, the role of women in the industry was not specifically addressed until 1975. Since 1975, a conscientious effort has been made to train and employ women in nontraditional jobs (i.e., highway construction skilled trades).

Section 1208(a) of the Transportation Equity Act for the 21st Century (TEA-21) allows STAs to reserve training positions for welfare recipients. This section requires that such positions shall not cause current employees to be displaced or current positions to be supplanted.

Guidance:

The objectives of the OJT Program are to:

- provide training and improve the skills of women and minorities so that they have the opportunity and access to the higher paying skilled trade jobs and journeyman positions, and

- broaden the labor pool to meet the projected future labor needs in the construction industry.

FHWA does not require that 100 percent of the trainees and apprentices on a project be minority or women. However, for trades in which minorities or women are under-represented, a majority of the training positions on that project must be filled by minorities or women. The contractor must demonstrate a systematic and direct recruitment effort to comply with the contract's training special provisions.

The OJT program involves several major components and involves shared responsibilities between the FHWA, the STA, and the contractor. These components include:

- Development of Statewide Training Goals – According to the regulations, the STA's overall statewide training goals are to be developed by the FHWA based on Federal-aid apportioned amounts and minority populations. However, in actual practice the FHWA requests the STA's to submit recommended calendar year goals for approval, which are to be based on the following factors:

    - the type and duration of projects,
    - the estimated number of projects to be awarded during the year,
    - letting referrals,
    - the changing character of projects, and
    - the interrelationship of the above factors and any other relevant factors.

- Assignment of Contract Training Goals – The STA assigns the training goals for each contract. The contracts selected for a training goal and the goal set for each contract should be based on:

    - availability of minorities and women in the project vicinity,
    - potential for effective training,
    - duration of the contract(s),
    - dollar value (slots should not be assigned based on dollar value of contracts alone),
    - total anticipated work force,
    - geographical location,
    - type of work,
    - need for journeyman in the area and by type of trade,

- statewide goal, and
- satisfactory ratio of journeyman to trainee expected during normal operation of the construction project (ordinarily in the range of 10:1 to 4:1).

The contract training goal is the actual number of training positions or slots required on the project. The OJT Program requires that a special provision to be placed in the contract which specifies the number of trainees that are to be assigned to various appropriate highway construction skilled crafts for actual hands-on experience. If a trainee quits or is terminated, the slot is to be refilled until a trainee completes the program. If a contractor does not attain the contract training goal for the project, the contractor could be subject to monetary penalties. The Alaska Department of Transportation and Public Facilities establishes a monetary penalty equal to the number of training hours remaining multiplied by the prevailing wage.

- Development and Acceptance of the OJT Program at the Project Level Prior to Commencing Construction – The contractor shall submit to the STA, for approval, the commitment in terms of the number of trainees to be trained for each selected classification and the training programs to be utilized.

  Note: In unionized States, apprenticeship programs have been developed by the various trade unions and are registered with the DOL, Bureau of Apprenticeship and Training (BAT). These training programs are acceptable for use on Federal-aid projects but may not require employees to be or become union members.

  The STA must review, analyze, accept or reject training programs proposed by the contractor. The STA should ensure that:

  - proposed training programs are reasonable and realistic based on the job skill classification, and
  - the number of training hours specified in the training program is consistent with the project's duration and sufficiently long enough for the trainee to obtain journeyman level status.

  The contractor recruits and selects the trainees. However, the contractor may receive assistance from outside sources to accomplish this task. For example, in unionized States, local unions may refer trainees or apprentices to the contractor.

- Provide Training – Once the contractor's training program has been finalized and approved by the STA, the trainees in each training slot begin hands-on training at the project site. Normally, the trainees are paid a percentage of the journeyman's wages (Davis-Bacon rates). The following payment plan is required in the FHWA Training Special Provisions (23 CFR 230 A - Appendix B):
  - 60 percent of the journeyman's wages for the first half of the training period,
  - 75 percent of the journeyman's wages for the third quarter of the training period, and

- 90 percent of the journeyman's wages for the last quarter of the training period.

- Determination on the Adequacy of Training – The contractor must periodically evaluate the training provided, and the trainee's progress.

- Reporting Requirements – Since 1983, the FHWA has required information to be submitted on the number of trainees and the job classifications in which training is occurring. The FHWA requires this information to be submitted on Forms FHWA-1391 and FHWA-1392 which are to be prepared by the STA and the contractor and submitted to the Office of Civil Rights (HCR-10).

- Responsibilities – The STA has the primary responsibility to monitor and determine the effectiveness of on-the-job training. The FHWA has oversight responsibility to provide guidance and assistance, and to concur in proposed project training provisions, project goals, and proposed training programs.

  The STA and the FHWA share the responsibility of determining:

  - the number of trainees that complete training,
  - the number of trainees upgraded to journeyman-level status,
  - the level of skills attained, and
  - whether the statewide training program is meeting the needs of the construction industry regarding work force requirements and level of skills.

- OJT Reimbursement Provisions – Payment for training is made by the FHWA to the STA on a reimbursement basis. The training special provisions provide for a monetary incentive to the contractor to establish a project training program either at the rate of $0.80 per hour (generally felt to be inadequate to fully cover the costs incurred by the contractor); or

- The STA has the option of permitting the contractor to bid on the training program provisions as a bid item. The STA will be reimbursed with Federal-aid construction funds at the same pro rata basis as the construction cost of the project. Additionally, some STA's have chosen to make training incidental to the cost of construction.

<u>OJT Pilot Programs</u>

Michigan, Ohio and Colorado have implemented pilot programs to meet the objectives of the OJT program. During fiscal year 1996, Michigan DOT assigned 185 training slots to construction projects but only 25 trainees completed their programs. Of these trainees, 24% were minority males, 52% females, and 24% Caucasian males. MDOT noted the following barriers in the implementation of a successful OJT program:

- retention of the trainees by contractors once the training on the project is completed,

- inconsistencies in the content and quality of the training provided, and

- lack of flexibility for contractors in assigning trainees.

In response to this problem, MDOT implemented a pilot OJT program to give the contracting industry more responsibility for planning, assigning, training, and retaining trainees in consideration of their long-range workforce needs. MDOT allocates training assignments to prequalified contractors annually based on a contractor's 3-year average gross receipts. The contractor must plan, schedule and implement an OJT program to meet the program objectives. To date, the industry has been supportive of this program and preliminary results indicate an improvement in program effectiveness.

Sanctions

The STA, the contractor, and FHWA should take appropriate corrective actions to ensure the adequacy and effectiveness of the training provided. Unfortunately there are no strong Federally regulated sanctions for non-compliance. However, the STA's are encouraged to develop and adopt sanctions that provide incentives for the contracting industry to pursue "good faith efforts" to comply with the OJT Program's intent. Such sanctions could include withholding progress payments or removal of prequalification status.

OJT Supportive Services

The purpose of OJT Supportive Services is to increase the effectiveness of the STA's approved training programs and to increase the training opportunities for minorities and women. The types of services that are deemed appropriate for this purpose include services related to recruiting, counseling, remedial training, and OJT Program administration conducted by concerns outside the STA.

The OJT Supportive Services funds were originally provided as a separate funding allocation at 100 percent participation and with a budget ceiling not to exceed $10 million as established by Congress. However, over the years, 23 CFR 140(b) funding for the OJT Supportive Services program was reduced to a level of $2.5 million for FY 1987 and FY 1988 and has not been budgeted since.

In lieu of the 100 percent Federal funding, which had been provided through 23 CFR 140(b), Congress provided for an alternative funding source by enactment of Section 337 of the 1990 Appropriations Act. This Section provided that one-fourth of one percent of regular Federal-aid funds authorized and allocated to each State for FY 1990 and FY 1991, could be utilized for OJT Supportive Service activities. This funding utilization is optional and requires a match of State funds.

The above concept was continued with the enactment of the 1991 ISTEA. However, the base source for the one-fourth of one-per cent formula has been limited to the State's allocations for the STP and the Bridge Replacement and Rehabilitation Program. Effective FY 1994, the percentage is increased to one-half of one percent (Section 412 of the 1993 Appropriations Act).

6. Standardized Changed Conditions Contract Clauses

References:

23 U.S.C. 112(e)
23 CFR 635.109

Applicability:

Applies to all Federal-aid construction projects (except for design-build projects where applicability will be determined on a project by project basis).

Background:

Due to the nature of highway construction and the conditions under which work is performed, designers cannot always accurately determine and describe the conditions existing at project sites. Consequently, actual conditions encountered during construction may differ from those indicated in the contract documents, resulting in a change in construction costs. Also, situations may develop during construction that require the contracting agency to order the contractor to slow down or to stop construction through no fault of the contractor. These slow downs or stoppages in the work may cause a change in construction costs.

There also may be situations encountered during construction that require the contracting agency to make alterations to the design. In addition to changing the amount of contract work, such alterations could significantly affect the contractor's production costs.

Prior to 1987, the FHWA did not mandate contract provisions that address these situations. However, the FHWA encouraged the STAs to adopt contract language, such as that of Sections 104.02 and 108.07 of the 1984 AASHTO Guide Specifications for Highway Construction.
The STURAA of 1987 required that standardized changed condition clauses be included in all Federal-aid construction contracts unless prohibited or otherwise provided for by State law.

In theory, the use of the standardized changed condition clause takes the risk of differing subsurface conditions out of the bidding process. Bidders need not consider the cost and difficulty of taking their own borings and compare that with the risk of a differing site condition. They need not consider the amount of a contingency to be included in the bid. Theoretically, with a standardized changed condition clause, contractors will receive no windfalls nor suffer a disaster from a changed condition. The owner will benefit from more competitive bidding, as the bidders will not inflate costs for risks that may not happen. And finally, the use of the standardized changed condition clause was meant to provide uniformity across state lines.

Guidance:

The standardized changed condition clauses in 23 U.S.C. 112(e) must be included verbatim in all contracts, unless State statute prohibits their inclusion. Or, an alternate clause developed by the STA may be used, upon approval of the FHWA Division

Administrator, when the alternate clause has been developed and implemented in accordance with State statute.

The regulation requires the use of three different clauses:

- Differing Site Conditions Clause – This clause provides for the adjustment of the contract terms if the contractor encounters:

  - Type I Condition - subsurface or latent physical conditions that differ materially from those indicated in the contract, or
  - Type II Condition - unknown physical conditions of an unusual nature that differ materially from those ordinarily encountered and generally recognized as inherent to the work.

  Some examples of potential Type I conditions include encountering the following: more rock than indicated in the contract, larger rock, rock that is harder to drill, permafrost when the boring had given no indication of its general extent, or unexpected quantities of underground water not indicated on the boring logs.

  While these are potential Type I conditions, in order to receive compensation, the contractor must prove the following by a preponderance of evidence:

  > "(1) the contract documents must have affirmatively indicated or represented the subsurface or latent physical conditions which form the basis of plaintiff's claim; (2) the contractor must have acted as a reasonably prudent contractor in interpreting the contract documents; (3) the contractor must have reasonably relied on the indications of subsurface or latent physical conditions in the contract; (4) the subsurface or latent physical conditions actually encountered within the contract area must have differed materially from the conditions indicated in the same contract area; (5) the actual subsurface conditions or latent physical conditions encountered must have been reasonably unforeseeable; and (6) the contractor's claimed excess costs must be shown to be solely attributable to the materially different subsurface or latent physical conditions within the contract site. To prove these six elements, the contractor is only required to use a simple logical process in evaluating the information in the contract documents to determine the expected subsurface or latent physical conditions…." (Source: NCHRP, "Selected Studies in Transportation Law, Construction Contract Law", p. 5-16)

  Some examples of a potential Type II conditions include unanticipated hazardous waste deposits or unanticipated archaeological sites.

  To recover costs under a Type II condition, the contractor must prove:

  > "(1) that it did not know about the condition; (2) that it could not have reasonably anticipated the condition after a review of the contract documents, a site inspection, and the contractor's general

experience in that area; and (3) that the condition was unusual because it varied from the norm in similar construction work." (Source: NCHRP "Selected Studies in Transportation Law, Construction Contract Law", p. 5-16)

Further guidance for design and construction engineers on Differing Site Conditions can be found in FHWA's Geotechnical Engineering Notebook, Geotechnical Guidelines No. 15, dated April 30, 1996. (See http://www.fhwa.dot.gov/bridge/gt-15.pdf).

- Suspensions of Work Ordered by the Engineer – This clause provides for the adjustment of the contract terms if the performance of all or a portion of the work is suspended or delayed by the Engineer, in writing, for an unreasonable period of time (not originally anticipated, customary, or inherent to the construction industry). The contractor is required to submit a request for adjustment, in writing, to the Engineer within 7 calendar days of receipt of the notice to resume work. Recovery of profit on costs resulting from suspensions of work is not allowed.

  This clause does not preclude the recognition of constructive suspensions or delays resulting from the contracting agency's actions, without written notification. These are delays caused by the owner's instructions that are not in writing. The contractor may receive verbal orders from the engineer, or be delayed by the owners' lengthy review of submittals. Some states recognized constructive delays in their specifications prior to the FHWA regulation. The preamble to the regulation indicates that states may continue to recognize construction delays if this is provided in their standard specifications and contract administration procedures.

  To qualify for an adjustment, suspensions must be for unreasonable periods and do not include brief, customary suspensions for reasons inherent to highway construction (i.e., material sampling and testing; approval of shop drawings, material sources, etc.; and other reasonable and customary suspensions necessary for the supervision of construction by the contracting agency). In addition, an adjustment under this clause is not allowed if the work is suspended for other reasons or if an adjustment is provided for, or excluded, under other terms or conditions of the contract.

- Material Changes in the Scope of the Work – This clause provides for the adjustment of the contract terms if the Engineer orders, in writing, an alteration in the work or in the quantities that significantly change the character of work. The term "significant change" shall be construed to apply only to the following circumstances:

  - the altered character of the work differs materially from that of the original contract, or
  - a major item of work, as defined in the contract, is increased or decreased by more than 25 percent of the original contract quantity (adjustments

shall apply only to that portion in excess of 125 percent of original contract quantity, or in case of a decrease, to the actual quantity performed.

This clause provides for adjustments resulting from formal change orders by the Engineer, in writing, to the extent that the impacted work is part of the contract. Either party may initiate an adjustment and both must be in agreement before the work is performed. As with the suspension of work provision, this clause does not preclude the recognition of constructive suspensions or delays.

Recent Developments concerning Standardized Changed Condition Clauses

Imperative Mood, Active Voice

Several states are re-writing their standard specifications in the imperative mood, active voice. While the standardized changed condition regulation requires the verbatim adoption of the final rule, FHWA has provided flexibility in this area.

FHWA encourages clear, precise specifications. We encourage the use of the imperative mood, active voice. In response to a request from the State of Utah, FHWA counsel provided the following opinion on February 1, 1999:

". . . However, to require Utah to adopt its own clause through a State statute just to make a simple linguistic change in voice (active instead of passive) would be technically correct, but highly questionable from a practical perspective . . . (there should be) substantive compliance with the clause and contractors (should not be) adversely affected by the state's active voice linguistic change."

Design-Build Projects

Many states are evaluating design-build contracts under FWHA's Special Experimental Project No. 14 - Innovative Contracting. In Section 1307 of the TEA-21, Congress included a provision requiring FHWA to develop design-build regulations for the highway program. Congress specifically said that FHWA's standardized changed condition clauses are not necessary for design-build contracts.

Does this mean that such clauses should not be used on design-build contracts? Most owners would probably say that modified changed condition clauses are necessary for design-build. Depending on the amount of risk and responsibility transferred to the owner, contracting agencies should consider using modified versions of standardized clauses which are appropriate for their circumstances.

C. Other Program Requirements

1. Drug-Free Workplace

References:

49 CFR 29
23 CFR 630.307(c)(3)

Applicability:

Applies only to grantees and recipients who receive assistance directly from a Federal agency (i.e., STA's and Federal Lands Highway contractors). These requirements do not apply to subgrantees or subrecipients (i.e., local agencies) nor do they apply to Federal-aid contractors.

Background:

The Drug-Free Workplace Act of 1988 requires that all grantees receiving grants from any Federal agency certify that they will maintain a drug-free workplace. Furthermore, grantees are required to take steps to provide a drug-free workplace and impose sanctions against employees that violate the drug-free workplace requirements.

The final rule, amending the existing Government-wide nonprocurement suspension and debarment regulations (49 CFR 29) to include the drug-free workplace requirements, became effective on July 24, 1990.

Guidance:

Prior to apportioning or allocating Federal-aid funds, the STA's must annually certify that they will maintain a drug-free workplace. If the STA chooses, the certification may be included in the project agreement. In addition, the STA is required to publish a policy statement and implement a drug-awareness program. Failure to comply with the requirements of the drug-free workplace requirement may result in:

- suspension of payment under the grant,
- suspension or termination of the grant, or
- suspension and debarment of the grantee, up to a maximum of five years, in accordance with the Government-wide suspension and debarment regulations.

The State's certification for maintaining a drug-free workplace is made when it signs the Federal-aid project agreement. By doing so, it certifies that it will maintain a drug-free workplace as required in 49 CFR Part 29 Appendix C.

2. Public Agencies in Competition with the Private Sector

References:

23 U.S.C. 112
23 CFR 635.112(e)

Applicability:

Applies to all Federal-aid highway construction projects.

Background:

Open competitive bidding by private enterprises is a basic tenet of the Federal-aid program since it provides equal economic opportunity for private enterprises and permits projects to be completed at the lowest possible cost.

A public agency does not need to make a profit (in many states, public agencies are prohibited from making a profit). In addition, the taxpayer subsidizes their employee wages, benefits and equipment costs. Therefore, a public agency would have a competitive advantage over private companies if allowed to compete for contracts.

Guidance:

As indicated in 23 CFR 635.112(e): "*No public agency shall be permitted to bid in competition or to enter into subcontracts with private contractors*." A public agency is defined as any organization with administrative or functional responsibilities that are either directly or indirectly affiliated with a governmental body of any nation, State, or local jurisdiction.

There are no exceptions to this competitive bidding policy. However, under limited circumstances a public agency may be permitted to undertake efforts normally reserved for the private sector. These circumstances are discussed in detail in other sections in this manual:

- Publicly Owned Equipment (Section II.C.4.a),
- Convict Produced Materials (Section II.C.5.a), and
- State Owned/Furnished/Designated Materials (Section II.C.5.d).

In addition, under limited circumstances a STA or local public agency may perform highway construction work on a force account basis by providing the labor, equipment, materials, and supplies needed to complete the work. Refer to 23 CFR 635 Subpart B for more information.

3. Public Interest / Cost Effectiveness Findings

Related References:

23 U.S.C. 112
23 CFR 635.106(a), 635.204, 635.205, 635.407(a), 635.411(c)

Applicability:

Applies to all Federal-aid highway construction projects.

In the subsequent sections, several requirements (e.g., use of a proprietary product, use of public equipment, or contract award based on other than competitive bidding} may be waived under specific conditions if it is found to be in the public interest or cost effective. These findings should be used sparingly since such a determination is an acknowledgment that the needs of the public will be better met by not following the general rules. Since the general requirement addresses a specific issue or concern, waiving that requirement should be done only after careful consideration of the effect or precedent that will be set.

The actual cost effectiveness / public interest finding will consist of a written document outlining the basis for the request and any supporting documentation such as a cost/benefit analysis; discussion of product compatibility; logistical concerns; etc.

The cost effectiveness / public interest finding is generally approved by the Division Administrator for Interstate and NHS projects, and the appropriate STA official for all other projects; however, the specific conditions of approval authority should be described in the oversight agreement between the FHWA Division Office and the STA. This agreement should address the appropriate approval levels for public interest findings related to different oversight levels. Note that some issues may require the DA's concurrence regardless of oversight levels; among these issues are DBE requirements, and method of construction. Guidance concerning the content of stewardship agreements can be found in Mr. Ptak's August 20, 1998 memo titled, "Implementing Guidance - Project Oversight under Section 1305 of the Transportation Equity Act for the 21st Century (TEA-21) of 1998." (see http://www.fhwa.dot.gov/tea21/oversite.htm).

4. Equipment

a. Publicly Owned Equipment

References:

23 CFR 635.106

Applicability:

Applies to all Federal-aid construction projects.

Guidance:

The policy definition of publicly owned equipment is ". . . *equipment previously purchased or otherwise acquired by the public agency involved for use in its own operations*." The policy goes on to state that ". . . *publicly owned equipment should not normally compete with privately owned equipment on a project to be let to contract*."

However, in exceptional cases, a showing that it would clearly be cost effective to use publicly owned equipment may be justified. When supported by a public interest finding, the Division Administrator may approve the STA's proposal to use publicly owned equipment. Federal funds may participate in the costs associated with the use of publicly owned equipment provided that:

- the PS&E submittal clearly sets forth the proposed use,
- the specifications indicate the items of equipment that are available, the rates to be charged, and the point(s) of availability or delivery, and
- the specifications include the express condition that the contractor has the option to rent all or part of the available equipment, or to provide the equipment.

The public agency cannot benefit from the rental of its own equipment by virtue of a Federal-aid contract. Accordingly, the rental rates must reasonably represent the cost of providing the equipment or there shall be a lump sum credit to Federal reimbursement on the project equal to the amount of profit on rental that the agency receives.

In unforeseen circumstances, publicly owned equipment may be used after award of contract based on rental rates agreed to between the public agency and the contractor. However, these rates shall not form the basis for an increase in Federal participation.

In force account work the rates on publicly owned equipment eligible for Federal participation may be the agreed unit price or actual cost. For agreed unit price, the equipment need not be itemized on the estimate. If the project is to be performed on the basis of actual cost, the estimate should include a schedule of rates, exclusive of profit, to be charged for the use of publicly owned equipment.

b. Contractor Purchased Equipment for State Ownership

References:

23 U.S.C. 302
23 CFR 140

Applicability:

Applies to all Federal-aid construction projects.

Background:

In the mid 1980's, several inquiries were received regarding participation in equipment purchased by the construction contractor, as a condition of the contract, with ownership transferred to the STA at the end of the project. Guidance was subsequently issued by Headquarters memorandum dated September 11, 1986. It provided that when a STA proposed that equipment be purchased by a contractor, under the terms of a Federal-aid contract, for ultimate ownership by the State, a lease versus purchase analysis must first be conducted. If the STA was able to justify purchase as being the most economical approach, approval would be given by the FHWA. However, once the equipment was removed from the Federal-aid project, the State was to provide an appropriate credit to the project for its remaining value.

Following the establishment of this policy, a number of significant events occurred which made this procedure difficult to effectively manage. In 1988, the DOT issued the Federalism regulation, 49 CFR Part 18, which eliminated the FHWA's ability to require a credit for remaining value when the equipment was removed from the project.

Credit, was thereafter to be based on the State's own established practices for salvaging equipment, if any. Then, provisions of the 1991 ISTEA provided that States could exercise approval authority in-lieu-of FHWA's approval.

As a result of these actions, the FHWA re-evaluated its position on this issue and by Headquarters memorandum dated May 5, 1993, (Appendix A-62) established the current policy.

Guidance:

Equipment, as defined in 49 CFR section 18.3, means "tangible, nonexpendable, personal property having a useful life of more than one year and an acquisition cost of $5,000 or more per unit." A State may use its own definition of equipment provided that such definition would at least include all equipment as defined above. All other tangible personal property is considered to be "supply" which is a State responsibility.

When a State must purchase equipment to adequately meet the construction engineering (CE) requirements of a Federal-aid project, how the equipment is purchased (e.g., by the State directly or by a construction contractor with ownership transferred to the State) is irrelevant to Federal-aid participation.

State Transportation Agencies now have two options for requesting Federal-aid participation in eligible program costs. As noted in Mr. Wright's September 24, 1998 memorandum titled, "Indirect Costs Eligibility and Other TEA-21 Revisions to Title 23 U.S.C. Section 302" (see http://www.fhwa.dot.gov/tea21/indcosts.htm), most costs incurred by STAs are now eligible for Federal-aid reimbursement either as a direct cost or an indirect cost. STAs may request FHWA participation for indirect costs following the procedures in the above memo.

STAs requesting FHWA participation in direct costs should follow the procedures in FHWA's May 5, 1993 memo. The STA must amortize the initial purchase cost over the useful life of the equipment. Federal-aid funds will participate only in the portion of the amortized cost directly attributable to the time the equipment is used on a specific Federal-aid project(s). Participation will be accounted for as a CE expenditure.

This procedure may also be used for non-CE equipment items, acquired by the State, for use on construction projects by either the State or contractor. Examples include: variable message signs, temporary bridges (e.g., Bailey Bridge), construction barrier systems, etc.

Ms. Weisman's May 5, 2004 memorandum titled "Clarification of Policy on Indirect Costs of State and Local Governments" provided additional guidance on this subject. A separate Federal-aid project cannot be established for the sole purpose of claiming indirect costs. Since indirect costs are not specified as a purpose of any Federal-aid program, it is not appropriate for the FHWA to authorize a specific project for indirect costs. Furthermore, when indirect costs are claimed, the FHWA is required to distribute the costs to each Federal award (i.e., project) that benefits from the indirect costs.

c. Equipment Rental Rates

References:

48 CFR Part 31
OMB Circular A-87
FAPG NS 23 CFR 635.120

Applicability:

Applies to all Federal-aid construction projects.

Background:

In 1986, an Office of the Inspector General (OIG) audit of rental rates used by STAs found that a significant number of contractors were being reimbursed for equipment usage based on predetermined rates which included ineligible costs. Ineligible costs included use of contingencies and replacement cost escalator factors, and premium rental rates for rental periods less than one month.

The FHWA subsequently advised all field offices on August 22, 1986, those STAs which use predetermined rate guides must modify the equipment rental rates to eliminate the identified ineligible costs. PRIMEDIA Information Inc., San Jose, CA, the publisher of the Rental Rate Blue Book (Blue Book), responded by developing rate adjustment tables which corrected the discovered shortcomings. The adjustment tables were subsequently found acceptable by the OIG. The FHWA field offices were advised of this determination on December 23, 1986. Further rental rate guidance was issued by Headquarters' memorandum dated November 7, 1988 (See Appendix A-64 to A-66).

Guidance:

Federal policy requires that actual costs be used to determine extra work payments; however, typically actual equipment costs are not readily available. Therefore, the FHWA permits the STAs to specify in their construction contracts the predetermined rate guides as well as equipment rate schedules developed by STAs which are in conformance with the Federal cost principles and the FHWA's policy contained herein.

The Federal cost principles applicable to rental rates for contractor furnished equipment are contained in 48 CFR, Part 31. The provisions in OMB Circular 87 apply when State-owned equipment is used.

Rental Rate Guides – A State may, subject to the FHWA's concurrence, adopt the Blue Book or another industry rate guide, or it may develop its own guide. The State must make the determination that the equipment rental rates developed or adopted fairly estimate a contractor's actual cost to own and operate the equipment within its State. The Division must review their State's rates for compliance with the policy.

Adjustment Factors – Equipment is not expected to operate for 12 consecutive months. Maps at the beginning of each Blue Book equipment section indicate adjustment factors based on climate and regional costs. Rate adjustment tables indicate adjustment factors based on equipment age. The adjustment factors in the maps and tables are to be applied when determining the eligible rate.

Maximum Rate – The Blue Book adjusted rates cover all eligible equipment related costs. Therefore, they are considered to be the maximum eligible rates for Federal-aid participation purposes.

Hourly Rates – The developer of the Blue Book accumulates all contractor costs for owning a piece of equipment on an hourly basis. The monthly rate displayed in the rental guide is determined by multiplying the hourly accumulated costs by the monthly standard of 176 hours. Therefore, for periods of equipment use less than the standard 176 hours per month, Federal-aid participation shall be limited to the hourly rate obtained by dividing the monthly rate by 176. Premium rates contained in the rate guides shall not be used.

Standby Equipment Rates – The contractor continues to incur certain ownership costs when equipment is required to be on standby. The use of a standby rate is appropriate when equipment has been ordered to be available for force account work but is idle for reasons which are not the fault of the contractor. While an industry standard does not exist for standby rates, it has been the normal practice of the courts to reduce published ownership rental guide rates by 50 percent for standby rate usage. Therefore, the FHWA will accept use of 50 percent of the ownership rental rates of an approved guide as the standby rate in lieu of a contractor's actual standby costs. There should be no operating costs included in the rate used and standby time should not exceed 8 hours per day, 40 hours per week, or the annual usage hours as established by the rate guide.

Mobilization – The costs required to mobilize and demobilize equipment not available on the project is eligible for reimbursement. Standby rates should be used for equipment while being hauled to and from the project. This will be in addition to applicable rates for the hauling equipment. All costs associated with the assembly and disassembly of the equipment for transport should also be considered in the mobilization costs.

Overhead – Equipment overhead includes such items as insurance, property taxes, storage, licenses and record keeping. The Blue Book rates include all equipment overhead costs. Therefore, when a project or home office overhead rate is applied to a Blue Book rate, the State must assure that it contains no equipment overhead cost factors. The Division Administrator shall determine the reasonableness of such a rate.

Profit – Profit on equipment rental is not provided for in the Blue Book published rates. There is no Federal regulation which prevents the addition of an amount for profit. If a State has a policy for the payment of profit, it should be followed on Federal-aid contracts. If a profit amount is to be used, the Division Administrator based on experience must determine the reasonableness.

Contractor Leased Equipment – When a contractor obtains equipment through a third party rental agreement for use in a force account situation, the cost will normally be the invoice cost. The invoice cost should be comparable with other rental rates of the area. *The Associated Equipment Distributors (AED) Rental Rate and Specifications* may be used to evaluate the costs for such equipment rental. Since rental agreements vary, the specific operating costs included in the rental agreement may need to be determined. There may be additional eligible operating costs not covered by the agreement which the contractor incurs and should be reimbursed (i.e., fuel, lubrication, field repairs, etc).

(Note: The AED book is not acceptable as a rate guide for contractor owned equipment. The AED rates are based on national averages of rates charged by equipment distributors and do not reflect the contractors cost of owning and operating the equipment.)

5. Materials

a. Convict Produced Materials

References:

23 U.S.C. 114(b)(2)
23 CFR 635.417

Applicability:

FHWA's prohibition against the use of convict material only applies to Federal-aid highways. It does not apply to projects on roadways functionally classified as local roads or rural minor collectors (reference Mr. Schimmoller's May 9, 1996 memorandum and Mr. Baccus's May 14, 1997 legal opinion).

Background:

The present policy was established by Section 112 of the STURAA of 1987, which amended 23 U.S.C. 114(b) to include limitations on convict produced materials. A final rule implementing the provisions of Section 112 was published in the Federal Register on January 25, 1988.

Subsequently, language in DOJ Appropriation Acts of FY 1989 and FY 1990 was interpreted by the FHWA Chief Counsel's Office to negate the limitations established by 23 U.S.C. 114. However, Section 1019 of the ISTEA of 1991 amended 23 U.S.C.

114(b)(2) by inserting "after July 1, 1991." This action clarified Congressional intent that the language in the DOJ Appropriation Acts relative to the permissible use of convict produced materials on Federal-aid highway projects did not override the requirements placed on such use by the STURAA of 1987.

Guidance:

Materials produced after July 1, 1991, by convict labor may only be incorporated in a Federal-aid highway construction project if:

- such materials have been produced by convicts who are on parole, supervised release, or probation from a prison, or

- such material has been produced in a qualified prison facility, e.g., prison industry, with the amount produced during any 12-month period, for use in Federal-aid projects, not exceeding the amount produced, for such use, during the 12-month period ending July 1, 1987.

Use of Convict Produced Materials Meeting the Statutory Limitation

Materials obtained from prison facilities (e.g., prison industries complying with the statutory limitations) are subject to the same requirements for Federal-aid participation that are imposed upon materials acquired from other sources. Materials manufactured or produced by convict labor will be given no preferential treatment.

The preferred method of obtaining materials for a project is through normal contracting procedures which require the contractor to furnish all materials to be incorporated in the work. The contractor selects the source, public or private, from which the materials are to be obtained (23 CFR 635.407). Prison industries are prohibited from bidding on projects directly (23 CFR 635.112e), but may act as material supplier to construction contractors (subject to the statutory limitations).

Such materials may also be approved as State-furnished material. However, since public agencies may not bid in competition with private firms, direct acquisition of materials from a prison industry for use as State-furnished material is subject to a public interest finding with the Division Administrator's concurrence (23 CFR 635.407d).

Use of Convict Produced Materials In Excess of the Statutory Limitation

The use of convict-produced materials in excess of the statutory limitations is prohibited. There should be no usage of these materials on a Federal-aid project, with or without Federal participation in this material. It is not satisfactory to designate this material as non-participating in an attempt to circumvent FHWA's policy.

Use of Convict Labor is discussed in more detail in paragraph A.1 of Chapter II.

b. Patented/Proprietary Products

References:

23 U.S.C. 112
23 CFR 635.411

Applicability:

Applies to all Federal-aid highway construction projects.

Guidance:

FHWA will not participate, directly or indirectly, in payment for any premium or royalty on any patented or proprietary material, specification, or process specifically set forth in the plans and specifications for a project, unless:

- the item is purchased or obtained through competitive bidding with equally suitable unpatented items,

- the STA certifies either that the proprietary or patented item is essential for synchronization with the existing highway facilities or that no equally suitable alternative exists, or

- the item is used for research or for a special type of construction on relatively short sections of road for experimental purposes. States should follow FHWA's procedures for "Construction Projects Incorporating Experimental Features" (http://www.fhwa.dot.gov/programadmin/contracts/expermnt.htm) for the submittal of work plans and evaluations.

The primary purpose of the policy is to have competition in selection of materials and allow for development of new materials and products. The policy further permits:

- Materials and products that are judged equal may be bid under generic specifications. If only patented or proprietary products are acceptable, they shall be bid as alternatives with all, or at least a reasonable number of, acceptable materials or products listed; and

- The Division Administrator may approve a single source if it can be found that its utilization is in the public interest.

Trade names are generally the key to identifying patented or proprietary materials. Trade name examples include 3M, Corten, etc. Generally, products identified by their brand or trade name are not to be specified without an "or equal" phrase, and, if trade names are used, all, or at least a reasonable number of acceptable "equal" materials or products should be listed. The licensing of several suppliers to produce a product does not change the fact that it is a single product and should not be specified to the exclusion of other equally suitable products.

Scenarios:

Below are examples of conditions under which patented or proprietary materials may be approved on Federal-aid projects.

Case I. The item is identified by the contract specifications along with a listing of other acceptable products, and the list includes a reasonable number of acceptable products. The FHWA may then participate in the cost of a patented or proprietary item since it is acquired competitively.

Case II. The STA certifies that the product is essential for synchronization. This is particularly appropriate when upgrading or expanding existing traffic signal systems. The existing controller(s) is part of an existing system that is not compatible with any system hardware. To convert the overall system would be more expensive than to add to what is already there. Thus, it is in the public interest to require the compatible proprietary item, and upon the Division Administrator's concurrence, the item may be specified.

Case III. The STA certifies that there is no equally suitable alternate. The Division Office should reasonably verify this situation. Based on a public interest finding with the Division Administrator's concurrence, the item may be specified.

Case IV. Products appear from time to time that are new and innovative, i.e., research item or experimental feature. Based on the developer's claim, manufacturer's claims, or because of certain local conditions, there may be sufficient justification to evaluate the product in actual highway usage. The STA may then elect to submit a detailed plan of research and evaluation (work plan) for the product. The work plan may also be used to develop specifications in order to provide a basis for future competition with other materials. The work plan should be approved with or prior to PS&E approval, and the specifications may then require the proprietary item.

A good discussion of FHWA's policy on product selection was included in Mr. Ronald E. Heinz's memorandum dated November 25, 1987 (Appendix A-68 to A-69).

c. State Preference

References:

23 U.S.C. 112
23 CFR 635.409

Applicability:

Applies to all Federal-aid construction projects.

Guidance:

The STA shall not impose any requirement or enforce any procedure which operates to require the use of, or provides a price differential in favor of, articles or materials produced within the State. This includes requirements that prohibit, restrict, or discriminate against the use of articles or materials shipped from or prepared, made, or produced in any State, territory, or possession of the U.S.

Basically, materials produced within a State shall not be favored to the exclusion of comparable materials produced outside of the State. State preference clauses give particular advantage to the designated source and thus restrict competition. Therefore, State preference provisions shall not be used on any Federal-aid construction projects.

This policy also applies to State preference actions against materials of foreign origin, except as otherwise permitted by Federal law. Thus, States cannot give preference to in-State material sources over foreign material sources. Under the Buy America provisions, the States are permitted to expand the Buy America restrictions provided that the STA is legally authorized under State law to impose more stringent requirements. However, STAs cannot prohibit materials for specific countries. Title 23 CFR 635.409(b) prohibits the use of foreign restrictions to a greater extent than the USDOT policy (49CFR30). In essence, a State may have a Buy America requirement for a product if it is provided by State statute, however, it cannot prohibit the use of products from a specific country (unless this country is on the US DOT's prohibition list).

d. State Owned/Furnished/Designated Materials

References:

23 U.S.C. 112
23 CFR 635.407

Applicability:

Applies to all Federal-aid construction projects.

Guidance:

Current FHWA policy requires that the contractor must furnish all materials to be incorporated in the work, and the contractor shall be permitted to select the sources from which the materials are to be obtained. Exceptions to this requirement may be made when there is a definite finding, by the STA and concurred in by the Division Administrator, that it is in the public interest to require the contractor to use materials furnished by the STA or from sources designated by the STA. The exception policy can best be understood by separating State-furnished materials into the categories of manufactured materials and local natural materials.

> Manufactured Materials. When the use of State-furnished manufactured materials is approved based on a public interest finding, such use must be made mandatory. The optional use of State-furnished manufactured materials is in violation of our policy prohibiting public agencies from competing with private firms. Manufactured materials to be furnished by the State must be acquired through competitive bidding, unless there is a public interest finding for another method, and concurred in by the Division Administrator.
>
> Local Natural Materials. When the STA owns or controls a local natural materials source, such as a borrow pit or a stockpile of salvaged pavement material, etc., the materials may be designated for either optional or mandatory use; however,

mandatory use will require a public interest finding and the Division Administrator's concurrence.

In order to permit prospective bidders to properly prepare their bids, the location, cost, and any conditions to be met for obtaining materials that are made available to the contractor shall be stated in the bidding documents.

Mandatory Disposal Sites. Normally, the disposal site for surplus excavated materials is to be of the contractor's choosing; although, an optional site(s) may be shown in the contract provisions. A mandatory site shall be specified when there is a finding by the STA, with the concurrence of the Division Administrator, that such placement is the most economical or that the environment would be substantially enhanced without excessive cost. Discussion of the mandatory use of a disposal site in the environmental document may serve as the basis for the public interest finding.

Summarizing FHWA policy for the mandatory use of borrow or disposal sites:

- Mandatory use of either requires a public interest finding and the Division Administrator's concurrence;
- Mandatory use of either may be based on environmental consideration where the environment will be substantially enhanced without excessive additional cost; and
- Where the use is based on environmental considerations, the discussion in the environmental document may be used as the basis for the public interest finding.

Factors to justify a public interest finding should include such items as cost effectiveness, system integrity, and local shortages of material.

6. Salvage Credits

References:

49 CFR 18.36

Applicability:

Applies to all Federal-aid construction projects.

Guidance:

On October 3, 1988, the FHWA Office of Fiscal Services issued a memorandum clarifying the agency's policy relative to operating under the revised OMB Circular A-102 and the DOT common rule (49 CFR 18). Accordingly, salvage credit to Federal-aid projects is governed by State procedures. If the State has procedures that do not require credit to the project, then credit to a Federal-aid project is also not required.

However, if a State does not have procedures addressing salvage credit, then salvage credit is required unless one of the following circumstances are met:

- the salvaged item has a value less than $5,000,
- the salvaged item becomes the contractor's property by virtue of the contract provisions, or
- the salvaged item will be reused in future projects eligible under Title 23 U.S.C. until its useful life is expended.

When salvage is required, careful attention should be given to the contract provisions for salvage to ensure that the cost of the operation (i.e., removal or salvage) does not exceed the value of the item(s) to be salvaged. Items to be salvaged may be unused construction materials, salvaged highway appurtenances, or other equipment or material for which the useful life is greater than one year.

7. Foreign Contractor and Supplier Restriction

References:

49 CFR 30

Applicability:

Applies to all Federal-aid construction projects.

Background:

The continuing resolution on the FY 1988 budget was enacted into law on December 22, 1987. It contained Section 109 which prohibited the obligation of funds appropriated for FY 1988 to any contract for the construction of any public work with any contractor, subcontractor, or supplier of products of a foreign country which was listed by the United States Trade Representative (USTR) as discriminating against U.S. firms in its public works projects.

Japan was specifically named as the only such country in Section 109 and was subsequently listed by the USTR. The conditions of Section 109 applied and continue to apply to all Federal-aid construction contracts and related consultant contracts authorized on or after December 22, 1987 and during FY 1988.

The 1988 legislative mandate had an effective date through October 1, 1988, at which time the restrictions against Japan were removed. Contracts authorized prior to October 1, 1988, even though awarded after that date, were subject to the restriction. Implementing guidance was issued by the FHWA on February 4, 1988 and March 22,

1988, which included a sample bid provision. On June 1, 1988 the DOT issued a regulation 49 CFR Part 30 which addressed the foreign contractor restrictions.

The FY 1991 DOT and Related Agencies Appropriations Act (P.L. 101-516) was enacted into law on November 5, 1990. Section 340 of this Act contained essentially the same provisions as those found in Section 109 of the FY 1988 budget act except neither Japan nor any other country was specifically identified for restrictions. Our interpretation of the applicability of Section 340 is that its provisions remain effective beyond FY 1991.

Guidance:

The provisions of Section 340 of the FY 1991, DOT and Related Agencies Appropriations Act remain in effect. 49 CFR Part 30 contains these provisions. However, since the enactment of Section 340, the USTR has listed no country as discriminating against U.S. firms in its public works projects.

III. STATE PROCEDURES

A. State Pre-Award Procedures

1. Standard Specifications and Standard Plans

References:

23 CFR 630 Subpart B

Applicability:

Applies to Federal-aid construction projects on the NHS

Background:

Plans and specifications must describe the location and design features and the construction requirements in sufficient detail to allow for accurate bids, to facilitate the construction and to enable the STA to control the contract. FHWA regulations do not require that the STAs have standard plans or standard specifications. However, the regulations require that, on projects with FHWA oversight, the plans, specifications and estimate (PS&E) for each project must be approved by FHWA prior to advertisement of the project. In the absence of pre-approved standard specifications and standard plans, all of the required specifications and plan information would have to be included and approved as part of the PS&E package for each project. Therefore, FHWA approval of standard specifications and standard plans simplifies the PS&E review process. Once approved, the standard specifications and standard plans may be used on Federal-aid projects in the State without further review.

Guidance:

Approval of the standard specifications and standard plans has been delegated to the Division Administrator.

Some considerations in developing standard specifications are shown below:

- Use clear, concise and complete language;
- Use imperative mood, active imperative voice (Instead of the passive voice – “All bolts shall be countersunk”; use the imperative mood, active voice – “Countersink all bolts.”);
- Use short words, phrases, and sentences for clarity;
- Remove redundancies;

- Organize instructions sequentially;
- Separate instructions for the contractor and the agency;
- Write for acceptance, rather than rejection;
- Avoid escape clauses, and unnecessary approvals;
- Eliminate ambiguity by using specific rather than general words; and
- Seek peer review for clarity and content.

Through the National Highway Institute (NHI), FHWA offers a training course on specification writing, Course No. 13401, "Principles of Writing Highway Construction Specifications." This course may be requested through the Division Office. The objectives of this course are to study the legal ramifications of highway construction specifications, and to identify and describe specific elements of specifications that result in contractor claims. Case studies are used to identify ways to avoid or minimize such claims.

2. Engineer's Estimate

References:

23 CFR 630 Subpart B
Guidelines on Preparing Engineer's Estimate, Bid Reviews and Evaluation

Applicability:

Applies to Federal-aid construction projects on the NHS

Guidance:

The engineer's estimate is an essential element in project approval. The estimate should reflect the anticipated cost of the project in sufficient detail to permit an effective review and comparison of the bids received. In addition, the estimate serves as a guide for analyzing bids.

There are basically three approaches to estimating:

- The use of historical data from recently awarded contracts is the most common approach. Under this approach, bid data are summarized and adjusted for project conditions (i.e., project location, size, quantities, etc.) and the general market conditions. This approach requires the least amount of time and personnel to develop and produces a good estimate, as long as noncompetitive bid prices are excluded from the database and then appropriately adjusted current data is used to build the estimate. However, this method is the most susceptible to outside factors such as inflated bid prices from contracts with little or no competition;

- The actual cost approach takes into consideration factors related to actual performance of the work (i.e., the cost of labor, equipment, and materials; sequence of operations; production rates; and a reasonable value for overhead and profit). This approach requires the estimator to have a good working knowledge of construction methods and equipment. While adjustments for current market conditions may be required, this approach typically produces an accurate estimate and is useful in estimating unique items of work where there is insufficient bid history; and

- The third approach combines the use of historical bid data with actual cost development. Most projects contain a small number of items that together comprise a significant portion (e.g., 70 percent) of the total cost. These major contract items may include portland cement concrete pavement, structural concrete, structural steel, asphalt concrete pavement, embankment, or other specialty items. Prices for these items are estimated from actual costs and adjusted for specific project conditions. The remaining items are estimated based on historical prices and adjusted as appropriate for the specific project.

Regardless of the approach used to estimate the cost of unit items, the impact of the allowable contract time, construction staging and other unique project requirements need to be considered when preparing the engineer's estimate.

Estimate Confidentiality.

Although FHWA discourages disclosure of the estimate, FHWA policy does not require that the engineer's estimate be kept confidential. If a STA does publicize the estimate, the information must be made available to all bidders.

As a result of the bid-rigging scandal during the early 1980's, the AASHTO supports estimate confidentiality in its 1981 guidance, "Suggested Guidelines for Strengthening Bidding and Contract Procedures." The DOT and DOJ also address this issue in their joint 1983 guidance, "Suggestions for the Detection and Prevention of Construction Contract Bid Rigging."

Among the STAs, the policies and procedures regarding confidentiality of the estimate range from including the estimated cost in the bid proposal, to not disclosing the estimate, even after the award is made. Publicizing the estimate minimizes any advantage a bidder might gain by procuring the estimate secretly, and removes possible pressure on STA employees to secretly release the estimate. A significant disadvantage of releasing the estimate is that firms may be able to use the information to manipulate their bids.

Although keeping the estimate confidential will not by itself deter collusion among bidders, it will prevent bidders from knowing the approximate amount that the contracting agency is willing to pay for the project. In those States where confidentiality of the estimate is not possible, FHWA recommends that a value range for the estimate be developed and included in the bid proposal. In addition, for bid bond purposes, several STAs specify a range rather than specifying an actual dollar amount.

In July 2001, 33 FHWA Division Offices responded to a questionnaire regarding the disclosure of the engineer's estimate. Four States indicated that they disclose the engineer's estimate with the project advertisement (LA, MA, PR, TX). Six States publish an estimated cost range with the advertisement (AL, HI, NE, OR, PA, WA). Twelve States never disclose the engineer's estimate (AR, DC, FL, GA, IA, KY, ME, MO, NH, NJ, NY, WV). Eleven States disclose the estimate upon award of the contract (AK, CO, DE, ID, IN, MT, NM, NC, ND, UT, WA, WY).

Estimate Accuracy.

Regardless of the method used to prepare the estimate or its confidentiality, the estimate must be credible to be effective. The preparation and accuracy of the engineer's estimate should be reviewed if estimates are consistently higher or lower than the bids received, or if other anomalies consistently recur. The FHWA's 2004 "Guidelines on Preparing Engineer's Estimate, Bid Reviews and Evaluation" suggest that the engineer's estimates should be within ±10 percent of the low bids more than 50 percent of the time.

In 1983, the Office of the Inspector General performed a review of the State DOT's preparation of the engineer's estimate. They found the following:

- estimates were overstated and unreliable for bid evaluation, and
- the FHWA had not adequately reviewed the STA's estimating procedures to assure that contracts were awarded at the lowest reasonable rates.

The OIG recommended that FHWA:

- monitor accuracy of estimates,
- emphasize its effort to support and assist STAs to improve their estimating procedures,
- require STAs to explain wide variations when estimates are significantly above the low bid, and
- issue guidance on estimating.

Shortly after the OIG review, the FHWA released recommended procedures to monitor the accuracy of estimates in Technical Advisory TA T 5080.4. In addition, the divisions were advised to review their STA's procedures and to take appropriate action if these criteria are not met. On January 20, 2004, the Office of Program Administration issued revised guide titled "Guidelines on Preparing Engineer's Estimate, Bid Reviews and Evaluation" to replace TA 50.80.4 and 5080.6.

3. Method of Construction

References:

23 U.S.C. 112(a)
23 U.S.C. 112(b)
23 CFR 635.114
23 CFR 635 Subpart B

Applicability:

Applies to all Federal-aid highway construction projects.

Guidance:

One of the most basic tenets of Federal-aid contracting is that construction contracts are to be awarded competitively to the contractor which submits the lowest responsive bid. This mandate is set forth in 23 U.S.C. 112 and reinforced by 23 CFR 635.114(a) which requires that:

> "*Federal-aid contracts shall be awarded only on the basis of the lowest responsive bid submitted by a bidder meeting the criteria of responsibility as may have been established by the SHA . . . "*

These principles are the basis for Federal assistance to the STA highway construction programs. The act of a contracting agency negotiating with an apparent low bidder prior to award is defined as "bid rigging in reverse," and is expressly prohibited by 23 CFR 635.113(a) which states the following:

> *"The State highway agencies do not have the authority under any circumstances to negotiate with a bidder before an award to reduce the price of a construction contract."*

Also see Headquarters memorandum dated April 30, 1985 titled "Deviation from Competitive Bidding Requirements" (Appendix A-127 to A-128)

Exceptions to Competitive Bidding. Competitive bidding is the principal means to award Federal-aid contracts. However, there may be situations that support the use of a contracting method other than competitive bidding. Prior to the STURAA, Title 23 allowed the competitive bidding requirement to be waived only if the alternate method was shown to be more cost effective. However, Section 111(a) of the STURAA amended the provisions of 23 U.S.C. 112(b) to permit noncompetitive construction contracting under emergency conditions. Therefore, noncompetitive construction contracting or other unusual methods of construction may be approved under one of two conditions:

- the option is proven to be more cost effective, or
- an emergency exists and time is a critical factor.

Title 23 CFR 635 Subpart B allows that "rare" circumstances may justify the use of force account, negotiated contract, or other unusual method of construction. The regulations clearly indicate that, in the absence of an emergency situation, circumstances are unlikely to justify the use of other methods of construction. Therefore, the consideration of any noncompetitive construction contract method requires a cost effectiveness determination as well as an evaluation that demonstrates circumstances are unusual and unlikely to recur.

A cost effectiveness finding is required for the FHWA / STA approval of any proposal to use a noncompetitive method of contracting. Title 23 CFR 635.205 cites the following situations as possible reasons for the use of noncompetitive construction contracting:

- when the rights or responsibilities of the community are so affected as to require a special course of action, including situations where there is a lack of competition or unreasonable bids, it may be determined to be cost effective to use force account, and

- when by reason of the inherent nature of the operation, it is deemed cost effective to do minor adjustments of railroad and utility facilities (major work still to be accomplished by competitive bidding) by force account.

Under the first circumstance the use of force account may be found cost effective when properly documented. Under the second circumstance, FHWA has determined that the use of force account is always cost effective, and therefore, no additional documentation is required.

Force account work using State or other public forces is discussed in 23 CFR 635 Subpart B and is defined as "*the direct performance of highway construction work by a State highway agency, a county, a railroad, or a public utility company by use of labor, equipment, materials, and supplies furnished by them and used under their direct control*." Force account contracts with a private contractor are an exception to normal construction contracting procedures and should rarely be approved.

Circumstances that justify a negotiated construction contract should be even more of an exception, making approvals of such contract methods extremely rare.

In an emergency, the competitive bidding requirements may be waived. An emergency is a situation that requires repair work, as provided for under the Emergency Relief (ER) program (23 CFR 668.105(i)), or when a major element or segment of the highway system has failed and the situation is such that competitive bidding is not possible or is impractical. Competitive bidding under such circumstances may not be possible or may be impractical because immediate action is necessary to:

- minimize the extent of the damage,

- protect remaining facilities, or

- restore essential travel.

Therefore, the temporary work necessary to restore the traffic flow on the facility may be performed by either force account or negotiated contract. The regulation clarifies that

this definition of emergency is only for the purpose of determining the applicability of the provisions and is not intended to define an "emergency" under 23 CFR 668.105(i) and 23 CFR 635 Subpart B.

The guidance for the carrying out emergency repair work under the ER Program is contained in 23 CFR 668. Due to the urgency and nature of emergency repairs performed under the ER Program, the regulations allow the STA to select the method of construction contracting based on the immediate need to protect public health and safety. This policy only applies to emergency repairs as defined in 23 CFR 668. Reconstruction and permanent repair work is subject to the competitive bidding policy of 23 CFR 635.

Under certain conditions, transportation enhancement projects may be procured using State or LPA small purchasing procedures. See Section V for additional information.

Projects that do not fully comply with the provisions of 23 CFR 635 should be pursued under Special Experimental Projects No. 14 - Innovative Contracting (see Section V.A).

4. Value Engineering

References:

23 U.S.C. 106(e) and 106(g)
23 CFR 627
FAPG NS G 6011.9, Chapter 6, Value Engineering
OMB Circular A-131, Value Engineering, May 21, 1993

Applicability:

Applies to NHS projects with an estimated cost greater than $25 million, and on other Federal-aid projects where its employment has high potential for cost savings. For the purposes of FHWA's VE program, the costs associated with the following tasks should be included in the overall project cost to determine whether or not a project meets the $25 million NHS limit: environmental studies, preliminary engineering, final design, ROW, and construction.

Background:

Value engineering (VE) is a systematic review process that:

- analyzes a project's design, and
- develops recommendations to improve design and/or reduce cost.

The FHWA recognizes that VE, when applied in the development of highway projects, is an effective and proven technique for improving quality, fostering innovation, reducing project costs, and eliminating unnecessary and costly design elements. An FHWA study has confirmed the effectiveness of VE in States with active VE programs and concluded that a significant improvement in program effectiveness would result if all

States had active programs. As a result of this study, the FHWA published a NPRM on November 16, 1994, seeking comments on a proposal to require all States to apply VE to selected Federal-aid highway projects. The Final Rule was issued February 14, 1997, and became effective March 17, 1997.

While the FHWA was analyzing the comments on the NPRM, the NHS Act was enacted on November 28, 1995. Section 303(b) of the NHS Act directs the Secretary of Transportation to establish a program to require States to carry out a VE analysis for all NHS projects with an estimated total cost of $25 million or more. The Conference Report accompanying the NHS Act explains that this provision prohibits the Secretary from requiring VE on other projects, though a State may choose to undertake such analyses on other projects at the State's discretion. The report also prohibits DOT from being prescriptive about the form of VE analysis a State must undertake to satisfy the requirement. H.R. Conf. Rep. No. 345, 104th Cong., 1st Sess. 80 (1995).

Based on this mandate and the public comments received, the final rule was revised substantially from the NPRM. The statutory definition of VE was clarified. The final rule focuses on minimum programmatic needs to ensure proper VE studies are conducted and utilized by the States on qualifying projects. Beyond these minimum needs, the goal is to provide maximum flexibility to the States to conduct VE programs consistent with the rest of their transportation programs.

The end product of the VE study is described in greater detail in the rule's definition of value engineering and in 23 CFR 627.5(a)(2). Examples of the components of a multi-disciplined team are provided. Both of these additions are based on the widely-recognized VE study process.

Guidance:

The regulation does not require FHWA oversight of each VE study. Instead, FHWA's efforts are focused on State implementation of VE programs. Because the general method of conducting a VE study has become standardized and widely recognized in the field, a review of each study is unnecessary. The regulation, however, refers to the widely recognized process of VE studies.

States may establish or modify their VE programs to comply with these requirements without delaying project approvals and letting schedules.

A State's VE program may include a value engineering change proposal (VECP) VE or cost reduction incentive clause as part of the standard specifications to encourage construction contractors to submit VE proposals and share the resulting cost savings with the STA. A summary report for the Federal-aid fiscal year 2004 VE program is available at http://www.fhwa.dot.gov/ve/vesum04.htm.

Any State choosing to use an innovative design-build concept to expedite the completion of an applicable NHS project must still comply with the requirement to perform a VE analysis on the project. In most cases, the VE analysis should be performed prior to awarding the design-build contract, or may be a requirement of the design-build contract. The FHWA's Division Offices have general program oversight responsibility for value engineering.

The cost of performing a VE study is project-related and, therefore, eligible for reimbursement with Federal-aid highway funds.

5. Life-Cycle Cost Analysis

References:

23 U.S.C. 106(f)

Background:

Life-cycle cost analysis is an economic evaluation of all current and future costs associated with investment alternatives. It is a valuable economic analysis technique for evaluating highway and other transportation programs and projects that require long-term capital and maintenance expenditures over the extended lives of facilities. Future costs are discounted using an appropriate discount rate to compare costs incurred at different points in time.

Applicability:

TEA-21 Section 1305(c) requires FHWA to develop recommendations for States to conduct life-cycle cost analyses (LCCA). The recommendations are to be based on Executive Order 12893 and be developed in consultation with AASHTO. However, there is no mandate to use life cycle cost analysis on Federal-aid projects and the analysis is voluntary.

Guidance:

The FHWA policy on LCCA is reflected in our interim policy statement published in the July 11, 1994 Federal Register. Other sources of technical guidance on “good/best practice” include but are not limited to:

- NCHRP Synthesis Report 122, “Life-Cycle Cost Analysis of Pavements” (1985);
- NCHRP Synthesis Report 142, “Methods of Cost-Effectiveness Analysis for Highway Projects” (1988);
- “AASHTO Guide for Design of Pavement Structures,” 1993;
- FHWA-SA-98-079 "Life-Cycle Cost Analysis in Pavement Design"; and
- FHWA-IF-02-047 “Life-Cycle Cost Analysis Primer”.

Starting in 1998, FHWA provided guidance and training under Demonstration Project 115 (DP-115) on “good/best” LCCA practice including risk analysis of life-cycle cost projections for pavement design. DP-115 covered the basic LCCA components and analysis structures, including both traditional and probabilistic-based approaches, while discussing the issues associated with input values.

DP-115 was replaced by a two-day workshop titled, "Life-Cycle Cost Analysis in Pavement Design." For more information on life-cycle cost analysis, contact the Office of Asset Management's Evaluation and Economic Investment team (HIAM-30).

6. Contract Time

References:

23 CFR 635.121
TA T 5080.15

Applicability:

Applies to Federal-aid construction projects on the NHS

Background:

Contract time is defined as the maximum time allowed in the contract for completion of all work contained in the contract documents. Contract time becomes a public relations issue when the traveling public is inconvenienced for no apparent reason. While a project may be dormant for a variety of reasons, the cause can be frequently traced to excessive contract time or poor contractor scheduling.

Insufficient contract time may result in higher bid prices, safety problems, increased time overruns, and claims. On the other hand, excessive contract time may result in increased inefficiencies, equating to increased costs, to the STA and contractor as well as increased user costs to the public. In addition, delay and inconvenience to the public and the hazard of driving through a work zone may be unnecessarily extended.

Guidance:

The STAs should periodically review their procedures for determining contract time, which should include a comparison of the actual construction time against the estimated completion time for several projects to ascertain whether their procedures result in appropriate contract times. There are several different techniques being used to determine contract time. The FHWA TA T 5080.15, *Construction Contract Time Determination Procedures*), describes time determination techniques in detail.

The FHWA, working with the STAs, should strive for the least practical number and duration of traffic interruptions during highway construction. The STA should submit, for the Division Administrator's approval, adequate written procedures for determining contract time.

7. Road User Cost

References:

Contract Management Techniques for Improving Construction Quality, FHWA-RD-97-087, July 1997, Attachment C-1: Guide for Calculation of Road User Costs

Applicability:

The calculation of road user costs is necessary for any project using an incentive/disincentive clause, lane rental fees, or a liquidated damage charge that includes road user fees.

Background:

The calculation of road user costs (RUC) is one measurement of the impact a transportation facility has on the traveling public. Road user costs may include the costs associated with travel time, vehicle operation, accidents, and air quality. Therefore, RUC become an important element in determining the benefit associated with a proposed highway improvement.

Beyond the planning phase, RUC can be applied to project development. The average motorist may experience some delay due to any project. The delay may be minimal or extreme and depends on traffic volumes, project location, type of work underway, and time of day. For example, a bridge replacement project in an urban setting may cause only minor delays if there are several other suitable structures for detours. On the other hand, the replacement of a critical interchange structure may back up traffic for miles during peak travel times, resulting in unacceptable delays and a very high RUC. Similarly, an off-system bridge replacement in an isolated location may cause a 30 km (19 mi) detour; however, due to low traffic volumes on the route, the aggregate RUC may be relatively small.

RUC calculations are increasingly important because the costs should be a consideration in developing phasing schemes, assessing the need for an incentive/disincentive clause, or increasing the liquidated damages schedule for the project. Recent court cases have made clear the need for defensible incentive / disincentive (I/D) provisions which are based on reasonable estimates of RUC. To be defensible, the I/D rate must be based on RUC estimates and not merely a means of punishing the contractor for causing construction delays.

Guidance:

The credibility of any given RUC method will depend on the validity of the assigned unit costs, the repeatability of its results, its sensitivity to slight changes in the assumptions, and its appropriateness for the project.

Among the references that may be used for estimating road user costs are:

- FHWA-RD-97-087, Attachment C-1: Guide for Calculation of Road User Costs, *Contract Management Techniques for Improving Construction Quality*, July 1997;

- *Life Cycle Cost Analysis in Pavement Design*, Chapter 3 - Work Zone User Costs, FHWA-SA-98-079, August 1998;

- "*User Benefit Analysis of Highway and Bus-Transit Improvements*," AASHTO, Washington, D.C., 1977;

- "*Traffic Control for Streets and Highway Construction and Maintenance Operations*," Participant Notebook, FHWA, 1978; or

- *"Planning and Scheduling Work Zone Traffic Control,"* FHWA-IP-81-6, October 1981.

In addition, several computer programs have been developed for RUC. Among them are QUEWZ, MicroBENCOST, and Alternat. Each program will require some customization to fit conditions within the State.

Quickzone Software - In cooperation with Mitretek Systems, the FHWA Operations and Intelligent Transportation Systems Research Team has initiated an effort to develop a new work zone delay estimation software called "Quickzone". The primary functions of "Quickzone" are:

- Quantification of corridor delay resulting from capacity decreases in work zones;

- Identification of delay impacts of alternative project phasing plans;

- Supporting tradeoff analyses between construction costs and delay costs;

- Examination of impacts of construction staging, by: location along mainline, time-of-day (peak vs. off-peak), season (summer vs. winter);

- Assessment of travel demand measures and other delay mitigation strategies; and

- Allowing the establishment of work completion incentives.

A beta-version of the software is available at the following site: http://www.tfhrc.gov/its/quickzon.htm.

Additional information can also be obtained at: http://xtrip.mitretek.org/quickzone/.

8. Bonding and Prequalification

References:

23 U.S.C. 112
23 CFR 635.110

Applicability:

Applies to all Federal-aid highway construction projects.

Background:

Bonding. Bonding is grouped into four basic classifications. They are defined as follows:

- Bid Bond, or proposal guaranty, is a bond, certified check, cashier's check or other negotiable instrument which is submitted with the bid as assurance that the bidder will, upon acceptance of his bid, execute such contractual documents as may be required within the time specified;

- Performance Bond is a bond executed in connection with a contract to assure fulfillment of all the contractor's obligations under the contract;

- Payment Bond is a bond executed in connection with a contract to assure payment, as required by law, to all persons supplying labor and material in the execution of the work provided for in the contract; and

- Warranty Bond is a bond executed in connection with a contract to assure that a warranted item survives the warranty period in the prescribed condition.

Prequalification. The AASHTO defines prequalification as a means of predetermining job experience and work capacity and to identify individuals and organizations from whom the agency may accept a bid. The AASHTO also has encouraged the use of prequalification procedures in its 1981 Suggested Guidelines for Strengthening Bidding and Contract Procedures.

Generally, prequalification consists of an evaluation of the contractor's experience, personnel, equipment, financial resources, and performance record. The evaluation is normally performed annually. The information required for prequalification may be extensive, however, the prequalification process should be relatively short so that it may be completed during the project advertising period. A State's prequalification process should not be used to limit competition or discourage the submission of a bid by an otherwise responsible contractor.

AASHTO recommends the following information be required for prequalification:

- detailed financial statement,

- resident agent,

- capacity and control classification,

- experience and performance,

- ownership or control,

- equipment, and

- updated information when there is corporate or affiliate change or reduction of 10

percent or more of the firm's assets.

Once deemed "prequalified", a contractor may be "rated" for contract value in a specific classification, such as general highway construction, grading and minor structures, grading and paving, or miscellaneous. In 1994, NCHRP Synthesis 190, *Criteria for Qualifying Contractors for Bidding Purposes*, found that prequalification was required in all but fifteen States. Of these fifteen States, five generally undertake some form of post-bid qualification evaluation, which may not be as formalized as prequalification.

Guidance:

The FHWA does not require the STAs to implement procedures or requirements for prequalification, qualification, bonding, or licensing, on Federal-aid projects. However, if an STA has these procedures or requirements, they must conform to the FHWA competitive bidding policy, in other words, the requirements cannot restrict competition as set forth in 23 CFR 635.110(a) which reads:

> *"The procedures and requirements a SHA proposes to use for qualifying and licensing contractors, who may bid for, be awarded, or perform Federal-aid contracts, shall be submitted to the Division Administrator for advance approval. Only those procedures and requirements so approved shall be effective with respect to Federal-aid highway projects. Any changes in approved procedures and requirements shall likewise be subject to approval by the Division Administrator."*

The regulations expand in 23 CFR 635.110(b) to require that:

> *"No procedure or requirement for bonding, insurance, prequalification, qualification, or licensing of contractors, shall be approved which, in the judgment of the Administrator, may operate to restrict competition, to prevent submission of a bid by, or to prohibit consideration of a bid submitted by, any responsible contractor, whether resident or nonresident of the State wherein the work is to be performed."*

The regulation in 23 CFR 635.110(c) specifically states:

> *"No contractor shall be required by law, regulation, or practice to obtain a license before a submission of a bid or before the bid may be considered for award of a contract. . . . Prequalification of contractors may be required as a condition for submission of a bid or award of contract only if the period between the date of issuing a call for bids and the date of opening of bids affords sufficient time to enable a bidder to obtain the required prequalification rating."*

However, an STA may require licensing of contractors after the bids are opened if the

requirement is consistent with competitive bidding principles. In other words, the requirement must be applied uniformly to all contractors.

The FHWA regulations on licensing do not specifically address subcontractor licensing issues.

Although an STA may have a compelling reason (e.g., State law) to utilize a procedure that differs from acceptable Federal-aid practice, the procedure may not be applied to a Federal-aid project. In fact, 23 CFR 635.112(d) specifically requires that for a Federal-aid project, the State must inform bidders of contract provisions which do not apply. This information must be included in the advertisement, specifications, special provisions or other governing documents as appropriate.

An example of an inappropriate provision would be a State preference clause in the standard specifications. Since the clause provides some competitive advantage for in-state contractors, the clause violates the Federal open competition requirements and therefore, could not be applied to a Federal-aid project. Other examples would be a restriction on products or services from specific foreign countries; a requirement to provide insurance for domestic partners; or small business set-asides.

9. Advertising for Bids

References:

23 U.S.C. 112
23 C.F.R. 635.112

Applicability:

Applies to all Federal-aid projects; however, on ”state-approved” projects, the STA acts on behalf of FHWA for: 1) the Division Administrator's authorization to advertise (23 C.F.R. 635.112(a)), and 2) the Division Administrator's approval of addenda (23 C.F.R. 635.112(c)).

Background:

The AASHTO definition of advertisement is:

> "*the public announcement to invite bids for work to be performed or materials to be furnished*."

Advertisement of a contract proposal can legally take the form of a classified ad in a newspaper or any other form that is permitted by State law or practice that is acceptable to the FHWA. Other forms to announce upcoming projects, which are deemed acceptable, can include advertisements in trade journals, bulletins, and mailed notices

to potential bidders (i.e., from a mailing list). These other forms of advertisement can attract greater attention and, thereby, enhance competition.

The Internet has created another forum for advertising projects. Several States have now created a single website which posts project notices for all State agencies. Provided that the STA notifies all interested bidders about the website and the website is readily accessible to all interested bidders, Internet advertising is acceptable for Federal-aid projects as a supplement to traditional means.

Guidance:

A project may be advertised following PS&E approval by the Division Administrator, as established in 23 CFR 635.112. Authorization must be based on the assurances prescribed in 23 CFR 635.309 which include:

- PS&E approval,
- assurances that all right-of-way (ROW) clearances, utility, and railroad work have been completed, or that arrangements have been made for coordination during construction with proper notice provided in the bid proposal,
- assurances for relocation of individuals and families when such circumstances exist,
- assurances that the public hearing process and that the location and design approval requirements have been met, and
- assurances, where applicable, that required area-wide agency reviews have been accomplished.

The FHWA's policy requires that the advertising policies and practices of the STA must assure free and open competition. This policy includes issues concerning licensing, bonding, prequalification, and bidding, as well as, the announcement itself in relation to Title VI Nondiscrimination, with regard to age, race, religion, color, sex, national origin, disability, etc.

The minimum advertisement period is three weeks. With approval by the Division Administrator, exceptions are permitted where circumstances warrant. For large or complex projects, the advertisement period should be greater than three weeks (six weeks or more may not be excessive) to permit prospective bidders adequate time to prepare a responsive bid proposal. For major or specialty work, consideration should be given to advertising regionally to attract a larger number of qualified bidders. Also, for more complex projects, scheduling a pre-bid meeting to address prospective contractors concerns and questions is considered good industry practice.

Does FHWA Policy Allow for Mandatory Pre-Bid Meetings?

The FHWA does not prohibit the use of pre-bid meetings; however, if attendance at a pre-bid meeting is made a condition of bid responsiveness, the project advertisement and all bidding documents must reflect this requirement. The contracting community must be given adequate notice to comply with such a requirement.

Addenda. All bidders must bid the project on the same or comparable basis, so that no particular advantage or disadvantage accrues to any potential bidder or to the contracting agency. Since an addendum issued during an advertisement period could have a profound impact, not just on bid prices, but also on the basis for bid comparisons, all prospective bidders must be made aware of any addendum, as expeditiously as possible.

The definition of "expeditious," in terms of an adequate time frame to get an addendum out to all prospective bidders prior to the bid opening, is subjective. However, some state standard specifications include a definition of the minimum addenda review time. Each case should be judged on the complexity of the addendum. A common practice is to apply the same minimum time frame criteria for all addenda as has been established by the "10-day Rule" for DOL wage rate decisions. Under the 10-day Rule, all addenda must be issued 10 days or more prior to bid opening and must be sent to all prospective bidders.

Since an addendum constitutes a deviation from the approved PS&E, the obligation of Federal-aid funds may be impacted by the change. Therefore, an addendum must be approved by the Division Administrator prior to release to the prospective bidders. Any approval or concurrences will be based on the STA's assurance that all potential bidders will receive the approved addendum.

10. Bid Opening and Tabulation

Reference:

23 CFR 635.113
FAPG NS G6011.10, *"Bid Price Statistics, Form FHWA-45"*

Applicability:

Applies to all Federal-aid highway construction projects except that it is not necessary to forward bid tabulations on non-NHS projects to FHWA.

Background:

The bid opening is a public forum for the announcement of all bids, and is that point in time where the bids are opened and read aloud. In general, the time given in the

advertisement period is the last moment that bids can be accepted. However, some larger states have set their final bid acceptance at a time prior to bid opening; this allows all bids to be delivered to a single location for opening. For the bidder, the reading of the bids confirms whether his/her bid is successful. For the STA and the general public, this forum establishes the cost to build the project.

Guidance:

Bid opening. The FHWA policy requires all bids to be opened publicly and read aloud either item-by-item, or by total amount. If a bid is not read, the bidder is to be identified and the reason for not reading the bid announced.

Reasons for not reading a bid include the bid itself being non-responsive, often called "irregular," or the bidder is determined to be not responsible. The difference between a responsive bid and responsible bidder is that:

- A responsive bid is one that meets all the requirements of the advertisement and proposal; while

- A responsible bidder is one who is physically organized and equipped with the financial wherewithal to undertake and complete the contract.

Some reasons for not reading a bid due to bidding irregularities may include:

- failure to sign the bid,

- failure to furnish the required bid bond,

- failure to include a unit bid price for each item,

- failure to include a total amount for the bid,

- failure to prepare the bid in ink,

- failure to submit a non-collusion affidavit,

- failure to commit to the achievement of the DBE contract goals or demonstrate good faith efforts to do so, or

- inclusion of conditions or qualifications not provided for in the specifications.

The above examples do not include all possible bidding irregularities. The STA's standard specifications will govern regarding what constitutes a bidding irregularity. Therefore, the STA's bidding documents should clearly identify those requirements with which the bidder must comply to have a responsive bid.

Just as the bid may be rejected for being irregular or unresponsive, an apparent low bid may also be rejected on the grounds that the bidder is not a responsible bidder. A bidder may be deemed not responsible because of past unsatisfactory performance, as evidenced by failure to meet the STA's qualification requirements, or because of State or Federal suspension/debarment action. A determination of non-responsibility by the contracting agency should be documented in writing and the contractor should be given a “due process” to respond to such charges. A determination of non-responsibility should be done prior to the receipt of bids. While 49 CFR 29.510(b)(2) indicates that participants may not be required to check the non-procurement list, the STA is highly encouraged to develop a procedure for verifying the eligibility of participants prior to the award of the contract.
In summary, a successful bid opening should identify the responsible bidder submitting the lowest, responsive bid.

Use of remote locations during bid opening

Some large geographic states are considering satellite bidding procedures as a customer service for their contracting community. For example, in the Virginia DOT satellite bidding procedure, proposals are collected at remote facilities, registered at that location, and then sent by courier to a central location where the proposals are publicly opened and reviewed for responsiveness.

While FHWA does not have specific policies on how a bid opening should be conducted, our competitive bidding policy relies on the phrase in 23 CFR 635.113 that " . . . [a]ll bids . . . shall be publicly opened and announced . . . " In common terms, “publicly opened” means being opened in front of the "public" - particularly those people who are stakeholders in the letting. The specific details of the advertisement and bid opening procedures are governed by State statute.

Bid tabulations

As a basis for tracking current construction costs and forecasting future construction costs, the FHWA requires that STAs provide bid tabulation data for all NHS projects. In addition, the FHWA-45, Bid Price Data, form should be submitted to FHWA Headquarters (Federal-Aid Program Administration Division, HIPA) for all NHS projects except those projects with a contract value less than $500,000, or highway safety or beautification projects. The form should be sent to Headquarters within two weeks of contract award.

Electronic Media in the Contracting Process

As of October 1999, most STAs have web pages that provide data on the contracting process. Some list proposed bid letting dates, plan-holders lists, bid tabs from past lettings, average bid unit prices, and other award data. Such systems promise potential savings in time and cost to both the agency and contractors. However, FHWA cautions STAs from making information available that could aid collusion. FHWA discourages

the publication of plan-holder lists. These lists identify potential bidders, and where competition is limited, they may support fraudulent bidding practices. For additional information, see the discussion on bidder's lists in Section No. 3.d. in FHWA's Guidelines on Preparing Engineer's Estimate, Bid Reviews and Evaluation (Appendix A-87).

Electronic Bidding

Electronic bidding is the transfer of proposal bid data between the contracting agency and contractors. Electronic bidding can either supplement or replace traditional paper bid documents. Two recognized software programs currently in use are: Trns•port Expedite® , the AASHTO Trns•port software product used for preparing and submitting electronic bids, and Bid Express®, an InfoTech, Inc.-owned service used to exchange electronic bidding information via the Internet using digital ID and encryption technology.

The software program Trns•port has two components that the STAs and the contracting industry have been using to expedite procedures in the construction bidding process. Trns-port's Expedite software is used in bid preparation by contractors in 34 states. Contractors are able to download bid quantities from the STA web site and then use Expedite to fill in the unit prices and calculate a total bid price. This avoids costly computation errors on the contractor's part and simplifies bid tabulation by the State DOTs. Expedite will also alert contractors when blanks or errors are found in the bid preparation.

A few STAs are also evaluating Trns•port 's Bid Express software, a subscription service that was developed to provide web-based bidding for the transportation industry. It allows access to a web site that provides historical as well as current letting information. In addition to bid tabulations and advertisements, the web site provides a schedule of prices, plan-holder lists, eligible bidders, addenda and electronic bidding software. As of mid-2001, Bid Express listed a number of STAs who are piloting Internet bidding programs (IA, WI, GA, SC). Several other states (AZ, LA, MI, MN, NM, NC, OK and VA) are also initiating pilot programs under Bid Express. Other States such as Texas and California are developing their own Internet bidding systems. Georgia DOT has been evaluating Internet bidding with Bid Express since September 1999. They are allowing Bid Express to be used on all contracts over $500,000. Recently, as many as 70% of the bids submitted on these projects were transmitted via the Internet.

Generally speaking, the contracting community has been very supportive of electronic bidding as it reduces their administrative effort in preparing and submitting bid packages. Contractors pay a $25/ month fee to Infotech to use this service. For additional information see the Infotech Inc. web site at http://www.bidx.com/.

The FHWA document titled, "Internet Bidding for Highway Construction Projects," provides guidance on this subject.

Combined Certifications/Signature Sheets

Frequently, bids are rejected as non-responsive because the contractor inadvertently failed to sign one of the many certifications required. In an effort to maximize competition, some States use either a combined certification sheet or include in the bid proposal packet a detailed listing of the certifications that are required and their location within the packet.

Bid revisions

In response to a field inquiry, FHWAs Contract Administration Group conducted a survey of STA bid revision acceptance policy. Of the seventeen States responding, seven allowed telephone or fax bid revisions up to the time of bid opening. The remainder did not. In fact, most of the remaining States allowed bid revisions only in person by a contractor representative showing proper identification. Three STAs required that a contractor withdraw the original proposal and then submit a revised bid.

11. Bid Analysis and Award of Contract

References:

23 U.S.C. 112
23 C.F.R. 635.114
FHWA TA T 5080.4
FHWA TA T 5080.6

Applicability:

Title 23 CFR 635.114(a) requires Federal-aid contracts to be awarded only on the basis of the lowest responsive bid submitted by a bidder meeting the criteria of responsibility. This requirement applies to all Federal-aid highway construction projects. For Federal-aid projects which are determined to be “State-approved projects,” the STA may act for FHWA in the bid analysis and award process, but must follow the justification and documentation procedures of 23 CFR 635.114 (b - j) by documenting the project files.

Bid Analysis Process:

Background:

In previous sections, Engineer's Estimating and Advertising for Bids, it was stressed that estimates should be accurate and credible, based on realistic current data, and kept confidential. Further, the STA should have written procedures for justifying the award of a contract, or rejection of the bids, when the low bid appears excessive or rejection is being considered for other reasons.

Bid analysis is the basis for justifying contract award or rejection of the bids. A proper bid analysis helps to ensure that funds are being used in the most effective manner. The FHWA review of the bids should parallel the STA review. Together, both agencies should be assured that good competition and the lowest possible price were received. The FHWA concurrence in award is a step in the obligation and expenditure of Federal funds.

Guidance:

The bid analysis process, pursuant to 23 CFR 635.114(c), is an examination of the unit bid prices for reasonable conformance with the engineer's estimated prices. Beyond the comparison of prices, other factors that a bid analysis may consider include:

- number of bids,
- distribution or range of the bids,
- identity and geographic location of the bidders,
- urgency of the project,
- unbalancing of bids,
- current market conditions and workloads,
- comparison of bid prices with similar projects in the letting,
- justification for significant bid price differences,
- potential for savings if the project is re-advertised, and
- other factors as warranted.

Not all of these factors need to be considered for bids that indicate reasonable prices or show good competition. However, when the low bid differs from the engineer's estimate by an unreasonable amount, a thorough analysis of all bids should be undertaken to justify award of the contract. In order to justify award of a contract under these circumstances, the following questions should be considered (also see TA T 5080.4):

- Was competition good?
- Is the timing of the project award critical?
- Would deferral be contrary to the public interest?
- Would re-advertisement result in higher or lower bids?
- Was there an error in the engineer's estimate?

The issue of how to assess whether competition for a specific project was "good" is addressed in FHWA's "Guidelines on Preparing Engineer's Estimate, Bid Reviews and Evaluation " which also notes that some projects may be so essential that deferral, even for 60 days, would not be in the public's interest. Examples of such projects might include:

- safety projects to correct an extremely hazardous condition which endangers the traveling public,

- emergency repairs or replacement of damaged facilities,
- projects to close substantial gaps in otherwise completed facilities, or
- projects that are critical to staged or phased construction such that delaying this element will adversely impact the completion of the whole project.

Unbalanced Bids. Unbalanced bids were noted earlier as one of the review factors in a bid analysis. As defined in 23 CFR 635.102, the two types of unbalanced bids are:

- A mathematically unbalanced bid is a bid that contains lump sum or unit bid items that do not reasonably reflect the actual costs (plus reasonable profit, overhead costs, and other indirect costs) to construct the item;
- A materially unbalanced bid is a bid that generates reasonable doubt that award to that bidder would result in the lowest ultimate cost to the Government.

To detect mathematical unbalancing, the unit bid items should be evaluated for reasonable conformance with the engineer's estimate and compared with the other bids received. There are no definitive parameters (e.g., an amount or percent of variance from the engineer's estimate) that constitute an unbalanced bid. The degree of unbalancing of a bid may depend on the reason for the unbalancing. Mathematically unbalanced bids, although not desirable, may be acceptable. Headquarters' May 16, 1988, memorandum, *"Bid Analysis and Unbalanced Bids"* (Appendix A-112 to A-116) discusses bid unbalancing.

In August 2001, 29 FHWA Division Offices responded to a question regarding procedures for determining when a bid is materially unbalanced. Many states indicated that the determination of a materially unbalanced bid is done on a case-by-case basis. Five of the states indicated that they had a procedure for determining when a materially unbalanced bids exists. However, for the most part, these procedures provide bid review criteria but do not provide criteria for determining whether a bid is materially unbalanced. The Texas DOT has a unique procedure for determining whether a bid is front-loaded to the point where it would be potentially materially unbalanced. This involves an estimate of the monthly payout based on the contractor's assumed schedule versus the TXDOT's payout schedule.

Thirty-four STAs have a license for the use of the “Trns•port ‘s BAMS/DSS” software program which provides support in bid monitoring and evaluation. While this program can identify potentially materially unbalanced bids, the final decision must be based on engineering judgment. Among the items to review are:

- the amount bid for the mobilization item does not mask unbalancing, and
- "token bids" (i.e., bids with large variations from the engineer's estimate) should be considered as mathematically unbalanced bids and further evaluation and other appropriate steps should be taken to protect the government’s interest.

There may be situations where the quantity of an item could vary due to inaccuracies in the original quantity or cost estimating, errors in the plans, changes in site conditions or design, etc. In these situations, the bids should be further evaluated to determine if the

low bidder would ultimately yield the lowest cost. If unbalancing creates reasonable doubt that award would result in the lowest ultimate cost, the bid is materially unbalanced and should be rejected or other steps should be taken to protect the government's interest.

Concurrence in Award Policy:

Guidance:

The FHWA concurrence in contract award is not just a formality; rather, it is ***the*** authorization to proceed with construction. The FHWA's policy is that the STA must formally request concurrence by the Division Administrator in the award of Federal-aid contracts for which FHWA has approval authority. The basic policy is explained in 23 CFR 635.114(a):

> *"Federal-aid contracts shall be awarded only on the basis of the lowest responsive bid submitted by a bidder meeting the criteria of responsibility as may have been established by the SHA in accordance with 23 CFR 635.110. Award shall be within the time established by the SHA and subject to the prior concurrence of the Division Administrator."*

The regulations, 23 CFR 635.114(b), further state that:

> *"Concurrence in award . . . is a prerequisite to Federal participation in construction costs and is considered as authority to proceed with construction, unless specifically stated otherwise."*

The Division Administrator's concurrence shall be formally documented in writing and shall include any qualifying statements concerning the concurrence. Verbal concurrences in award should be avoided and should only be used in unusual circumstances. Verbal concurrences should be documented and should be followed by a written concurrence in award that reflects the date of verbal concurrence.

Oversight agreements between the STA and the division should include the procedures for documenting concurrence in award for different oversight levels, including the procedure that local agencies will need to follow for locally administered projects.

When the STA determines that the lowest bidder is not qualified, 23 CFR 635.114(f) requires that:

> *"If the SHA determines that the lowest bidder is not responsive or the bidder is not responsible, it shall so notify and obtain the Division Administrator's concurrence before making an award to the next lowest responsible bidder."*

Finally, 23 CFR 635.114(h) covers the situation when the STA makes a decision to reject all bids:

> *"Any proposal by the STA to reject all bids received for a Federal-aid contract shall be submitted to the Division Administrator for concurrence, accompanied by adequate justification."*

B. Post-Award Procedures

1. Bid Rigging and Post Award Reviews

References:

Guidelines on Preparing Engineer's Estimate, Bid Reviews and Evaluation (Appendix A-87)

Suggested Guidelines for Strengthening Bidding and Contract Procedures, AASHTO, 1981 (Appendix A-34)

Suggestions for the Detection and Prevention of Construction Contract Bid Rigging, DOT/DOJ, 1983 (Appendix A-46)

Applicability:

Applies to all Federal-aid construction projects.

Background:

The 1981 AASHTO Suggested Guidelines for Strengthening Bidding and Contract Procedures and the 1983 Justice/Transportation interdepartmental guidance, Suggestions for the Detection and Prevention of Construction Contract Bid Rigging, are key reference documents for bid rigging detection. However, the GAO advises that agencies should assume that this information has filtered into the "wrong" hands. Consequently, there is a continual need to improve and develop new ways to combat bidder collusion. Additional information on bid analysis and review can be found in the *Guidelines on Preparing Engineer's Estimate, Bid Reviews and Evaluation* (Appendix A-87).

More information about general antitrust issues can be found at the following Internet websites:

- The Antitrust Policy site (http://www.antitrust.org/) contains on-going case studies, economic research, law and policy; and
- The Federal Trade Commission (http://www.ftc.gov/) contains information about the agency, its current initiatives, and a calendar of conferences, hearings and workshops. The information is directed toward consumers and businesses.

The STAs are encouraged to continually improve their bid analysis procedures. The use of computers to analyze bids and to detect bidder collusion has become very prevalent. While many STAs have their own bid analysis system, approximately 34 STAs are using the Bid Analysis and Management System / Decision Support System (BAMS/DSS), a module within the AASHTO Trns•port software package. The BAMS is a comprehensive system comprising five modules, which includes the Decision Support System containing the collusion detection capabilities. The other BAMS modules

available are the Proposal and Estimates System, Letting and Award System, Cost Estimation System, and Contract Administration System.

Bid rigging, also referred to as bid collusion, is a conspiracy to disrupt or circumvent the competitive bidding environment by establishing a competitive advantage for certain bidders. Among the most common bid collusion activities are:

> Complementary Bids – A pattern of consistently high bids, or non-response of bidders (e.g., unqualified bidders or incorrectly submitted bids) made to give the "appearance" of competition in order to influence the decision award the project to a predetermined bidder.
>
> Territorial Allocation – A pattern of consistent wins by a bidder within a specific area (e.g., county or multi-county area).
>
> Joint Ventures – Submission of a "complementary bid" or other noncompetitive behavior by an eventual partner (i.e., subcontractors, suppliers, etc.) to the successful bidder.
>
> Bid Rotation – A coordinated pattern of win and lose bid responses to assure that a predetermined bidder submits the lowest bid.

Guidance:

A conscientious effort to detect bid rigging should be made through a post-award bid evaluation. An adequate number of projects awarded over a sufficient time period should be evaluated. A period of approximately 5 years should be selected for an initial evaluation to determine if any abnormal competitive bid patterns exist. The following information should be considered in a post-award review for abnormal bid patterns:

- number of contract awards to a specific firm,
- project bid tabulations,
- firms that submitted a bid and later become a subcontractor on the same project,
- rotation of firms being the successful bidder,
- consistent percentage differential in the bids,
- consistent percentage of the available work in a geographic area to one firm or to several firms over a period of time,
- consistent percentage differential between the successful bid and the engineer's estimate,
- location of the successful bidder's plant versus location of the other bidders' plants,
- variations in unit bid prices submitted by a bidder on different projects in the same letting,
- type of work involved,

- number of plans and proposals taken out versus the number of bids submitted,
- any other items that indicate noncompetitive bidding, and
- on re-advertised projects, if the eventual successful bidder was also low bidder on the first letting.

If for any reason, a person feels that bid rigging or fraud has occurred, they should contact the nearest USDOT/OIG office. This may be based on a suspicion or actual evidence of fraud, waste, and abuse in any project funded by FHWA. Appendix A1 to A4 includes a list of USDOT/OIG Regional Office locations.

2. Project Supervision and Staffing

References:

23 U.S.C. 114
23 U.S.C. 302
23 CFR 635.105

Applicability:

Applies to all Federal-aid construction projects.

Guidance:

Section 302 of Title 23 requires STAs to be suitably equipped and organized to carry out the Federal-aid program. Therefore, the STAs are responsible for design, contract administration and construction inspection of all Federal-aid construction projects. This responsibility is formalized by the project agreement that is executed for each Federal-aid project.

Adequate construction personnel should be provided to ensure that quality highways are constructed. However, due to personnel caps, the fact that the engineering community that built the Interstate system is retiring and other market reasons, the States are typically operating with less staff for the size of their program than historic staffing levels. Many states are working to improve their workforce management.

Some contract administration tools that improve the effectiveness of limited State staffing are:

- provide more and better training and certification programs by both the STAs and contractors,
- use consultant personnel that have the vital technical background and adequate knowledge of operating procedures and specifications,

- use innovative contracting methods, such as design-build, which shifts responsibilities to the contractor,
- facilitate a better working relationship between the STAs and contractors which encourages initiative, innovation, and quality construction,
- develop materials testing programs that can rapidly and reliably predict the performance of the end product,
- update State contract administration procedures to recognize the use of innovative contracting mechanisms and the roles and responsibilities of the construction contractor, consultant inspection forces and the STA staff, and
- develop a systematic method of budgeting work force and money in managing construction personnel.

Field review of the actual project situation is desirable. The documented level of project staffing is essential in making a determination of the adequacy of the STA's construction staffing. Items that should be reviewed include:

- sampling and testing (i.e., quality level analysis, frequency, testing results, failing test reports, etc.),
- documentation of field control (i.e., problem situations, diaries, work orders to remove and replace, etc.),
- the engineer's candid opinions on staff, supervision, and job control, and
- the response time needed to resolve problems, plan changes or change orders.

AASHTO continues to look for better ways to address the issue. For additional information, there are two NCHRP Syntheses pertaining to construction staffing: "Staffing Considerations in Construction Engineering Management," No. 145, and "Construction Contract Staffing," No. 51.

Supervision of construction engineering consultants

The STA's responsibility for contract administration and construction inspection are not terminated when construction engineering and inspection (CE&I) services are provided by a consultant. In 1985, FHWA recognized that the use of consultants for CE&I is a well-recognized method of carrying out the STA's responsibilities without having to maintain a permanent full-time staff based on the peak workload period.

While a consultant may provide daily CE&I for a project, the STA must assign a full-time engineer to be in responsible charge of the project at all times although the engineer need not be assigned solely to that project. "Responsible charge" means the publicly employed engineer is:

- aware of the day-to-day operations on the project,

- aware of, and involved in decisions about changed conditions which require change orders or supplemental agreements,

- aware of the qualifications, assignments, on-the-job performance, etc., of the consultant staff at all stages of the project, and

- visiting the project on a frequency that is commensurate with the magnitude and complexity of the project.

Locally administered projects

When a Federal-aid project is to be constructed on a facility that is not under the STA's jurisdiction, the STA may arrange for the local public agency having jurisdiction to perform the work with its own forces, or by contract, provided that all of the following conditions are met:

- All Federal requirements including those prescribed in 23 CFR 635 Subpart A shall be met on work performed under a contract awarded by a local public agency;

- Force account work shall be in full compliance with 23 CFR 635 Subpart B;

- The local public agency is adequately staffed and suitably equipped to undertake and satisfactorily complete the work; and

- The local public agency shall provide a full-time employee of the agency to be in responsible charge of each Federal-aid project, including those that employ consultants for construction engineering services.

Although this arrangement is subject to the Division Administrator's concurrence, it does not relieve the STA of overall responsibility for the project. While 23 CFR 1.11(b) allows an STA to *"utilize, under its supervision, the services of well-qualified and suitably equipped engineering organizations of other governmental instrumentalities for making surveys, preparing plans, specifications and estimates, and for supervising the construction of any project,"* 23 CFR 1.11(e) clearly states that the STA is not relieved of its responsibilities under Federal law and the regulations in 23 CFR if it chooses to use the services of other governmental engineering organizations.

3. Progress Payments

References:

23 U.S.C. 121
23 CFR 635.122

Applicability:

Applies to NHS projects.

Background:

Progress payments are compensation to the prime contractor for the value of work performed during a covered period. The AASHTO recommends that progress payments be made at least once each month as the work progresses, and many STAs now pay even more frequently. Payments should be based on estimates, prepared by the engineer, of the value of the work performed and materials delivered or stockpiled in accordance with the contract.

Guidance:

As a highway construction project progresses, the STA may request that FHWA reimburse the STA for the Federal share of the estimated costs for completed work. The progress payments may be monthly, semi-monthly, or even weekly. Under the Federal "prompt payment" provisions, FHWA is obligated to reimburse the STA for eligible expenditures within one business day of the agreed upon date(s). Most STAs use electronic fund transfers to expedite the reimbursement process. Additional information about how FHWA processes electronic progress payments may be found in the FAPG as NS G3015.1, Chapter 1, Electronic Progress Voucher System.

Stockpiled Materials. When the contract provisions provide for stockpiled materials, Federal participation is based on the appropriate value of approved specification materials delivered by the contractor to the project site, or other designated location in the vicinity of such construction, provided that:

- stockpiled material is stored in such manner that security and the inventory can be maintained,

- the material is supported by a paid invoice or receipt for delivery, with the contractor to furnish the paid invoice within a reasonable time after receiving payment from the STA,

- the material conforms with the requirements of the plans and specifications,

- the materials have not been delivered or stockpiled prematurely in advance of the contractor's schedule of operations, and
- the quantity of the material eligible for participation does not exceed the quantity required by the project, nor does the value exceed the appropriate portion of the contract item in which the material is to be incorporated.

  The OIG has found several instances where various STAs paid contractors for stockpiled material that did not meet specifications, which grossly exceeded the project requirements, and/or which ultimately went into several projects. Therefore, the requirements that any stockpiled material must meet the specifications and must be in a quantity that not to exceed the amount required to complete the project, are essential.

Contract Retention. Current policy allows the STAs to set the retention amount at a level that protects the Federal interest and maintains the open competitive bidding arena. In the 1998 Guide Specifications for Construction, Section 109.06, AASHTO recommends that an STA retain 5% of each progress payment up to 3% of the original contract value. The retention is typically held until final acceptance. An April 1984

NCHRP report lists the retention rates for all 50 States. The rates at that time varied from 0 to 10%.

Retention for Subcontract Work. The US DOT's DBE regulation requires recipients to include a "prompt pay" clause in all Federally-funded contracts. Section 26.29 of the regulation requires:

- prime contractors to pay subs for satisfactory performance of their contracts no later than a specific number of days from receipt of each payment by the prime, and
- prompt return of retainage payments within a specific number of days after the subcontractor's work is satisfactorily completed.

Final Payment. By statute (23 U.S.C. 121(b)), FHWA cannot make final payment for a project until after approving the completion of it's construction. Guidance contained in the FAPG, G 6042.8, Construction Monitoring, indicates that a final inspection of the project should determine whether the actual construction conforms with the approved plans and specifications, including all approved changes. The final inspection may be an actual on-site inspection performed at or near project completion; an in-depth review of the STA's project records at or near project completion; or a finding that is based on a process review of the STA's internal project controls which demonstrates that the STA is properly exercising its internal controls. The level of effort put into the final inspection should be based on the size, complexity and importance of the project, as well as the level of previous oversight. The final inspection shall be documented on the FHWA-1446A, "Construction Inspection Report," (RCS-HHO-30-28).

The final inspection report should include any findings, items or issues that must be addressed prior to final acceptance, the agreed upon corrective measures and timetable. Any other items which must be submitted prior to final payment such as the STA's materials certification (for FHWA oversight projects); or the FHWA-47 should also be identified.

After all outstanding issues are resolved, the project's final acceptance should be documented on the FHWA-1446B, "Final Acceptance Report," (RCS-HHO-30-28), unless the Division has developed an alternate format.

Effect of Warranty Period. Currently the effect of a warranty on final payment and retention varies among the STAs. A few STAs have distributed the payment for the warranted product over the life of the warranty period. Most STAs require a warranty bond and, therefore, follow their normal procedures to make the final project payment.

4. Change Orders (Extra Work and Time Extensions)

References:

23 CFR 635.102
23 CFR 635.120

23 CFR 635.121

Applicability:

Applies to NHS projects.

Background:

Establishing a strict set of rules to govern Federal-aid policy on change orders is not practicable since applying the rules would be subject to the specific circumstances that created the need for the change order.

The construction industry recognizes that it is unrealistic to expect that a construction project could be built without deviating from the project plans. Although project designers should be diligent and exercise due care in developing the plans, they are not omniscient. There are many peculiarities (e.g., unforeseen site conditions, utility conflicts, changes in the geology, etc.) that can arise during construction and virtually every project should expect changes. Only the construction engineer is in a position to judge the adequacy of project designs and respond to needed changes.

Frequently, change orders are used to make the design a better fit for the actual field conditions. Also, a change order may result in a better product at no substantial increase in cost or time, or an equivalent product with savings in cost, time, or both. Generally, change orders are classified by purpose:

- plan changes,
- specification changes,
- change in cost (+/-), and
- change in time (+/-).

Guidance:

Federal-aid policy requires that proposed major extra work or major changes in the contract plans and provisions be formally approved in advance by the Division Administrator. However, when emergency or unusual conditions justify, the Division Administrator may give advance verbal approval and ratify such approval with formal approval, as soon as practicable. This procedure is consistent with the Federal need to preserve and protect the expenditure of Federal funds.

Non-major changes and non-major extra work also require formal approval; however, at the discretion of the Division Administrator, such approval may be given retroactively. Form FHWA-1365 (Appendix A-117) should be used to document verbal approvals; the form can then be attached to the formal change order request.

The STA, with the Division Administrator's concurrence, should establish and document specific parameters for non-major change and non-major extra work. The definition of a major change or major extra work, as included in 23 CFR 635.102, is as follows:

Major change or major extra work means a change which will significantly affect the cost of the project to the Federal government or alter the termini, character or scope of work.

Early coordination between the STA and the FHWA is essential in the review of change orders. There are four basic components that FHWA will consider during its review of change orders. These considerations are:

- Federal-aid eligibility,
- impact on the original "scope of the work,"
- basis of payment, and
- time adjustments.

Federal-aid Eligibility. Typically, if the proposed change is eligible for Federal-aid reimbursement, then full participation logically follows. However, there may be situations where only parts of the change order are eligible. Generally speaking, the FHWA is prohibited from participating in costs related to routine or recurring maintenance (snow removal, graffiti removal, litter pickup, mowing, roadside vegetation control, etc.), however, the FHWA may participate in preventive maintenance work that is shown to be cost effective (such as pavement joint repair, crack sealing, drainage clean out work, etc.). Mr. Gee's October 8, 2004 memorandum on Preventive Maintenance Eligibility provides guidance on this subject.

The FHWA is often asked to approve change orders to correct work because of a design or construction engineering error. The FHWA policy on the participation in design or construction engineering errors was established by Mr. Williams' memorandum of July 12, 1963 (Appendix A-118). In general, this policy states that each case should be considered on its own merits. 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 STA's carelessness, negligence, incompetence, or under-staffing were not contributing factors.

The FHWA's policy regarding participation in consultant design errors is that the consultant should pay for the cost of the new design, but is generally not held responsible for additional construction costs resulting from such errors, as long as the errors are not a result of gross negligence or carelessness. In addition to Mr. Williams' memorandum referred to above, Mr. LaHue's memorandum of September 8, 1978 (Appendix A-119) provides additional guidance on this subject.

Impact on the Original "Scope of the Work". Typically, if the proposed change falls within the previously authorized scope of work, then FHWA participation follows.

There may be circumstances in which participation in the full scope of the change order work is precluded. For example, a change order on a pavement rehabilitation project may provide for the installation of additional edge drains at and beyond the project limits. A change of the project limits and modification of the project agreement would be needed in order for the cost of edge drains outside the project limits to be eligible. Otherwise, Federal-aid participation would be limited to the cost of edge drains up to the original project limits.

There may be other circumstances where major contract modifications are proposed which are beyond the original scope of work. In these cases, the Division Office must determine whether the additional work is a modification of the original scope or a significant change that would benefit from competitive bidding. The individual circumstances associated with the magnitude and quality of the change as well as the cumulative impact upon the whole project should be reviewed. Have the contract work elements changed? How does the additional work impact quantities and cost? Does the proposed change impact the complexity of the work? What is the cumulative impact on the project? Would the public benefit from competitive bidding rather than a negotiated change?

Basis of Payment. The STA must perform and suitably document the cost analysis for each negotiated work change order. The method and degree of analysis are the STA's decision, however, the process should be acceptable to the Division Administrator.

Force account procedures should only be used as a last resort when agreement cannot be reached on the price of a new work item, or when the extent of the work is unknown or of such character that a price cannot be determined to a reasonable degree of accuracy. A Headquarters memorandum of September 8, 1982 (Appendix A-120) contains FHWA policy on the use of force account procedures.

Time Extensions. The change order should also provide the time needed to accomplish the work. The FHWA policy states that contract time extensions granted by a STA that affect project costs or liquidated damages shall be subject to the concurrence of the Division Administrator and will be considered in determining the amount of Federal participation.

Most State standard specifications require the contractor to submit and maintain a project schedule that details the timing for construction operations from start to finish. Reasonably, this schedule should depict the planned operation by day or week and may take the form of a critical path. A trace of the critical path identifies the controlling operations. In the absence of a critical path or activity schedule, a determination of the controlling operation(s) is necessary.

If work covered by a change order affects a controlling operation, a change in the contract time may be warranted. If the controlling operation is unaffected, a change in the contract time is not warranted. In order to establish the time required to perform the work, an estimate of the time should be developed as the other components (i.e., labor, equipment, and materials) are estimated.

Occasionally, there are events that are beyond the control of either the STA or the contractor that affect the controlling operation. These should be enumerated in the STA's standard specifications and be acceptable to support an extension of contract time. Such events include the following:

- labor strikes (including job pickets),
- public protests (to the project),
- general riot,

- declaration of war,
- "acts of God," and
- traffic accidents (e.g., hazardous spills).

Events that are normally considered to be under the control of the contractor and, therefore, do not warrant a time extension include:

- shutdowns for maintenance,
- breakdowns,
- suspensions or stop work orders for violation of safety or pollution regulations,
- shutdowns for construction accidents, and
- material delays.

The FAPG (NS 23 CFR 635A) provides further guidance on materials delays. The contractor is responsible for the timely order and delivery of materials for the project. A delay in delivery of materials does not in itself generally support an extension of contract time. However, if an unusual market condition (i.e., an industry-wide strike, natural disaster, or area-wide shortage) occurs, a time extension may be in order.

Delays due to inclement weather should be expected and should generally not be the basis for a change in contract time except in extreme cases.

The FAPG (NS 23 CFR 635A) also provides guidance on the granting of time extensions due to utility, railroad, and right-of-way (ROW) clearance delays. Because of the assurances required from the STA prior to the FHWA project authorization, the FHWA policy generally does not permit participation in time extensions for such delays. Whenever the railroad or utility is permitted to adjust its facilities coincidentally with contract operations, such activities must be clearly addressed in the contract provisions. All parties should understand that any interference by the railroad or utility to the contractor's operations generally will not constitute an allowable delay. In general, an extension of contract time due to ROW delays is very unusual and is the exception rather than the rule. For FHWA approval of an extension, it must be shown that:

- the construction work was actually delayed by the ROW, railroad, or utility difficulty,
- the contractor did everything required by the contract to minimize the delay, and
- the STA was unable to exercise effective control of the situation despite its best efforts.

Occasionally, FHWA is asked to participate in time extensions or delay claims that result from State budgetary problems. In some cases, State budgetary problems may lead to the STA's inability to pay the contractor or provide adequate inspection staff. FHWA has refused to participate in the such costs based on the assurances required in 23 USC 302 that require States to be adequately staffed to carry out the Federal-aid program.

5. Claims

References:

23 CFR 635.124

Applicability:

Applies to NHS projects.

Background:

A claim can be defined as a demand for additional compensation that is formally submitted to someone in the STA outside of the normal process for change approvals. In simple terms, a continued demand for payment is termed a claim if it has been previously denied under the STA's normal procedures for change approval.

Both the STA and the contractor share in the responsibility for claims. Many claims could be avoided if reviews of the contract documents were more thorough, both in preparation of the project and in bidding the project. Problems occur most often when an STA rushes a project with incomplete or inadequate plans through the letting process. Due to public pressure, States sometimes promise to get work under construction or to open highways on some predetermined date. Similarly, shelf projects, those projects with plans that were developed several years earlier, can be especially dispute-prone because traffic patterns and other field conditions may have changed. Most States acknowledge that projects containing known errors are sometimes let for bid because the time frame does not allow for errors to be corrected. Contractors may contribute to claims through ineffective project management, scheduling practices and substandard work.

Guidance:

A comment made during the rulemaking process in 1985 was that FHWA's involvement in claims allowed "second guessing" of those who were more intimately involved in the claim award, and that FHWA should become involved earlier in order to make fair and objective decisions. FHWA agreed with that philosophy and supports uniformity and objectivity in our decision-making. Therefore, 23 CFR 635.124(b) contains a general statement about early coordination and involvement. The specific details of coordination and involvement are left to each FHWA Division Office and STA to finalize, allowing them the flexibility to work out an arrangement which accommodates the State's program. When developing coordination procedures, the STA should be cognizant that under the Freedom of Information Act, the contractor and other outside parties may obtain information in FHWA files.

A good generalization of FHWA's policy is the following statement:

> *"If the States are diligent and pursue resolution of a claim through the courts or arbitration boards (including appeals), consulting with and*

keeping FHWA fully informed throughout the process, FHWA will share in the results."

However, FHWA will determine on a case-by-case basis the Federal-aid eligibility of a contract claim awarded on the basis of an arbitration or mediation proceeding, administrative board determination, court judgment, negotiated settlement, or other contract claim settlement. Federal funds will participate to the extent that the claim can be supported by the facts and has a basis in the contract and under applicable State law. Further, the basis for the adjustment and contractor compensation should be in accord with prevailing principles of contract law (23 CFR 635.124(a)).

Similarly, for court judgments abiding with State law, the FHWA specifically reserves the right to review all matters, not just the court's decision, in the award of a claim since the claim may have been awarded under a State law which is inconsistent with Federal law.

The burden of proof to document the reasonableness of a claim remains vested in the STA. As indicated by 23 CFR 635.124(c), FHWA believes the STA is in the best position to compile and provide the information, including legal briefs where needed, to support a decision for FHWA participation in claims.

What about the influence on FHWA's participation relative to the acts of STA employees involved in contract administration and contract plan preparation matters, which subsequently give rise to claims? The FHWA will participate when the acts are reasonable and within the standards of the profession. FHWA will not participate in claim awards that arise from gross negligence, intentional acts or omissions, fraud, or other actions by an STA employee(s) which are not consistent with the usual State practices.

On December 16, 1992, FHWA addressed claims resolution for non-oversight projects. For non-Interstate NHS projects, the STA must base its determination of Federal-aid participation on the requirements of 23 CFR 635.124. For non-NHS projects, the STA may determine the level of Federal-aid participation based upon State procedures; however, the STA must comply with the allowable cost principles of OMB Circular A-87 as addressed in 49 CFR 18.22.

Interest. Federal-aid funds can participate in interest associated with a claim if three conditions are met:

- the interest must be allowable by State statute or specification,
- the interest is not the result of delays caused by dilatory action of the State or contractor, and
- the interest rate does not exceed the rate provided for by statute or specification.

Attorney's Fees. Contractors' attorney fees are not eligible for Federal participation. The basis for this determination is that there is no statutory authority for the payment of attorney fees. However, the STA's administrative costs, including attorney fees related to the defense of claims, are reimbursable. Such costs are reimbursable at the same participation rate as the related construction project.

Anticipated Profit. The FHWA does not participate in anticipated profit because this is in the realm of the contractor's risk.

NHI Course No. 134037A, "Managing Highway Contract Claims: Analysis and Avoidance": The course is targeted at FHWA, State and local personnel involved in project development, construction, and claims management.

Other sources of information on claim avoidance are the American Society of Civil Engineers which has published Avoiding and Resolving Disputes During Construction: Successful Practices and Guidance, by the Underground Technology Research Council, 1991, and Construction Contract Claims, Changes, and Dispute Resolution, by Paul Levin, 1998; the Association for the Advancement of Cost Engineering; and the *Construction Claims Monthly* which is published by Business Publishers, Inc.

Alternative Dispute Resolution

Claims and disputes cannot always be avoided. Research by the Construction Industry Institute (CII) has found that construction disputes arise from three major sources: project uncertainty, process problems and people issues. If the source of the dispute is not addressed, resolving the dispute can become increasingly difficult, resource-intensive, and will usually result in a solution which satisfies no one. Dispute resolution methods range in hostility level from negotiation up to extended litigation.

The focus of alternative dispute resolution (ADR) techniques is to allow fair-minded people to resolve their differences in a manner that emphasizes reasonableness and fairness. ADR does not mean turning responsibility for project decisions over to others (i.e., lawyers) because litigation is costly and time-consuming. ADR methods vary in the level of the assistance drawn from outside sources, and the decision-making taken away from the disputing parties.

The construction industry has developed a variety of ADR methods. As CII's research shows, the most valuable techniques are those that prevent or resolve disputes as early as possible by the individuals directly involved at the project level. Commonly used methods include negotiation, mediation, non-binding arbitration, dispute review board, mini-trial, binding arbitration, private judging, and finally, litigation.

Partnering

Technically, partnering is not an ADR method. Rather, partnering is a change in the attitude and the relationship between owner and contractor. Partnering is the creation of a relationship between the owner and contractor that promotes recognition and achievement of mutual and beneficial goals. Partnering occurs when trust, cooperation, teamwork and the successful attainment of mutual goals become the hallmarks for the relationship.

The key to making partnering work requires having a plan which is backed up by open communication, willing participants, senior management support, and up front commitment. Communication starts early in the process through a team-building session. All the key managers for the project are assembled for a workshop that focuses on team building, goal setting, identifying issues, and solving problems. The workshop is run by a facilitator who ensures that all issues are brought out into the open. Authority to solve problems must be delegated to the lowest level. A critical feature of partnering is to identify the dispute resolution process that will be used on the

project and designate key players in the process. Follow-up meetings are held at regular intervals to evaluate goals and objectives. (The FHWA's representative to the partnering workshops should have the authority to approve change orders and claims.) The cost of the partnering sessions is typically borne equally by both the owner and the contractor. Federal funds may be used to reimburse the owner for their share of the cost at the project pro rata share rate.

In 1995, AASHTO's Construction Subcommittee's Contract Administration Task Force conducted a survey of the STAs. At that time, forty-six STAs were using partnering. Despite the fact that 28 States had been using the technique for less than two years, 34 States believed that partnering had reduced claims in their States.

Other partnering references include:

- Partnering, U.S. Army Corps of Engineers, IWR Working Paper 91-ADR-P-4, March 1990;
- In Search of Partnering Excellence, CII 17-1, July 1991;
- Partnering-A Concept for Success, Associated General Contractors of America, September 1991; and
- Partnering Manual, Central Artery/Tunnel Project, January 1998.

Negotiation

Negotiation occurs when parties resolve the issues themselves, usually at the project level. However, the STA's administrative processes would also be considered as negotiation in a broad sense of the term.

Mediation

Mediation involves a neutral third party to depersonalize the dispute while facilitating its resolution, preferably in a "win-win" solution. The parties may jointly appoint a mediator or they may request that a mediator be appointed by an association such as the American Arbitration Association. The mediator provides assistance in resolving the dispute by narrowing and clarifying issues, however, the mediator does not decide the dispute. The mediator may meet with the parties individually or collectively but all information disclosed to the mediator is confidential. Mediation is normally non-binding since the mediator has no inherent power.

Mediation is a flexible method that can be adapted by the parties to fit their needs. While the American Arbitration Association has developed flexible rules of conduct, the parties should agree on the process to be used; how the mediator will be selected and paid; who has authority to make decisions for each party; and what happens if mediation does not result in a resolution. The cost to the owner of the mediation process is eligible for Federal-aid reimbursement.

Dispute Review Board

A dispute review board (DRB) requires the creation of a three member standing committee which meets on a regular basis to review and resolve all project disputes before they become formal claims. Drawing from the experts in the type of construction contained in the contract, each party will choose a member, and then those two members will jointly select the third member. The DRB members are considered to be "standing neutrals," independent of either party. The parties will split the cost of operating the DRB (the owners portion of the cost is eligible for Federal-aid reimbursement). In order to resolve issues at an early stage, DRB's typically keep abreast of construction progress. While the DRB will issue written decisions for the issues, the decisions are typically non-binding upon the parties.

Additional information about DRBs may be found in the 1996 Construction Dispute Review Board Manual authored by A. Mathews, Bob Matyas, Bob Smith and Joe Sperry. The CII has published Prevention and Resolution of Disputes Using Dispute Review Boards, CII 23-2, October 1995.

Many states have used DRBs on large bridge or tunnel projects. According to the Dispute Review Board Foundation, STA usage includes: Alaska (1 project), California (42), Colorado (4), Delaware (1), Florida (60), Hawaii (9), Maine (4), Massachusetts (47), Oregon (3), Utah (1) and Washington (54); and

The Dispute Review Board Foundation has compiled data on the success of DRBs in successfully minimizing construction litigation. The Foundation furnishes the following statistics.

Industry Sector	Through late 1998				
	No of Jobs	Value in $Billions	Disputes		
			Settled	Litigated	% Settled
Tunnels & Underground	114	$9.4	149	16	90%
Heavy Highway	285	$16.0	324	1	100%
Building, Process & Other	77	$4.8	121	0	100%
Totals	476	$30.2	594	17	97%

On the Boston Central Artery project, 47 of 123 construction contracts had DRBs representing approximately $6.8 billion in construction. These contracts ranged from $12.5 million to $419.5 million. On these contracts, 9,635 total issues were raised, however, the vast majority of these issues were resolved informally. Only 15 issues were raised to a formal DRB. To date, no issues went to litigation.

Florida DOT has used DRBs extensively for projects over $10 million. The 60 projects currently using DRBs represent approximately $1.1 billion in construction. Of the 45 disputes that have been heard as of January 1999, the contractors and FDOT have each claimed an approximately equal number of victories. The disputes have ranged in

size from relatively small claims up to $6 million. To date there has been no litigation regarding DRB recommendations.

Caltrans began requiring DRBs for all contracts greater than $10 million in January 1998. The use of DRBs for smaller contracts is optional but encouraged.

Mini-trial

Mini-trials are more formal than mediation or a DRB in that the dispute is treated as a business problem. Lawyers and experts present a summary of their "best case" to an advisory panel drawn from senior officials of the owner and the contractor with an independent neutral who provides an objective viewpoint. Typically the hearing documents and negotiation discussions are considered confidential and cannot be used in later litigation.

Pennsylvania (PennDOT) used this method to settle a construction claim on the Schuylkill Expressway project.

> PennDOT Mini-Trial Procedures
>
> Each party is represented by a principal participant with the authority to settle the dispute on behalf of the party he represents. The FHWA also has a representative with the authority to approve any settlement reached by the parties. A neutral advisor selected jointly by the parties chairs the mini-trial. The neutral advisor performs a mediation function, enforces time limitations, asks questions of witnesses and, if necessary, issues an advisory opinion on the merits of the dispute. The presentations at the mini-trial are informal with the rules and procedures stated in the agreement. The mini-trial is conducted within a specific time frame, typically no more than three days.

Arbitration

Arbitration is a method under which decisions are made by one or three arbitrators, chosen by the parties, based on fact and law. Although decisions may or may not be binding and without appeal, in almost all cases, the arbitration decision is accepted by both parties. Usually, the only cases carried on to litigation are those that involve a point of law.

Private Judging

The Construction Industry Institute has identified private judging as a middle ground between arbitration and litigation. This procedure allows the parties to state their case before a mutually accepted neutral and have the decision becoming the judgment of the appropriate trial court with the right of appeal. The referees are normally retired judges. The parties may agree to simplify and expedite the process.

Escrow of bid documents

In conjunction with dispute review boards, several states have utilized an escrow of bid document special provision on large complex contracts that have the potential for litigation. Escrow bid documents address the issue of how a contractor interpreted the contract provisions and developed the bid. Escrow bid documents properly prepared

and properly used are a great source of information for parties who want to resolve disputes on an equitable basis. The more accurate information each party has the more likely litigation can be avoided. Generally, the escrow documents remain in a depository and are not used until the state receives a notification of intention to file a claim from the contractor.

A guide specification for escrowing bid documents can be found in Section 103.08 of AASHTO's 1998 Guide Specifications for Highway Construction.

Home Office Overhead (HOO)

Home office overhead costs (HOO) are expenses that a contractor incurs for the benefit of all contracts that cannot be attributed to any individual contract. Examples of these expenses include home office estimating, personnel and administration. HOO is allocated to all of the contractor's work, usually in proportion to the value of each project to the company's' total receipts.

Any suspension of work or other delay in contract performance will disrupt or reduce the contractor's direct income from the project. However, the contractor continues to incur HOO. Two types of HOO may affect delay damage claims: unabsorbed and extended. Contract case law has developed distinct definitions for these terms. Unabsorbed HOO is the increased cost that must be borne by a contractor because delays in one project have prevented the contractor from defraying those costs over other projects, as originally intended. Extended HOO are the increased overhead costs borne by the contractor after the original completion date which are caused by project delays.

Because HOO costs are indirect costs to any given project, contractors claiming HOO as an element of a delay damage claim must establish that the claimed expenses are permissible and/or justified.

FHWA has allowed participation in HOO costs only in cases when the owner agency caused the delay during which time the HOO costs could not be charged off to earnings and the contractor was prevented from doing other work which could have been allocated HOO. Otherwise FHWA's position has been to disallow HOO when an STA's standard specification for extra work and force account work provide for full compensation at either the contract unit price, or a negotiated unit price.

Eichleay formula. The appropriateness of the Eichleay formula for calculating unabsorbed HOO costs seems to depend on the circumstances of the claim. Federal and state courts vary in their acceptance and application of the formula. There are also several other formulas in use (original contract period formula, fixed overhead formula, burden fluctuation method, comparative absorption rates, etc.); however, most contractors rely on the Eichleay formula.

6. Liquidated Damages

References:

23 CFR 635.127

Applicability:

Applies to NHS projects.

Background:

Contract time is an essential element of the contract and it is important that the work be pressed vigorously to completion. The cost to the contracting agency for the administration of the contract, including engineering, inspection, and supervision, increases as the contract time increases. Likewise, the road user costs also increase as the completion date of the contemplated facility is extended. The liquidated damages contract provision provides a mechanism for the contracting agency to recover these costs associated with the contract time overrun. The STAs are required to incorporate liquidated damages provisions into their Federal-aid contracts as a condition of the project agreement.

Most of the STAs use a liquidated damage rate schedule based on a range of contract amounts. However, some use a daily rate that is calculated specifically for the particular project.
During 1984, the OIG reviewed the assessment of liquidated damages in five of the nine FHWA regions during a 3-year period. The OIG found that the STAs were recovering only 41 percent of their total actual construction engineering costs. The actual engineering costs were $2.44 for each dollar of liquidated damages collected. As a result, the OIG determined that $15 million of Federal funds were lost annually. Part of the problem was that the FHWA regulation in force during the OIG review period contained the 1972 AASHTO schedule of liquidated damages.

In December 1984, the FHWA issued a memorandum on the OIG's review and recommended that each STA, in consultation with their Division Office, review their current rates. Subsequently in 1987, the FHWA revised its regulation (23 CFR 630.305) on assessment of liquidated damages. During development of the final rule on project agreements, the liquidated damages requirements were moved to 23 CFR 635.127.

Guidance:

Significant provisions contained in regulation 23 CFR 635.127 are:

- Each STA is required to develop and maintain its own liquidated damages rates that will cover, as a minimum, the STA's average daily construction engineering (CE) costs attributable to a contract time overrun;

- The STA rates are subject to verification and approval by the Division Administrator, and at least every two years must be reviewed and adjusted, as necessary, by the STA;

- In addition to CE costs, the STA may include the costs of project-related delays or inconveniences, to the STA or to the public, in their liquidated damages provisions. In such cases, costs recovered in excess of the actual CE costs should be deducted from the construction costs in proportion to the Federal participation on the project; and

- Incentive/disincentive amounts are to be shown separately from the liquidated damages amounts and are to be based on road user costs.

Is it acceptable to include business impact costs in liquidated damages?

No, it is not acceptable to include business impact costs. This would conflict with FHWA policy in the following areas:

- The contractor could challenge the clause on the basis that such costs are not costs to the State or the public as required by 23 CFR 635.127(c). "The STD may, with FHWA concurrence, include additional amounts as liquidated damages in each contract to cover other anticipated costs of project related delays or inconveniences to the **STD or the public**. "

- The FHWA's existing guidance on Incentive / Disincentive clauses, in Technical Advisory TA 5080.10, Section 7-a prohibits the inclusion of such costs.

- There are numerous problems and issues in providing a fair, open, transparent process for estimating business damages and losses.

- The FHWA is prohibited from re-distributing such funds without Congressional approval.

7. Suspension and Debarment

References:
49 CFR Part 29
FHWA Order 2000.2A

Applicability:

Applies to all Federal-aid construction projects.

Background:

Suspension and debarment (S/D) are discretionary administrative actions taken to protect the Federal Government by excluding persons and / or companies from participation in the Federal assistance programs. A S/D action ensures that the Federal Government does not conduct business with a person or a company who has an unsatisfactory record of integrity and business ethics. The S/D actions are administered government-wide; consequently, a person excluded by one Federal agency is excluded from doing business with any Federal agency.

Causes for debarment are listed in 49 CFR '29.800 and include:

- Conviction of or civil judgment for:

- fraud or a criminal offense in connection with a public or private agreement or transaction,
- violation of Federal or State antitrust statutes (i.e., price fixing, bid rigging, etc.),
- embezzlement, theft, forgery, bribery, falsification or destruction of records, false statements, receiving stolen property, false claims, obstruction of justice, or
- any other offense indicating a lack of business integrity or business honesty that seriously and directly affects the present responsibility of a person.

- Violation of the terms of a public agreement or transaction so serious as to affect the integrity of an agency program (i.e., willful failure to perform, a history of failure or of unsatisfactory performance, or willful violation of a statutory or regulatory provision or requirement).

- Any of the following causes:

  - a debarment by any Federal agency,
  - knowingly doing business with a debarred, suspended, ineligible, or voluntarily excluded person, in connection with a covered transaction,
  - failure to pay substantial outstanding debts, or
  - violation of a voluntary exclusion agreement or of any settlement of a debarment or suspension action.

    - Any other cause of so serious or compelling a nature that it affects the present responsibility of a person.

When circumstances warrant, suspension action will be taken to protect the Federal Government by excluding persons and / or companies proposed for debarment from participation in the Federal assistance programs while the debarment action is processed. Causes for suspension action (49 CFR § 29.700) include adequate evidence:

- that a cause for debarment exists, or

- to suspect the commission of an offense listed above. An indictment for such offenses will constitute adequate evidence for purposes of suspension actions.

Suspension / debarment actions are prospective, meaning they do not apply to existing contracts. The actions only apply to “covered” contracts within the meaning of 49 CFR 29. 200. Covered transactions include all primary transactions (i.e., any transaction between FHWA and a financial assistance recipient regardless of size, and lower tier transactions (i.e., prime contracts between STA’s and contractors or consultants, subcontracts, and contracts for material supply or vendor contracts, etc.) equal to or exceeding $25,000. Lower tier transactions, regardless of size, under which a person has critical influence or substantive control over a prime contract (auditing services,

construction inspection and quality assurance services, that might influence a contract) are also covered.

Only those persons (individuals, corporations, or subsidiaries) listed in the suspension / debarment notice are covered. If a parent company is debarred, this does not mean that subsidiary firms of the parent company are debarred.

Guidance:

FHWA will consider action against a person and / or company whenever a cause within the meaning of 49 CFR Part 29 has occurred. The FHWA will document the facts of the occurrences such that S/D actions imposed by the FHWA apply to procurement and nonprocurement programs (i.e., Federal-aid) under 49 CFR Part 29.

Processing. Every effort should be made to initiate actions within six months of knowledge of a cause. FHWA Order 2000.2A details the process for S/D actions. State and local officials should also contact the State and local agencies responsible for S/D actions to learn their procedures.
Length. Suspension actions are taken for a temporary period, pending the completion of a debarment decision. Generally, suspensions may not exceed 12 months, unless a legal proceeding is initiated which precludes lifting of the suspension. Debarment periods are generally in place for three years; however, if circumstances warrant, a larger period may be imposed. The final debarment period may be reduced commensurate with the seriousness of the cause and any mitigating evidence presented. The debarment period is measured, retroactively, from the effective date of the suspension.

Implementation. The General Services Administration maintains a government-wide list of excluded parties. This web-based system is titled "Excluded Parties List System" (GSA List). Prior to the award of all consultant and construction contracts, the FHWA Division Office should check the GSA List to determine if the prospective participant is excluded from Federal procurement and nonprocurement programs. On projects that do not require FHWA concurrence in award, this responsibility is assumed by the State.

The GSA List now contains three sections - – procurement, nonprocurement, and reciprocal. Provisions in the Federal Acquisition Streamlining Act of 1994 ensure that suspensions, debarments, and other exclusions from Government procurement and nonprocurement programs are applied reciprocally government-wide. In short, exclusion from **any** procurement or nonprocurement program initiated on or after August 25, 1995, means exclusion **all Federally** funded procurement – both direct Federal procurement and grant / Federal-aid “non-procurement”.

To ensure that the FHWA S/D actions are administered in a timely manner, the field offices are notified of FHWA S/D actions, via E-Mail, within a few days of their occurrence. In addition, a list of persons and companies suspended and debarred by the FHWA is available at http://www.fhwa.dot.gov/programadmin/contracts/actions.htm. The FHWA list includes actions taken by the FHWA only and therefore, cannot be used in lieu of the GSA List that contains all Federal S/D actions.

Participant Certification. All participants in the Federal-aid program are required to provide certifications (49 CFR 29.510) as follows:

- Each STA must certify the current eligibility status of their principals. This certification is now incorporated in the project agreement certifications;

- Prime contract bidders and consultants are required to certify as to their own current eligibility status, as well as that of their principals, as a part of each Federal-aid highway contract bid proposal and consultant agreement; and

- All lower tier participants (i.e., subcontractors, material suppliers, vendors, etc.) are also required to certify as to the current eligibility status of the company and its principals.

8. Termination of Contracts

References:

23 CFR 635.125

Applicability:

Applies to NHS projects.

Background:

Termination is an action taken by the contracting agency to cancel a contract. There may be a number of grounds to warrant termination, including termination for cause, termination for convenience, and termination for default.

Guidance:

Federal-aid contracts exceeding $10,000 must contain suitable provisions for termination by the STA. The provisions must identify the manner by which the termination will be effected and the basis for settlement.

Prior to termination of a Federal-aid contract for which the Division Administrator concurred in the award, the STA shall consult with and receive the concurrence of the Division Administrator. Federal-aid participation in a terminated contract is decided by the individual merits of the particular case. However, in no instance will FHWA participate in any allowance for anticipated profits on work not performed. For “State-approved projects”, the STA may act for FHWA in this process but it must follow the procedures in 23 CFR 635.125 for NHS projects.

If the STA awards a contract for completion of a Federal-aid contract previously terminated for default, FHWA policy limits the amount eligible for Federal participation. The amount eligible is the lesser of the original contract or the sum of the new contract plus the payments made under the original contract.

Termination for Cause or Convenience. Terminations for cause or for convenience are for circumstance beyond the contractor's control. The AASHTO lists the following conditions as grounds for termination for cause:

- executive orders of the President for war, national defense or national emergency,
- restraining orders or injunction obtained by third party action, or
- "acts of God".

Grounds for termination for convenience include circumstances for which it is in the best interest of the contracting agency to cancel the contract (e.g., construction funding has become depleted).

In terminating a contract for cause or for convenience, written notice is given to the contractor, relieving him or her from further contractual obligation. The contractor will be paid for completed work, for work necessary to preserve and protect the completed work, and for materials stockpiled for the project.

Termination for Default. Terminations for default are for circumstances that are deemed to be under the contractor's control. The AASHTO guide specifications include the following as circumstances for termination for default:

- failure to begin work under the contract within the time specified in the "Notice to Proceed,"
- failure to perform the work with sufficient workmen and equipment or sufficient materials to assure the prompt completion of the project,
- performance of the work not in conformance with the contract requirements or refusal to remove or replace rejected materials or unacceptable work,
- discontinuance of the work,
- failure to resume work which has been discontinued within a reasonable period of time after notice to resume,
- committal of any act of bankruptcy or insolvency,
- allowing any final judgment to remain unsatisfied,
- making an assignment for the benefit of creditors, or
- failure to comply with contract requirements regarding payment of minimum prevailing wages or EEO.

The STA's specifications typically require notice to the contractor and surety of default considerations by the STA. The notice gives the contractor and the surety a specified period of time, such as 10 days, to respond or to proceed with the work. If that period expires without response, the contracting agency may declare the contractor in default, and notify the contractor and surety that the contractor is in default and the contract is

void. The surety is then liable under conditions of the performance bond and must provide funds to complete the project, up to the full value of the bond. To avoid paying the bond, the surety may elect to assign another contractor to complete the work. However, if the surety is unable or unwilling to assign another contractor, the funds will be transferred to the STA.

If the surety awards a second contract, no action is required of FHWA since the surety's contract is considered an extension of the original contract. However, if the STA awards a contract to complete the work covered by a defaulted Federal-aid contract, normal Federal-aid procedures for PS&E advertising and award must be followed, and the Federal-aid funding for the project will be limited to the lesser of the original contract value, or the amount spent under the defaulted contract plus the second contract.

IV. STATE DEVELOPED PROVISIONS

A. Alternate Bids

References:

23 CFR 635.411 (b).
Notice of Policy *"Alternate Design for Bridges*," Federal Register, August 15, 1995.

Applicability:

Applies to NHS highway construction projects.

Background:

Alternate bidding is a method used to minimize the overall cost of Federal-aid projects through increased competition. In theory, allowing alternate designs and/or construction methods will attract the greatest number of bidders and result in the lowest possible bid prices.

Guidance:

Alternate bidding procedures should be used when more than one alternate is judged equal over the design life and there is a reasonable possibility that the least costly design approach will depend on the competitive circumstances. The potential for using alternates will normally be developed through design studies and value engineering analysis during project development. Moreover, the STA may have standard plan alternates developed for repetitive design items (i.e., drainage items, retained earth walls, etc.).

The bidding documents and contract plans should clearly indicate the design criteria and the type of alternate designs or contractor options that will be acceptable. The contractor should be permitted to bid any designated alternate that is consistent with its expertise and equipment.

Alternate Bridge Type Bidding

From December 1979 to August 1995, FHWA policy required the development of alternate bridge designs for major bridge structures (greater than $10 million). This policy was established to get the best possible value in an unstable market by requiring alternate bridge designs. The analysis of cost data from 1979 through 1987 indicated that the alternate bridge design policy resulted in an average savings of $2 million for each major bridge project. Although this policy was effective in documenting large savings in the design and construction of major structures, it was discontinued on August 15, 1995. The revised FHWA policy allows States to use their discretion in providing alternate designs where appropriate.

Alternate Pavement Type Bidding

The FHWA does not encourage the use of alternate bids to determine the mainline pavement type, primarily due to the difficulties in developing truly equivalent pavement designs. In those rare instances where the use of alternate bids is considered, the STA's engineering and economic analysis used in the selection process for the pavement type should clearly demonstrate that there is no clear cut choice between two or more alternatives having equivalent designs. Equivalent design implies that each alternative will be designed to perform equally over the same performance period and have similar life-cycle costs.

SEP-14 approval is necessary when the contracting agency uses a life-cycle-cost adjustment factor to determine the successful bidder. This adjustment factor typically takes into account the differences in life-cycle-costs between asphaltic concrete and Portland cement concrete pavements. If no adjustment factor is used, then SEP-14 approval is not necessary.

Missouri DOT experimented with five experimental projects that utilized alternate pavement type bidding procedures in 1996-1997. Following consultation with the asphaltic concrete and Portland cement concrete paving industries, Missouri DOT let five experimental projects using alternate pavement types under FHWA's Special Experimental Project No. 14 - Innovative Contracting (SEP-14). A price differential was utilized in the bid comparisons to take into account the differences in expected life cycle costs. Missouri DOT's July 1998 final report documented the use of this technique and recommended additional study on life cycle costs in order to be fair to both asphalt and concrete paving industries.

Additive Alternate Bidding

Some owners use a bidding technique called additive alternates when it is necessary to keep the awarded contract amount within budget. Under this procedure, the owner includes most of the project scope-of-work in "base-bid" items, and then specifies "additive alternates" which may be selected if the "base-plus-alternates" price is within budget. The owner must clearly specify the priority of alternates which will be considered and indicate that the award will be based on the lowest responsive bid considering the sum of the base bid and additive alternates which are within budget. The Federal Lands Highway Division and several other local public agencies have used this technique.

B. Incentive/Disincentive (I/D) Provisions

1. Time - I/D Clauses

References:

23 CFR 635.127(d)
FHWA TA T 5080.10, "*Incentive/Disincentive (I/D) for Early Completion,"* February 8, 1989

Applicability:

Applies to NHS projects.

Background:

The FHWA's long-standing policy prohibiting bonus payments which was stated in 23 CFR 635.118, was rescinded on June 13, 1984. Although the prohibition was first made regulatory in 1968, the policy apparently existed as early as 1927, and was based on an interpretation of a 1921 statute that limited the Federal Government's share of project costs to the value of labor and materials. However, the 1968 regulatory action was based on administrative interpretation rather than on specific statutory authority. In the late 1970's, the policy withstood attacks from the highway construction industry with FHWA arguing that the agency should not have to pay "extra" just to have a project completed early.

However, the National Experimental and Evaluation Program 24 (NEEP-24), conducted in the early 1980's, demonstrated that the use of early completion incentive payments could be used beneficially and without abuse.

Guidance:

In discussing incentive/disincentive (I/D) provisions, a clear distinction needs to be made between the intent of I/D provisions and the purpose of liquidated damages. Although they have similar mechanisms, the function of each is different. The primary function of liquidated damages is to recover the STA's construction oversight costs associated with the contractor's failure to complete the project on time. On the other hand, an I/D provision is intended to:

motivate the contractor to complete the work on, or ahead of, schedule, and

recover damages to the traveling public for late completion.

Therefore, an I/D rate must be based on the estimated road user costs.

An I/D provision for early completion is defined as a contract provision which compensates the contractor for each day that identified critical work is completed ahead of schedule and assesses a deduction for each day that completion of the critical work is delayed. The use of I/D provisions should be restricted to critical projects where it is essential that traffic inconvenience and delays be held to a minimum.

A project's suitability for I/D provisions must be identified during the early stages of project development in order that resources may be fully deployed on the design and coordination of the project. Generally, the use of I/D provisions should be limited to those projects that would severely disrupt highway traffic. I/D provisions should not be used routinely.

To keep from using I/D routinely, each STA should develop specific criteria to facilitate selection of I/D projects as early as possible within the project development cycle. The following characteristics have been associated with projects appropriate for I/D provisions:

- projects on high traffic volume facilities, generally in urban areas,

- projects that will complete a gap in a significant highway system,
- major reconstruction or rehabilitation on an existing facility that will severely disrupt traffic,
- major bridges out of service, or
- projects with lengthy detours.

The use of I/D provisions has generally proven to be very successful, with contractors usually completing projects ahead of schedule.

A 1988 study by FHWA's Office of Program Review study of eight States, 50 percent of the projects with I/D provisions paid the maximum incentive and 35 percent paid a partial incentive;

A 1991 Iowa DOT survey of 35 States found that typically, contractors finished I/D projects early, with incentive payments (often the maximum incentive allowed) being more typical than disincentive assessments.

In February 2000, the Michigan DOT (MDOT) completed an evaluation of the use of I/D clauses on 26 projects let and completed in 1998 and 1999. MDOT reported that 65% of I/D projects were completed early, 12% were completed on time and 23% were completed late. MDOT found that the average net reduction in contract days was 19% in comparison with similar projects that were let with an expedited schedule clause requiring the contractor to work a six calendar-day workweek but without the use of an I/D provision. The average I/D rate for these 26 projects was $18,500 and the average project user delay savings was $610,500. MDOT indicated that I/D provisions will result in an average expenditure of 1.5% of the contract amount.

This high rate of success is attributable not only to the monetary reward, but also to the contractors' response to a challenge.

During the development of I/D projects, extra effort should be made to ensure that the design, specifications, schedule, etc., are compatible and appropriate for the project. A field change to correct plan errors, especially those related to the I/D phase work items, will be very costly in both time and money on an I/D project. The plans and specifications should indicate any unusual condition or any restriction under which the contractor may be required to work, such as prohibiting jack hammering or pile driving during the night due to noise problems, or work restrictions related to environmental issues.

The contract must clearly define the start and the completion of the I/D phase since both may differ from the start or completion of the project. For example, the I/D time might not begin until traffic is impacted, thus allowing the contractor time to fabricate steel, obtain mix design approval, etc. However, it is necessary to define in detail what is expected of the contractor. This can be done through the plans or by detailed description in the special provisions.

During the preconstruction phase of the project, all parties (e.g., local officials, police, local traffic engineers, construction engineers, etc.) should be involved in the project development.

Pre-design field reviews are essential since "as-built" plans or old construction plans may not be reliable. Maintenance operations, utility work, modifications on adjacent properties, or field changes done during the original construction but not recorded on the plans, may result in substantial differences between the as-built plans and field conditions.

A pre-bid meeting should be held to discuss the I/D phase and any unusual features of the project.

Determination of I/D Amounts To effectively accomplish the objectives of I/D provisions, the I/D amount must be large enough to encourage the contractor to be innovative, and compensate the contractor for the additional expense of accelerating the work. If the incentive payment is not sufficient to cover the contractor's extra costs (additional crews, overtime, additional equipment, etc.), then there is no incentive to accelerate production, and the I/D provisions will not produce the intended results.

The daily I/D amount should be calculated on a project-by-project basis using established construction engineering inspection costs, State-related traffic control and maintenance costs, detour costs, and road user costs. The calculation of the I/D amount must be well justified and documented for each project. Costs attributed to disruption of adjacent businesses should not be included in the daily I/D amount. Engineering judgment may be used to adjust the calculated daily amount downward to a final daily I/D amount that provides a favorable benefit/cost ratio to the traveling public, and still motivates the contractor.

A total incentive payment cap of 5 percent of the total contract amount has been used by a number of STAs. The cap on the incentive payment puts an upper limit on the funding required if the estimated I/D time was longer than necessary. Eventually, with experience, the STAs may feel comfortable in not setting a cap. No cap should be placed on the maximum disincentive amount.

EXAMPLE: Milton v. Alabama

> To FHWA's knowledge, the only adverse decision regarding the use of I/D contract provisions has occurred in Alabama. On September 14, 1990, the Supreme Court of Alabama issued an opinion striking down Alabama's use of an I/D clause on two Alabama DOT Federal-aid projects. In the suit, Milton Construction Company (Milton) asked the court to declare the disincentive clauses used in the two contracts void and unenforceable as a penalty. Although the Alabama Supreme Court decided in Milton's favor, the case did not set precedent for I/D provisions but merely ruled on Alabama's use of these provisions on these two projects.
>
> The Court ruled that Alabama's use of the I/D provision was a penalty, against public policy, and therefore unenforceable. The Court concluded that the following evidence supported Milton's case:

- The daily amount for the disincentive assessment was arbitrarily set by the owner (it was not based on road user costs). The court did not consider the daily I/D rate to be a reasonable estimate of probable losses to the traveling public;
- The stated purpose of the clause was to encourage early completion. There was no mention of the recovery of costs for the road users; and
- The contract set a maximum amount of disincentive payment that could be assessed. Thus, even though road user costs could continue to accumulate after the critical contract date, the disincentive charge would remain the same. The court saw this as further evidence of Milton's claim that the I/D provision was a penalty and not a vehicle to recover reasonable losses.

The Alabama Supreme Court overturned the disincentive assessment, concluding that, as applied it was a penalty. The State did not adequately demonstrate how the contract time was established nor how the daily I/D rate was related to road user costs. FHWA recommends that I/D daily rate be based on a reasonable estimate of road user costs. The I/D daily rate can be less than or equal to the estimate of road user costs, but in no case should the I/D rate exceed the estimate. For further guidance see FHWA Technical Advisory TA T 5080.10.

Determination of I/D Time. When determining I/D time, the STA must consider to what extent, and at what cost, construction can be compressed from a normal construction schedule. If the completion date is unreasonable, the bid prices will be excessively high. In fact, unreasonable completion dates may discourage potential bidders from bidding. On the other hand, the use of a nominally compressed contract time may allow the contractor to earn the maximum amount without making an increased effort. This penalizes the public since the I/D phase would not be completed in less time than under a non-I/D contract but will cost more due to the incentive payment.

The determination of I/D contract time based on past performance requires engineering judgment to determine to what extent the time can be compressed. Normal construction time is generally based on a competent contractor working 5 days a week, eight hours a day, while an accelerated time should be based on the performance of a good contractor working extended or extra shifts with additional workers for six or seven days a week. Continuous 7-day workweeks should be avoided since extended periods of work without days off can result in high turnover rates for contractor and inspection personnel.

The season of the year in which the project will be constructed should be considered in determining the I/D time. Finally, the project should be such that an I/D phase can be completed in one construction season.

The use of calendar day or completion date contracts has proven very effective in controlling contract times. Working days should not be used for I/D contracts for the following reasons:

- the use of working days has not been effective in getting projects completed by a specific date, and

- project engineers come under additional pressure when determining whether to charge the contractor a working day. This increases the conflict between the contractor and the project engineer in general and about working days specifically.

Cooperation and coordination between the contractor and the STA are essential since any delay in approval of change orders can be costly. Decision-making and approval must be promptly provided to the contractor at all times that I/D work is in progress. As appropriate, projects should be set up with periodic meetings to discuss project development during design and construction. These discussions should consider future critical operations and potential problems.

To facilitate the project engineer's ability to make prompt decisions, the contractor should be required to submit a CPM schedule for review and approval prior to starting work. In addition, since the schedule will be used to gauge and analyze the contractor's progress, determine time adjustments, and evaluate claims, the contractor should be required to update the CPM on a regular basis, which might be in conjunction with the regularly scheduled job site progress meetings. Regular meetings to update the CPM serve as a valuable contract administration tool, especially if any changes occur.

During the life of the contract, the contractor must meet all milestones and completion dates. Extension of time on an I/D date should not be given unless extraordinary circumstances occur. The burden of proof to extend the I/D date must be on the contractor. The contractor must fully justify why concurrent operations, additional manpower, additional shifts, overtime, 24-hour workdays, 7-day workweeks, etc., cannot be used to keep the project on schedule. The STA should consider all alternatives, including additional CE costs, to keep the project on schedule.

The I/D time adjustments shall be limited to major work items that affect completion of items on the critical path and should be so identified in the contract. The effect of field changes and how field changes will be evaluated for time adjustments must be clearly spelled out in the project documents. The resulting percentage of underrun or overrun should be substantial to warrant contract time changes.

Additional work should be expected by both the contractor and the STA. Additional work which does not affect the critical path is to be absorbed within the current CPM schedule without any adjustment in the I/D time. However, extra work which impacts the critical path may result in an equitable adjustment for both cost and contract time.

Dependent on the use of I/D provisions by a given STA, it is best to maintain more oversight on contracts with early completion clauses in order to more closely monitor payment, time extensions, and delays.

C. Quality - Price Adjustment Clauses

References:

Headquarters memorandum - "*Technical Guidance on Price Adjustment Clauses for Quality*," January 24, 1992

Applicability:

Applies to all NHS projects

Background:

Price adjustment clauses and schedules are an important and effective component of quality assurance specifications. "Quality Assurance" specifications generally include statistically based acceptance plans, require contractor process control testing, and have provisions for pay adjustments based on the degree of compliance with specified requirements. Quality assurance specifications and programs may lead to better contractor control of the quality of the specified product, however, they do not diminish the need for effective construction inspection.

Incentive/Disincentive provisions have been referred to as "bonus" and "penalty" provisions. Some conclude that neither "bonus" nor "penalty" accurately describes these provisions. "Bonus" implies that additional payment is made for no added value. Price adjustment clauses can provide incentives for achieving higher quality in those physical properties that significantly improve performance. "Penalty" implies an administrative fine rather than a reduction in payment for future service loss.

In the past there was some sentiment that price adjustments were punitive in nature. However, negative price adjustments can provide a basis for accepting and paying for work that does not fully meet specifications and removal and replacement is not justified. They are not to penalize a contractor, but rather to pay an equitable amount for the value of the product delivered. Both incentives and disincentives should rationally relate to the gain or loss in service life or performance of the product. The FHWA has research underway on performance related specifications with the goal of developing pay adjustment clauses that are more rational and equitable than those currently employed. The following definition has been offered by a TRB synthesis:

> "*Performance-Related Specifications" (PRS) are materials and construction specifications that utilize a system of sampling, testing, and inspection procedures that have been found to significantly correlate with performance of the end product."*

Although the terms "bonus" and "penalty" may not accurately describe the intent of these provisions, legally the label does not matter if reasonable amounts are specified in the contract and both parties agree. The legal principle of stipulating, at the time of contracting, an amount payable as damages should a party break the contract is known as "liquidated damages." Legal opinions have upheld the use of liquidated damages provisions regardless of the label placed on them provided they are reasonable and based on a rational cost analysis. A legal opinion should be sought in each State when considering the application of price adjustment clauses because some States have had legal restrictions which did not allow such provisions in State construction contracts.

Guidance:

The FHWA has traditionally endorsed the use of incentive provisions up to five percent of the unit bid price for improved quality provided they are based on readily measured physical properties that reflect improved performance. Incentives greater than five

percent can be considered on a case-by-case basis following an analysis of performance data.

In developing price adjustment provisions, responses to the following questions should be obtained and analyzed:

- *What physical properties are considered to be critical?*
- *How are these physical properties tested/measured?*
- *To what degree does each physical property influence performance?*
- *What price adjustment, if any, should be applied to these physical properties?*

The following are some physical properties for which STAs include price adjustments based on quality of construction.

Asphalt Concrete	*Portland Cement Concrete*
- asphalt content	- strength (compressive and flexural)
- aggregate gradation	- aggregate gradation
- compaction (in-place density)	- air content
- Marshall air voids	- ride quality (pavement)
- stability	- thickness (pavement)
- ride quality	

An acceptance plan must be developed for each property. Acceptance plans are an agreed upon method of taking and evaluating measurements for determining the degree of acceptability of material or construction. An acceptance plan defines the lot size (i.e., the portion of work to be accepted at a time), sample size, sampling procedure, testing method, process for judging the acceptability of the test results, and payment provisions.

A price adjustment provision usually includes a pay schedule. There are two basic types of pay schedules. Continuous pay schedules use an equation, while stepped pay schedules incorporate a table in the specifications. The table may be easier to understand, but the equation is probably more equitable because it avoids large differences in pay for minor changes in quality at the pay break points. The difficult part in applying either of these schedules is determining the appropriate pay factor for a given quality level. This again goes back to the need for performance information. The following are examples of both types of pay schedules.

Example - Stepped Pay Schedule

Step	Percent Defective	Pay Factor
1	0.00 - 5.00	1.05 (e.g. 105% of bid price)
2	5.01 - 15.00	1.00
3	15.01 - 25.00	0.96
4	25.01 - 35.00	0.90
5	35.01 - 50.00	0.80
6	50.00 -100.00	Remove and replace, 0.50 if allowed to remain in place

Continuous Pay Schedule - Example

Pay Factor = 1.05 - (0.005 * Percent Defective)

Price adjustments can be based on an individual physical property or a combination of properties. When a contracting agency determines that there are a number of physical properties that will be included in the price adjustment provisions, pay factors for these physical properties must be combined to determine the final price adjustment. Some agencies use the lowest of the pay factors, while others use a Combined Pay Factor (CPF). The CPF may be developed by multiplying the factors or by using a straight average. One caution on multiplying pay factors is that this potentially can assess an inordinate negative pay adjustment.

A more common approach is to simply combine pay factors by using a weighted average based on a predetermined weighing factor for each property. By using this approach, more importance can be given to certain properties. The following is a sample CPF formula using this method.

$$Final\ Combined\ Pay\ Factor = \frac{\Sigma(PF_n \times Wt_n)}{\Sigma(Wt_n)}$$

(where PF_n= pay factor for item n, Wt_n= weighting factor for item n, the Greek symbol Sigma, Σ = summation)

When using price adjustment provisions for quality it is important to ensure, from a performance standpoint, that specifying a positive pay factor on one physical property does not detract from achieving sufficient quality of another physical property, or more importantly, the product as a whole. Some STAs specify that incentives will not be paid for a given lot on one property if negative price adjustments are assessed on another property.

Another approach that has been proposed for highway pavements makes use of a concept called the "load ratio." This involves determining the interrelationships of all properties deemed performance indicators.

This is done through an analysis of anticipated service life using a mathematical model, such as the AASHTO Pavement Design equation, coupled with an engineering economics analysis. This is a complex method, but may more nearly relate pay factors to anticipated performance which is the goal of price adjustments.

Implementing pay adjustment provisions should follow the same logic followed for implementing any other aspect of a quality assurance specification. There should be a transition period during which adjustments are calculated on trial projects but not actually applied. This will allow evaluation of the price adjustment amounts and procedures. Following this phase, price adjustments might be applied at a rate of 50% for a given time period (e.g., such as one construction season). Most importantly, price adjustment provisions should be developed cooperatively with industry following the overall premise that the adjustments rationally relate to performance.

CPF Example: Asphalt Concrete Pavement

The contracting agency has determined that four physical properties for asphalt pavement that significantly affect performance are RIDE QUALITY, COMPACTION, ASPHALT CONTENT, and GRADATION. The contracting agency has also decided the relative importance of each property (weight) on pavement performance. An acceptance plan has been developed to define the quantity to be represented by an analysis (i.e., lot size), number of samples, quantity represented by each test, random sampling provisions, method of evaluation (typically a statistical analysis), etc. Based on an analysis of the testing results against the defined specification, the respective pay factors for each property in a given lot have been determined. These are listed in the "PF" column. Pay factors greater than 1.00 (i.e., incentive) indicate the quality was better than specified and those less than 1.00 (i.e., disincentive) indicate quality was less than specified.

PF_n	Physical Property	PF	Weight	PF x Wt
1:	Ride Quality	1.04	5	5.20
2:	Compaction	1.01	3	3.03
3:	Asphalt Content	0.99	3	2.97
4:	Gradation	Gradation	1	0.97
		Sum =	12	12.17

$$Final\ CPF = \frac{12.17}{12} = 1.014\ \ (i.e., 1.4\%\ Incentive\ Payment)$$

The final payment for the lot to the contractor is determined by:

Lot Payment = Bid Price x Quantity in Lot x 1.014

As shown below, when other techniques for determining the CPF are used, the result can be significantly different.

Method	Resulting Lot Pay Factor
Weighted Avg. (from above)	1.014 (+1.4% price adjustment)
Multiplication of factors	1.009 (+0.9% price adjustment)
Straight Average	1.002 (+0.2% price adjustment)
No incentives if negative factors	1.000 (no price adjustment)
Lowest Pay Factor	0.97 (-3.0% price adjustment)

Multiplying pay factors can potentially result in an inordinate negative pay adjustment. For example, if a material had five pay factors and they computed to be 0.97, or slightly less than that specified, the resulting computation would be:

Final Pay Factor = 0.97 x 0.97 x 0.97 x 0.97 x 0.97 = 0.859
(-14.1% price adjustment)

If the lowest pay factors were used, the resulting CPF would be 0.97 (i.e., merely a -3.0% price adjustment).

No method is currently considered more correct that another because the true way that various physical characteristics interact is not fully understood. STA's should use

performance studies coupled with testing data to determine the method that most closely matches their experience.

D. Price Adjustment Clauses

References:

TA 5083.3 "*Development and Use of Price Adjustment Contract Provisions,"* December 10,1980
Headquarters memorandum -"*Price Adjustment Contract Provisions*," August 21, 1990
Headquarters memorandum - "*Price Adjustment of Existing Contracts*," November 30, 1990

Applicability:

Applies to all Federal-aid highway construction projects.

Background:

The material from this section was extracted from TA T 5080.3, *"Development and Use of Price Adjustment Contract Provisions"* (Appendix A-70 to A-86). Although TA T 5080.3 expired in 1990, its information remains valid.

Price adjustment clauses were developed in response to the Organization of Petroleum Exporting Countries (OPEC) oil embargo of 1973. A price adjustment clause establishes a method within the contract to adjust the contract unit prices of specific materials and supplies under certain economic conditions. In the past, price adjustment clauses have been invoked during periods when asphalt, fuel, and cement were in short supply nationally; but the clauses may be written more generically and not limited to these materials. Price adjustments may also be justified for regional shortages.

The price adjustment clauses are incorporated into contracts to reduce the contractor's risk of bidding which results in speculative prices. By keeping that risk with the STA, inflated bid prices and overall project costs are reduced. More recent information regarding FHWA's price adjustment policy can be found in Headquarters memoranda dated August 21, 1990 (Appendix A-121 to A-122) and November 30, 1990 (Appendix A-123 to A-124).

Guidance:

Price adjustment clauses should be applied only to materials with uncontrollable price volatility which may greatly affect contract prices. In general, price adjustment clauses may be invoked if:

- the price trend is extremely volatile,
- suppliers are unable to provide a price quotation for the usual term of the typical contract,

- the price quote may be based on date of delivery or spot market conditions, or
- shortages may be expected.

The standard, upon which price adjustments are to be based, should be real, quantifiable, and identified in the contract specifications. This standard should represent a price, or base index, which is not susceptible to manipulation by contractors or suppliers. The STA may develop its own price index or adopt any of the published commonly available data. The Consumer Price Index is an example of a commonly used published index.

In developing its own price index, the STA could use:

- actual price quotations taken from a fixed set of suppliers serving a specific area, or
- actual bid prices.
- The STA should compute this price index at specified intervals, not as price changes occur. Monthly computations are suggested.

Published price data may be found in the following sources:

- Bureau of Labor Statistics: "Producer Price Indexes" (monthly),
- Engineering News Record (weekly): construction prices listed approximately monthly, or
- any of a number of oil-related publications (e.g., The Oil Daily, Platt's Oilgram Price Service) with price data for specific oil products.

With the valid price index in hand, the STA must then develop workable provisions. Some general principles for the development and use of price adjustment clauses are:

- The price adjustment provision need not be a standard specification. If the price adjustment is included as a standard specification, the provision should indicate that it is only applicable when specified in the bidding proposal;
- The price adjustments should provide for both upward and downward movement of prices;
- There should be upper and lower limits on the adjusted compensation;
- The price adjustment should be "triggered" by a significant change in the index rather than minor fluctuations in price (AASHTO has suggested a 5 percent "trigger", although 10 percent has become the norm);
- The basis of payment clause should clearly indicate the coverage of price adjustment clauses;
- The contractor should not be allowed any option whether to accept or reject any price adjustment compensation;

- The price adjustment compensation should be automatically incorporated in progress and partial payment computations;

- The compensation should not be based on actual invoiced receipts; and

- Upward price adjustments should not be permitted after the contract time (including extensions) allowed for completion of the project has elapsed.

Currently no materials have been identified with uncontrollable price volatility at the national level; however, there may be some which show enough price variations on the regional level to warrant the application of price adjustment clauses. The STA should consider the following principles when trying to determine whether regional/local conditions warrant the use of price adjustment clauses:

- Price adjustments should be considered for projects which are expected to exceed 9 months in duration from bid opening to completion;

- For single season contracts, price adjustment clauses should be provided for all price-volatile materials which significantly affect the unit costs of the major items of work; and

- For multiple season contracts, price adjustment clauses should be provided for all price-volatile materials and supplies.

As noted, fuel prices may also be volatile. When the contract work is fuel-intensive (e.g. earth moving), price adjustment provisions may be appropriate. The application of fuel price adjustment clauses is discussed in TA T 5080.3. Excavation and embankment, aggregate hauling, and paving are the most fuel-intensive types of work.

Price adjustment provisions should be continuously monitored and evaluated for need, effectiveness, and fairness. Input from the industry should be encouraged.

<u>Retroactive price adjustments for increased material costs or tax increases</u>

Will FHWA participate in the costs associated with steel price increases on existing contracts (retro-active adjustements) ?

The FHWA does not have the legal authority to participate in retroactive contract modifications related to material price increases. Mr. Capka's April 8, 2004 memorandum indicated that FHWA is legally prohibited from making such payments. In the absence of a price escalation clause for steel, the contractor should have provided for this contingency in its bid. However, the FHWA would not object to the State DOTs using 100% state funds for such payments.

For new contracts, States may use steel price adjustment clauses in new contracts just as they would for asphalt cement or fuel.

<u>Are the additional costs associated with a state sales tax increase eligible for Federal-aid participation?</u>

Unless the State DOT has a related contract clause, there is no basis for additional compensation. This is similar in concept to steel price issue noted above. In the absence of a price escalation clause for increased taxes, the contractor should have provided for an appropriate amount in its bid to cover the risk of increased taxes.

E. Highway Construction Funding Source Signs

References:

Section 154, STURAA of 1987
23 U.S.C. 114
23 CFR 635.309(n) & (o)
FAPG NS 23 CFR 635C

Applicability:

All Federal-aid highway construction projects within a State, if the STA routinely installs funding source signs.

Background:

The 1960 Highway Act contained a mandate that funding source signs be placed on all Federal-aid projects. This resulted in the "Your Highway Taxes at Work" signs which were erected on all projects from 1960 until 1973.

However, the 1973 Highway Act removed the mandate and additionally, specifically prohibited the erection of any signing other than official traffic control devices on Federal-aid projects.

Section 154 of the 1987 Surface Transportation and Uniform Relocation Assistance Act (STURAA) mandated that any State which routinely required funding source signs on State projects must also erect such signs on Federal-aid projects. The House Committee on Public works and Transportation included the following comments concerning the intent of the legislation in its analysis report.

> *Section 114* [section 154 in the final bill] *requires states that erect signs on projects without direct Federal funding showing the source of funding to erect signs on all Federal-aid projects displaying the source and amounts of funds. The section is intended to require those states that have adopted innovative funding strategies using a mixture of funds to provide the public with a factual statement of the funding sources. It is not intended to require those states that do not have a practice of erecting signs at construction sites to begin such a practice.*

The intent of Section 154 is to require those States that have adopted innovative funding strategies which may use a mix of funding sources to provide the traveling public with a factual statement about the project's funding. States that do not routinely erect funding source signs would not be required to start the practice (House Report 99-665, July 2, 1986, pp. 11-12).

Guidance:

The legislative language on funding source signs is quite clear. If a State has a policy of erecting funding source signs for its non-Federal-aid highway projects, the State must erect funding source signs on ALL Federal-aid projects without regard to the dollar value of the project.

The signs must conform to the Manual on Uniform Traffic Control Devices (MUTCD). Only essential information regarding the source and amount of funding shall be included on the sign. Promotional information such as the identification of public officials, contractors, organizational affiliations, symbols, logos or other items are prohibited.

Costs associated with erecting the signs are eligible for Federal-aid participation as part of the Federal-aid project. The cost will be reimbursed at the same pro rata share as the construction. Signs may be considered an incidental item or bid as a separate pay item.

V. Other Issues

A. Non-traditional Contracting Practices

Reference:

Headquarters memorandum - "*Innovative Contracting Practices and Special Experimental Project No. 14*," February 13, 1990
Headquarters memorandum - "*Transportation Research Circular No. 386, Innovative Contracting Practices*," February 19, 1992
Headquarters memorandum - "*Special Experimental Project No. 14,*" May 4, 1995

Applicability:

Applies to all Federal-aid highway construction projects.

Background:

In 1988, a Transportation Research Board (TRB) task force, comprised of representatives from all segments of the highway industry, was formed to evaluate Innovative Contracting Practices. The task force's mission was to:

- research and compile information on contracting practices used by agencies in the U.S. and other countries,
- assess how current practices affect quality, progress and cost, and
- suggest measures for improving contracting practices and promoting quality in construction.

The TRB task force requested that the FHWA establish a project to evaluate and validate the findings of the task force, which are documented in Transportation Research Circular Number 386, titled, "Innovative Contracting Practices," dated December 1991. In response, the FHWA initiated Special Experimental Project No. 14 (SEP-14).

SEP-14 strives to "i*dentify, evaluate, and document innovative contracting practices that have the potential to reduce the life cycle cost of projects, while at the same time, maintain product quality.*" Within the regulatory requirements of the Federal-aid highway program, some degree of flexibility does exist. SEP-14 is an effort to explore this flexibility to its fullest. However, SEP-14 does not seek alternatives to the open competitive bid process.

The innovative practices originally approved for evaluation were: cost-plus-time bidding, lane rental, design/build contracting, and warranty clauses. Forty-one States have used at least one of the innovative practices under SEP-14. Based on their collective experiences, FHWA decided that cost-plus-time bidding, lane rental, and warranty clauses were techniques suitable for use as non-experimental, operational practices and in 1995 these were made "regular Federal-aid procedures." Therefore, the STAs

are encouraged to use these techniques on future projects. Detailed discussions of each practice are provided later in this section under the "*Non-experimental methods*" heading.

The FHWA will not mandate the use of innovative contracting practices. However, through SEP-14, the agency is working to maintain an environment that allows the STAs and the construction industry to try innovative contracting practices that may result in an improvement of the industry's traditional contracting methods. FHWA hopes to try all proposed concepts that fall within the flexibility of the Federal-aid program requirements.

Experimental methods

The following contracting techniques are either: 1) under evaluation by a number of states under SEP-14, or 2) under evaluation by some states as non-participating (state funding only).

The following is a brief discussion of each technique.

Design-build The design/build concept allows the contractor maximum flexibility for innovation in the selection of design, materials, and construction methods. Under the design/build concept, the contracting agency identifies the parameters for the desired end result and establishes the minimum design criteria. The prospective bidders then develop design proposals which optimize their construction abilities. The submitted proposals are rated by the contracting agency on the basis of design quality, timeliness, management capability, and cost.

The design/build concept opens up a new degree of flexibility for innovation. Basing the project design on the contractor's preferred construction methods and expertise provides the flexibility to compensate for cost increases in one area through efficiencies in another. This concept allows the contractor to optimize the work force, equipment, and scheduling.

However, along with the increased flexibility, the contractor must also assume greater responsibility. Because both design and construction are performed under the same contract, claims for design errors or delays due to redesign are not allowed and the potential for other types of claims is greatly reduced. Extended liability insurance or warranty clauses may be used to ensure that the finished product will perform as required.

From a STA's perspective, the potential time savings is a significant benefit. Since the design and construction are performed through one procurement, construction can begin before all design details are finalized (e.g., pile driving could begin while bridge lighting is still being designed). However, this approach should only be applied to those projects for which the end product or facility can be well defined.

The FHWA published a final rule making for design-build in the December 10, 2002 Federal Register. However, due to the specific language in TEA-21 Section 1307, SEP-14 approval is still necessary for non-qualified projects. Intelligent Transportation System (ITS) projects < $5 million and other design-build projects < $50 million may be approved as SEP-14 non-qualified projects by FHWA Division Offices without Headquarters approval. Qualified design-build projects (>$50 million or ITS projects > $5 million) may be approved by the Division Office in accordance with 23 CFR Part 636.

Indefinite delivery/indefinite quantity (ID/IQ) This is a concept that several STAs currently use for design, maintenance or traffic control activities, and for other recurring tasks. For an ID/IQ contract, the contractor bids per unit of specific work (for example, the work unit might be signalizing an intersection, or constructing an off-system bridge) with a guaranteed minimum amount of work units over the life of the contract. Actual work locations are determined during the life of the contract. Since the contract may be written to cover multiple years and multiple districts, the STA eliminates the need to advertise several small contracts around the State. The contractor gains by having some guaranteed level of work for the core crew.

No excuse incentive (bonuses) Under this concept, the STA gives the contractor a "drop-dead date" (or an incentive date) for completion of a phase or project. If the work is completed in advance of that date, the contractor receives a bonus. The agency will not accept any excuses, including weather delays, for not meeting the incentive date; meaning that the incentive date will not be changed. However, the STA may use its normal procedures to grant weather days or time extensions outside the incentive date. The contract will identify both a bonus date and a completion date for normal construction. If the contractor does not meet the bonus date, normal contract administration processes are followed.

Lump sum bidding This method requires the contractor to develop the quantities from the contract package prepared by the STA. The contractor then submits a Lump Sum bid for the project. The method is designed to reduce quantity overruns due to errors in quantity calculations or changed field conditions. An added benefit is the reduction in paperwork related to quantity measurement and verification, allowing STA field personnel to spend more time on inspection of the work. Any costs associated with changed or unforeseen conditions as well as added or deleted work will be negotiated using standard practices. States typically use this method for simple projects such as resurfacing, bike paths, box culvert extensions and minor bridge widening.

NOTE: a normal lump sum project for which the STA prepares a complete PS&E package is NOT experimental. This method is not experimental because the contractor develops the estimated quantities as part of preparing the bid estimate.

Best value A few States have considered awarding construction contracts on the basis of price and "other factors." The Oregon DOT has used a form of price/qualifications-based bidding to replace the counterweight trunnion assemblies on the I-5 lift span bridge over the Columbia River. This contract was awarded on the basis of the highest composite score considering both price information and technical

criteria. The composite score was determined with a 50 percent weight for cost and 50 percent weight for technical qualifications.

Alternative pavement type bidding Under an SEP-14 proposal, MODOT evaluated alternative pavement bidding on five projects. FHWA has traditionally discouraged alternate pavement bids primarily due to the difficulties in developing truly equivalent pavement designs. However, Missouri actively involved the paving industry in the process of developing alternate pavement type specifications. They have also developed bid adjustment factors intended to allow a fair comparison of bids for different pavement types. The contract is then awarded to the lowest responsive/responsible bidder after the bids are multiplied by the bid adjustment factors.

Bid averaging At least one State is experimenting with bid averaging, although bid averaging is NOT a method which will or could be evaluated under SEP-14 since the method does not fit within the statutory framework for competitive bidding in 23 U.S.C. 112 which requires that contracts be awarded to the lowest responsive/responsible bidder. In bid averaging, the high and low bids are discarded, then the remaining bids are averaged with the contract being awarded to the contractor that comes closest to the average bid. The theory behind this concept is that a contractor will submit a true and reasonable bid for a project and therefore will be less likely to submit claims and have less incentive to “cut corners.” To work well, “sufficient” (five or more) bidders must compete for the project.

Non-experimental methods

These contracting techniques may be considered to be non-traditional by some agencies, however, after a number of years of evaluation under SEP-14, FHWA declared them to be operational (FHWA Headquarters approval is not necessary).

Cost-Plus-Time Bidding Cost-plus-time bidding, commonly referred to as the A+B bidding, allows both time and cost to be considered, in the low bid determination.

Under the A+B method, each submitted bid consists of two components:

the "A" component is the traditional bid for the contract items and is the dollar amount for all work to be performed under the contract; while
the "B" component is the total number of calendar days the bidder stipulates will be required to complete the project. Calendar days are used to avoid any potential controversy.

The lowest and best bid is determined by adding the sum of the amount bid for the contract items to the cost associated with the time bid to complete the project. The time cost is found by multiplying the number of days bid by the daily road user cost identified in the specifications. The formula looks like this:

A + (B x Daily Road User Cost) = Bid value

The bid value is only used to determine the winning bidder. Total payments to the contractor will be based on the “A” component of the bid but may be revised over the life of the contract depending on a variety of factors; including plan changes, change orders, and liquidated damages.

The project timetable will be based on the contractor's "B" bid. Therefore, a disincentive provision, using the same daily road user cost value as used in the bid analysis formula must also be a part of the contract to discourage the contractor from overrunning the number of calendar days "bid" for the project. In addition, an incentive provision may be included in the contract to reward the contractor for completing the work early. As with other I/D clauses, FHWA recommends that a cap be placed on the total possible incentive amount.

For projects with high road user impacts, the A+B method can prove to be an effective technique. By giving the contractor the flexibility to establish his/her own completion time, operational efficiency is rewarded and significant reductions in project impacts can result. However, the cost-plus-time bidding approach is not suitable for all projects. Routine contracts should continue to be let using conventional methods.

Lane Rental Similar to the cost-plus-time bidding concept, the goal of the lane rental concept is to encourage contractors to minimize road user impacts during construction. Under the lane rental concept, a provision for a rental fee assessment is included in the contract. The lane rental fee is based on road user costs. The fee is assessed for the time that the contractor occupies or obstructs part of the roadway and is deducted from the monthly progress payment.

The rental fee is dependent on the number and type of lanes closed or obstructed (i.e., shoulder and lane closure combinations). The rental fee is usually assessed on a daily or an hourly basis and may vary for different hours of the day (e.g., rush hour periods). Exactly how the closure time will be determined should be clearly defined in the specifications. Some STAs give contractors a specified number of "free" closure periods and do not assess the rental fee until these have been used.

The bidding package does not normally indicate the STA's estimate for the length of time that the contractor's operations will impact traffic. Also, the contractor does not typically submit an estimate of impact time with the bid. The low bid is determined solely on the lowest amount bid for the contract items.

The intent of lane rental is to encourage contractors to schedule their work to keep traffic restrictions to a minimum, both in terms of duration and number of lane closures. The lane rental concept has merit for use in contracts for projects which significantly impact the traveling public.

Warranty Clauses

References:

23 CFR 635.413

Applicability:

Applies to NHS projects.

Background:

The FHWA had a longstanding policy, with few exceptions, against the use of warranties on Federal-aid projects. The policy was based on the rationale that participation in a warranty payment constituted an indirect Federal-aid participation in maintenance costs.

Warranties have been successfully used in other countries and by some STAs on non-Federal projects to protect investments from early failure. Many of the European countries use some form of warranty in their highway contracts, with warranty period ranging from 1 to 5 years. The consensus among the European transportation agencies is that warranties do improve construction quality.
Beginning in the 1980s, contracting agencies became increasingly interested in using warranties as a way to improve product quality, and as an element of certain innovative contracting approaches, such as, design/build/warrant contracting. Under SEP-14, the FHWA approved warranty concepts with the objective of encouraging improved quality and contractor accountability without shifting the maintenance burden to the contractor. Ordinary wear and tear, damage caused by others, and routine maintenance remain the responsibility of the STA. As a result, several States evaluated the use of warranties. Their collective experience led FHWA to revise its policy on warranties. The final rule which was published in the Federal Register on April 19, 1996, with an effective date of August 25, 1995, allows States to include warranty provisions for construction products or features in their contracts.

Guidance:

Warranty provisions shall be for a specific construction product or feature. A general warranty for the entire project is unacceptable since the contractor does not control the design process or make decisions during that phase.

Warranties may not cover items of maintenance not eligible for Federal participation. An example of this might be a warranty for guardrail construction where it would be inappropriate to warrant routine damage done to the guardrail by vehicle impacts.

Contractors are not to be required to warrant items over which they have no control. An example of this might be a warranty for asphaltic concrete pavement. It would be appropriate for the contractor to warrant the smoothness of the pavement or the rutting performance, but inappropriate to warrant reflective cracking which might occur due to preexisting underlying layers regardless of how well the contractor constructs the new pavement.

Currently the regulations do not restrict the duration of the warranty. However, practical experience has shown that 2 to 5 year warranties are common, and warranties beyond 5 years may not be as cost effective due to bonding and/or surety concerns. Warranty provisions have been used for asphalt concrete pavements, bridge painting, traffic striping, and bridge expansion joints.

Prior approval by the FHWA Division Administrator of a warranty provision and its subsequent revisions are required for NHS projects. The clause must not require a contractor to warrant items over which they do not have control. Maintenance items ineligible for Federal-aid funding are not allowed to be warranted.

Use of warranty provisions for non-NHS projects will be governed by the individual State written procedures.

Note: Section I.2 of Form FHWA-1273 – "Required Contract Provisions" indicates that the prime contractor is responsible for subcontractor compliance with the Required Contract Provisions. However, this does not limit the ability of the contracting agency to ask or require the transfer of specific warranty provisions to appropriate subcontractors.

Provisions for General project warranties: Generally speaking, the FHWA is prohibited from participating in costs related to routine or recurring maintenance (snow removal, graffiti removal, litter pickup, mowing, roadside vegetation control, etc.), however, the FHWA may participate in preventive maintenance work that is shown to be cost effective (such as pavement joint repair, crack sealing, drainage clean out work, etc.). See Mr. Gee's October 8, 2004 memorandum on Preventive Maintenance Eligibility provides guidance on this subject.

B. Architect/engineer consultant procurement

References:

23 U.S.C. 112
40 U.S.C., Section 541-544.
23 CFR 172

Applicability:

Contracts for architect/engineer consultant services

Background:

Excluding any exceptions, the general procurement procedures for property and services for Federal-aid highway projects are covered under the general procurement requirements found in 49 CFR 18. For the procurement of engineering services for

highway projects, there are several additional provisions found in 23 U.S.C. 112 which are amplified in 23 CFR 172.

The STA's procurement procedures for contracting engineering services under 23 U.S.C. 112 must comply with the "Brooks Act," (Public Law 92-582, language included at the end of this subsection) unless the STA has an established formal procurement procedure based on a State statute passed prior to June 9, 1998. The Brooks Act requires qualifications-based procurement procedures. These procedures first evaluate and rank interested firms based on their qualifications to perform the requested work, then, starting with the highest ranked firm, negotiations are held until a firm is retained. Prior to June 9, 1998, States were allowed to establish their own procedures for contracting engineering services with Federal-Aid funds as long as their formal procedures were based on State statutes. A few States established their own procedures prior to June 9, 1998 and may continue to use these procedures. However, TEA-21 prohibited this practice after its passage on June 9, 1998.

Guidance:

Title 23 U.S.C., Section 112(b)(2)(A) requires the "Brooks Act" procedures to be used for each contract for program management, construction management, feasibility studies, preliminary engineering, design, engineering, surveying, mapping, or architectural related services with respect to a construction project preformed by or supervised by the State.

In determining whether qualifications-based procurement procedures are required, several facets of the project need to be considered. In general, qualifications-based procedures are required for all Federal-aid funded consultant engineering contracts that are construction project specific. A feasibility study or planning contract for engineering services for a specific construction project would fall under these requirements, however the contract would probably not be eligible for planning funds. Conversely, a statewide planning contract not connected with a construction contract would not fall under these requirements. Consultant engineering contracts, which do not use Federal-aid funds, do not fall under these requirements even if the State will use Federal-aid funds in the construction phase.

Title 23 CFR 172 allows other procurement procedures to be used for special situations. Contracting agencies may use small purchase procedures for the procurement of engineering and design related services when the contract cost does not exceed $100,000.

With FHWA approval, States may use noncompetitive negotiation to obtain engineering and design related services when the award of a contract is not feasible under small purchase or competitive negotiation procedures. Circumstances under which a contract may be awarded by noncompetitive negotiation are limited to the following under 23 CFR 172.7:

(*i*) *The service is available only from a single source, or*
(*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 inadequate.*

In general, States have adopted the “Brooks Act” or similar procedures for contracting engineering services in their State procedures. Since the “Brooks Act” is short, the pertinent language is shown below. The “Brooks Act” can be found in 40 U.S.C., § 541-544.

“Brooks Act”

§ 542. ***Congressional declaration of policy****.*

The Congress hereby declares it to be the policy of the Federal Government to publicly announce all requirements for architectural and engineering services, and to negotiate contracts for architectural and engineering services on the basis of demonstrated competence and qualification for the type of professional services required and at fair and reasonable prices.

§ 543. ***Requests for data on architectural and engineering services****.*

In the procurement of architectural and engineering services, the agency head shall encourage firms engaged in the lawful practice of their profession to submit annually a statement of qualifications and performance data. The agency head, for each proposed project, shall evaluate current statements of qualifications and performance data on file with the agency, together with those that may be submitted by other firms regarding the proposed project, and shall conduct discussions with no less than three firms regarding anticipated concepts and the relative utility of alternative methods of approach for furnishing the required services and then shall select there from, in order of preference, based upon criteria established and published by him, no less than three of the firms deemed to be the most highly qualified to provide the services required.

§ 544. ***Negotiation of contracts for architectural and engineering services.***

(a) Negotiation with highest qualified firm.

The agency head shall negotiate a contract with the highest qualified firm for architectural and engineering services at compensation which the agency head determines is fair and reasonable to the Government. In making such determination, the agency head shall take into account the estimated value of the services to be rendered, the scope, complexity, and professional nature thereof.

(b) Negotiation with second and third, etc., most qualified firms.

Should the agency head be unable to negotiate a satisfactory contract with the firm considered to be the most qualified, at a price he determines to be fair and reasonable to the Government, negotiations with that firm should be formally terminated. The agency head should then undertake negotiations with the second most qualified firm. Failing accord with the second most qualified firm, the agency head should terminate negotiations. The agency head should then undertake negotiations with the third most qualified firm.

(c) Selection of additional firms in event of failure of negotiation with selected firms.

Should the agency head be unable to negotiate a satisfactory contract with any of the selected firms, he shall select additional firms in order of their competence and qualification and continue negotiations in accordance with this section until an agreement is reached.

Subsurface Utility Engineering Services

The FHWA and the American Society of Civil Engineers both consider subsurface utility engineering to be an engineering process for obtaining accurate and comprehensive information about underground utilities and for using that information in the development (i.e., planning, preliminary engineering, design, etc.) of highway projects.

The acquisition of subsurface utility engineering services by the low-bid method would generally violate the "Brooks Act" if Federal-aid funds were used to reimburse the State for subsurface utility engineering services acquired in accordance with a contract between the State and a subsurface utility engineering provider. If the State pays for subsurface utility engineering with its own funds (i.e., 100% State funds) the "Brooks Act" does not apply, even if it is used on a project where Federal-aid funds are used for other purposes. In cases where the subsurface utility engineering services are provided by subcontract to a construction contractor or a design-builder, the "Brooks Act" does not apply.

If a State desires to employ the services of a subsurface utility engineering provider by the low-bid method solely for the purpose of marking the approximate locations of underground utilities on the ground and/or exposing underground utilities, this is not considered to be subsurface utility engineering and reimbursement with Federal-funds would be appropriate. However, if in addition to marking and/or exposing underground utilities, the subsurface utility engineering provider also surveys the locations and provides the information to the State for planning or design purposes, this is considered to be subsurface utility engineering and Federal-aid funds cannot participate.

C. Intelligent Transportation System (ITS)

References:

HQ's 1/3/2000 memo – "Guidance on Federal-aid Eligibility of Operating Costs for Transportation Management Systems"
HQ's 10/1/97 "ITS Procurement Resource Guide"
HQ's 5/1/97 memo – "Procurement Information for ITS Projects"

Guidance:

Procurement

ITS projects and services vary significantly in scope. ITS improvements may be incorporated as part of a traditional Federal-aid construction contract, or the contracting

agency may elect to procure ITS services under individual contracts. When procured as separate contracts, the scope of the ITS contract will determine the applicability of Federal procurement requirements. If an ITS project meets the definition of construction in 23 U.S.C. 101(a)(see definition below), then the contract should be bid competitively with award to the lowest responsive bidder meeting the specified conditions of responsibility. In this case, the procurement procedures in 23 CFR 635 (competitive sealed bidding) will apply.

Title 23 Section 101(a)(3) provides a broad definition for construction for Federal-aid eligibility purposes. For the purpose of ITS project procurement, the terms shown in bold below have a unique meaning (bold added for emphasis).

> *"The term "construction" means the supervising, inspecting, actual building, and incurrence of* ***all costs incidental to the construction or reconstruction of a highway****, including bond costs and other costs relating to the issuance in accordance with section 122 of bonds or other debt financing instruments and costs incurred by the State in performing Federal-aid project related audits that directly benefit the Federal-aid highway program. Such term includes –*
>
> *(A) locating, surveying, and mapping (including the establishment of temporary and permanent geodetic markers in accordance with specifications of the National Oceanic and Atmospheric Administration of the Department of Commerce);*
>
> (B) *resurfacing, restoration, and rehabilitation;*
>
> (C) *acquisition of rights-of-way;*
>
> (D) *relocation assistance, acquisition of replacement housing sites, and acquisition and rehabilitation, relocation, and construction of replacement housing;*
>
> (E) *elimination of hazards of railway grade crossings;*
>
> (F) *elimination of roadside obstacles;*
>
> (G) ***improvements that directly facilitate and control traffic flow,*** *such as grade separation of intersections, widening of lanes, channelization of traffic,* ***traffic control systems,*** *and passenger loading and unloading areas; and*
>
> (H) *capital improvements that directly facilitate an effective vehicle weight enforcement program, such as scales (fixed and portable), scale pits, scale installation, and scale houses.*"

Specific questions regarding the application of the definition of construction to ITS projects should be directed to the ITS Delivery Team (HOTM).

If the ITS project primarily involves an "engineering service contract," the procedures of 23 CFR 172 (qualifications-based selection) apply.

If the ITS project does not meet the legal definition of "construction" (23 U.S.C. 101(a)(3) - it does not ". . . directly facilitate and control traffic flow") and is not an engineering service contract, then the contract may be considered to be a service contract. Such contracts may be procured by State's using their own procurement procedures in accordance with 49 CFR 18 (DOT's implementation of the "Common Rule" for Grant's and Cooperative Agreements to States and Local Governments). In accordance with 49 CFR 18.36(a), States are to use the same procedures for procuring goods and services with Federal funds that they use for procurement with their own funds. Examples of service contracts which could be procured using State procedures might include incident management activities such as service patrol, route diversion,

*911 systems, computer-aided dispatch systems, and radio systems. Other ITS-related service contracts might include:

- the procurement of service patrol vehicles and hardware and software associated with Ridematching systems,
- software systems to match people wishing to form carpools and vanpools,
- marketing and education programs to encourage carpooling, and

worksite programs to determine the commuting needs of the employees and promote carpooling, vanpooling, and alternative methods of commuting.

Applicability of other Federal Requirements to Service Contracts

FHWA requirements for construction contracts do not generally apply to "service contracts." However, there are some provisions which may apply to projects funded under Title 23 with specific limitations listed in each program (DBE, Buy America, non-discrimination, etc.). See Appendix A-135 to A-139 for a list of applicable requirements.

D. Transportation Enhancement Projects

References:
23 U.S.C. 133(d)(2)
49 CFR 18, "*The Common Rule*"
HQ memo 4/24/92 - "*Transportation Enhancement Activities*"
HQ memo 7/28/94 - "*Applicability of Davis-Bacon to Transportation Enhancement Projects*"
HQ memo 4/11/95 - "*Alternative Share for Transportation Enhancements*"
HQ memo 11/12/96 - "*Procurement of Transportation Enhancement Projects*" (http://www.fhwa.dot.gov/legsregs/directives/policy/gy72052.htm)
HQ memo 9/29/97 - *"Extension of Alternative Share for Transportation Enhancements"*
HQ memo 4/1/99 - *"Interim Recreational Trails Guidance"*
HQ memo 6/18/99 - *"Transmittal of Guidance on Transportation Enhancement Provisions of TEA-21"*

Applicability:

Projects must conform to the qualifying activities list in 23 U.S.C. 101(a) and TEA-21, §1201.

Background:

Transportation Enhancements (TE) are transportation-related activities that are designed to strengthen the cultural, aesthetic, and environmental aspects of the Nation's intermodal transportation system. The TE program provides an opportunity to implement a wide variety of non-traditional projects. Eligible projects range from the

restoration of historic transportation facilities, to bike and pedestrian facilities, to landscaping and scenic beautification, and to the mitigation of water pollution from highway runoff. Section 1007(a) of ISTEA created the TE program by adding 23 U.S.C. 133(d)(2) which required that 10 percent of the new Surface Transportation Program (STP) funds be available only for TE activities. Section 1007(c) of ISTEA established a list of qualifying activities while §1024 and 1025 modified the metropolitan and statewide planning requirements respectively to require that TE activities be considered in the development of transportation plans and programs

Guidance:

Procurement

Mr. Ptak's November 12, 1996 memo provides flexibility for TE projects that are not located on the highway right-of-way. Such projects are not considered to be highway construction projects, and therefore, the FHWA's construction contracting requirements generally do not apply. FHWA has determined that the use of State procurement procedures (as provided in 49 CFR Part 18) is acceptable for projects not located within the highway right-of-way. The contracting agency may use State procurement procedures (or State approved local procedures) and FHWA's policies for construction contracting relating to competitive bidding are not applicable. Other FHWA policies not related to competitive bidding, such as Buy America, DBE and others, may still apply as appropriate. See Appendix A-135 for applicable requirements.

When a local pubic agency is the contracting agency for a Federal-aid non-highway construction contract, it must follow state-approved procedures. Title 49 CFR 18.37(a) says that a State shall follow state law and procedures when awarding and administering subgrants to local governments. Therefore, a State must use it's own administrative procedures, not those in 49 CFR part 18, for dealing with the locals. For such projects, the State DOT can tell the local government to follow State procedures, follow the local government's own procedures or follow the procedures in 18.36(b) - (i).

Davis-Bacon

As previously noted, Davis-Bacon only applies to projects located on highways functionally classified as Federal-aid highways (not local roads, rural minor collectors or projects not located on a highway system).

E. National Recreational Trails Program

As a replacement for the National Recreational Trails Funding Program, TEA-21 created the Recreational Trails Program and codified it in 23 U.S.C. 206. The program differs from the TE Program, and the 4/1/99 HQ memo should be used as guidance (See http://www.fhwa.dot.gov/environment/rectrails/guidance.htm).

In short, National Recreational Trails projects may generally be procured using State (or State approved) procedures. Buy America provisions apply. However, Davis-Bacon

provisions do not apply unless the project is located on a Federal-aid highway right-of-way.

F. Emergency Relief (ER) Projects

References:

23 U.S.C.120 & 125
23 CFR 668
FAPG 23 CFR 668
FAPG NS 23 CFR 668A

Emergency Relief Manual, Interim Update August 2003

Applicability:

Projects on Federal-aid highways to repair serious damage by widespread natural disasters, or by catastrophic failure from an external cause.

Background:

Recognizing that widespread natural disasters can place an unexpected burden on the resources of an STA, Congress has established an emergency fund for the repair or reconstruction of highways, roads, and trails that have suffered serious damage as the result of:

- A natural disaster over a wide area such as a flood, hurricane, tidal wave, earthquake, unusually severe storm or landslide; or
- A catastrophic failure from any external cause such as the sudden collapse of a bridge after being struck by a barge or ship.

Guidance:

The following paragraphs are intended to be an introduction to the ER program. Detailed information on requirements of the ER program is contained in the CFR, the FAPG and the *Emergency Relief Manual*. Damage to Federal roads that are not part of the Federal-aid highway network will be handled under the procedures described in the *Emergency Relief Manual for Federal Roads.* Damage to local roads, streets, or other routes not eligible under the ER program, may be eligible for other Federal funds administered by the Federal Emergency Management Agency (FEMA). FEMA provides a brief overview of their programs in *A Guide to Federal Aid in Disasters*, June 1990.

The applicability of ER to a natural disaster is based on the extent and intensity of the disaster. Damage to highways must be severe, occur over a wide area, and result in unusually high expenses to the transportation agency.

For a catastrophic failure due to an external cause, the failure must not be the result of an inherent flaw in the facility. The failure must be a sudden event disastrously impacting transportation services and causing unusually high expenses to the highway agency.

All repair or reconstruction work which is proposed for ER funding must be either on a Federal-aid highway, or on a Federal road as defined by 23 U.S.C. 101. Approved ER funds are available at the pro rata share that would normally apply to the Federal-aid highway under consideration and include a sliding scale. Within the first 180 days after the disaster, emergency repair work to restore essential travel, minimize damage, or protect remaining facilities may be reimbursed at 100% Federal share.

Unless specifically lifted by Congress, FHWA can provide up to a maximum of $100 million in ER funds per State per disaster.

ER funding is intended to supplement the resources provided by a State, its political subdivisions, or other Federal agencies in repairing damage that is beyond that normally performed by the STA during ordinary and occasional heavy maintenance. A State should not expect that ER funds will cover all damage repair costs or interim emergency repairs. State and local agencies are responsible for planning and responding to extraordinary conditions. Economic hardship is not a factor in determining eligibility. To simplify the inspection and estimate process, the Federal share payable should be a minimum of $5,000 per site, and $700,000 per disaster.

ER funds are not intended to replace other Federal-aid, State or local funds for new construction to increase capacity, correct non-disaster related deficiencies, or otherwise improve highway facilities. Work already scheduled to repair or replace deficient structures/bridges damaged during a disaster will not be eligible for ER funds, and should be funded as originally intended. A project is considered scheduled if the construction phase is included in the currently FHWA approved STIP, or if contract plans are being prepared.

ER work must be awarded using the competitive bid contract method whenever feasible. However, the FHWA may approve a waiver of the advertising requirement if acceptable under State or local law, and the contract method chosen is suitable for the proposed corrective work.

Public agencies may perform force account work but are not permitted to compete for solicited or negotiated contracts. In accordance with 23 CFR 635.204(b), a formal finding for force account work of emergency repairs is not required.

Most States require the contractor to take all necessary precautions to protect the section of all Federal-aid projects, including those financed with ER funds, under construction or practically completed, but not yet accepted by the State. Therefore, damage to an active construction project must be clearly shown to be beyond the contractor's responsibility before the rehabilitative work could be eligible for ER funds.

Since the objective of ER projects is to quickly restore traffic flow on a facility, they may be excellent candidates for innovative contracting techniques, such as design-build, incentive/disincentive, warranties and/or A+B bidding. Additional information about the use of innovative contracting techniques for ER projects is included in the ER Manual.

G. Metrication

References:

1988 Omnibus Trade and Competitiveness Act, Section 5164
Executive Order 12770

Applicability:

State option activity
Required for all FHWA documents and correspondence

Background:

The International System of Measurements (commonly referred to as the metric system or SI) came into general use in France following the French Revolution during Napoleon's effort to rationalize the French government. Following his tenure as Ambassador to France, Thomas Jefferson became the first SI promoter in the United States. Although SI did become a legal system of weights and measures for the United States in 1866; it was not designated as the official or preferred system.

There have been several legislative attempts to convert the United States to SI; the most recent general effort was the Metric Conversion Act of 1975 (P.L. 94-168). This act established a U.S. Metric Board under the auspices of the Department of Commerce (DOC) to coordinate a voluntary conversion of the metric system. Unfortunately, the voluntary approach did not work because of inconsistent application (although some industries did convert their operations).

The 1988 Omnibus Trade and Competitiveness Act, Section 5164 amended the 1975 Metric Conversion Act to require that Federal agencies use SI in their procurement, grants, and other business related activities. The 1988 legislation permits only two exceptions to metric conversion. These are:

- When use of the metric system is determined to be impractical, or
- When use is likely to cause significant inefficiencies or loss of markets to U.S. firms.

In July 1991, President Bush signed Executive Order 12770 requiring that all Federal agencies develop timetables for their transition to the metric system.

The FHWA Metric Conversion Plan was approved on October 31, 1991. The Metric Conversion Policy was published in the June 11, 1992 Federal Register. The FHWA worked closely with AASHTO and the States to coordinate an orderly transition to the metric system. The FHWA's Metric Conversion Plan identified intermediate target dates with a final target date of September 30, 1996, after which all plans, specifications and estimates (PS&E's) for Federal-aid highway construction projects were to be in metric units. The target date was shifted to September 30, 2000 by the NHS Act, §205(c).

Following the passage of TEA-21, project-related metric conversion activities by a State became optional. The FHWA still believes that the industry will eventually convert to SI and will support any STA that is already using the metric system and continues to encourage other States to convert as soon as possible.

The NHS Act, §205(c)(1) prohibits the U.S. Secretary of Transportation from requiring States to expend Federal or State funds for metric signs. Therefore, FHWA will not require metric legends on highway signs. This is a State prerogative. This provision does not restrict the use of Federal-aid funds for the installation of metric legend signs if an STA chooses to do so. The FHWA will assist any State that decides to develop an organized plan to convert its highway sign legends to metric units. The Office of Safety (HSA-10) should approve the signing plan, if a State decides to use metric signs.

Prior to June 2001, FHWA required the use of dual units in documents that were intended for a broad audience such as a NEPA document. However, Mr. Schimmoller's June 1, 2001 memorandum titled, "Update on Metric Use Requirements," rescinded FHWA's December 13, 1993 and May 6, 1999 memoranda on this subject. The new policy makes the use of SI units optional in all documents prepared by the STAs.

H. Owner Controlled Insurance Programs / Wrap-up Insurance

Reference:

NONE

Applicability:

State option activity

Background:

An Owner Controlled Insurance Program (OCIP), sometimes referred to as "Wrap Up Insurance," is the purchasing of insurance by the owner on behalf of the builder (contractor) rather than the traditional purchase by the contractor for the contractor and the owner for the owner. The types of insurance typically included are: Workers Compensation, General Liability, Excess Liability, Pollution Liability, Professional Liability, Builders Risk, and Railroad Protective Liability. The insurance covers contractors, subcontractors, construction management and state employees working on the construction site who are approved by the owner for participation in the program. The contractors are required to carry their own insurance for work off the site and to pay a deductible when claims occur.

Guidance:

States have the prerogative to consider and develop an OCIP. Such insurance is legally feasible under the Federal-aid highway program; however, there are several points that must be clarified prior to its implementation:

- The STA must have internal administrative policies and procedures to assure that insurance cost components can be identified. Typically an OCIP puts a greater administrative burden upon the owner;

- There needs to be clear definition of the process to select insurers to ensure competitiveness and fairness;

- Contractors must understand that insurance is provided for them so that they do not need to include it in their bids;

- The STA must demonstrate that an OCIP is more beneficial to the public interest than contractor provided insurance; and

- OCIPs are typically used only on large projects, i.e., over $75 million.

There have been several Federal-aid highway construction projects which have used an OCIP. These projects are Boston's Central Artery/Tunnel Project ($10.8 billion-1992), Michigan's Blue Water Bridge Project ($90 million-1995), Utah's I-15 Design/Build Project ($1.4 billion-1997), New Mexico's Route 44 Finance/Design/Build ($400 million-1998), and Michigan's I-75 Reconstruction and I-696 Construction Projects in the Detroit Area combined under one OCIP ($60 and $50 million respectively-1999);

Also, the State of Utah is in the process of providing an OCIP for the entire State government including UDOT projects.

The Federal Transit Administration has significantly greater history of utilizing OCIP's on Construction Projects. An OCIP was used in construction of the Washington, D.C. METRO subway system and the Los Angeles, California subway system. The FTA indicates that OCIP's are an option for projects exceeding $1 Billion and other high-risk projects exceeding $50 million. The Urban Mass Transportation Administration had a study conducted in 1977 which indicated OCIPs should be considered for projects in excess of $60 million.

The Office of Inspector General and the General Accounting Office are in the process of reviewing OCIP's to determine their effectiveness in reducing the overall cost of insurance on construction projects.

I. Project Labor Agreements

References:

OST memo 3/19/99 - "*Project Labor Agreements (PLAs)"*

FHWA memo 3/15/01 - "Project Labor Agreements"
FHWA memo 4/20/01 - "Project Labor Agreements (April 6 Amendment to Executive Order 13202)"

Applicability:

Currently, Executive Order 13202 prohibits owner mandated project labor agreements (see below).

Background:

On June 5, 1997, President Clinton issued a Memorandum on the Use of Project Labor Agreements for Federal Construction Projects. Although this memorandum specifically pertained to direct Federal construction, it does not preclude the use of PLAs on Federally-assisted projects.

On February 17, President George W. Bush signed Executive Order 13202 titled "Preservation of Open Competition and Government Neutrality Towards Government Contractors' Labor Relations on Federal and Federally Funded Construction Projects." This Executive Order essentially revokes the Presidential Memorandum dated June 5, 1997 and prohibits owners from requiring PLAs on Federally assisted construction projects. Executive Order 13208 provides additional guidance on existing PLAs that are not subject to Executive Order 13202.

Guidance:

By definition, a project labor agreement (PLA) is a project specific agreement between the project owner, contractor, subcontractors, and the labor unions representing the crafts that are needed for the construction project. A PLA is usually designed for a large, long-term construction project. Under the PLA, the project owner, the contractor, subcontractors, and the unions agree on the terms and conditions of employment for the duration of the projects, establishing a framework for labor-management cooperation. The PLA is incorporated into the construction contract and thus binds the contractor and all subcontractors to the terms of the agreement. PLAs are referred to as pre-hire agreements because they can be negotiated before employees vote on union representation or before the contractor hires any workers.

Typically, PLAs cover new construction, as well as maintenance, repairs and alterations. PLA provisions typically:

- apply to all work performed under a specific contract or project, or at a specific location,
- require recognition of the signatory unions as the sole bargaining representatives for all workers, whether or not they are union members,
- supersede all other collective bargaining agreements,
- prohibit strikes and lockouts,
- require hiring through union referral systems,
- require all subcontractors to become signatory to the agreements,
- establish uniform work rules covering overtime, working hours, dispute resolution, and other matters, and

- prescribe craft wages (usually equal to or greater than Davis-Bacon rates).

A voluntary labor agreement between a contractor or subcontractor and the unions is not considered a PLA if the agreement is not specifically required by terms of the contract developed by the owner-agency.

GLOSSARY

AASHTO	American Association of State Highway and Transportation Officials
ADA	Americans with Disabilities Act of 1990
ADR	Alternate Dispute Resolution
AED	Associated Equipment Distributors
ANPRM	Advanced Notice of Proposed Rule Making
ARC	Appalachia Regional Commission
ARTBA	American Road and Transportation Builders Association
ASTM	American Society for Testing and Materials
BAMS	Bid Analysis and Management System
BAT	DOL, Bureau of Apprenticeship and Training
CA	Certification Acceptance
CE	Construction Engineering
CFC	Cost of Facilities Capital
CFR	Code of Federal Regulations
CII	Construction Industry Institute
CMC	Construction Metrication Council
CPF	Combined Pay Factor
CPM	Critical Path Method
DBE	Disadvantaged Business Enterprise
DOC	Department of Commerce
DOJ	Department of Justice
DOL	Department of Labor
DOT	Department of Transportation
DRB	Dispute Review Board
EEO	Equal Employment Opportunity
EEOC	Equal Employment Opportunity Commission
EPA	Environmental Protection Agency
ER	Emergency Relief
FAPG	Federal-aid Policy Guide
FEBBS	Federal Electronic Bulletin Board System
FHWA	Federal Highway Administration
FLHD	Federal Land Highway Division
FLHP	Federal Lands Highway Program
FOH	Field Operations Handbook
FMIS	Financial Management Information System
FRM	Final Rule Making
FY	Fiscal Year
GAO	General Accounting Office

GHSR	Governor's Highway Safety Representative
GSA	General Services Administration
HOBF	Office of Budget and Finance
HCC	Office of Chief Counsel
HCR	Office of Civil Rights
HFS	Office of Fiscal Services
HNG	Office of Engineering
HOTM	Office of Transportation Management
HPMS	Highway Performance Monitoring System
HSA	Office of Safety
I/D	Incentive/Disincentive
IP	Implementation Package
ISTEA	Intermodal Surface Transportation and Efficiency Act
ITS	Intelligent Transportation System
LCCA	Life-Cycle Cost Analysis
LGA	Local Government Agency
MBE	Minority Business Enterprise
MPO	Metropolitan Planning Organization
MUTCD	Manual on Uniform Traffic Control Devices
NAFTA	North American Free Trade Agreement
NBIS	National Bridge Inventory System
NCHRP	National Cooperative Highway Research Program
NEEP	National Experimental and Evaluation Program
NEPA	National Environmental Protection Act
NHI	National Highway Institute
NHS	National Highway System
NHTSA	National Highway Traffic Safety Administration
NPRM	Notice of Proposed Rule Making
NS	Non-Regulatory Supplement
OCIP	Owner Controlled Insurance Program
OFCCP	Office of Federal Contract Compliance Programs
OIG	Office of Inspector General
OJT	On-the-job training
OMB	Office of Management and Budget
OPEC	Organization of Petroleum Exporting Countries
OSHA	Occupational Health and Safety Administration
OST	Office of the Secretary of Transportation
PCCP	Portland Cement Concrete Pavement
PF	Pay Factor
PLA	Project Labor Agreement
PRS	Performance Related Specifications
PS&E	Plans, Specifications, and Estimates
RUC	Road User Costs
SCOH	Standing Committee on Highways
S/D	Suspension and Debarment
SHA	State Highway Agency
SI	International System of Units (The Modernized Metric System)
STA	State Transportation Agency
STAA	Surface Transportation Assistance Act
STIP	State Transportation Improvement Program
STURAA	Surface Transportation and Uniform Relocation Assistance Act

TA	Technical Advisory
TE	Transportation Enhancement
TEA-21	Transportation Equity Act for the 21st Century
TERO	Tribal Employment Rights Office
TRB	Transportation Research Board
TTI	Texas Transportation Institute
U.S.C.	United States Code
USTR	Unites States Trade Representative
VE	Value Engineering
VECP	Value Engineering Change Proposal
WBE	Women Business Enterprise