

PROGRAM GUIDE

**UTILITY RELOCATION AND ACCOMMODATION
ON FEDERAL-AID HIGHWAY PROJECTS**

**Sixth Edition
January 2003**

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Federal Highway Administration**

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INTRODUCTION

This utility program guide has been developed by the Federal Highway Administration (FHWA) to assist individuals administering Federal-aid highway programs that involve –

- the use of Federal-aid highway funds for the relocation and adjustment of utility facilities, and
- the accommodation of utility facilities and private lines on Federal-aid highway right-of-way.

This is the sixth edition of the guide. It supersedes all previous editions.

Laws dealing with utility relocation and accommodation are contained in the United States Code, title 23, sections 123 and 109(l)(1), respectively. These laws are contained in the Appendix and will be cited in this guide as 23 U.S.C. 123 and 23 U.S.C. 109(l)(1).

Regulations dealing with utility relocation and accommodation matters are based upon laws contained in 23 U.S.C. and are found in the Code of Federal Regulations, title 23, chapter I, subchapter G, part 645, subparts A and B. These regulations are contained in the Appendix and will be cited in this guide as 23 CFR 645.

Material presented in 23 CFR 645 is reviewed by subject matter in this guide. A historical perspective is included for several items to explain why certain policy requirements were established. Examples are included showing how certain provisions have been applied.

This guide also incorporates information from several FHWA Headquarters responses to field inquiries that have served as interpretations or explanations of various policy provisions.

The information in this guide is accurate as of the date of the guide. Generally, FHWA requirements and policies regarding utility relocation, adjustment, and accommodation have remained consistent over the years. However, from time to time certain regulations and/or policies and practices have been and may be modified.

Questions arising concerning latest policy interpretations should be directed to FHWA, Office of Program Administration, 400 7th Street, SW., Room 3134, Washington, D.C. 20590. Telephone (202) 366-0494.

CHAPTER 1 UTILITY RELOCATIONS, ADJUSTMENTS, AND REIMBURSEMENT

Since the initiation of the Federal-aid highway program in 1916, utility relocation and adjustment work has been eligible for Federal-aid participation as a construction cost item to the extent the State was obligated to pay for such work.

During the early years, the use of Federal-aid funds for utility relocations and adjustments was quite limited; however, with the advent of the Interstate Program in the 1950s, it became a much more common practice for the States to use their highway funds to reimburse utilities for relocation and adjustment costs.

Present FHWA regulations dealing with utility relocations, adjustments, and reimbursement have evolved from basic principles established decades ago, with many of the policies remaining unchanged. A discussion of the development of FHWA policies may be found in the following documents:

- *Utility Relocation and Accommodation: A History of Federal Policy Under the Federal-Aid Highway Program*, Part I: Utility Relocation.
- *Highway/Utility Guide*, Chapter Two, Historical Perspective.

These documents were distributed in 1981 and 1993, respectively. They are important reference sources for those dealing with utility relocations and adjustments on Federal-aid highway projects. A link to these documents may be found on the FHWA's utilities web page at: <http://www.fhwa.dot.gov/programadmin/utility.html>.

The last major rewrite of the FHWA's utility regulations occurred on May 15, 1985, when a final rule was published in the Federal Register.

The only significant changes since then occurred on July 1, 1988; July 5, 1995; and November 22, 2000, when amendments to the regulations were published in the *Federal Register*.

The 1988 amendments clarified that costs incurred by transportation departments in implementing projects solely for safety corrective measures to reduce the hazards of utilities to highway users are eligible for Federal-aid participation.

The 1995 amendments eliminated the requirement for FHWA pre-award review and/or approval of consultant contracts for preliminary engineering; increased the ceiling for lump sum agreements from \$25,000 to \$100,000; clarified the meaning of the term "approved program" and the methodology to be used to compute indirect or overhead rates; required utilities to submit final billings within one year following completion of the utility relocation work; and eliminated the certification of completed utility work and the requirement for evidence of payment prior to reimbursement.

The 2000 amendments eliminated the \$100,000 upper limit for lump sum agreements; allowed reimbursement for utility relocations to be based on unit costs; and deleted the provision encouraging State transportation departments to adopt the alternate procedure for utilities.

Discussions on the following pages examine the material presented in 23 CFR 645A on utility relocations, adjustments, and reimbursement.

APPLICABILITY (23 CFR 645.103)

Reimbursement

In accordance with § 645.103(a), utility regulations contained in 23 CFR 645A apply for the payment of costs incurred under all FHWA/utility agreements. Thus, FHWA payments for utility relocations on Federal-aid and Federal lands highway projects are covered by the regulations contained in 23 CFR 645A.

Payment Standards

Under provisions in § 645.103(d), FHWA reimbursement to a State is governed by either a State standard as established by State law or regulation, or by an FHWA standard as established by regulation. Further, should FHWA and State standards differ, FHWA reimbursement is limited to the one that is more restrictive.

In applying this provision, a situation may occur where a State may have several payment standards that differ from the FHWA's, some being more liberal and some more stringent. A question then arises as to whether the State's standards can be accepted in total if the net result would be a payment to the utility that would be equal to or less than under the FHWA standards.

The FHWA position is that a State's payment standards should not necessarily be accepted as a package, but rather that each payment standard should be reviewed and applied individually.

As an example, a State may have a more liberal standard that allows payment to the utility for interest on borrowed funds. However, under current law the FHWA cannot pay for interest on borrowed funds for utility relocations. Therefore, the FHWA would not accept this payment standard even though the State may be obligated to pay the interest costs. The FHWA's reimbursement to the State would be controlled by the FHWA's standard.

Conversely, this same State may have a more stringent payment standard that requires it to secure a depreciation credit (expired service life credit) in all situations, regardless of the facilities involved. Even though the FHWA would not require this credit in all circumstances, if the State were in fact receiving it in all situations, FHWA would also expect to receive it. Granted, this application has the aspect of "having one's cake and eating it too." However, the FHWA position is to evaluate and apply each payment standard separately.

DEFINITIONS (23 CFR 645.105)

The definitions in this section are generally concise and few questions arise on their meaning. Even so, to provide a better understanding, the following discussion presents background information on some of the key terms.

Relocation

The concept presented in the definitions is that a utility's service should be restored so that it may continue to provide its product to its users in a fashion similar to that which existed prior to its relocation as a result of the highway project. The idea of making the utility "whole" in many cases means that various facilities will have to be functionally restored.

The issue of the equivalency of a functional replacement arises. Although each situation has to be viewed separately, "capacity" is one common measure that can be used in determining the equivalency of the replacement facility. Obviously, the specific unit of measure of capacity will vary depending on the commodity to be conveyed or the facility involved. This may range from a volume unit of measurement on a pipeline to a floor space unit for a building.

Generally, replacement facilities that maintain the overall functional capacity, even including those that may rearrange this capacity to a more efficient operation as a result of present day design or operation needs, are eligible for Federal participation.

Additionally, it is recognized that in replacing certain functions, some changes may be required to meet present standards. For instance, if a building is replaced, under the present building codes the new building may require certain features, such as a fire sprinkler system, which were not part of the old facility. Features required to meet present standards are considered to be an essential part of the functional replacement and are eligible for Federal participation.

Utility

The definition of "utility" contained in § 645.103 is used by the FHWA to determine whether a particular facility is to be considered a utility for the purposes of Federal-aid fund reimbursement for relocation and adjustment costs. This definition is fairly broad in scope. One key in its application is whether a State considers a particular facility to be a utility under its own State law. If the State treats a facility as a utility and is obligated to pay for its relocation from a highway project as a utility, and if the facility is producing, transmitting, or distributing any of the commodities outlined in the FHWA definition for the use by or the direct benefit of the public, then the FHWA would handle the reimbursement under its utility regulations.

Obviously, under varying State laws or practices, the same type of facility may be viewed differently depending on the State involved. An example is cable television (CATV). In some States, CATV is considered to be a "utility" and any payment for relocation is handled as a utility matter. In other States, CATV is not considered to be a "utility" and is not eligible for payment under the State's utility reimbursement statute. In either case, the FHWA accepts the State's interpretation of the situation and will only pay for CATV as a utility relocation if the State can do so and has done so.

Other common examples of this situation are wireline (fiber optics) and wireless telecommunications.

ELIGIBILITY (23 CFR 645.107)

The eligibility section of the CFR includes some of the more complicated provisions and must be carefully read if the FHWA's present policy is to be fully understood.

Criteria

The basic eligibility criteria presented in § 645.107(a) are fairly straightforward. Federal funds may participate in relocation costs necessitated by highway construction under one or more of the following conditions:

- The utility has a property interest in its present location.

- The State has a law or some legal basis for payment that gives it the authority to pay for utility relocations. [It is noted that one provision of 23 U.S.C. 123 prohibits Federal funds from being used if such a use would be in violation of a legal contract (permit) between the State and the utility. Even so, a broad non-discriminatory State utility reimbursement statute is viewed, whether expressly stating so or not, as giving the State the legal authority to override the provisions of a permit and to pay for utility relocations.]
- The utility is municipally owned and occupies public right-of-way. [This can be viewed as a derivative of the first criterion involving property interest. A municipally owned utility, particularly one located within municipally owned right-of-way, could be said to have a property interest in its location.]
- The utility relocation involves implementing safety corrective measures to reduce the roadside hazards of utility facilities to highway users. [This point was clarified by a final rule published in the *Federal Register* on July 1, 1988, and effective that date].

In addition, § 645.107(j) indicates Federal funds are eligible to participate in the costs of preliminary engineering and allied services for utilities, and the acquisition of replacement right-of-way for utilities.

State's Own Funds

A key provision of 23 U.S.C. 123 is the requirement that Federal reimbursement for utility relocations shall be made only after it has been demonstrated to the FHWA that "the State has paid such costs from its own funds."

The legislative history makes it clear that Congress wanted Federal reimbursement to a State for the cost of relocating utility facilities to be made only on the basis of State funds actually expended, and not for funds paid, advanced, donated or contributed by or from any other sources. The intent of Congress was that the burden of relocating utilities on highway projects was to be shifted from the utilities to the State if the State authorized it and was willing to share the cost with the Federal government.

Besides the State, other funding sources were intended to cover all utilities, including those owned by local governmental entities. For the latter case, the provisions in title 23 present a broad definition of "utility" that includes "publicly, privately, and cooperatively owned utilities" and clearly encompasses a local government-owned utility. Additionally, local government owned utilities can be viewed as a "proprietary" function as opposed to a "governmental" function of the local government. Because of this, a local government-owned utility should be treated in a fashion similar to any other utility.

The FHWA has participated in utility relocation costs not incurred directly by a State, but this generally has been limited to situations where a project lies on a highway under the jurisdiction of a political subdivision of the State, and where this political subdivision, in exercising its "governmental" function, is assuming responsibility for the non-Federal share of overall project costs.

For example, the city or county has "stepped into the shoes" of the State, a common occurrence on Federal-aid projects located on highways off the State's system.

Further information on this issue is presented under "Utility Cost Sharing Proposals."

Local Government Owned Utilities

Under provisions in § 645.107(a)(3), most States may use Federal-aid funds to some extent to pay for the relocation of local government owned utility facilities. Typically, if the local government owned utility is located within right-of-way owned by that particular governmental unit and if this right-of-way is being used for a State highway project, a State may reimburse the local government for its utility relocation costs.

In these cases, the local government utility could be viewed as having a property interest in its location. Correspondingly, since the State could legally pay for these costs, they would be eligible for Federal reimbursement. However, instances may arise where a local government owned utility is located within State highway right-of-way or right-of-way owned by another local governmental unit which is being used for the State project. In these instances, the extent the State is obligated to pay for relocation costs for the local governmental utility may vary considerably and will depend on State law, regulation, or administrative practice.

Local Projects

One complex issue is Federal reimbursement for utility relocations on local projects.

Prior to 1985, it was the FHWA's policy not to participate in payments made by a political subdivision for utility relocations where State law prohibited a State from making such payments. For example, a city may have had the authority to pay for the relocation of utility facilities within or from its own right-of-way on its own highway improvement projects, yet in that State a utility occupying the State's right-of-way under similar conditions may have been required to relocate at its own expense. In this case, prior to 1985, the FHWA's position was that even though the city could have paid for the relocation, the costs were not eligible for Federal-aid participation because the State could not pay under the same circumstances.

The FHWA's policy on this matter was changed on May 15, 1985, when a final rule revising its utility relocation regulations was published in the *Federal Register*. The final rule became effective on June 14, 1985.

Under its new policy, regardless of the State's posture on payment for utility relocations, the FHWA is willing to participate on projects purely local in nature if the local highway authority has a legal basis for making this payment.

Again, the basic eligibility criteria outlined in § 645.107(a) would be applied to determine if payment for utility relocation costs by the local entity was eligible for Federal reimbursement. In essence, a local entity is now given the same degree of consideration under the Federal requirements as the State is given.

A key factor in the matter of "equal consideration" is that it only applies to projects that are purely local in nature, a distinction presented in the structuring of § 645.107(b) & (c).

For any projects where the State has the authority to participate in overall project costs, regardless of whether it actually participates or not, FHWA reimbursement for utility relocations is limited to what the State could have paid. However, if the State does not have the authority to participate in the overall highway improvement project (which implies the project is likely off the State's system on a road under the jurisdiction of a local entity), then Federal reimbursement for utility relocations will be based on payments made by the local entity.

Indian Reservation Roads Projects

The issue of determining eligibility of utility relocations on Indian Reservation Roads (IRR) projects administered by the FHWA should be guided by principles set forth in 23 CFR 645.107.

For IRR projects located on highways under State or local jurisdiction, the eligibility of utility relocations should be similar to that which would be followed for regular Federal-aid funded projects on these same highways.

For IRR projects located on highways under Bureau of Indian Affairs (BIA) or tribal jurisdiction, eligibility of utility relocations should be viewed in light of criteria in § 645.107(a) as follows:

- 645.107(a)(1) -- In all cases where the utility has a property right, relocation costs should be eligible.
- 645.107(a)(2) -- If the BIA or tribal entity has a utility relocation law, ordinance, or regulation, this can be applied. Otherwise, criteria in this section do not apply.
- 645.107(a)(3) -- Relocation of BIA or tribal owned utilities should be eligible.

Utility Cost Sharing Proposals

Several States have considered proposals whereby a utility would share in project costs, the bottom line being that the utility's share would be covering most, if not all, of the non-Federal portion of the utility relocation costs. Generally, these proposals are either legislative or administrative cost assignment arrangements.

As an example, a State may propose enacting a State law for certain National Highway System (NHS) projects under which the State would pay 80 percent of the actual cost of a utility relocation and the utility would pay the other 20 percent. The State would then want the FHWA to pay its normal pro rata share (i.e., 80 percent on NHS projects) based on the total utility relocation costs. The result of this would be that the State would not have to use any of its own funds to pay for the utility relocation.

A proposal, as outlined above, is not acceptable to the FHWA. Federal reimbursement to a State for the cost of relocating utilities is to be made only on the basis of State funds actually expended for the relocation (see "State's Own Funds" for further discussion of this topic).

This principle of utility cost sharing applies to both mandatory and voluntary contributions that might be made by a utility. Any funds provided by the utility are to be deducted from the total overall costs, and the FHWA will participate only in its pro rata share of the remaining balance.

Additionally, this principle is also applied on State projects regardless of whether the utility is privately owned or owned by a local political subdivision of the State.

As an example, a State proposed that on certain NHS projects within a municipality that the municipality would pay for 20 percent of the relocation costs of its municipally owned utility facilities. Again, the State looked to FHWA to pick up the remaining 80 percent of the costs. The State argued that the municipality's participation could be interpreted as representing payment with State funds, particularly since the term "State funds," as defined in 23 U.S.C. 101(a), includes funds raised under the authority of any political subdivision of the State. This argument is not acceptable to the FHWA.

The key element is the unique wording "its (State's) own funds" in 23 U.S.C. 123 which, when coupled with the legislative history, must be taken to preclude any Federal participation in costs which could be construed as representing payment from the utility owner, even if this owner is a local government.

Special circumstances arise when this principle on cost sharing is applied on local projects (see the discussion of "Local Projects." If the utility is owned by the local entity itself and the utility relocation costs are eligible for Federal reimbursement, the FHWA will reimburse for all the funds paid from that particular political subdivision for the utility relocation, including funds from the locally owned utility (see § 645.107(d)). The basic approach is to accept all of the local funding sources as representing the local fund expenditure on a project.

Authority To Approve Utility Payment Statements

Prior to 1985, when a State would enact a new or revised utility reimbursement statute or develop a new reimbursement policy, the matter would be referred to FHWA's Chief Counsel, through the Division and Regional Offices and the Office of Engineering, for a determination of acceptability for use on Federal-aid highway projects. With the issuing of the revised CFR in 1985, this authority was delegated to Regional Administrators, and has now been delegated to Division Administrators.

It was anticipated that with the FHWA liberalizing its interpretation of eligibility for "local projects," which would allow political subdivisions of a State to be afforded the same treatment as the State itself, many of these political subdivisions could develop utility reimbursement statements under § 645.107(g). Because of the potentially large numbers of statements that could be involved, the approval authority could be more expeditiously handled at the field level.

A permanent file of utility reimbursement statements that have been approved should be maintained in each FHWA Division Office. Experience has shown this to be an important reference source when questions on general eligibility matters arise.

Programming

Considerable flexibility exists in when, and in what form, utility relocation costs are included in an approved statewide transportation improvement program.

Generally, utility relocation work is programmed either as a separate project, or as an element of a right-of-way, construction, or overall project for the highway improvement.

Additionally, preliminary engineering work, and other related preparatory work, undertaken by or under the direction of a utility may be programmed and authorized either as an expense incidental to the cost of the relocation, as part of the preliminary engineering phase of the overall highway project, or as a separate utility project.

Replacement right-of-way to be acquired by or on behalf of a utility may also be programmed and authorized either as an expense incidental to the cost of relocation, as part of the right-of-way acquisition project as a whole, or as a separate utility relocation project.

Engineering Studies

Engineering studies on the impacts of utility relocations are eligible for Federal-aid participation. In accordance with 23 CFR 645.107(j), Federal funds are eligible to participate in the costs of preliminary engineering and allied services for utilities. It has always been the FHWA's intent to

pay for whatever it takes to “make the utilities whole.” That includes engineering studies on the impacts of utility relocations.

PRELIMINARY ENGINEERING (23 CFR 645.109)

Consultant Services

In accordance with 23 CFR 645.107(j), Federal funds are eligible to participate in the costs of preliminary engineering and allied services for utility relocations. A State transportation department, a utility, or a consultant may perform the work.

Consultants may be obtained by the State or by the utility to provide preliminary engineering services for utility relocations. In either case, the consultant selection process should, to the extent practicable, follow the procedures in 23 CFR 172, Administration of Engineering and Design Related Service Contracts.

Provisions in 23 CFR 172.7(b) allow contracting agencies to use simplified small purchases acquisition procedures for the procurement of engineering and design related services on Federal-aid highway projects when the contract cost does not exceed \$100,000.

A question often raised concerns the application of wage rate and EEO requirements to engineering consultant contracts secured by the utility. The FHWA's position is that these requirements are not to be applied to contracts for engineering services obtained by the utility.

In the past, FHWA pre-award review and/or approval of consultant contracts for preliminary engineering was required for all contracts greater than \$10,000. This is no longer the case. The 1995 amendment to the regulations eliminated this requirement. FHWA pre-award review and/or approval are no longer required for any consultant contracts for preliminary engineering.

Value Engineering

The application of value engineering to utility relocations is another issue to consider.

In one particular case, under a lump sum utility agreement, a utility later proposed a cost saving alternate solution. The utility identified this as a value engineering savings and proposed that it share in the savings. The net impact would be to provide cash to the utility.

Value engineering incentives are supported in customary State-contractor relationships, but should not be applied to typical State-utility relationships for utility work where the utility is the "owner" and, therefore, the organization responsible for setting up the means for rewarding creative ideas. In no case should the relocation or adjustment of facilities result in a cash windfall to the utility.

RIGHT-OF-WAY (23 CFR 645.111)

Uniform Act Requirements

In accordance with 23 CFR 645.107(j), Federal funds may participate in the costs of replacement right-of-way for utilities.

Either a State or a utility may purchase replacement right-of-way for utility relocations.

- If a State or a political subdivision of a State acquires replacement right-of-way, the requirements of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Uniform Act) apply.
- If a utility acquires replacement right-of-way, the requirements of the Uniform Act do not apply. This has been the FHWA's longstanding position.

With passage of the Surface Transportation and Uniform Relocation Assistance Act (STURAA) of 1987 and its amendments to the Uniform Act, it was initially thought that the FHWA position relative to acquisition by a utility needed to be modified. The FHWA issued guidance stating that in certain situations utility acquired right-of-way must follow the requirements of the Uniform Act. However, upon further review this guidance was withdrawn and the FHWA returned to its longstanding position that the requirements of the Uniform Act do not apply to utility acquired right-of-way.

Issue Of "Displaced Person"

The "displaced person" issue has arisen repeatedly. Some utilities believe the Uniform Act should cover reimbursement for relocation on a Federal-aid highway project.

In 1983, prior to passage of the 1987 STURAA, this issue was elevated to the U.S. Supreme Court in a case involving relocation of a utility from public rights-of-way on a Federally funded urban renewal project. The Court held that the utility was not a "displaced person" within the meaning of the Uniform Act and was not entitled to compensation under the provisions of the Act. The reasoning was that the Uniform Act did not change the long established common law principle that a utility forced to relocate from a public right-of-way must do so at its own expense.

An analysis of the Uniform Act and its legislative history, particularly as it related to the model relocation provisions of the Federal-Aid Highway Act of 1968, showed that in passing the Uniform Act, Congress addressed the needs of residential and business tenants and owners, but did not intend for the Act to deal with the relocation of utilities.

Congress, in passing the 1987 STURAA, modified the Uniform Act by adding § 202(d), which provided that utility facilities located on public right-of-way or public property, might be eligible for relocation assistance payments under certain conditions. However, § 202(d) also contained a provision that limited its application to Federal programs that did not have a Federal law governing reimbursement for utility relocations. In the case of the Federal-aid highway program, there is such a law in that 23 U.S.C. 123 sets out provisions for utility relocation reimbursement.

Consequently, § 202(d)(1) of the Uniform Act does not apply to utility relocations on Federal-aid highway projects. Hence, payments for utility relocations on Federal-aid highway projects have been and continue to be in accordance with 23 U.S.C. 123 and the FHWA's implementing regulations.

Replacement Right-Of-Way

In certain cases, Federal-aid funds may be used to acquire replacement right-of-way for a utility where the existing utility facilities are located within public right-of-way and the utility has no property interests in its existing location. Two such examples are discussed below:

Example 1

A State may have a utility reimbursement statute that allows the State to pay for all utility relocations on controlled access projects. Suppose an existing highway facility, which contains a longitudinal utility installation, is being upgraded to freeway standards. The decision is made to relocate the utility outside of the freeway right-of-way. Two alternate locations are available as follows:

- Alternate A relocates the utility to other available highway right-of-way, but the circuitous route requires considerable additional construction costs.
- Alternate B is much shorter, but it involves acquisition of new right-of-way for the utility.

Since the State is obligated to pay for the utility work, it is reasonable to pursue the least expensive alternative. Should this prove to be Alternate B, then this should be the approach implemented, even though the net effect is that the utility will be provided an asset, the additional right-of-way, which it did not have initially. This principle, which is set forth in § 645.111(a)(1), states that the FHWA may participate when "the acquisition is made in the interest of project economy or is necessary to meet the requirements of the highway project."

Example 2

When existing utilities must be relocated to accommodate highway construction, but a State intends to permit them to continue to use and occupy public highway right-of-way at a different location, such potential use should be a consideration in determining the extent and adequacy of the right-of-way needed for the project.

Failure to recognize the impact of such use may affect the safe and efficient operations of the highway and may result in the acquisition of right-of-way that is inadequate to meet the needs of the highway and the traveling public. For example, little or nothing would be gained by acquiring restricted right-of-way and denying its use to certain utilities if these same utilities could locate their facilities on private property adjacent to the restricted right-of-way with substantially the same impact on the highway and its users.

Utility use of highway right-of-way is not considered to be a use for a highway purpose. Therefore, Federal-aid highway funds are theoretically not eligible to participate in right-of-way acquired solely for the purpose of accommodating utility facilities in excess of that normally acquired in accordance with standard criteria and procedures. There are exceptions to this policy.

Section 645.111(a)(1) states that Federal participation may be approved for the cost of replacement right-of-way when an acquisition of right-of-way –

- is made in the interest of project economy, or
- is necessary to meet the requirements of the highway project.

Thus, when a State or locality routinely dedicates or permits a portion of the road and street right-of-way for use by utilities in accordance with established standard criteria pursuant to State law, ordinance, or administrative practice, such right-of-way may be considered eligible for Federal-aid reimbursement as an integral part of the project right-of-way.

An additional discussion of right-of-way needs for utility accommodation may be found in Chapter 2 under “Right of Way Needs and Utility Use”.

AGREEMENTS AND AUTHORIZATIONS (23 CFR 645.113)

Agreement Components

The agreement between a utility and a State describing separate responsibilities for financing and accomplishing relocation and adjustment work may be in the form of either a master agreement to be encountered on an areawide or statewide basis, or in the form of individual agreements for utility work to be encountered on a case-by-case or project basis. No special form of written agreement is prescribed. Such an agreement usually consists of a formal document signed by officers who are authorized to bind the parties involved. In appropriate cases, the agreement may consist of an exchange of correspondence that sets forth all essential terms and conditions, and bears endorsements of both parties.

Terms and Conditions

Terms and conditions in the written agreement between the State and the utility generally include –

- the basis of the State's authority, obligation, or liability to pay for the relocation (see § 645.107);
- the scope, description and location of the work to be undertaken;
- the method to be used by the utility for developing relocation costs;
- the method to be used for performing the relocation work, either by the utility's forces or by contract; and
- assurance that facilities scheduled to be relocated to a position within the highway right-of-way will be accommodated in accordance with the provisions of 23 CFR 645B.

Plans and Drawings

The agreement should be supported by plans and/or drawings that show –

- the location, length, size and/or capacity, type, class, and pertinent operating conditions and design features of existing, proposed, and temporary facilities, including any proposed changes to them, using appropriate nomenclature, symbols, legend, notes, color-coding, etc.;
- the project number, plan scale and date, the horizontal and, where appropriate, the vertical location of the utility facilities in relation to the highway alignment, geometric features, stationing, grades, structures, and other facilities, proposed and existing right-of-way lines, and, where applicable, the access control lines;
- the limits of right-of-way to be acquired from, by, or on behalf of the utility, where applicable; and

- the portion of the work to be accomplished, if any, at the sole expense of the utility, using appropriate notes or symbols.

Cost Estimate

The agreement should also include a cost estimate for the proposed work. The cost estimate should set forth the items of work to be performed, broken down by the estimated costs of –

- direct labor;
- labor surcharges;
- overhead and indirect construction charges;
- materials and supplies;
- handling charges;
- transportation;
- equipment;
- right-of-way;
- preliminary engineering;
- construction engineering;
- salvage credits;
- betterment credits; and
- accrued depreciation credits.

The estimate should include sufficient detail to provide the State and the FHWA with a reasonable basis for analysis. Factors included in the utility's overhead and indirect construction charges should be set forth. Materials should be itemized where they represent relatively major components or cost in the relocation. Unit costs, such as broad-gauge units of property, may be used for estimating purposes where the utility uses such units in its own operations.

Fixed Amount (Lump Sum) Payments

Occasionally on Federal-aid highway projects, the State considers proposals that involve the use of fixed amount (lump sum) payments to utilities either as reimbursement for needed adjustments to accommodate construction of the highway project or as compensation for facilities taken.

The FHWA regulations have long treated utilities impacted by highway construction as essential public services that must be maintained if the need for the services continues to exist.

Where services must be maintained, the FHWA should reimburse the State based upon necessary costs to restore the essential services in the most economical method. This is usually done by paying for the construction of a replacement facility.

Where the utility and the State agree that the existing facilities do not need to be replaced, the FHWA should then pay for the utility facilities as a right-of-way acquisition matter.

The FHWA policy and use of lump sum payments are discussed below.

Case I - Operational Capabilities Are To Be Functionally Restored

The basic concept incorporated into the FHWA's policy is a willingness to reimburse actual costs incurred to functionally restore a utility's existing operating facilities that existed prior to undertaking a highway project. It is intended that a utility's financial and productive situation be

maintained as if the relocation or adjustment needed for the highway project had not occurred. This does not mean that a replica facility is required, rather that the utility is to be made whole by restoring the existing functions of the impacted facilities. Typically, a utility uses its own forces or those of a utility contractor to accomplish the needed relocations or adjustments. Records of actual costs incurred form the basis for FHWA reimbursement to the State.

For work performed by a utility with its own forces, or for work performed for the utility under contract, the FHWA's policy allows for a fixed amount final payment based on an estimate of costs prior to construction. This is commonly known as the lump sum payment method.

Provisions for lump sum payments for utility relocation work were first addressed by the FHWA in Policy and Procedure Memorandum 30-4 (PPM 30-4) dated December 31, 1957. These provisions pertained to very minor work estimated to cost less than \$2,500, work that normally would be performed by a utility with its own forces. There was no apparent intent, however, in PPM 30-4, nor has there been in any subsequent FHWA guidance or regulations, to preclude lump sum payments for work performed by a contractor under a utility-let contract.

If the utility lets a contract, payment should be based on the methods that are customary and acceptable for the work involved, which could potentially include the lump sum payment method.

If the utility uses an existing continuing contractor, payment should be by the method the utility has previously established with the contractor. If the continuing contract establishes a lump sum payment for certain types of work, this payment method can be used for the Federal-aid project if the State believes the cost is reasonable.

A principal benefit of using the lump sum payment method is that it can reduce administrative and record-keeping costs associated with documenting payment for completed work. However, these savings may be offset by inaccuracies in the cost estimating process. In recognition of this, FHWA regulations, until recently, limited the lump sum payment method to an upper limit amount of \$100,000, except in cases where it was determined to be in the public interest to raise the cap for individual projects.

Now, in accordance with the 2000 amendment to § 645.113(f), there is no cap. When proposed utility relocation work on a project for a specific utility company can be clearly defined and the cost can be accurately estimated, the FHWA may approve a lump sum agreement without later confirmation by audit of actual costs.

The lump sum payment method should only be used where the end product, in this case the utility relocation, can be clearly and concisely defined. The cost estimate in support of the lump sum agreement must be accurate, comprehensive, verifiable, and in sufficient detail to give a clear picture of the work involved and the cost of the individual items.

Whenever the lump sum payment method is used, the State must verify that the eligible work has been satisfactorily completed in accordance with the approved agreement, plans, and specifications before reimbursement can be approved.

Case II - Operational Capabilities Need Not Be Functionally Restored

Where the utility determines its existing facilities do not need to be replaced to maintain its operational capabilities, payment for the utility facilities needed to accommodate construction of the highway project should be handled as a right-of-way acquisition matter. The fixed amount (lump sum) payment for the real property interest of the utility to be acquired would be based on

the fair market value of its existing facilities developed in accordance with approved State right-of-way appraisal and acquisition procedures.

Case III - Payment For Nonoperational Facilities

Instances can arise where a highway project may require the acquisition of a portion of a utility's property or facilities which are not directly a part of the company's physical plant providing the service (e.g., an office housing marketing and billing operations). In these cases, the fixed payment to the utility should always be based on applicable right-of-way procedures.

CONSTRUCTION (23 CFR 645.115)

Cost Effectiveness Finding

Prior to 1983, under the provisions of 23 U.S.C. 112, FHWA had determined it was in the public interest for utility relocation work to be performed by a utility with its own forces and equipment, provided the cost of such force account work was reasonable and the utility was qualified to perform the work in a satisfactory manner.

The Surface Transportation Assistance Act (STAA) of 1982 amended the provisions of 23 U.S.C. 112 to require construction of each project to be by contract awarded by competitive bidding unless some other method was shown to be more cost effective. Basically, wording concerning a public interest finding was eliminated and replaced with wording requiring a cost effectiveness finding.

On May 23, 1983, the FHWA issued a revision to 23 CFR 635 (Force Account Construction), implementing the new provisions in 23 U.S.C. 112. This included a finding of cost effectiveness covering certain utility work. Under this finding, a utility that is adequately staffed can use its own forces to adjust its own facilities provided the work is minor, is on the utility's existing facilities, and is routinely performed by the utility's own forces. Furthermore, the utility's own forces can also perform work that involves minor installations of new facilities, such as services for a safety rest area.

A cost effectiveness finding for minor utility work covers much of the utility work routinely done on Federal-aid highway projects. However, major (non-minor) utility work is not covered by this cost effectiveness finding. This does not necessarily mean that major utility work has to be accomplished by competitively bid contracts. It can still be accomplished by the utility, provided an individual cost effectiveness finding has been made by the Division Administrator under the provisions of 23 CFR 635.205.

No specific thresholds or criteria have been established by the FHWA for determining what is minor versus what is major utility work because the circumstances may vary depending upon the size of the utility company and the work involved. The Division Offices, working with the individual States, have been given the flexibility to make this decision.

As a general approach, if the utility can demonstrate that it has the ability to accomplish the necessary work with its own forces in a timely fashion and the costs appear reasonable, this will usually serve as prima-facie evidence that it is cost effective for the utility to do the work.

Wage Rate And EEO Requirements

Davis-Bacon wage rate and EEO (Equal Employment Opportunity) requirements apply to State-let contracts, but do not apply to utility-let contracts.

This was not always the case. On January 21, 1983, Chief Counsel issued a decision that wage rate and EEO requirements were applicable when Federal-aid funds participated in utility work and the work was accomplished by State-let contracts; when the utility let the contracts; or when continuing contracts which a utility already had in force were being used. There was one exception -- wage rate and EEO requirements were not applicable when a utility accomplished the work with its own forces.

Counsel's decision reinforced a position taken on wage rates in the 1979 edition of the Labor Compliance Manual. It also raised numerous complaints because several editions of the Labor Compliance Manual prior to 1979 held in abeyance the application of wage rates to utility-let contracts and continuing utility contracts.

Subsequently, Chief Counsel reconsidered its position and issued a decision on May 15, 1985, which reversed parts of its 1983 position. Under the 1985 decision, wage rate and EEO requirements are not applicable to utility-let contracts, including continuing contracts. Hence, wage rate and EEO requirements are only applicable to utility work when this work is included as part of a State-let contract.

MBE, Clean Air, And Other Contract Requirements

In light of Chief Counsel's decision on the non-applicability of wage rate and EEO requirements to utility let contracts, as previously discussed, other areas were examined. It has been determined that the MBE provisions of 49 CFR 23 and the required contract provisions of 23 CFR 633 do not apply to reimbursable utility work on Federal-aid projects if the work is to be accomplished by a contract let by a utility, including a continuing contract.

Additionally, requirements of other Federal laws, such as the Clean Air Act, which cover recipients of Federal financial assistance, do not have to be applied to utility let contracts. However, this should not be construed to relieve a utility or its contractor from complying with any aspects of these other Federal laws that would apply regardless of whether or not Federal assistance is involved.

Utility Let Contracts (Concurrence In Award)

When utility relocation work is to be accomplished by a contract secured under a fully competitive bidding process controlled by a utility, the State should undertake all actions needed to verify that the utility awards the contract to the lowest qualified responsible bidder based on appropriate solicitation.

The FHWA does not need to concur in the award of such a contract, but the State should agree to the utility's bid solicitation process and should concur in the award of the contract.

If utility relocation work is to be accomplished under a utility's continuing contract, it normally would not be necessary for the State to verify the bidding process used by the utility to secure the continuing contract. However, the State is expected to review costs that would result under the continuing contract. This type of arrangement should only be accepted if the State and FHWA feel the costs are reasonable.

Inspection

It is essential that State inspectors verify all reimbursable utility work that has been accomplished.

When the utility is to be reimbursed based upon the actual cost incurred under the force account payment method, the State, in particular, needs to have a daily inspection record that can be used to verify billings for labor, materials, and major items of equipment used by the utility to complete the work.

Construction Engineering Costs

Construction engineering (CE) costs may be incurred on utility relocation work by both the utility and the State.

Reimbursement for CE costs is governed by the same limitations that apply to other Federal-aid highway projects as discussed in 23 CFR 140B (Construction Engineering Costs).

COST DEVELOPMENT AND REIMBURSEMENT (23 CFR 645.117)

Acceptable methods for developing relocation costs include –

- actual direct and related indirect costs accumulated in accordance with a work order accounting procedure prescribed by the applicable Federal or State regulatory body;
- actual direct and indirect costs accumulated in accordance with an established procedure developed by the utility and which the utility uses in its regular operations;
- an agreed fixed amount (lump sum) payment; and
- other acceptable costing methods, such as unit costs (see the discussion of “Unit Costs”).

Guidance on several features involved with cost development follow.

Labor Costs (Engineering Or Inspection)

When not billed at actual, average, or other similar rates, engineering or inspection charges may be reimbursed under the utility's construction overhead account. Costs to the utility of vacation, holiday pay, company sponsored benefits, and similar costs incidental to labor employment are acceptable when supported by adequate records. These may include individuals who are engaged in the direct and immediate supervision of the work at the site of the project and in the actual preparation of the plans and estimate of the relocation/adjustment.

Indirect Or Overhead Costs

Under 23 U.S.C. 123, the term "cost of relocation" is defined as the entire amount paid by a utility that is properly attributable to the relocation.

Federal-aid reimbursement is therefore limited to direct and indirect costs directly related to utility relocation work necessitated by the construction of a Federal-aid highway project. The mere fact that a utility may incur legitimate costs as a function of doing business in general is

not sufficient reason to warrant reimbursement unless such costs can be shown to be essential for the performance of the actual and necessary relocation work at hand. For example, advertising may be necessary to promote a utility's product; however, it is not related either directly or indirectly with the physical work of relocating the utility's facilities. Another example could be a diversified utility with several interests or areas of economic activity.

Each interest or area may be separate and distinct and each may have direct and indirect costs identifiable to each function. Should such a utility be involved in a Federal-aid highway relocation, only those costs related to and properly attributable to the work itself would be eligible. The fact the company incurs indirect costs in other non-related areas of interest has little or no bearing or effect on the actual or real costs of performing the relocation work in question.

There are many possible combinations of indirect costs that may be charged to a project. At times it may be difficult to ascertain the legitimacy of a specific cost. However, in light of the above discussion, each proposed cost should be reviewed to determine if it is reasonable, related to the work at hand, necessitated by the highway construction, and properly attributable to the actual work undertaken. If the proposed cost meets all of these tests, then reimbursement is acceptable.

Except for costs specifically allowed or disallowed by FHWA regulations, the cost principles found in the Federal Acquisition Regulations (FAR) are the primary criteria for determining the eligibility of overhead costs claimed by a utility company.

Based upon FHWA regulations in 23 CFR 645 and the FAR cost principles, the following expense items are as indicated:

Corporate Operations Expenses

- Planning: Economic planning costs are allowed, including costs of generalized long-range management planning for future overall development of the contractor's business. [FAR 31.205-12]
- External Relations: Advertising costs and costs associated with lobbying activities are generally not allowed. [23 CFR 645.117(d)(2) and FAR 31.205-1 and .205-22]
- Legal: Costs of personal services rendered by employees of the contractor, and costs of professional and consultant services rendered by persons who are not officers or employees of the contractor are generally allowed. [FAR 31.205-6 and 205-33]
- Other General and Administrative: Costs are allowed that are necessary to the overall operation of the business, even if a direct relationship to any particular cost objectives cannot be shown. [FAR 31.201-4]
- Research and Development: Costs of research programs are not allowed for Federal reimbursement. [23 CFR 645.117(d)(2)]

Investment Related Costs

- Return on Investment: Interest and other financial costs that include the costs of financing capital are generally not allowed. Hence, "Return on Net Investment" may not be allowed unless the tests for facilities capital cost of money are met under FAR 31.205-10. [FAR 31.205-20]

- Float is considered to be an interest cost and is generally not allowed. [FAR 31.205-20]
- Income Tax: State and local taxes are generally allowed, but Federal income taxes are not allowed. [FAR 31.205-41]
- Property Tax: Property taxes are generally allowed. [FAR 31.205-41]
- Depreciation: Depreciation expenses are generally allowed. [FAR 31.205-11]
- Capital Stock Tax: Taxes in connection with financing operations are not allowed. [FAR 31.205-41]
- Plant Specific Operations Expenses: General support asset accounts of a specific plant, including expenses related to vehicles, equipment, etc., are generally allowed.

Materials (Recovered From Permanent Facility)

Materials recovered from a utility's permanent facility that are accepted for return to the utility's stock are to be credited to the project at the current stock prices for such used materials.

If a utility charges recovered materials to the material and supply account at the original cost, or at a percent of the current new price, and if the utility follows a consistent practice in this regard, the work order may be credited accordingly. This would not preclude any additional credits when State laws or regulations require such credits.

Where materials of a type different than the materials being replaced are used in the replacement facility (e.g., aluminum for copper), the credit for the materials recovered from the existing facility should not exceed the original cost of the existing material, or the current cost of the replacement materials, whichever is the greater.

However, if the State follows a more stringent standard -- for example, if it insists on a credit equal to the current value of the materials being replaced -- then this standard becomes the one to be followed on Federal-aid projects.

Materials (Recovered From Temporary Use)

The proceeds of the sale of any materials recovered from temporary use are to be credited to the cost of the project. The sale may be conducted by the utility or, at its request, by the State. In no event would the State or the utility be considered an acceptable bidder for such materials.

Materials (Cost Of Removal)

Costs for the removal of existing utility facilities are eligible for Federal-aid participation provided the removal is necessitated by the highway project or required for aesthetic or safety reasons.

In some cases it may be feasible to abandon existing utility facilities in place, particularly in urban areas when all the customers along a utility's line are to be removed as the result of a highway construction project, and also in areas where the existing utility facilities will not conflict with the proposed highway project.

In cases where there is no need to remove the existing utility facilities, but where the utility or highway contractor still elect to proceed with the removal, any removal costs above the salvage

value of recovered materials credited to the project are not eligible for Federal-aid participation.

Equipment And Transportation Costs

Accounts for transportation and heavy equipment are used for the purpose of accumulating expenses and distributing them to accounts properly chargeable with the services. Among the items of expense clearing through these accounts are --

- depreciation;
- fuel and lubricants for vehicles (including sales and excise taxes);
- freight and express on fuel and repair parts;
- heat, light, and power for garages and garage offices;
- insurance (including public liability and property damage insurance) on garages, transportation, and heavy work equipment;
- license fees for vehicles and drivers;
- maintenance of transportation and garage equipment;
- operation of garages; and
- rent of garage buildings and grounds.

Equipment expenses may include the cost of supervision, labor, and expenses incurred in the operation and maintenance of the transportation equipment and heavy equipment of the utility, including direct taxes and depreciation.

Reimbursement for the use of small tools on a project may be made on the basis of tool expenses accumulated in and distributed through the utility's clearing accounts, or on the basis of some other equitable and supportable allocation basis. Otherwise, reimbursement should be limited to actual loss or damage during the period of use. In the latter case, the loss or damage should be billed in detail and supported to the satisfaction of the State and the FHWA.

Where the utility does not have equipment available of the kind or type required, the amount of rental paid to the lowest qualified bidder following an appropriate solicitation for quotations from owners of the required kind or type of equipment is eligible for Federal participation.

Existing continuing contracts for rental of transportation and heavy equipment, which the utility determines to be of the most advantage to its operations, may also be used.

In the event of an emergency, such as breakdown of the utility equipment, or where additional equipment not originally contemplated is needed, and/or where compliance with the solicitation/bidding method would seriously impair the progress of the utility work or highway construction, Federal funds may participate in the cost of equipment rental provided the emergency circumstances are clearly demonstrated and the rental charges are reasonable.

Credits (Accrued Depreciation)

Accrued depreciation credit (referred to in the past as expired service life credit) is only required for major operational utility facilities (such as plants, stations, or buildings) which are being replaced.

Credit for accrued depreciation is not required for any segment of a utility's service, distribution, or transmission lines, regardless of the length of line involved.

This credit is figured as follows:

- The original cost of a pumping substation in 1973 was \$80,000, and the original facility was expected to have a service life of 40 years. The facility is replaced in 2003 as part of a utility relocation on a Federal-aid project. The original facility has served 30 of the expected 40 years. The accrued depreciation credit amounts to $30/40 \times \$80,000 = \$60,000$.

Sometimes the credit for accrued depreciation may be so small that the cost of researching the installation date and original cost, negotiating with the utility, processing the paperwork, and doing whatever else may be necessary, and the time to do these things, is just not worth the effort. In such cases the State should apply its engineering judgment to the situation and document its reasons for not pursuing the credit.

Even though the FHWA's posture on accrued depreciation credits has been relaxed, some States may choose to continue to follow a more stringent policy. Where this occurs and a State continues to receive credits for accrued depreciation, these credits must be properly reflected in determining costs eligible for Federal-aid participation. Under the provisions of § 645.103(d), if a State has established a payment standard more restrictive than the Federal standard, the FHWA's reimbursement will be based on the State payment standard.

It has been suggested that it may be more appropriate to calculate the accrued depreciation using the "replacement cost" rather than the "original cost." The rationale behind this suggestion is that credit to the project is often so minuscule using the original cost, as compared to the total cost of replacing a large facility, that it is often hardly worth the trouble to calculate it and apply it to the project.

Even so, it was the intent of the Federal regulation pertaining to accrued depreciation, 23 CFR 645.117(h)(2), for the Federal-aid project to receive a credit based on the value the utility has derived from an asset at the time it is replaced by the Federal-aid project. If the asset is brand new at the time of replacement, the company has received no value yet from its investment and the credit is near zero. If the asset is old (has served its life) when replaced by the Federal-aid project, then the utility has likely received the full value of its investment in the asset and the credit reflects its investment in the asset. In determining what service life to apply to an asset, one means would be to look at the utility's financial records to see what time period it is using to depreciate the asset on its books.

Normally, the most minuscule credits occur when a nearly new asset is being replaced as very little accumulated depreciation has occurred. For example, if the asset has a 50-year service life and only one year has passed since it was built, based on straight-line depreciation, the credit is only 2% of the original cost. Again, this reflects the fact the company has received little value to date from the investment. On the other hand, for an older asset that has served its life and has been fully depreciated on the utility's books, the credit is the original cost of the asset. Granted, based on inflation, this could also be a relatively small amount, but if the State

chooses to receive the credit, it should be based upon a determination of the original cost of the asset.

Taking this a little further, suppose a utility built a pumping station in 1963 that cost \$100,000 and had a 40-year service life. In 2003 the State comes along building a highway and the pumping station must be relocated. At today's prices it may cost \$1,000,000 to do so. The State will recoup the original \$100,000, but even so it will cost them \$900,000 to build the utility a new pumping station. How can this be justified?

Consider what the utility is faced with in this situation. Granted, the plant might be old, but it is most likely still a functioning facility. As such, the utility probably doesn't have immediate plans to invest in a new plant at this time. Along comes a highway project and the plant has to be moved, now. This isn't a utility decision and funds have not been budgeted for this purpose. Why should the utility now have to find funds to absorb most of the cost to replace what they viewed as an operating portion of their facility? The utility may benefit from this position in that they receive a newer facility that may be more efficient in operation. However, it is a State action that forces the need for the new plant, and, historically, it has been Federal policy to "make the utility whole again," and to limit utility participation only to the value derived from their prior investment.

Credits (Betterments)

When reviewing a situation where a utility proposes to install different devices or materials than are currently in place, the following guidance can be used in determining whether a betterment credit is appropriate.

No betterment credit is required for the replacement of utility devices or materials that are --

- required by the highway project,
- of equivalent standards although not identical,
- of the next highest grade or size when the existing devices or materials are no longer regularly manufactured,
- required by law under governmental and appropriate regulatory commission code, or
- required by current design practices regularly followed by the utility in its own work, and there is a direct benefit to the highway project.

Examples of devices or materials of a type different than those being replaced might involve the substitution of aluminum clad steel reinforced conductors for copper conductors, underground cables for aerial lines, or fiber optics cable for conventional cable.

Evidence of a direct benefit to the highway project may include, but is not limited to, economy, timesavings, aesthetics, safety, environmental, and future use considerations

The most basic Federal premise regarding utility relocation is that a utility's service should be restored so that it may continue to provide its product to its users in a fashion similar to that which existed prior to its relocation as a result of the highway project. The idea of making the utility "whole" in many cases means that various facilities will have to be functionally restored. A few examples of this concept are as follows:

- Replacement facilities that maintain the overall functional capacity, even including those that may rearrange this capacity to a more efficient operation as a result of present day design or operation needs, are eligible for Federal participation.
- Features required to meet present standards, or required by current design practices regularly followed by utilities in their own work, are considered to be an essential part of the functional replacement and are eligible for Federal participation.
- If a utility elects to install, or if it is a utility's current practice in its own operations to install facilities of a type different than the facilities being replaced, the cost of providing the most economical such replacement facility or restoration of service is eligible for Federal participation.

It is considered to be in the best interest of the highway project and a direct benefit to the highway project when any of the above criteria are applied.

Billings

Periodic progress billings of incurred costs may be made by a utility, if acceptable to the State, and Federal-aid reimbursement may be approved for claims of this type received from the State.

The utility's final billing statement should follow as closely as possible the order of the items in the estimate portion of the State-utility agreement.

When the estimate and final billing are made on the basis of actual costs, the statement should be itemized to show the totals for labor, overhead construction costs, travel expenses, transportation, equipment, materials and supplies, handling costs, and other services.

In all cases, the final billing statement should be provided in a format that allows comparisons to be made with the approved plans and estimates.

Materials are generally itemized in the final billing statement when they represent major components or costs in the relocation, following the pattern set out in the approved estimate as closely as possible. It is desirable that salvage credits from recovered and replaced permanent materials and recovered temporary materials be reported in the final billing statement in relative position with the charge for the replacement or the original charge for temporary use.

The final billing statement should also include the –

- description and site of the project;
- Federal-aid project number;
- dates on which the State-utility agreement was executed and the first work was performed or, if preliminary engineering or right-of-way items were involved, the date on which the earliest item of billed expense was incurred;
- date on which the last work was performed or the last item of billed expense was incurred; and
- location where the records and accounts billed could be audited.

In order to expedite the closing of projects, new guidance was provided in the 1995 regulatory amendments. The utilities should now submit final billings within one year following completion of the utility relocation work.

If final billings are not received within this one-year period, the State may --

- consider previous payments made to the utility to be final, or
- make a final payment when the final bill is received if the State and utility have agreed in advance that a longer time period is needed to alleviate undue hardships.

Federal funds may participate in payments made by the State for final billings received more than one year after completion of the utility work if deemed appropriate to do so.

Average Rates

Regulations 23 CFR 645.117(c)(1) and 117(e)(4) concerning labor surcharges and materials/supplies, respectively, allow average rates that are representative of actual costs to be used in lieu of actual costs if approved by the State and the FHWA.

In some States average rates are developed by the utilities based on previous years costs and are adjusted at least once annually in accordance with the FHWA regulations.

Problems with average rates sometimes arise when State auditors expect State transportation departments to review and approve average rates each and every time they are adjusted, or else absorb all associated costs if they fail to comply. Most States don't have the time or manpower to review and approve these rates even annually for all the utilities involved, let alone every time an adjustment is made.

The original intent of the FHWA regulations was that any average rates used should be --

- based on historical cost data,
- representative of actual costs incurred,
- adjusted at least annually, taking into consideration known anticipated changes and correcting for any over or under applied costs for the preceding period, and
- approved by the State and FHWA.

It was not intended that these regulations create unreasonable burdens on the State or the FHWA. Hence, as with other things in the Federal-aid program, prior approval of the methodology to be used by the utilities in developing average rates and periodic State reviews of the rates may provide all the oversight that is necessary. Such an option satisfies the intent of the FHWA regulations.

Unit Costs

The 2000 amendments added 23 CFR 645.117(a)(3) to the utility regulations in order to allow States, in cooperation with utilities, to develop unit costs to estimate utility relocation costs and reimburse expenditures.

Documenting actual costs is often very time consuming and expensive for both States and utilities. Often, there are disputes over the type of documentation or support needed to obtain full reimbursement. For these and other reasons, the Montana Department of Transportation (MDT) developed, and the FHWA Division Office approved, a unit cost method of reimbursement to utilities for costs incurred relocating their facilities in public and private rights-of-way.

The MDT worked closely with telephone, electric, and gas utilities in developing standard construction units and associated cost components, such as direct labor, labor overheads, indirect labor, vehicle/equipment rates, material costs, material overhead costs, and retirement. The State amended its legislation dealing with reimbursement to utilities to include a unit cost method of reimbursement in State law.

The benefits of a unit cost method of reimbursement are numerous. Some are listed below:

- Audits of each project's actual costs are not required. Periodic reviews of the accuracy of the individual utility unit costs will suffice.
- Cost accounting, with extensive documentation for time and materials used on a project, is not required.
- Detailed cost estimate preparation and subsequent State review is significantly simplified.
- Utility company contractors and consultant engineers do not need to be reviewed or pre-approved by the State.
- State participation in utility cost overruns is eliminated, except for overruns caused by increased numbers of units.
- Prompt billing is facilitated and projects are closed in a timely manner.

Unit costs should be developed periodically and supported annually by a maintained database of relocation expenses.

FHWA Division Office concurrence is required for unit costs, and for any costing method used other than actual cost.

ALTERNATE PROCEDURES (23 CFR 645.119)

About a dozen States at one time or another have handled their reimbursable utility relocations under the alternate procedures provisions. These procedures were a forerunner of the certification acceptance process, and in many aspects were similar to the certification acceptance provisions.

As States adopted the certification acceptance process, some, which previously handled utilities by the alternate procedures method, dropped that approach and handled their utility relocations under certification acceptance.

With passage of the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA), the States were given the option of exempting FHWA from oversight on many Federal-aid projects

under the provisions of 23 U.S.C. 106(b). As a result, there has been limited interest in using the alternate procedures for utility relocations.

One matter to keep in mind, though, is that the alternate procedures process can include Interstate projects; whereas, even the new oversight exemption process under 23 U.S.C. 106(b) can only cover certain projects on the Interstate.

Should a State decide to use the alternate procedures process, Division Administrators have the authority to approve their requests.

OTHER ISSUES

The following discussions cover various eligibility and design issues related to utility relocation and adjustment matters.

Subsurface Utility Engineering

Many States utilize consultants to identify the quality of subsurface utility information needed for highway plans, and to acquire and manage that level of information during the development of highway projects. This engineering process is known as Subsurface Utility Engineering (SUE).

Since 1991, the FHWA's Office of Program Administration has been encouraging the use of SUE on Federal-aid and direct Federal highway projects as an integral part of the preliminary engineering. Costs for SUE services are eligible for Federal participation.

Proper use of this cost-effective professional engineering service will eliminate many of the utility problems typically encountered on highway projects, including –

- delays to projects caused by waiting for utility relocation work to be completed so highway construction can begin;
- delays to projects caused by redesign when construction cannot follow the original design due to unexpected utility conflicts;
- delays to contractors during highway construction caused by cutting, damaging, or discovering utility lines that were not known to be there;
- claims by contractors for delays resulting from unexpected encounters with utilities; and
- deaths, injuries, property damage, and releases of product into the environment caused by cutting utility lines that were not known to be there.

A national standard developed by the American Society of Civil Engineers (ASCE/C-I 38-02, *Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data*) defines SUE as a branch of engineering practice that involves managing certain risks associated with –

- utility mapping at appropriate quality levels,
- utility coordination,
- utility relocation design and coordination,

- utility condition assessment,
- communication of utility data to concerned parties,
- utility relocation cost estimates,
- implementation of utility accommodation policies, and
- utility design.

These activities, combined with traditional records research and site surveys, and utilizing new technologies such as surface geophysical methods and non-destructive vacuum excavation, provide "quality levels" of information.

Quality levels may be thought of as degrees of risk, or, how much information is really needed to adequately design and construct a highway project. Highway plans typically contain disclaimers as to the accuracy of the utility information. The use of quality levels allows project owners to decide what quality level of information they want to apply to their risk management challenge and to certify on project plans that a certain level of accuracy and comprehensiveness has been provided.

There are four recognized quality levels of underground utility information ranging from Quality Level D (the lowest level) to Quality Level A (the highest level).

The highest level of accuracy and comprehensiveness is generally not needed at every point along a utility's path, only where conflicts with highway design features are most likely to occur. Hence, lesser levels of information may be appropriate at points where fewer conflicts or no conflicts are expected.

The four quality levels are as follows:

- Quality Level D. QL-D is the most basic level of information for utility locations. It comes solely from existing utility records or verbal recollections, both typically unreliable sources. It may provide an overall "feel" for the congestion of utilities, but is often highly limited in terms of comprehensiveness and accuracy.
- Quality Level C. QL-C is probably the most commonly used level of information. It involves surveying visible utility facilities (e.g., manholes, valve boxes, etc.) and correlating this information with QL-D information.
- Quality Level B. QL-B involves the application of appropriate surface geophysical methods to determine the existence and horizontal position of virtually all utilities within the project limits. The information obtained in this manner is surveyed to project control. It addresses problems caused by inaccurate utility records, abandoned or unrecorded facilities, and lost references.
- Quality Level A. QL-A is the highest level of accuracy presently available and involves the full use of the subsurface utility engineering services. It provides information for the precise plan and profile mapping of underground utilities through the nondestructive exposure of underground utilities.

The application of SUE by qualified providers who understand the process makes it possible to avoid many problems. Unfortunately, some project owners, and some providers, believe they understand the SUE process, but actually do not, and therefore do not realize the maximum benefits.

Accurate and comprehensive knowledge of the exact horizontal and vertical location of all underground utilities early in the development of a project, long before excavation begins, makes it possible to –

- design around many underground utilities, thus avoiding costly and time-consuming relocations, and/or
- accurately depict utilities on construction plans so utility owners, project owners, and contractors will know exactly where all of them are prior to any excavation.

An independent study performed for the FHWA by Purdue University in 2000 utilized data from 71 projects in four States that had used SUE and quantified a savings of \$4.62 for every \$1.00 spent for SUE. The study also concluded that the proper use of SUE in a systematic manner would result in a minimum national savings of approximately \$1 billion per year. [*Cost Savings on Highway Projects Utilizing Subsurface Utility Engineering*, Publication No. FHWA-IF-00-014].

As mentioned above, the American Society of Civil Engineers has developed a national standard, ASCE/C-1 38-02, *Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data*. This standard provides a system of classifying quality levels of existing underground utility data that are placed on plans. Such classifications allow the project owner, the engineer, and the contractor to develop strategies to reduce risk, or at a minimum, to allocate risk to existing underground utilities in a defined manner.

The ASCE standard closely follows the concepts already in place in the SUE profession. Several States are therefore already in “compliance” with this standard through their use of SUE consultants, or their inclusion of SUE specifications in their engineering contracts. Some States with current SUE programs will probably want to modify them to be more closely in compliance with the standard, and States with no program will probably want to protect themselves by including this standard by reference in their contract documents.

States should no longer be relocating underground utilities unnecessarily or encountering them unexpectedly on Federal-aid highway projects. The SUE technology is readily available to virtually eliminate these wasteful activities.

Federal funds should not be used to participate in any unnecessary utility costs on projects where proven technologies, such as SUE, have not been used or have not been used properly.

Additional information about subsurface utility engineering can be found on the FHWA web site at: <http://www.fhwa.dot.gov/programadmin/sueindex.htm>

Applicability of the Brooks Bill to Subsurface Utility Engineering

Federal-aid highway funds may be used to reimburse States for the use of SUE. There are no special or earmarked funds for SUE, but regular funds may be used (i.e., funds available for National Highway System, Surface Transportation Program, Interstate Maintenance, and possibly other Federal-aid highway programs).

In accordance with normal Federal-aid procedures, States must first pay for SUE with their own funds, and then request Federal reimbursement at the normal pro rata share for the project or projects for which it was used. The Federal pro rata share will be either 80% for non-Interstate or 90% for Interstate projects.

State contracts with SUE providers are subject to Brooks Bill procedures if Federal-aid highway funds are used.

Hence, on Federal-aid highway projects, SUE providers must be selected by evaluating and ranking interested firms based on their qualifications to perform the requested work, and then, starting with the highest ranked firm, negotiating with them until a firm is retained.

The Brooks Bill is applicable to SUE because:

- Title 23 U.S.C., Section 112(b)(2)(A) requires Brooks Bill 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 Federally funded construction project performed by or supervised by a State transportation department, and
- The FHWA considers SUE 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.

There are exceptions. For example, the Brooks Bill does not apply if:

- The State established its own procedures for contracting engineering services with Federal-aid funds prior to June 9, 1998, and these procedures are based on State statutes.
- The State pays for SUE with its own 100% State funds. This is true even if done on a project where Federal-aid highway funds are used for other purposes.
- The SUE contract is with an engineering firm working directly for the State; a design-builder, or a construction contractor. Thus, the Brooks Bill does not apply to subcontracts. However, if the State contracts with an engineering firm to provide design support, construction support, and/or resource management support, this firm is considered to be an agent of the State, and any contracts this firm may enter into on behalf of the State for SUE services are subject to Brooks Bill procedures if Federal-aid highway funds are involved.
- The State employs the services of a SUE 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 (i.e., this activity is not considered to be an engineering service). However, if in addition to marking and/or exposing underground utilities, the SUE provider also surveys the locations and provides information to the State for highway planning or design purposes, this is considered to be an engineering service and Federal-aid highway funds cannot participate.

Relocating Utilities On Federally Owned Land Transferred To A State

Consider the following situation:

- Federally owned land is transferred to a State for highway purposes.

- Such land contains utilities that were accommodated under the terms of a revocable permit issued to the utility by the Federal agency.
- It is necessary to relocate the utilities to accommodate planned highway construction.
- Federal funds can participate in the cost of such utility relocations. No distinction should be made between costs arising from the relocation of utilities on what were formerly Federal lands and utilities on non-Federal lands. If the State's payment to a utility to relocate the utility's facilities does not violate State law and is otherwise in accordance with the provisions of 23 U.S.C. 123, then Federal funds are eligible to participate in the utility relocation costs.

The Federal agency may have an agreement with the utility indicating the utility must pay for any move deemed necessary by the Federal agency. The State cannot assume the conditions of this agreement. As stated above, no distinction should be made between costs arising from the relocation of utilities on what were formerly Federal lands and utilities on non-Federal lands. The provisions of 23 CFR 645.107(f) seem to allow such a possibility, but this regulation was intended to apply solely to a State assuming the rights of a public agency of the State or a political subdivision of the State, not of a Federal agency.

Utility Adjustments On Emergency Relief Projects

Congress has authorized an emergency fund for the repair or reconstruction of Federal-aid highways that have suffered serious damage as the result of a natural disaster or catastrophic failure.

On Federal-aid highways damaged by a natural disaster or catastrophic failure where the disaster falls on public and private facilities alike, ER funds are only available to repair or reconstruct damaged public highways. The repair of damaged utility facilities located within existing highway right-of-way is not eligible for ER funding.

If, however, the ER project involves the relocation of a highway and the work requires the adjustment of existing functioning utility facilities, then Federal reimbursement for utility adjustments would follow the same eligibility criteria being used for adjustment of utilities on regular Federal-aid projects in that particular State.

Reimbursement To Adjust Utilities Improperly Installed On A Highway

In the past the Office of the Inspector General (OIG) has questioned FHWA participation in costs of adjustments to utility facilities that the OIG considered to be improperly placed on highway right-of-way. This involved cases where utilities were placed, sometimes without permits, within highway drainage structures and were subsequently moved to new encased crossings which were paid for under a Federal-aid project. The OIG recommended FHWA modify its utility regulations and add two additional tests if Federal funds were to be used to pay for utility adjustments. These tests are:

- Was the existing utility installation installed under a permit issued by the transportation department?
- Does the existing utility installation meet accepted standards?

Neither 23 U.S.C. 123 nor the FHWA's implementing regulations directly establish either of these criteria as a test for reimbursement with Federal-aid funds. Application of these tests to all utility adjustments could create an excessive administrative burden and in many cases could result in inequitable treatment. As a consequence, FHWA did not revise its policy or regulations. Even so, cases may arise where selective use of these two tests would be appropriate. The FHWA field offices have the discretion to apply these criteria as they see fit.

Relocation Of Joint-Use Utility Facilities

The following items provide guidance regarding the relocation of joint-use utility facilities:

- The additional length (height) of a utility pole is generally eligible for Federal participation.
- Where existing joint-use utility facilities are relocated, rent is not an eligible item.
- Where an existing pole line is joint-use, if the proposed relocation plan is to place the utilities on separate pole lines, FHWA participation in separate pole lines should not exceed the cost of replacement of the joint-use facility unless restoration of joint-use is not possible due to highway requirements.
- Where existing pole lines are separate, and joint-use is proposed, FHWA can participate in the most economical solution not to exceed replacement-in-kind. Also, some added costs associated with joint-use may be eligible for Federal participation if found to be in the public interest. For example, it would be in the public interest to improve safety. Costs of the joint-use facility might include added pole heights and possible rental costs, with the latter being based on present worth of rental over the period covered by the joint-use agreement.
- It must be established that any joint-use solution is the most economical and that payments for this approach are in accordance with a legal contract between the involved utilities.

Undergrounding Utility Lines

A utility's existing pole line needs to be replaced on a highway project and it is determined the work will be eligible for Federal-aid participation. The utility wants to place the new line underground. This will cost more than an overhead replacement. The FHWA will participate in the added cost of the underground installation if it can be shown this is in the public interest. A public interest determination might be justified from the standpoint of safety, aesthetics, economy, or a requirement of law or ordinance. Should the reason be either safety or aesthetics, the State should furnish assurances that future overhead lines will not be permitted along the section of highway where the undergrounding is to be provided.

The relocation of overhead utilities to an underground location is also an eligible item for Federal participation with Surface Transportation Program (STP) funds under the landscaping and scenic enhancement category of "Transportation Enhancement Activities."

Interest Payments

Utilities may incur interest expenses on funds provided to cover utility relocation costs prior to receiving reimbursement from the State. These interest expenses are not eligible for Federal-aid participation. OMB Circular No. A-87, Cost Principles for State, Local, and Indian Tribal Governments states that:

Costs incurred for interest on borrowed capital or the use of a governmental unit's own funds, however represented, are unallowable except as specifically provided in subsection b or authorized by Federal legislation.

Subsection b pertains to financing costs (including interest) associated with the otherwise allowable costs of building acquisition, construction or fabrication, reconstruction or remodeling subject to certain conditions.

Since subsection b pertains to buildings rather than to utilities, and since there is no legislation authorizing FHWA to pay for interest expenses, such costs are not eligible for Federal-aid participation.

Loss Of Revenue

A utility may claim it should be reimbursed for "loss of revenue" during its relocation shutdowns to accommodate construction of a highway project. However, this "loss of revenue" is not considered to represent costs expended by the utility and is not a charge properly attributable to the utility relocation. It, therefore, is not eligible for Federal-aid participation

Payment For "Gas Lost"

The wasting of gas to the atmosphere frequently occurs during replacement of a segment of a high-pressure gas transmission main. This is necessary to reduce pressure in the line and is accomplished by bleeding gas to the atmosphere for the portion of the main that is located between the nearest adjacent block valves.

If the utility's estimate includes a proposed expense for "lost gas," it will be required to furnish a brief statement justifying the reasons why the wasting is necessary and the basis for measuring the volume and cost of the gas lost. The volume may be calculated on the basis of the inside diameter and length of the section of the line which is shut down and the line pressure at the time of bleeding gas to the atmosphere.

Federal-aid funds may participate where it can be demonstrated that the bleeding of a gas main is necessary to permit installation of the segment to be replaced and the gas lost to the atmosphere is considered to be an actual loss attributable to the highway construction. Reimbursement is limited to the actual cost of the gas to the company, as supported by the utility's cost records. Arbitrary loss rates or consumer charges are not acceptable.

Operating Costs

Generally, increased operational and maintenance costs as a result of the relocation of utility facilities are non-compensable with Federal-aid funds. Where these costs are related to, but not solely caused by the relocation of utility facilities, the costs are considered to be incidental to the utility's normal operation.

However, in certain special instances the FHWA has participated in operating costs. One such case involved an Interstate project where replacement of a portion of a city's water distribution system was required. For functional replacement it was determined the most economical solution would be to install pumps to replace the city's existing gravity-fed system. The city requested payment for the increased costs associated with providing power for the pumps. Since significant changes to the nature of the utility's operation had been made, it was agreed that Federal-aid funds could provide reimbursement for the increased power costs for a reasonable period of time. For this project, a 10-year period was agreed upon. This payment

was considered to be a negotiated settlement and represented the present worth for the power costs over the agreed time period.

Spare Ducts, Conduits, And Cables

On an underground crossing of a freeway project, FHWA will participate in the cost of installing ducts or conduits to accommodate the utility facilities being relocated plus one spare duct or conduit. The provision of other additional extra ducts or conduits for future expansion of utility facilities is at the election and expense of the utility.

When a utility is crossing under a freeway with an underground cable, FHWA will participate in the cost of a spare cable provided the spare cable is not used for future expansion of utility services and provided the State and utility will follow this same practice on other freeway crossings.

Intercompany Profits

Based on a 1964 Comptroller General's decision (Number B-154937), as modified on May 25, 1965, it has generally been the FHWA's policy not to participate in any intercompany profits associated with the purchase of materials from a utility's subsidiary. An exception was made to the above policy in a case where it was established that the purchase of materials from a subsidiary was causing the subsidiary to lose regular sales.

The case involved American Telephone and Telegraph (AT&T) and the Western Electric Company, which at that time was a subsidiary of AT&T. AT&T, in relocating its facilities on a Federal-aid project, was buying replacement materials from Western Electric. The cost billed to the project was Western Electric's market price, which included an increment for profit.

The original position taken by the FHWA was that if they participated in the full cost of the materials, they would in essence be participating in a profit to the parent company, and this was not the intent of the "cost of relocation" as defined in the law.

AT&T's counterposition was that if they had to provide the materials without a profit, the FHWA actions would be denying the company and its stockholders the benefits of profits they would have received if the materials had been sold in the market place.

A compromise position was reached. It was agreed that if it could be established that Western Electric's sale of its materials to AT&T resulted in a loss of a substantially equivalent amount of regular sales, then FHWA would participate in the full cost of the materials used on Federal-aid projects. Subsequently, AT&T provided an annual certification along the above lines and FHWA was willing to participate in the full cost of the Western Electric materials.

It is noted that with the divestiture of AT&T, this particular situation is no longer an issue. However, similar circumstances could arise again, not just within the telecommunication industry, but with other types of utility services as well.

Prorating Costs

Occasionally a situation may occur where a utility facility being placed will serve both a highway purpose and a non-highway purpose. For example, a proposed water line might provide service to a highway rest area and also to the general public. Since the facility will serve multiple interests, the costs for placement of the facility should be shared among the various parties.

There are no hard and fast rules covering how the costs should be prorated between highway and non-highway interests. Two common methods that could be employed are proration based on capacity or proration based on incremental cost of the larger facility. For the example water line:

- By the capacity proration method, if about one-third of the line's total capacity would be adequate for the rest area's needs, then highway funds should cover one-third of the cost of the line and non-highway funds should cover the other two-thirds.
- By the incremental cost proration method, if the rest area's water needs could be met with a 4" line, but the utility wanted to place an 8" line in order to provide service to others, of the total cost of the 8" line, highway funds should only participate in the amount it would cost for the 4" line.

Utilities Serving A Highway Purpose

Federal-aid funds may participate in the installation of utility owned facilities that serve a highway purpose (e.g., highway lighting, traffic signals, sewage treatment facilities at rest areas, and communication, water, and power lines in certain instances) if this is found to be in the public interest and if the following conditions are satisfied:

- Utility ownership of the facilities conforms to the general practice in the locality.
- Assurances contained in the State-utility agreement indicate the utility will --
 - adequately maintain the facilities and provide continuous quality service;
 - record the cost of the facilities paid for by the State separately within the accounting records in accordance with proper accounting practices;
 - eliminate from the rate determination process (a) the original cost to the State of the involved facilities and (b) the corresponding current and cumulative depreciation amounts;
 - relinquish ownership and possession of all involved facilities to the State should the utility go out of business or be sold to a company unwilling to abide by the terms of the agreement.

Where a publicly owned utility is involved, the second and third items above under the agreement assurances may be modified as appropriate to reflect current accounting and rate determination practices used by the utility.

It has also been FHWA practice to participate in the relocation/adjustment of existing utility facilities which serve a highway purpose provided the previously described conditions are met. This policy applies equally to publicly and privately owned utilities that are serving a highway purpose.

When relocating/adjusting existing utility facilities serving highway purposes, the policy should generally be applied on an individual basis. The following two examples illustrate this matter:

- In the first example, roadway luminaires are mounted on power distribution poles and the highway authority does not pay for relocation of the power line. Although Federal funds may

not participate in the relocation of the power pole line, reasonable costs associated with the relocation of only the lighting appurtenances are potentially eligible for Federal-aid participation.

- In the second example, luminaires are mounted on their own independent poles. Relocation of the entire lighting system, including poles, is potentially eligible for Federal-aid participation.

Utility owned facilities that serve a highway purpose, rather than a utility purpose, are not subject to the accommodation policies contained in 23 CFR 645 subpart B.

Sewage Treatment Facilities In Rest Areas

Federal-aid highway construction funds may participate in reasonable costs to assure adequate sewage treatment at rest areas. Some examples of eligible items, assuming they represent the most reasonable alternative, are as follows:

- construction of a sewer line and a new sewage treatment plant within the highway right-of-way.
- installation of a sewer line along the highway right-of-way to an existing utility-owned sewage treatment plant that can handle the increased sewage, even if it is necessary to bypass a closer treatment plant that cannot handle the additional sewage.
- expansion of an existing utility-owned sewage treatment plant to handle additional sewage from a rest area.

The fact that the sewer line and the sewage treatment plant are owned by a utility is not a problem. Federal funds may participate in the costs of installing or expanding utility-owned facilities that serve a highway purpose if the conditions set forth in the previous section are met.

Federal Taxes

Federal-aid funds may not participate in any Federal income taxes paid in conjunction with the relocation or adjustment of utility owned facilities to accommodate a Federal-aid highway construction project.

Even though every effort is made to make the utility "whole," the utility is the owner of the facilities and derives any benefits associated with the ownership. If the IRS determines that such work is a taxable benefit, then the utility alone is responsible for the tax liability.

Construction Delay Claims

The FHWA may participate in construction delay claims caused by utilities. As a general rule, all utility relocations should be completed before a related highway construction project is advertised for bids. Sometimes, however, utility facilities cannot be relocated until some highway construction work has been completed.

In either case, the FHWA may participate in delay claims if it is determined that –

- utilities were either relocated and/or adjusted prior to advertising for bids, or necessary coordination was arranged with the appropriate utility companies to avoid causing any delay to the construction contractor;

- the approved procedures in the State’s utility accommodation policy were followed in making arrangements for the relocation and/or adjustment of the utilities;
- the construction work was actually delayed by the utility work through no fault of the construction contractor; and
- the State exercised reasonable efforts to control the situation.

The FHWA should not participate in any construction delay claims caused by conflicts with underground utilities that would have been avoided if subsurface utility engineering had been used.

Metric Conversion

Section 1211(d) of the Transportation Equity Act for the 21st Century (TEA-21) amended § 205(c)(2) of the National Highway System Designation Act of 1995, to read as follows:

The Secretary shall not require that any State use or plan to use the metric system with respect to designating or advertising, or preparing plans, specifications, estimates, or other documents, for title 23, United States Code.

Hence, the target date for metric conversion was removed, thereby allowing the States to convert to the

International System of Measurements (SI) if they so desired. However, the FHWA could no longer mandate that States convert to SI.

Section 1211(d) did not change the requirements placed on the FHWA by § 5164(b) of the Omnibus Trade and Competitiveness Act of 1988. Therefore, the FHWA continues to use SI in its daily business activities. In keeping with existing policy, correspondence or publications intended for a broad audience that includes the general public may use dual units with the SI value first followed by the inch-pound value in parentheses. All other documents should be in SI only.

Under some future legislation, utilities may again be required to submit metric information for PS&E packages. Should that happen, the metric policy for utilities developed by the FHWA might be useful. It is as follows:

FHWA Metric Policy for Utilities for Possible Future Use

Situation 1. For utility relocation work which will be paid for by the State; is eligible for Federal reimbursement and for which Federal reimbursement will be requested; and will be included in the highway contract and performed by the highway contractor for the utilities:

- Items in the construction PS&E dealing with geometrics (e.g., distance from the edge of pavement, depth underground, clearance above ground, all linear dimensions, etc.) must be in metric units.
- Items in the construction PS&E dealing with materials (e.g., size conduit, pipe, pole, etc.) must generally be in metric units. Soft conversion is acceptable. For system compatibility, a utility may justify a need to specify materials in English units.

Situation 2. For utility relocation work which will be paid for by the State; is eligible for Federal reimbursement and for which Federal reimbursement will be requested; and will be included in a State-utility agreement and performed by the utilities, either with their own forces or by utility-let contract:

- Items in the State-utility agreement dealing with geometrics (e.g., distance from the edge of pavement, depth underground, clearance above ground, all linear dimensions, etc.) must be in metric units.
- Items in the State-utility agreement dealing with materials (e.g., size conduit, pipe, pole, etc.) may, at the State's discretion, be in English, dual English and metric, or metric units only. Soft conversion is acceptable.
- Any geometrics items taken from the State-utility agreement and listed or shown in the construction PS&E for informational purposes must be in metric units. Any materials items taken from the State-utility agreement and listed or shown in the construction PS&E for informational purposes may, at the State's discretion, be in English, dual English and metric, or metric units only. Soft conversion is acceptable.

Situation 3. For utility relocation work which will be paid for by the State; is eligible for Federal reimbursement, but for which Federal reimbursement will not be requested; and will be included in a State-utility agreement and performed by the utilities, with their own forces or by utility-let contract:

- Items in the State-utility agreement dealing with both geometrics and materials may, at the State's discretion, be in English, dual English and metric, or metric units only. Soft conversion is acceptable.
- Any geometrics items taken from the State-utility agreement and listed or shown in the construction PS&E for informational purposes must be in metric units. Any materials items taken from the State-utility agreement and listed or shown in the construction PS&E for informational purposes may, at the State's discretion, be in English, dual English and metric, or metric units only. Soft conversion is acceptable.

Situation 4. For utility relocation work which will not be paid for by the State; is not eligible for Federal reimbursement; and will be performed by the utilities, either with their own forces or by utility-let contract.

- Geometrics and materials items may, at the utility's discretion, be in English, dual English and metric, or metric units only.
- Any geometrics items pertinent to this work that are listed or shown in the construction PS&E for informational purposes must be in metric units. Any materials items pertinent to this work that are listed or shown in the construction PS&E for informational purposes may, at the State's discretion, be in English, dual English and metric, or metric units only. Soft conversion is acceptable.

Pipeline Facilities Constructed to Accommodate Inspection

On April 12, 1994, the Office of Pipeline Safety (OPS) issued a Final Rule in the *Federal Register* requiring in 49 CFR Parts 192 and 195 that new and replaced pipeline facilities be

constructed to accommodate inspection by instrumented internal inspection devices commonly known as "smart pigs." Hence, any new and replaced pipeline facilities constructed to accommodate inspection by instrumented internal inspection devices are eligible for Federal-aid participation on projects where utilities must be relocated to accommodate highway construction.

This is in accordance with the FHWA's policy to make utilities "whole," which sometimes includes reimbursement for changes that may be required in replacing certain functions to meet present standards. Participation in facilities constructed to accommodate inspection by the "smart pigs" may extend to whatever termination points the FHWA and State DOT consider reasonable.

Warranty Clauses

Warranties may be required for utility relocation work, as allowed in customary trade practice, when the State's contractor as part of a Federal-aid highway construction project performs such work.

An interim final rule on warranty clauses was published in the *Federal Register* and became effective on August 25, 1995. This rule amended 23 CFR 635.413, the material requirement's regulation, removing the ban on warranties and guarantees previously contained in the regulation and leaving it to the States to decide if they want to require warranties on Federal-aid projects.

The new regulation permits the State to include warranty provisions in National Highway System (NHS) construction contracts in accordance with the following:

- Warranty provisions must be for a specific construction product or feature. Items of maintenance not eligible for Federal participation are not covered.
- Warranty requirements and subsequent revisions must be submitted to the Division Administrator for advance approval.
- No warranty requirement may be approved which the Division Administrator believes may place an undue obligation on the contractor for items over which the contractor has no control.
- A State may follow its own procedures for the inclusion of warranty provisions in non-NHS Federal-aid contracts.

Relative to utilities, this regulation is interpreted to mean the State may, if desired, include warranty clauses in Federal-aid contracts, both NHS and non-NHS, covering equipment and/or workmanship. It is recommended, however, that the States work with the utilities and make every effort to adhere to the same procedures a utility would normally use for its own work.

Utility Tunnels

Federal funds may participate in the cost of utility tunnels (i.e., box culverts or large diameter pipes for utility use).

For many years the FHWA has considered it to be in the public interest to accommodate utilities on the right-of-way of Federal-aid and direct Federal highway projects, when such use and

occupancy does not adversely impact highway or traffic safety, or otherwise impair the highway or its aesthetic quality, and does not conflict with State or local laws or regulations.

Consequently, over the years the States have allowed utilities to locate on non-freeway highway right-of-way, generally near the outer edge. Utilities were not allowed on freeways until 1988, except for crossings. Since then, freeways have been opened up for fiber optics and wireless towers, but generally not to other utilities.

The accommodation of utilities on highway right-of-way was never much of a problem until recently. The Telecommunications Act of 1996 deregulated the industry, and now hundreds of communications companies exist and want to locate their facilities on both freeway and non-freeway right-of-way. This has created tremendous problems, especially on non-freeways. Space is limited, permit personnel are being overwhelmed with requests, damage to existing facilities is prevalent, property owners are irate over endless pavement and sidewalk cuts, and motorists are irate over increased traffic congestion and rough pavements.

To alleviate some of these problems, the use of utility tunnels has been proposed. This would involve constructing large diameter pipes or box culverts for exclusive utility use near the edge of the right-of-way in conjunction with other highway construction.

States may desire to include utility tunnels in the design of some projects, and use their own funds to pay for them in order to better manage utility use and occupancy of their highway right-of-way. Existing utilities could be relocated into these utility tunnels. New utilities could be installed, expanded, and maintained in them without further excavation or disruption of the surface environment. Federal-aid highway funds are eligible to participate in the cost of utility tunnels.

Context Sensitive Design

Context sensitive design is a collaborative, interdisciplinary approach whereby all stakeholders work together to develop a transportation facility that fits its physical setting and preserves scenic, aesthetic, historic, and environmental resources, while maintaining safety and mobility.

During the 1990s, highway design changed rapidly throughout the United States. Highway designers and builders learned they must be more sensitive to the impact of highways on the environment and communities. New and better ways of designing highways are evolving following completion of the Interstate system, based on growing interest in the improvement of highways and their integration into the communities they serve.

Following the substantial completion of the Interstate system, the transportation focus for many States has shifted to congestion management and system preservation projects that involve existing facilities. Most of these existing facilities are substantially developed, and transportation improvement projects will affect this development. Working with community stakeholders to preserve and enhance the human and natural environment thus becomes a significant component of these projects. To best address the challenges of these projects, many transportation departments and professional organizations are interested in implementing a context sensitive design approach for project development.

One element of context sensitive design that is often overlooked is the accommodation of public utilities. Overhead utilities typically include electric, telephone, cable television, and other communications lines. For new construction in urban areas, these facilities are now often placed underground.

Burying utility lines, although the safest and most aesthetically pleasing option, is also the most expensive. Often, under-grounding is not within the transportation departments' available budget. The Maryland State Highway Administration has gotten very creative in trying to find cost-effective solutions that will still please the citizens. In lieu of under-grounding, they consider using taller poles that are spaced farther apart, consolidate them to one side of the roadway, and/or disguise them somehow to look like trees. By raising and consolidating the lines, much of the clutter is outside and above the driver's and pedestrian's views. Because of these tradeoffs, the design and location of utilities requires public input and should be considered early in the design of each project.

Design-Build

The FHWA is involved in several initiatives under FHWA Special Experimental Project No. 14 (SEP-14) to encourage the use of nontraditional innovative contracting practices that have the potential to enhance the quality of highways and minimize negative impacts to road users. One of these initiatives is design-build.

The design-build concept gives the contractor maximum flexibility for innovation in the selection of design, materials and construction methods. With design-build procurement, the contracting agency identifies the end result parameters and establishes the design criteria. The prospective bidders then develop design proposals that optimize their construction abilities. The submitted proposals may be rated by the contracting agency on factors such as design quality, timeliness, management capability and cost, and these factors may be used to adjust the bids for the purpose of awarding the contract.

By allowing the contractor to optimize its work force, equipment and scheduling, the design-build concept opens up a new degree of flexibility for innovation. However, along with the increased flexibility, the contractor must also assume greater responsibility. Extended liability insurance or warranty clauses may be used to ensure that the finished product will perform as required.

From the contracting agency's perspective, the potential timesavings are a significant benefit. Since the design and construction are performed through one procurement, construction can begin before all design details are finalized. Since both design and construction are performed under the same contract, claims for design errors or construction delays due to design errors are not allowed and the potential for other types of claims is greatly reduced. Similarly, utility relocations can begin at any time the contractor desires, and the contractor is responsible for any utility-related construction delays that may occur.

Under SEP-14, 24 states and several local transportation agencies had design-build projects approved or underway in 2002. But only South Carolina, Virginia, Florida, and possibly a few others had included utility relocations in their design-build contracts.

South Carolina has utilized design-build on several projects. Their design-build program has utilized both the adjusted bid method and the highest composite score (combination of cost and qualifications) to select successful proposer. The following criteria were used in the selection process on one project -- cost of the project (55%), qualifications of the proposer (25%), and time of completion (20%).

On one South Carolina design-build project that included utility relocations, the contractor brought the utility companies into the project development process at the very beginning as active members of the team, and also financed some of the necessary utility relocation activities upfront, thus ensuring superb cooperation, coordination, and communication.

The following lessons have been learned in South Carolina for including utilities in design-build projects:

- Communication, coordination, and cooperation – early and often – are essential to a smooth operation. Contractors must include utility companies in the project development process at the very beginning and make them active members of the team.
- Utility agreements are best handled in a manner whereby the contractor prepares and negotiates the individual agreements, but where the contracting agency is the sole party to enter into the agreements with the utilities. Even so, the contractor is still responsible for coordinating the utility relocation work and resolving any problems that may arise.
- The funding process is best handled whereby the contractor is responsible for determining prior rights and coordinating the work, but where the contracting agency is solely responsible for payments to the utilities for their actual expenses.
- Individual efforts are important to make it all work. Working relationships between contractors, contracting agencies, and utilities must be established based upon honesty, openness, and a willingness to work together to solve problems.

The FHWA published a Notice of Proposed Rulemaking (NPRM) and a Final Rule (FR) in the *Federal Register* on October 19, 2001, and December 10, 2002, respectively, to implement regulations for design-build contracting as mandated by Section 1307(c) of the Transportation Equity Act for the 21st Century (TEA-21). The FR became effective on January 9, 2003.

The new regulations:

- Allow, but do not require, the use of design-build contracting procedures.
- Allow recipients in the Federal-aid highway program to use the design-build contracting method just as they would the traditional design-bid-build contracting method.
- Allow contracting agencies to use design-build as an optional technique in addition to traditional contracting methods.

In addition:

- ITS projects of \$5 million or greater, and other projects of \$50 million or greater may be approved by FHWA Division Administrators without Headquarters approval.
- For projects outside these limits, the FHWA will continue evaluation and approval procedures for design-build under SEP-14.

TEA-21 also requires FHWA to report on the effectiveness of design-build within five years of the date of enactment. The FHWA will work with appropriate AASHTO and TRB design-build task forces to develop a scope of work for this effort.

Combined Sewers

The drainage of water carried to or falling on a highway right-of-way should be routed to adequate natural drainage courses or to existing storm sewers if the latter have sufficient capacity and can conveniently serve the highway's needs.

When it is not practicable to discharge highway drainage into an adequate natural drainage course or an immediately accessible separate storm sewer of adequate capacity, one of the following alternate solutions should be adopted:

- A separate storm sewer should be constructed to handle drainage resulting from the highway construction, such sewer to empty into an adequate natural drainage course or be connected to another existing storm sewer of ample capacity to handle its present flow plus that contributed by the highway drainage.
- A connection should be made to an existing combined sewer provided that the sewer has adequate capacity to handle present flows plus the additional flow, if any, resulting from the highway drainage.

The selection of an alternate solution should be made in the earliest stage of project planning based on the --

- impact on appropriate water quality standards,
- costs versus benefits to be derived from each alternate,
- pollution control,
- sewer separation plans of the State or local jurisdiction,
- plans for control and/or treatment of combined sewage in excess of collection system or treatment plant capacity, and
- compliance with State statutes and local ordinances and regulations.

Federal-aid highway construction funds may participate in whatever alternate solution is selected.

CHAPTER 2 UTILITY ACCOMMODATION

It is recognized to be in the public interest for utility facilities to jointly use the right-of-way of public roads and streets when such use does not interfere with primary highway purposes. The opportunity for such joint use avoids the additional cost of acquiring separate right-of-way for the exclusive accommodation of utilities. As a result, the right-of-way of highways, particularly local roads and streets, is used to provide public services to abutting residents as well as to serve conventional highway needs.

Utility facilities, unlike most other fixed objects that may be present within the highway environment, are not owned nor are their operations directly controlled by State or local transportation departments. Because of this, highway authorities have developed policies and practices that govern when and how utilities may use public highway right-of-way. The FHWA utility accommodation regulations have been developed to reflect this situation. A discussion of the development of FHWA policies may be found in the following documents:

- *Utility Relocation and Accommodation: A History of Federal Policy Under the Federal-Aid Highway Program, Part II: Utility Accommodation.*
- *Highway/Utility Guide, Chapter Two, Historical Perspective.*

These documents were distributed in 1981 and 1993, respectively. They are important reference sources for those dealing with utility accommodation on Federal-aid projects. A link to copies of these documents may be found on the FHWA's utilities web page at:
<http://www.fhwa.dot.gov/programadmin/utility.html>.

The last major rewrite of the FHWA's overall utility accommodation regulations occurred on May 15, 1985, when a final rule was published in the *Federal Register*. The only significant changes since then occurred on February 2, 1988, July 5, 1995, and November 22, 2000, when amendments to the regulations were published in the *Federal Register*.

The 1988 amendments dealt with utility use of freeway right-of-way. It stipulated that each State must decide, as part of its utility accommodation plan, whether or not to allow longitudinal utility installations within the access control limits of freeways and under what circumstances. The FHWA retained the authority to approve each State's freeway utility accommodation plan. The State then operates under its plan and decides whether to permit specific utility installations along freeways.

The 1995 amendments brought the definition of "clear zone" into conformance with the definition in the American Association of State Highway and Transportation Officials (AASHTO) *Roadside Design Guide*, and incorporated an amendment conforming the utilities regulations to the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA).

The 2000 amendments emphasized that the most important consideration in determining whether a proposed facility is a utility or not, is how the State views it under its own laws and/or regulations, and eliminated a confusing provision to clarify the intent that the utility regulations are not applicable to longitudinal installations of private lines.

The following discussions examine the material presented in 23 CFR 645 subpart B on accommodation of utilities.

APPLICABILITY (23 CFR 645.203)

Private Lines

There has often been some confusion as to the extent private line use of highway right-of-way is covered by FHWA's utility accommodation regulations.

When the FHWA was developing implementing policies and procedures for utility accommodation, an issue was identified concerning the need for privately owned and used facilities which transport commodities to cross highway right-of-way (e.g., a farmer's water line or an industrial plant's pipeline). Reasons for needing to cross the highway right-of-way might vary. There might be a need by a private entity to expand its operations to the other side of a highway, or there might be a need to restore existing private facilities that would be severed by construction of a highway project.

Recognizing that private line crossings of a highway could be handled in a fashion similar to utility crossings, the FHWA's implementing policies and procedures for utility accommodation provided the States the latitude to include this matter in their utility accommodation policies.

The FHWA intended for its utility accommodation regulations to apply to private lines crossing highway right-of-way, but did not intend for them to cover extensive longitudinal use of highway right-of-way by private lines. The mechanism for handling requests for extensive private line longitudinal use of Federal-aid highways (both freeways and non-freeways) is found in 23 CFR 1.23(c).

Questions may arise as to whether a particular facility is a "private line" or a "utility" (see discussion of "Utility" below). For a borderline case, a legal opinion may well be in order to establish the status of the facility.

POLICY (23 CFR 645.205)

Public Interest Finding

Section 645.205(a) is extremely important because it contains the Federal Highway Administrator's finding that it is in the public interest for utility facilities to be accommodated on the right-of-way of Federal-aid or direct Federal highway projects provided certain conditions are met. This finding is required under the provisions of 23 CFR 1.23, and is a prerequisite for permitting non-highway use of the right-of-way of Federal-aid or direct Federal highway projects.

It is important to note that this public interest finding covers only utility facilities. No similar blanket public interest finding has been made to cover private lines, although private line crossings of highway right-of-way may be addressed within a State's utility accommodation policy and have generally been accepted in a manner similar to utility crossings of highways (see discussion of "Private Lines" below).

Even so, extensive private line longitudinal use of highway right-of-way must be handled on a case-by-case basis. In each case it must be shown why it would be in the public interest for private facilities to longitudinally use and occupy public right-of-way for private purposes.

State Authority

Under 23 CFR 645.205(c), the State is required to control utility use of right-of-way on a Federal-aid project so as to preserve the operational safety and the function and aesthetic quality of the highway facility. The authority for this requirement flows from 23 U.S.C. 116 in that proper maintenance of a highway facility requires, among other things, adequate control over non-highway facilities, such as utilities which may be located within the right-of-way.

Federal Lands

Section 645.205(d) was added when the utility accommodation regulations were revised in 1985. This section was inserted not to reflect a change in policy but rather to flag the issue that on some highway projects other Federal agencies may also have legal jurisdiction in determining whether certain uses of the land underlying the highway facility, including occupancy by utilities, are to be allowed.

DEFINITIONS (23 CFR 645.207)

Clear Zone

The clear zone definition conforms to that in the *AASHTO Roadside Design Guide*.

The State establishes the clear zone. Recognizing that the clear zone area may vary depending on the type of highway, terrain traversed, and overall road geometric and operating conditions, this section has not attempted to define specific clear zone criteria or standards. This information may be found in the *Roadside Design Guide*.

Clear zone should be viewed as an essential and integral design feature of a highway project. As such, it should be evaluated and its impact considered as part of the overall project development process. In doing so, the appropriateness of a particular clear zone design may become a legitimate area for discussion and input by the various parties involved in a project. The resulting designation of the clear zone should be appropriately described or delineated in the project documents to assure its continued maintenance (see discussion of "New Above Ground Utility Installations/Clear Zone Policies" below).

Utility

For certain requests to place facilities on highway right-of-way care needs to be exercised to determine whether the facility involved is a "utility" or a "private line." This distinction is important because it may impact how the State treats the facility and also because FHWA has different mechanisms for handling its review and approval actions (see "Private Lines" above for more information on private lines).

When determining whether a facility is a "utility" or a "private line" several factors may come into play. The most important consideration is how the State views a particular facility under its own State laws and/or regulations. A secondary, but nonetheless important consideration is the definition of a "utility facility" in section 645.207.

As part of the 1988 rulemaking, the definition of a "utility facility" was expanded to include utility-type facilities that are owned by or dedicated to a governmental agency for its own use. For example, a State may establish its own communication system linking together various

governmental offices. The definition was also expanded to include hardware facilities that are part of a utility's physical plant and necessary for the utility's operation.

Particularly within the telecommunication industry, the distinction between a "utility facility" and a "private line" can become blurred at times. Certain situations may be fairly straightforward. For example, a telecommunication line that provides a link between various operating units of a manufacturing company is clearly a "private line," since it is not providing any service to the public. On the other hand, telecommunication lines that are providing long distance service to the general public can be viewed as "utility facilities." However, not all situations are this clear cut and careful judgments may be necessary. Several examples follow:

- A regional telephone company (a recognized public utility) is placing a telecommunication line that connects its own administrative offices around a State. Generally, this line would be considered to be part of the utility's operating plant and, under the definition in the FHWA regulations, it could be viewed as a "utility facility."
- A recognized public utility providing telecommunication services requests a permit to install a line within highway right-of-way. This line will only provide service for a private user with no service for the public at large. The public utility is primarily acting as a contractor to install the line. Under these circumstances, the line would be considered a "private line" because it serves a private corporation, for example, a manufacturing company. However, if the line is for the use of a State or local governmental unit, then under the definition in the FHWA regulations the line would be viewed as a "utility facility."
- A telecommunication company is placing a line that will be available to a select group of users on a lease arrangement basis. Normally, such a facility would be considered a "private line."

GENERAL REQUIREMENTS (23 CFR 645.209)

Right-Of-Way Needs And Utility Use

The FHWA's authority for allowing utility use and occupancy of the right-of-way of Federal-aid and direct Federal highway projects is contained in 23 CFR 1.23. Under the provisions of this section, the State must acquire right-of-way that is adequate not only for the construction of the highway facility but also for its operation and maintenance.

The right-of-way must be devoted exclusively to public highway purposes. However, § 1.23(c) permits certain non-highway uses of the right-of-way which are found to be in the public interest provided such uses do not impair the highway or interfere with the free and safe flow of traffic thereon. As previously discussed above in "Public Interest Finding," such a public interest finding has been made for utilities.

A direct relationship exists between the § 1.23 requirements concerning the adequacy of right-of-way to be acquired and the provisions for permitted non-highway uses. Proposed non-highway uses cannot be of a nature that would negate the general requirement regarding the adequacy of the right-of-way. Therefore, it is implicit in the public interest finding for utility use of the right-of-way of Federal-aid or direct Federal highway projects that there must be adequate space available to locate the utility facilities in a manner that does not interfere with the safe and efficient operations of the highway.

Consequently, when a State intends to permit utilities to use and occupy public highway right-of-way, such potential use should be a consideration in determining the extent and adequacy of the right-of-way needed for the project. Failure to recognize the impact of such use, as well as other uses on private property located adjacent to the public highway right-of-way, may affect the safe and efficient operations of the highway and may result in the acquisition of right-of-way which is inadequate to meet the needs of the highway and the traveling public. For example, little would be gained by acquiring restricted right-of-way and denying its use to certain utilities if these utilities could locate their facilities on private property adjacent to the restricted right-of-way with substantially the same impact on the highway and its users.

Therefore, the issue of adequate accommodation of utilities is a legitimate consideration in the development of highway projects. This is particularly true of land service facilities where the highway user and utility consumer tend to be one and the same.

The concept of considering potential utility uses in the determination of right-of-way needs has been incorporated in § 645.209(a). A corresponding issue then becomes the use of Federal-aid highway funds for the acquisition costs of the needed right-of-way.

Utility use of highway right-of-way is not considered to be a use for a highway purpose. Therefore, Federal-aid highway funds are theoretically not eligible to participate in right-of-way acquired solely for the purpose of accommodating utility facilities in excess of that normally acquired in accordance with standard criteria and procedures. Even so, when a State or locality routinely dedicates or permits a portion of the road and street right-of-way for use by utilities in accordance with established standard criteria pursuant to State law, ordinance, or administrative practice, such right-of-way may be considered eligible for Federal-aid reimbursement as an integral part of the project right-of-way.

New Above Ground Utility Installations/Clear Zone Policies

On Federal-aid and direct Federal projects, new above ground utility installations are to be placed as far from the traveled way as possible, preferably along the right-of-way line. No new above ground utility installations are to be allowed within the established clear zone except in special situations, in which case appropriate countermeasures to reduce hazards shall be used.

As mentioned previously in the "Clear Zone" discussion, the FHWA procedures do not establish specific clear zones. Rather, this is a matter left to the States. The AASHTO *Roadside Design Guide* is to be used as a guide in helping to determine appropriate clear zone areas. The AASHTO Green Book (*A Policy on Geometric Design of Highways and Streets*) also provides information concerning horizontal clearances to obstructions.

The following is offered on page 344 of the 1994 Green Book:

The width of the clear zone is influenced by the type of facility, speed, horizontal alignment and embankment slopes. The AASHTO *Roadside Design Guide* discusses clear zone widths as related to speed, volume, and embankment slope. The Guide may be used as a reference for the determination of clear zones for freeways, rural arterials and high-speed rural collectors. For low-speed rural collectors and rural local roads, a minimum clear zone width of 3.0 m should be provided.

For urban arterials, collectors and local streets where curbs are utilized, space for clear zones is generally restricted. A minimum distance of 500 mm should be provided beyond the face of the curb with wider clear zones provided where possible. Where shoulders are

provided rather than curbs, a clear zone commensurate with rural conditions should be provided.

One issue which has arisen concerns the appropriate clear zone for above ground utility facilities on Federal-aid highway projects in urban areas. In particular, there has been a question as to whether or not the Green Book's 0.5 m (18-inch) offset is an established design standard for utility poles on an urban highway with curbs.

For curbed urban highways, the 0.5 m Green Book offset doesn't really have much to do with clear zone. It provides sufficient space for motorists to park next to the curb and open the passenger side door. It allows the State or local transportation department to put signs on utility poles and not have them clipped by trucks. The 0.5 m value should be viewed as an absolute minimum offset but not as a clear zone.

Providing greater offsets is particularly appropriate for utility poles. The Green Book recognizes this in discussing utilities on highway projects. For example, on pages 311-313, it is stated that longitudinal utility installations should be "located on uniform alignment as near as practicable to the right-of-way line."

Clearly, offsets greater than 0.5 m are recommended where the right-of-way is available. This also points out the need to obtain sufficient right-of-way to enable multiple and necessary joint highway-utility usage to occur in a safe and efficient manner.

Additionally, the Green Book states that utilities that occupy the right-of-way of non-controlled access highways should conform to AASHTO's *A Guide for Accommodating Utilities Within Highway Right-of-Way*. This guide recommends placing ground-mounted utility facilities as far as practical from the traveled way and beyond the clear zone. Where there are curbed sections, the Guide recommends that utilities be located as far as practical behind the face of outer curbs and, where feasible, behind the sidewalks. The Guide does recognize, however, that the placement of utility installations on urban streets with closely abutting improvements are special cases which must be resolved in a manner consistent with the prevailing limitations and conditions.

The AASHTO documents discussed previously are not necessarily presenting inconsistencies. Basically, AASHTO has recognized the importance of locating utilities as near as possible to the right-of-way line. This is the policy FHWA has adopted in its utility accommodation regulations. AASHTO has recommended a minimum offset width of 0.5 m for curbed urban highways but recognizes that greater offsets are desirable. It is expected that the States will develop individual clear zone policies that will strive to obtain the desirable offsets whenever feasible.

Installations On Freeways

Section 108(I) of the 1956 Federal-Aid Highway Act (now 23 U.S.C. 109) provided that "the geometric and construction standards to be adopted for the Interstate System shall be those approved by the Secretary of Commerce in cooperation with the State highway departments." As a result, the *Geometric Design Standards for the National System of Interstate and Defense Highways* were adopted by AASHTO (then AASHO) on July 12, 1956, and were accepted by FHWA on July 17, 1956. These standards provided for full control of access on all sections of the Interstate system. Access control was, and continues to be, recognized as one of the most significant design features contributing to the safety of a freeway system and was considered an essential element in preserving the traffic carrying capacity of these important highways.

Highway officials also recognized that control of access could be materially affected by the extent and manner in which utilities were permitted to cross or otherwise occupy the right-of-way of Interstate highways. It was agreed that in order to be able to effectively carry out the intent of the highway legislation, a uniform national policy should be developed to establish the conditions under which publicly and privately owned utilities could be accommodated on Interstate right-of-way.

Thus, in 1957 AASHTO began the task of establishing such a national policy. In developing this policy, AASHTO arranged several meetings with national utility organizations and groups so that utility industry input could be taken into consideration. Finally, in 1959 AASHTO issued its document, *A Policy on the Accommodation of Utilities on the National System of Interstate and Defense Highways*, and the FHWA accepted the AASHTO policy as a design standard for Interstate highway projects.

The primary objectives of the AASHTO policy were –

- developing and maintaining access control;
- increasing highway safety and function to the maximum; and
- insuring uniformity of utility treatment among the States.

The AASHTO policy recognized the need for utility installations to cross over or under the Interstate right-of-way, as it was not intended for the Interstate to be a barrier to obstruct the development of expanding areas adjacent to the freeway.

Most important, the policy was viewed as strongly discouraging longitudinal utility use of Interstate right-of-way within the access control lines. However, the policy did not establish an outright prohibition of such use, as it was recognized that "extreme case exceptions" might be allowed when the conditions encountered were extraordinary and costly.

Over the years AASHTO reevaluated its position regarding utility use of Interstate right-of-way. The Policy was reissued in 1969 and in 1982 and was expanded to cover all freeway-type facilities. In each instance, the FHWA followed by adopting the AASHTO Policy for use on Federal-aid highways. In both 1969 and 1982 AASHTO reaffirmed the basic principles and policies it had been following in regard to utility use of freeway right-of-way.

The Surface Transportation Assistance Act of 1978, and the technical amendments that later followed, added § 109(l) to 23 U.S.C. This section specifically addressed the issue of utility use of highway right-of-way. It provided that utility use of the right-of-way on Federal-aid highways should not be permitted if such use would "adversely affect safety," and emphasized that highway and traffic safety were of paramount importance when considering the accommodation of utility facilities within highway right-of-way. However, this section also recognized that there could be adverse impacts resulting from not permitting such use, and it required that certain environmental and economic impacts be evaluated and considered in the denial of the use of Federal-aid highway right-of-way for utility facilities. The 1982 AASHTO Policy reflected these concerns and provided for their consideration in the decision-making process.

By the mid-1980s some State authorities and others were questioning the more restrictive provisions of the AASHTO and FHWA policies, particularly regarding longitudinal utility occupancy of freeway right-of-way. Some believed that certain types of utilities could be permitted to longitudinally use freeways with very little adverse impact on the freeway systems.

In consideration of these views and concerns, the FHWA agreed that a more flexible Federal policy position would be appropriate.

Effective February 8, 1988, the FHWA modified its regulations regarding utility installations within freeways (see § 645.209(c)). The revised regulations no longer mandated that the States adhere to the AASHTO Policy. Instead, each State was given the flexibility to adopt its own freeway utility accommodation plan, one that was best suited to its needs and conditions.

In turn, AASHTO revised its policy covering utilities within freeway right-of-way in February 1989. This revised AASHTO policy was generally consistent with the FHWA's regulations in many respects, but continued to prohibit longitudinal utility installations on freeway right-of-way, except in special cases under strictly controlled conditions. For this reason, the FHWA opted not to adopt the AASHTO policy as a Federal standard.

Freeway Accommodation Policies

Prior to the FHWA's regulatory change in February 1988, each State, as part of its overall utility accommodation policy, was required to address transverse utility crossings of freeways and how they were to be controlled. Once a State's policy was approved by the FHWA, the State could then approve individual utility requests for transverse freeway crossings without any further referral to the FHWA provided the crossings satisfied the criteria in their approved policy. For longitudinal utility use of freeways, the States were required to adopt a position at least as restrictive as that in the then current AASHTO Policy. Hence, prior to 1988, the only longitudinal installations allowed on freeways were extreme case exceptions under provisions in the AASHTO Policy, and each individual request had to be approved by the FHWA.

Subsequent to the FHWA's 1988 regulatory change, each State was required to update its utility accommodation policy and include its own policy for permitting utility use of freeways, including longitudinal use if such use was to be allowed.

The States had to decide if they wanted longitudinal utility installations on freeways and if so to what extent and under what conditions. Whatever a State decided to do in this regard had to be documented in its utility accommodation policy and submitted to the FHWA for approval. A State could permit certain utilities and exclude others. And, if a State so chose, it could prohibit any longitudinal utility installations.

All the States are now operating under freeway utility accommodation policies that have been approved by the FHWA. Many States opted to stick with the AASHTO Policy prohibiting longitudinal utility installations, except in special cases under strictly controlled conditions. The States that opted to allow longitudinal installations no longer have to submit individual proposals to the FHWA for approval. It has become their responsibility to assure that proposals are in accord with provisions in their approved utility accommodation policies.

Exceptions to these policies, or changes, must be submitted to the FHWA Division Administrator for approval. In substance, this places all utility freeway installations under the same administrative process that other utility use proposals have been under since the late 1960s.

In summary, FHWA policy for longitudinal utility installations on freeways is as follows:

- The States may decide if they want to allow longitudinal utility installations on freeways and if so to what extent and under what conditions.

- Whatever a State decides to do in this regard must be documented in its utility accommodation policy and approved by the FHWA. Exceptions or changes must be approved by the FHWA Division Administrator.
- A State may permit certain utilities and exclude others. If a State so chooses, it can prohibit any longitudinal utility installations.
- Fees charged for utility use are at a State's discretion and may be used as the State sees fit. The FHWA does, however, encourage States to use generated revenues for transportation purposes.

In approving a State's freeway utility accommodation policy, the FHWA must give careful consideration to measures proposed to insure safety of the traveling public, and features to protect the operation and integrity of the highway. Effects on both the present and future use of the freeway must be considered.

The FHWA recognizes that conditions vary. Highway safety matters are not the same on a low volume rural freeway as on a high volume urban one. Considerable latitude may be appropriate on these rural facilities. The nature and type of utility facilities may also differ from area to area. All these variables must be taken into account. It is noted that there is no such thing as an absolutely safe utility installation. The construction, operation and maintenance of any utility on or near a major high speed highway cannot be done without some risk. Judgment must be exercised by highway authorities in determining if the risks are acceptable and whether all reasonable measures have been taken to maximize the safety of the traveling public.

The FHWA regulation presented in § 645.209(c)(2)(v) includes a few details governing specific criteria a State's utility freeway accommodation policy should contain if it plans to allow longitudinal utility use within the access control lines. These are:

- A utility strip should be established along the outer edge of the right-of-way.
- Existing fences should be retained and, except along section of freeways having frontage roads, planned fences should be located at the freeway right-of-way line.
- The State or political subdivision should retain control of the utility strip, including its use by utility facilities.
- Service connections to adjacent properties to provide services to utility consumers should not be permitted from within the utility strip.

Median Installations

Federal regulations indicate that a utility strip should be established along the outer edge of the right-of-way. The FHWA has interpreted this to mean that longitudinal utility installations as a general rule should not be allowed within the median area of a freeway. There may, however, be some exceptional circumstances where utility facilities could be safely accommodated in the median. For example, for very wide medians where a utility could be installed well beyond the clear zone of the roadways and where access to the site is from crossroads, a case could well be made that there is minimal impact on the highway and its safe operation.

Another example might involve the installation of fiber optics needed for ITS purposes. In situations where it is not technically feasible or is unreasonably costly and there are no feasible alternate locations, it may be argued that the risk involved constructing, operating, and

maintaining a fiber optic installation will be more than offset by the benefits derived by ITS and other systems that the fiber optic facilities will serve.

Hence, proposals by States for a median installation under these circumstances, if considered justified, may be approved by Division Administrators as an exception to the State's approved utility accommodation policy under the provisions of § 645.215(d).

Access To Utility Facilities (Including Gates)

If a State allows utility facilities to longitudinally occupy freeway right-of-way within the access control lines, its utility accommodation policy must address access to construct, operate and maintain these facilities. The nature and extent of the access, including possible direct access from through roadways or ramps if allowed, and conditions for controlling and policing access should be covered in the State's policy. The State's policy on access should demonstrate that the State has taken adequate steps to ensure the permitted utility use, including access to construct, operate and maintain the utility facilities, can be accomplished in a manner that will not adversely affect the safety of the freeway.

The FHWA's approval of a State's utility accommodation policy is viewed as representing FHWA acceptance of the State's freeway access approval and control process (this could include locked gates, direct access from through roadways, etc.) as covered in the State's policy. No further submittal to FHWA on these matters would be necessary except in those instances where the proposed access is not in accord with the State's approved policy. In these cases, FHWA action on exceptions involving access can be handled under the provisions of 23 CFR 645.215(d) similar to other exceptions to a State's policy.

If a utility wants to make use of gates for access to its facilities, the following conditions are typically used in this situation:

- Access to and from the freeway will be on the basis of a revocable permit.
- The gates must be locked when not in use and can only be used by authorized utility personnel.
- Use must not adversely affect traffic operations;
- Use will not give the utility a claim to permanent access rights.

Uniform Policies and Procedures

Section 645.209(d) requires State transportation departments to control utility use of Federal-aid highway right-of-way within the State and its political subdivisions. This is to be done by exercising, or causing to be exercised, adequate regulation over such use and occupancy through the establishment and enforcement of reasonably uniform policies and procedures for utility accommodation.

The term "highway" is defined in § 645.207 to mean any public way for vehicular travel constructed or improved in whole or part with Federal-aid highway funds. Hence, there is a distinction between highways actually constructed or improved using Federal-aid highway funds, and highways eligible for construction or improvement with Federal-aid highway funds.

Even though States may only be required to regulate utility use on highways where Federal-aid highway funds have been used, as a practical matter it is difficult for them to adopt one policy

for Federally funded highways versus a different policy for adjoining State funded highways. As a result, States normally adopt a utility accommodation policy that covers highway routes under their jurisdiction as a group.

Utility Use Where State Lacks Authority

Under § 645.209(g), for Federal-aid projects on highways where the State cannot exercise authority to control utility use of the highway right-of-way, the State is required to make adequate arrangements to ensure that utility use of the highway right-of-way is properly controlled. Typically this situation arises on roads off the State's system, such as those under county or city jurisdiction; however, it can also occur for roads that may be under the jurisdiction of another State level entity such as a toll road authority. In these situations, the local or toll road authorities have the option of developing their own utility accommodation policies but this is rarely done. Rather, the approach used is that the State/local or State/toll road agreement for the Federal-aid highway project will make reference to the State's utility accommodation policy and its application to the local or toll road project.

This is one area of utility accommodation that requires continued attention. If a State's utility accommodation policy will, in effect, serve as the document controlling utility use of right-of-way on highways under the jurisdiction of others, particularly on local Federal-aid projects, it is important that the State's policy include provisions to adequately address utility use on these types of roadway facilities. It is also important that these other highway authorities are not only aware that the State's policy is being used, but are familiar with the requirements to be applied.

Scenic Areas

Section 645.209(h) maintains the same basic philosophy of not permitting the installation of utilities on highways within or adjacent to scenic areas except under special conditions. However, the method of administering this requirement was revised in 1985.

Under former PPM 30-4, if utility use was to be allowed in scenic areas under special conditions, the State was required to clear this matter through the Division Administrator. Sections 645.209(h) and 645.211(c)(3) change this process. Now the State is allowed to address the scenic areas issue, including special conditions under which exceptions will be allowed, within its utility accommodation policy. Thus, FHWA's acceptance of the State's utility accommodation policy should eliminate the need for clearance of individual exceptions through the Division Office.

Additionally, under former PPM 30-4.1, a mechanism was established for so-called hardship cases involving scenic areas. This process required a submittal to the Federal Highway Administrator, but none were ever made. As a consequence, when 23 CFR 645 was issued in 1985, this hardship procedure was not included. Should a need arise in the future to process a hardship type request involving scenic areas, it could be handled under 23 CFR 645.215(d) as a situation not in accordance with the State's approved policy. The FHWA's decisions on the matter can be made at the Division Office level.

Traffic Control Plan

This provision was included in 23 CFR 645 to highlight the importance of having proper traffic control within utility work areas. It is not a new requirement since 23 CFR 630 subpart J, Traffic Safety in Highway and Street Work Zones, has been in place many years and covers utility construction and maintenance work activities on Federal-aid projects.

Under § 645.209(j) it is intended that the transportation department maintain control over the process of providing proper traffic control devices in work zones. Designation of who is to prepare a traffic control plan and who is to provide the necessary traffic control devices is to be determined by the transportation department under the its own established procedures.

Corrective Measures/Utility Pole Safety Programs

Section 645.209(k), reads as follows:

When the transportation department determines that existing utility facilities are likely to be associated with injury or accident to the highway user ... the highway agency shall initiate ... in consultation with the affected utilities, corrective measures ...

The intent of this regulation is for each State to work with pole owners to develop and implement programs to systematically remove, relocate, or mitigate hazardously-located utility poles in a reasonable, cost-effective manner.

A utility pole crash reduction program as envisioned in the Federal regulations should contain the following essential elements:

- Identification of hazardously-located utility poles.
- Analysis of hazardously-located poles and development of countermeasures,
- Establishment of a goal for removing, relocating, or mitigating hazardously-located utility poles.
- Actual removal, relocation, or mitigation of hazardously-located utility poles.

Ideally, the clear zone should be free of utility poles. Where poles exist in the clear zone, or where an analysis has shown that an existing pole located outside the clear zone may need treatment, many options are available. The following list has generally been considered as the desirable order of treatment:

- Remove the pole and underground the utility lines;
- Relocate the pole to a location where it is less likely to be struck;
- Reduce the number of poles by joint use, placing poles on only one side of the street, or increasing pole spacing by using bigger, taller poles;
- Reduce impact severity by using breakaway utility poles;
- Redirect a vehicle by shielding the pole with a longitudinal traffic barrier or crash cushion; and
- Warn of the presence of the pole if the alternatives above are not appropriate using warning signs, reflective paint, sheeting, or object markers placed on the poles.

There is also the possibility that keeping the driver on the road is the best solution to a crash problem. This may be done by positive guidance. For example, using pavement markings, delineators, advance warning signs, and other visual cues to tell the driver what to expect and to provide a visual path through a site. Physical enhancements such as improving the skid resistance of the pavement, widening the pavement travel lanes, widening or paving shoulders, placing rumble strips on the shoulders, improving the superelevation, straightening sharp

curves, decreasing the speed of vehicles, or adding lighting in areas where crashes frequently occur at night, may also diminish crash potential by decreasing the number of vehicles that for whatever reason leave the travelway.

Once specific corrective actions have been determined, it is expected implementation will be pursued through a prioritization process which takes into account resources available, replacement and upgrading planned both for the utility and highway physical plants, and overall accident potential.

To be effective this corrective program must be a joint effort between highway authorities and the affected utilities. It is strongly encouraged that the utility companies work closely with the transportation departments in identifying problem areas and establishing schedules for corrective actions. Such schedules should take into consideration, wherever possible, a utility's planned activities on line upgradings, replacements, and the like. An orderly, planned, effective process of safety improvements over time that would take into consideration the costs to both the highway user and utility consumer is preferred.

The Washington State Department of Transportation (WSDOT) has a model utility pole safety program. It was developed and implemented in coordination with the affected utility pole owners. The Division Office provided invaluable encouragement and assistance. WSDOT considers the most hazardously-located utility poles to be those that are: (a) outside of horizontal curves where advisory signed speeds for the curve are 15 mph or more below the posted speed limit of that section of highway; (b) within the turn radius of public at-grade intersections; (c) where a barrier, embankment, rock outcropping, ditch, or other roadside feature is likely to direct a vehicle into a utility object; or (d) closer than 5-feet horizontal beyond the edge of the usable shoulder. A goal has been established for removing, relocating, or mitigating a certain number of hazardously-located utility poles each year. This goal applies to each company owning utility poles and takes into account the size of the utility company, the number of poles in need of attention, available funding, and other factors. Hazardously-located utility poles may be removed, relocated, or mitigated in conjunction with planned highway or utility projects or individually. All utility poles removed, relocated, or mitigated, for whatever reason, count toward the utility company's goal. Efforts are made to systematically address the worst poles first.

Since most hazardously-located utility poles are on highway right-of-way, State law in most States requires the owner of the poles to pay for removal, relocation, or mitigation. If, however, the State can pay and does pay, Federal funds can participate in the cost, even up to 100 percent in some cases.

A strong case can be made for moving utility poles if they are located so as to present a significantly greater threat to motorists than anything else along the road. But, if they are not, States should not ask the utility pole owners to do any more to improve roadside safety than they plan to do themselves.

Questions can arise as to the amount of corrective actions regarding utility facilities that should be undertaken as part of 3R (resurfacing, restoration, rehabilitation) projects. Overall, the FHWA has encouraged and supported efforts by each State to develop and implement reasonable and effective clear zone policies consistent with the principles set forth in the AASHTO Green Book (see above discussion of "New Above Ground Installations/ Clear Zone Policies").

In this respect a number of States have adopted individual 3R project design criteria that specifically addresses the clear zone issue. Considerable judgment must be exercised in

actually establishing clear roadside areas on individual 3R projects to ensure that the safety benefits are reasonably commensurate with costs. Consideration should be given to this matter regardless of who pays for the utility work.

As clarified by FHWA's July 1988 final rule, which modified 23 CFR 645.107, costs incurred by transportation departments in implementing projects for safety corrective measures to reduce the hazards of utilities to highway users are eligible for Federal-aid participation.

Wetlands

There has been concern that FHWA's utility regulations might be used by some as a basis for authority for allowing placement within highway right-of-way of structures or facilities to drain adjacent wetlands. Section 645.209(l) was specifically added to address this issue. The section clearly states that the installation of private lines on the right-of-way of Federal-aid or direct Federal highway projects to drain adjacent wetlands is inconsistent with Executive Order 11990, Protection of Wetlands, and is to be prohibited.

Utility Determination

The 2000 amendments added paragraph (m) to 23 CFR 645.209 to emphasize that in determining whether a proposed installation is a utility or not, the most important consideration is how the State views it under its own State laws and/or regulations.

This determination is important because utilities are accommodated under the utility regulations; whereas, private lines and other non-utilities are accommodated under other regulations. As in many utility-related matters, the FHWA definition of "utility facilities" is broad enough to cover most situations, but nonetheless, in States where the State definition is more restrictive, or sometimes more liberal, than the FHWA definition, the FHWA will normally look upon it in the same manner the State does.

STATE UTILITY ACCOMMODATION POLICIES (23 CFR 645.211)

Overall Process

FHWA's historic approach to handling utility use of the right-of-way of Federal-aid and direct Federal projects has been maintained in 23 CFR 645 subpart B. This regulation requires each State to develop its own utility accommodation policy setting forth the manner in which the State will control the use of Federal-aid highway right-of-way by utility facilities. In 1988 this concept was expanded to also include longitudinal utility use of freeway right-of-way.

Once the State's policy is approved by the FHWA, any utility installations proposed to be installed on Federal-aid highway projects in accordance with the approved State policy may be approved by the State without referral to the FHWA. FHWA approval of proposed utility installations is limited to those which are not in accordance with the approved State policy.

Criteria

The FHWA uses two AASHTO publications -- *A Guide for Accommodating Utilities Within Highway Right-of-Way* and *Roadside Design Guide* -- to assist in its review of individual State utility accommodation policies. This means these documents will serve as guidance for

recommendations on good practices and procedures; however, it is not mandated that provisions contained in these documents be included in a State's policy.

Criteria regarding utility use of freeways was previously discussed in sections above. Although the FHWA regulation does not reference AASHTO's *A Policy on the Accommodation of Utilities Within Freeway Right-of-Way*, this document can serve as a useful guide when reviewing the portion of a State's utility accommodation policy dealing with utilities on freeways.

As State utility accommodation policies are being developed or updated, the criteria regarding placement of above ground utility facilities deserve attention. Keeping in mind that in the majority of instances the State's utility accommodation policy will be serving as the policy followed on Federal-aid highway projects on local road systems (see the discussion under "Utility Use Where State Lacks Authority"), it is important that the State's policy address how above ground utility facilities will be allowed to occupy local roads and streets, particularly those located in urban settings. Establishing appropriate clear zone policies to be applied to utility facilities located on lower-order highway facilities thus becomes an important function of the State's policy.

Applicability

State utility accommodation policies apply to all Federal-aid highways -- National Highway System (NHS) highways and non-NHS highways. Section 645.215 indicates each State must submit a statement to the FHWA on (a) the authority of utilities to use and occupy the ROW of State highways, (b) the States power to regulate such use, and (c) the policies the State proposes to employ for accommodating utilities within the ROW of all Federal-aid highways under its jurisdiction.

Recent legislation has given States considerable flexibility to design and construct certain projects in accordance with State laws, standards, and procedures, rather than Federal standards and procedures. The FHWA does not consider the utility accommodation policy to be a design document, though, and therefore does not find it to fall under the oversight exemptions allowed by ISTEA and TEA-21. Hence, it continues to apply to all highways, not just NHS highways.

Agricultural Lands

The need to evaluate the impact on agricultural land when deciding if utility use of highway right-of-way is to be allowed is a requirement found in Federal law [23 U.S.C. 109(l)]. However, under the process in § 645.211(c)(5), this evaluation only needs to be done if the utility's use of the right-of-way of a Federal-aid or direct Federal highway project should be denied and only then if the denial is based on provisions found in 23 CFR 645 subpart B. In other words, a State may deny a utility's request to occupy highway right-of-way based on State law, regulations or practices, and in this case no evaluation of impact on agricultural land is necessary. However, if the FHWA regulatory requirements in 23 CFR 645 subpart B are being cited as the basis for denying a utility's request to occupy highway right-of-way, then the evaluation of impact on agricultural land must be prepared before final action is taken. 23 CFR 645 subpart B, does not specify who prepares the evaluation of impact on agricultural land. This would be a matter for the State to determine.

USE AND OCCUPANCY AGREEMENTS (PERMITS) (23 CFR 645.213)

Overall Process

The FHWA requires that a utility's use of the right-of-way of a Federal-aid highway project be covered by a written agreement between the highway authority and the utility. This requirement is thought not to impose an unreasonable burden on highway authorities as it represents a good business practice that most property owners, in this case highway authorities, would follow anyway.

The type of written agreement is usually a "permit," although franchise agreements, licenses, or other written instruments can suffice. The key is that the written agreement must cover the items listed in § 645.213. It has been suggested that the FHWA develop a standard format for a permit; however, FHWA has declined as it is felt the highway authorities are in the best position to establish permit formats that meet their own individual needs and requirements.

APPROVALS (23 CFR 645.215)

Overall Process

23 CFR 645 subpart B, has retained FHWA's traditional approach in taking approval action on State utility accommodation policies. A State's proposed utility accommodation policy is submitted to the FHWA Division Administrator, who reviews it and makes the final decision as to its acceptability.

Once a State's policy is approved by the FHWA, any utility installations proposed to be installed on Federal-aid highways in accordance with the approved State policy may be approved by the State (or other highway authority) without referral to the FHWA. FHWA approval of proposed utility installations is limited to those that are not in accordance with the approved policy. For this situation, FHWA approval authority is delegated to Division Administrators.

FHWA Washington Headquarters Involvement

With the approval action for acceptance of State utility accommodation policies delegated to FHWA Division Administrators, FHWA Washington Headquarters does not become routinely involved in these matters. Occasionally, a Division Administrator may consult with Washington Headquarters before taking specific action on a State utility accommodation policy, but for the most part these actions occur with no Washington Headquarters involvement.

Additionally, under the provisions of 23 CFR 645 subpart B, the FHWA Division Offices are not required to furnish FHWA Washington Headquarters with copies of the approved State utility accommodation policies. As a consequence, it is extremely important for the Division Offices to maintain up-to-date files on these items, particularly State utility accommodation policies they have accepted on behalf of the FHWA.

OTHER ISSUES

The following discussion covers other pertinent issues related to utility accommodation matters.

Acceptance Of AASHTO Policy And Guide

AASHTO's *A Policy on the Accommodation of Utilities Within Freeway Right-of-Way* is no longer cited within FHWA regulations as a Federal standard.

Prior to FHWA's February 1988 revisions to its utility accommodation regulations covering longitudinal utility use of freeway right-of-way, the AASHTO Policy had been accepted by FHWA as a national standard, and FHWA regulations mandated that the AASHTO Policy be followed on Federal-aid highway projects. However, the February 1988 regulatory changes were designed to give the States greater flexibility involving utility use of freeway right-of-way. There was concern that mandating the use of the AASHTO policy might unduly restrict certain States. As a result, the FHWA's regulations do not reference this AASHTO document as a Federal standard.

AASHTO's *A Guide for Accommodating Utilities Within Highway Right-of-Way* has been accepted by the FHWA in 23 CFR 645.211 as a guide to be used in the evaluation of the adequacy of a State's utility accommodation policy. Thus, the States are given latitude as far as following specific recommendations in the Guide.

Toll Roads

Since early in the Interstate Program, the FHWA has taken the position that its utility accommodation requirements and procedures did not apply to toll roads. Although toll road authorities were strongly encouraged to follow accepted AASHTO policy and FHWA requirements, the FHWA did not require them to do so. The rationale for this approach rested basically on the fact that Federal-aid highway funds traditionally had neither been available nor expended on building or improving toll roads.

However, enactment of § 105 of the Surface Transportation Assistance Act of 1978 caused the FHWA to reexamine its approach toward toll roads. Under the provisions of § 105, the toll road authority and State could execute a toll agreement with the FHWA. The result of such an agreement was that the toll road's mileage could be used in calculating the State's share of Federal-aid Interstate 4R funds (resurfacing, restoration, rehabilitation, reconstruction) and these 4R funds could be used for improvements on the toll road.

The FHWA's position was established as follows:

- On those portions of a toll road that were improved with Federal-aid highway funds (physical limits of the Federal-aid project), FHWA regulations and requirements applied. For example, any longitudinal utility use within the access control limits of a toll road were to be handled in conformance with the requirements of 23 CFR 645 subpart B.
- On those portions of a toll road that were not improved with Federal-aid funds, but where a Section 105 toll agreement had been signed, the FHWA expected toll road authorities to follow FHWA policy and approved design standards, but they were not required to do so. If they choose to allow utility use that was not in conformance with accepted standards on sections of such toll roads not improved with Federal-aid funds, the FHWA did not stop the installation. However, it was the FHWA's position that it would not be prudent to use Federal-aid funds at some future date to correct or adjust utility facilities knowingly installed not in

accordance with accepted standards. Specifically, should the State decide in the future to use Federal funds on this portion of the toll road, FHWA's position would be as follows –

- the utility installations would have to be brought into conformance with the appropriate standard in effect at the time before any Federal funds could be expended on highway improvements. The cost to do this would not be eligible for Federal participation, and
- further, even if these existing nonconforming utility installations would have to be relocated or adjusted to accommodate construction of the highway project, such work would not be eligible for Federal participation.
- On those portions of toll roads where no Federal-aid funds had been expended and which were not covered by a Section 105 agreement, the FHWA encouraged toll road authorities to follow FHWA policy. However, if they did not abide by FHWA policy, the FHWA took no further action and no conditions regarding future use of Federal-aid funds were imposed.

Through early 1990, Section 105 agreements were in effect for only two toll road facilities, and these agreements did not necessarily cover the entire length of these toll roads. The two toll facilities were the Kansas Turnpike and the New York Thruway. Accordingly, the portions of these two facilities covered by the Section 105 agreements were governed by the first two provisions noted above. The remaining toll road facilities around the country that had no Federal funds expended on them were governed by the third provision noted above.

With enactment of the 1991 ISTEA and its amendments to 23 U.S.C. 129, use of Federal-aid highway funds to construct new toll roads or to improve existing ones has become more common. Utility use of toll roads should continue to be governed by the three provisions noted above. If a toll road is covered by a toll agreement executed with the FHWA, then the first two provisions noted above apply to utility use of this toll highway. If there is no toll agreement with the FHWA covering the toll road, then the third provision noted above applies to this toll road.

Encasement Of Pipeline Crossings

Presently, the FHWA has no written guidance in effect specifically addressing the issue of encasement of pipeline crossings of highways. In 1960 FHWA did issue a Circular Memorandum (CM) discussing encasement of pipeline crossings of the Interstate (this CM is no longer included in FHWA's official instructions to its field offices). Under the provisions in the CM, the FHWA endorsed encasement within the access control lines of an Interstate highway, although it was recognized that a somewhat lesser length, say to a reasonable distance outside the shoulders, might be appropriate in certain cases where there was a convenient method of access adjacent to the Interstate facility. The CM also recognized that encasement might even be omitted for certain types of pipes that had demonstrated a long record of trouble-free installations. Basically, the States were given some latitude in making judgments concerning the need for encasement.

FHWA's present policy concerning encasement of pipelines is essentially the policy developed by AASHTO in *A Guide for Accommodating Utilities Within Highway Right-of-Way*. The FHWA looks to the individual States, in developing their utility accommodation policies, to address the matter of encasement within these policies.

Although the States are given some latitude in the specific criteria or standards they might establish within these accommodation policies, the FHWA expects the States will adhere to the principle of providing adequate and reasonable protection to the highway facility and its user, and in the case of freeways ensuring that the access control features are preserved. Utility

crossings of highways should be installed and maintained so that disruptions to the highway user are minimized. This may well mean that special treatments to the utility facilities are required within the highway right-of-way or for that portion of the utility crossing directly under the highway roadway and shoulders. Several forms for this special treatment are recognized and have been accepted by the FHWA.

Encasement is one form of special treatment although several other forms, such as the provision of thickened wall carrier pipe, cathodic protection, coating and wrapping, and concrete sleeves or caps might also be used.

The FHWA realizes that the use of encasement has come under critical review, particularly in the last few years. Certain advantages, such as the ability to conveniently replace the existing carrier pipe, are being challenged. Also, there is concern about the problems between encasement and cathodic protection requirements. As a consequence, the cost-effectiveness of encasement, particularly for certain types of pipelines, can be questioned and some modification of utility accommodation practices may be in order. Some States, based on their experience with alternate treatment practices other than encasement, are allowing greater flexibility in their encasement requirements and this has been accepted by the FHWA.

Pavement Cuts

The FHWA has no written guidance in effect addressing the implications of cutting pavements to install or maintain utilities. It does, however, have a publication providing guidance for cutting pavements. This publication is entitled *Utility Cuts in Paved Roads, Field Guide*, Publication No. FHWA-SA-97-049, Federal Highway Administration, September 1996.

The cutting of pavement in urban areas has become a major problem. The surge of fiber optics installations by many companies has intensified the problem. Pavement cuts, even when repaired properly, not only result in a poor riding pavement, but also delay traffic during the time the utility is working.

The frequency of pavement cuts to install underground utilities may be reduced somewhat by establishing/requiring the use of jacking/boring or directional drilling under the wider and more heavily-used pavements. Outright bans on pavement cuts in new pavement have been tried, but have been largely unsuccessful because there are always emergencies or strong economic reasons to violate the ban.

A more permanent solution might be derived through a mutual partnership involving State and local transportation departments, utilities, consultants, contractors, local citizens, and other interested parties to (a) develop and implement strong policies for locating new utilities and relocating existing utilities outside of traveled way pavement, and (b) until such time as existing utilities can be relocated, or where it is not possible to relocate them, to establish stringent control over pavement cuts for access/maintenance purposes, and over repair activities.

Jacking/Boring vs. Directional Drilling

There have been instances where horizontal directional drilling has resulted in damage to both pavements and underground utilities. Therefore, it is a valid concern as to whether or not jacking/boring is preferable to directional drilling for installing utilities under Interstate and other major highways.

Theoretically, one method is as good as the other. There is a need for both depending upon the circumstances. No matter which method is used, there is a need for proper control, good

practices, adherence to specifications, continuous training, and information sharing in order for trenchless technology operations to be safe and dependable.

A few pros and cons about jacking/boring and directional drilling are as follows:

Jacking/Boring:

- Work is accomplished using a guide plane and jacking pipe in short segments, thus, it always requires straight alignment and a jacking pit.
- The pit is a major consideration for reasons of operator safety, cave-ins, water table, and possible vehicular entry into the pit. Soils information is critical for pit construction and safety.
- The cost for the same size pipe tends to be higher than for directional drilling because it requires joint welding, takes longer to install, and typically requires more maintenance of traffic or shielding of the operations.

Directional drilling:

- A greater tolerance is required, vertically and horizontally, because the alignment of the bore must be strictly controlled. Visualize a spiral about a theoretical bore alignment. The center of the actual bore alignment should not vary from the intended alignment by more than a few inches. Deviations from the intended alignment will be minimal if the work is properly controlled.
- Since it doesn't have to go straight in either the vertical or horizontal plane, the setup for drilling can be well out of the clear zone and even off the right-of-way.
- The installed pipe is seamless and poses fewer problems with leakage or seepage from joint or pipe perforation.
- This method may be considerably less expensive to employ. and usually creates a safer work environment, even when performed close to the roadway.
- The pipe is typically installed in much less time, which translates into less facility user inconvenience and less risk from vehicle collisions.
- One unique directional drilling problem is in the pull back operation. It is possible when pulling back to build up excessive fluid pressures and cause the fluid to seek the path of least resistance. This may result in fluids leaking out of the ground, breaking through or humping up the pavement. Also, if the characteristic of the soil changes rapidly and proper adjustments are not made in the drilling fluids, lubrication may be lost and the pipe may hang up. This will require shutting the operation down, filling the pipe with flowable fill, and obtaining a new alignment to start operations over again.
- Horizontal directional drilling does not require certification, except in California and maybe a few other States, and is a relatively inexpensive business to enter into. This results in improper contractor operations. There is also a tendency not to comply with "one-call" legislation.
- There is a real safety hazard in puncturing gas and water lines without ever knowing about it until it is too late. This often happens during the pull back operation. But, once again, this is not a method problem but an operator problem that needs to be addressed through

continuous training and information sharing. Deeper installations and “one-call” locates may also help alleviate the problem.

Both jacking/boring and directional drilling, if improperly conducted, fail when unknown obstructions are encountered within the alignment. Hence, knowledge of soils and obstructions that may be encountered are essential. There is a major difference between the methods if an obstruction is hit.

- When conducting jacking/boring operations and an obstruction is encountered, either the obstruction is cleared by breaking it up from inside the pipe, if there is room to do so, or the operation must be shut down. When the operation is shut down, the pipe must be filled with flowable fill and a new alignment must be sought to start operations again.
- When conducting directional drilling operations, hitting an obstruction can redirect the bit and send it through the pavement before it is anticipated. But this usually can only occur in shallow boring operations and when not properly monitored. Obviously, since pits are seldom involved in directional drilling, starting is much easier and quicker.

These occurrences can be minimized and are attributable to contractor error, not technology.

As can be seen from the comparisons there are trade offs with each technology. Which method is best to use should be decided by conditions in the field.

Utilities Attached To Structures

The FHWA policy on utility attachments to structures is contained in AASHTO's *A Guide For Accommodating Utilities Within Highway Right-Of-Way*. The AASHTO guidance is very general and State approaches vary considerably from outright prohibition to almost unlimited use.

Fiber Optic/Wireless Telecommunications on Freeway Right-of-Way

Accommodation, Utility vs. Private Line

Many States are considering accommodating fiber optic lines and/or wireless telecommunications facilities (towers, monopoles, antennas) on freeway right-of-way in exchange for cash and/or use of the lines or facilities. In so doing, care needs to be exercised to determine whether the facility involved is a "utility facility" or "private line" as defined in 23 CFR 645.207. This distinction is important because it may impact how the transportation department treats the facility and also because the FHWA has different mechanisms for handling its review and approval actions.

When determining whether a facility is a "utility facility" or a "private line" there are two important tests: (1) how the State views a particular facility under its own State laws and/or regulations, and (2) the definition of "utility facility" in 23 CFR 645.207.

The key item to consider in making this determination, using the above tests, is whether a State considers a particular facility to be a “utility facility” under its own State laws and/or regulations. If the State treats a facility as a utility, and if the facility is producing, transmitting, or distributing any of the commodities outlined in the FHWA definition for the use by or the direct benefit of the public, then the FHWA would also consider it to be a “utility facility” and handle it under its utility regulations.

Hence, if a State considers a fiber optics line or a wireless telecommunications installation to be a “utility facility,” then so too does the FHWA. Conversely, if the State considers them to be “private lines” so too does the FHWA.

An installation considered to be a “utility facility” is probably covered under the State's utility accommodation policy for permitting utility use of freeways and can be handled in accordance with approved procedures. If there is any doubt, the transportation department should be encouraged to amend its utility accommodation policy to clearly state its intent relative to accommodating fiber optics and wireless telecommunications.

Wireless telecommunications facilities installed at various intervals along a freeway, if physically located on the highway right-of-way and if relaying transmissions from one to the other, are considered to be longitudinal installations.

A stand-alone wireless facility (tower, monopole, or antenna) is actually neither transverse nor longitudinal, but may nonetheless, if considered to be a “utility facility,” be accommodated under provisions in a State’s utility accommodation policy for either transverse or longitudinal installations, whichever is the most stringent. The intent is not to be a roadblock, but, as with any utility installation, to be sure careful consideration is given to effects on highway and traffic safety, and also on the operation and aesthetics of the highway.

Median Installations

The FHWA does not encourage median installations for fiber optics or any other utilities but Division Administrators do have the authority to approve such installations if considered justified, and they have done so in several States.

In situations where it is not technically feasible or is unreasonably costly and there are no feasible alternate locations, the risk involved in constructing, operating, and maintaining fiber optics may be more than offset by the benefits derived by ITS and other systems that the fiber optics will serve.

Hence, a proposal by a State for a median installation under these circumstances, might be justified, and could be approved by Division Administrators as an exception to the State’s approved utility accommodation policy under the provisions of 23 CFR 645.215(d).

The American Association of State Highway and Transportation Officials has acknowledged a distinction between buried fiber optics cables and other types of utilities and deems it permissible to permit the longitudinal use of freeway right-of-way for fiber optics under appropriate guidelines. Even so, in its publication entitled, *A Policy on the Accommodation of Utilities Within Freeway Right-of-Way*, the AASHTO has retained its longstanding policy in opposition to the longitudinal use of freeway right-of-way for other utility types, and also its longstanding policy indicating that utilities will not be allowed to be installed longitudinally within the median area. The FHWA’s policies in this regard are more flexible than the AASHTO’s policies. Even though the FHWA has not adopted these AASHTO policies, many States have adopted them, and have incorporated them into their FHWA-approved utility accommodation policies.

Location Criteria

When allowed on freeway right-of-way, wireless telecommunications facilities should be located as far from the roadway as possible and/or in inaccessible locations where they are unlikely to

be hit by errant vehicles. In addition, the safety impacts of access to construct and service the facilities should be considered.

The Maryland State Highway Administration (MSHA), in coordination with the FHWA, has developed criteria for the placement of wireless facilities on controlled access highways. The goal is to ensure the wireless facilities are placed in locations that preclude them from being roadside hazards, yet still provide safe access for maintenance personnel. They specify that:

- Adequate sight distance must be provided for safe ingress to and egress from the sites.
- The wireless facilities must be located outside the clear zone (where unlikely to be struck) unless shielding already exists.
- An adequate pull off area beyond the shoulder must be provided for construction and maintenance purposes.

In addition, the MSHA has set up a descending order of preference for siting wireless telecommunications facilities, as follows:

- Priority 1: Vehicle access to the site can be obtained from outside the through-roadway and connecting ramps (e.g., access from frontage roads or cross roads).
- Priority 2: Within the interchange, vehicle access can be obtained from the right hand side of the diagonal ramps.
- Priority 3: Within the interchange, vehicle access can be obtained from the left hand side of the diagonal ramps.
- Priority 4: Vehicle access from the outside shoulder (right hand side) of the mainline.
- Priority 5: Vehicle access from the inside shoulder (left hand side of the mainline).

Justification must be provided for descending to any level below Priority 1. FHWA concurrence is required for any installation within a loop ramp, within any freeway weave area less than 3/4 mile in length, or requiring new shielding.

FCC Considerations

A number of States have permitted access to limited access highway right-of-way for fiber optic and wireless telecommunications installations. Several of these installations have been public-private partnerships with the telecommunications industry, which are generally referred to as shared resource agreements. In December 1999, the Federal Communications Commission (FCC) issued an opinion in a Minnesota Department of Transportation case involving such a partnership that defined the FCC's interpretation of the Telecommunications Act of 1996 (TCA) and its application to the Minnesota agreement.

As a result of the FCC's opinion, the FHWA engaged in a discussion with the FCC to clarify how these partnerships and other similar telecommunications installations should be conducted to avoid conflict with the TCA and be consistent with the FHWA's requirements for highway safety and right-of-way management. These discussions culminated in an approach that considers both the requirements of the transportation industry and its concern for highway safety, and the FCC's concern with implementation of the TCA. This approach was documented in two letters, the first from the FHWA to the FCC defining elements pertaining to access to freeway ROW,

and the second from the FCC to the FHWA defining competitive elements based upon the access restrictions defined by the FHWA.

The FHWA/FCC discussions are documented in a December 22, 2000, FHWA memorandum to Division Administrators setting forth guidance to assist States in the execution of shared resource agreements, particularly relative to access and competitive issues. Attached to this memorandum is a document entitled, "Background Discussion on Guidance: Telecommunications Installations, Limited Access Highway Right-of-Way," which presents a detailed discussion of the FCC's ruling on the Minnesota case, and the rationale for these guidelines which have been developed in cooperation with the FCC.

Guidance on Access Issues

If a State chooses to allow longitudinal access for fiber optic facilities installation on its freeway right-of-way, it is recommended the following guidelines set forth in the December 22, 2000, memorandum apply to that installation:

1. In these guidelines, it is understood that the State retains the right and responsibility to manage its freeway ROW. Reasonable, nondiscriminatory time, place, and manner restrictions, including but not limited to traditional permitting conditions, may be placed on the design, installation, operation, and maintenance of fiber optic facilities.
2. All construction should be done in that portion of the ROW that is located furthest from the traveled roadway to the degree feasible, and should be accomplished in accordance with the Manual on Uniform Traffic Control Devices, per 23 CFR 655.603.
3. If all construction vehicles, equipment, and personnel can be located outside the clear zone on the freeway, as defined in the AASHTO *Roadside Design Guide* and adopted by FHWA in Federal Aid Policy Guide, Par. 16(a)(3) NS 23 C.F.R. 625, except for ingress and egress, the State may use the freeway ROW for fiber optic facilities installation as frequently as reasonably necessary to satisfy the requirements of the State, and the needs of the telecommunications providers. A State may limit construction so that there is no more than one installation project underway at any given time on any major segment of the freeway.
4. If construction vehicles, equipment, and personnel cannot be located out of the freeway clear zone, then the State may restrict fiber optic facilities installation to only one time on that area of the freeway where construction would occur within the clear zone. No further installation needs to be allowed on that segment until such time as required by the end of the useful life of the fiber optic facilities, or if the existing capacity is exhausted or existing conduit is full. Existing fiber and conduit capacity will be deemed exhausted whenever the State and the contractor mutually determine that a bona-fide request for dark fiber, conduit space, or a bona-fide request for any other transmission facilities or service cannot be granted. Additional installation at this time will be subject to reasonable non-discriminatory State requirements, e.g., #1 above.
5. A State may restrict the location of all the above ground equipment to the edge, or off of the ROW to allow access to that equipment for maintenance from service roads or other non-freeway access if feasible, as determined by the State. Such restrictions should be nondiscriminatory.

Guidance on Competitive Issues

To assist States in meeting the intent of the TCA with regard to maintaining a competitively neutral position in the process of developing and implementing a shared resource or other telecommunications installations project, the FCC suggests the following principles be followed in the development of these projects. These principles should be considered whenever a State decides to limit further installations of fiber optic facilities on its ROW, whether in or out of the clear zone.

1. The contractor should be selected through an open, fair, non-discriminatory, competitive process.
2. Having selected a contractor, other interested third-party telecommunications companies should be allowed the opportunity to have their fiber optic facilities installed in conjunction with any installation of fiber optic facilities by the contractor. The State may make the contractor the sole party responsible for all installation work done at such times, and require that other third party tele-communications companies contract with that contractor for installation of their fiber optic facilities when their facilities are installed in conjunction with those of the contractor. In such cases, the contractor's charges, terms and conditions for installation should be fair, reasonable, and non-discriminatory and may include a reasonable profit. The State should give potentially interested third parties reasonable notice of the anticipated or planned opening of the right-of-way. The notice period should reflect the time reasonably required by third parties to develop business plans and obtain financing. Notice can be accomplished through publication and dissemination of a construction schedule for the project. Such publication and dissemination should be reasonably calculated to provide potentially interested third parties with actual notice of the schedule.
3. The contractor should install spare fiber and empty conduit, adequate to accommodate reasonably anticipated future demand, whenever fiber optic facilities cannot be installed outside the clear zone. Each section of fiber/conduit within the clear zone should have connection points (manhole or cabinets) at each end outside the clear zone where third parties can access the conduit or interconnect with facilities in the conduit at their option. All rates, terms and conditions for interconnection and/or use of space in the conduit should be fair, reasonable, and nondiscriminatory and may include a reasonable profit.
4. The contractor should be required to sell fiber on an "Irrevocable Right of Use" basis at rates and subject to terms and conditions that are just, reasonable, and nondiscriminatory. The contractor's charges for such facilities may include a reasonable profit.
5. The contractor should be required to offer facilities and services for resale at rates and subject to terms and conditions that are just, reasonable, and nondiscriminatory and may include a reasonable profit.
6. The agreement with the contractor should require that the contractor comply with the terms defined above, and give third parties the right to challenge the contractor's compliance with the appropriate elements of these terms dealing with third party access before an independent entity which does not benefit directly from the arrangement with the contractor. The independent entity should have the authority to order the contractor to comply with these terms. A State public utilities commission, or independent arbitrator, might serve in this capacity. In this regard, prompt resolution of such issues can be critically important to the development of competition.

7. It is substantially preferable that the contractor be a wholesaler of telecommunication in order to minimize competitive concerns, as opposed to being a retail telecommunications services and facilities provider either directly or through an affiliated entity. This reduces the potential for anti-competitive pricing that could violate section 253 of the TCA. However, if the contractor does provide retail telecommunications service directly or through an affiliated entity, all rates, terms and conditions for its retail service should be fair, reasonable, and nondiscriminatory.

Keep in mind that the above information is only guidance. The States do not have to follow it. The Division Offices do not have to abide by it. It is only guidance. However, if States opt to install fiber optics or wireless telecommunications towers on limited access highways in accordance with this guidance, they should have nothing to fear from the FCC. This doesn't mean the States can't do more. They can and the FHWA can approve what they do. But there are no assurances that the FCC will not take exception to what has been done and initiate actions to try to force States to make unwanted policy changes.

Longitudinal Telecommunication Lines On Freeways For A States Own Use

A State may install longitudinal telecommunication lines for its own use within the access control limits of freeways in the State, if appropriate provisions have been included in an approved utility accommodation plan. For these purposes the installation is considered to be a "utility facility" as opposed to a "private line" as defined in 23 CFR 645.207.

A State may lease longitudinal telecommunication lines, installed for its own use within the access control limits of freeways in the State, to other State agencies or to local governmental agencies. This is still considered to be "for the use of a State or local governmental unit."

Longitudinal utility facilities within the access control limits of freeways must directly or indirectly serve the public. Hence, a State could lease such telecommunication lines to a "utility" if such use was in accordance with their approved utility accommodation policy, but could not lease such telecommunication lines to "private" users without special FHWA Headquarters approval based upon a public interest finding in accordance with 23 CFR 1.23.

Fees Charged for Telecommunications Use of Highway Right-of-Way

The Telecommunications Act of 1996 (Public Law 104-104) and guidance above under "Freeway Accommodation Policies" indicate States may, at their discretion, charge fees for longitudinal utility use of highway right-of-way. But, there is no mention in Federal law, regulation, or policy as to how these fees are to be used.

It has been the FHWA's policy for many years to allow States to charge fees for utility use of highway right-of-way if they desire, and to allow them to use the proceeds as they see fit. In the past, fees charged for utility use were generally just enough to cover the cost of processing permits. Now, with the advent of fiber optics and wireless telecommunications, opportunities exist for the States to make substantial profits. In such cases, the FHWA has informally encouraged the States to use such revenues for transportation purposes.

The above discussion has to do with utility use of highway right-of-way. It is important, however, to distinguish between a "utility facility" and a "private line," as discussed previously, because they are handled differently and have different requirements for the use of fees.

Private lines can be installed on highway right-of-way. However, it is important to understand that longitudinal private line installations are to be handled under the provisions of 23 CFR

1.23(c); whereas, longitudinal utility installations are to be handled under the provisions of 23 CFR 645, subpart B.

As part of a major update of the utility regulations in 1985, the FHWA wanted to establish procedures for handling both the accommodation of utilities and the use of highway right-of-way by private lines. It was decided that private line crossings could be handled under the utility regulations contained in 23 CFR 645 subpart B, but that private line longitudinal use could not.

Private line longitudinal use was considered to be clearly beyond the public interest finding in 23 CFR 645.205(a) that allowed utilities to occupy highway right-of-way. It was therefore decided that private line longitudinal use should be handled on a case-by-case basis under the provisions of 23 CFR 1.23(c), which is the agency's authority to allow non-highway use of highway right-of-way. This decision only addressed the approval mechanism for private line use of highway right-of-way. The matter of fees did not come into play.

Even so, 23 CFR 1.23(c) opens the door for the use of the airspace law and regulation in 23 U.S.C. 156 and 23 CFR 713 subpart B, respectively, and they in turn set forth income requirements for longitudinal private line use of highway right-of-way. It is important to note that utility use is clearly exempted from these requirements. The airspace law and regulation also requires that fair market value be charged for the use of airspace right-of-way and that any revenues obtained be used for projects eligible under title 23, U.S.C. As mentioned above, utility use of airspace right-of-way is exempted from these requirements, but private line use is not.

To summarize:

- States may charge fees at their discretion for longitudinal utility use of highway right-of-way, but there is no mention in Federal law, regulation, or policy as to how these fees are to be used. The FHWA encourages States to use generated revenues for transportation purposes.
- Private line longitudinal use of highway right-of-way is covered by 23 U.S.C. 156. States are required to charge fees for such use based on fair market value and to use such fees for title 23 purposes.
- Private line crossings of highways should be handled like utility crossings under the provisions of 23 CFR 645 subpart B. 23 U.S.C. 156 should not be applied in these situations.

Facilities Similar to Utilities

In 1997, the Office of Chief Counsel provided written legal advice to the Office of Engineering concerning environmental requirements that are triggered by the accommodation of telecommunications towers on Federal-aid highways. Chief Counsel noted that there are two different approaches to the siting of "utility facilities" and "private lines" on Federal-aid highway right-of-way, with different duties for environmental compliance, and suggested that FHWA consider revising its regulations to include facilities similar to utilities.

Facilities similar to utilities might include fiber optics, wireless telecommunications towers, or possibly other facilities that are considered by the FHWA to be included in the definition of "utility facility" in 23 CFR 645 and are considered to be utilities by many, but not all, of the States.

Presently, utilities may be accommodated on highway right-of-way under provisions in the utility regulations. Non-utilities may also be accommodated, but under provisions in another

regulation, 23 CFR 1.23(c). The proposed change to the utility regulations would allow “similar facilities,” whether considered by an individual State to be “utilities” or not, to be accommodated under provisions contained in the utility regulations. This would provide uniformity by avoiding wireless telecommunications towers and fiber optics from being accommodated under one FHWA procedure in one State and a different FHWA procedure in another State.

After much consideration it was decided not to make this change. While it would have provided uniformity and simplicity, it would have conflicted with the FHWA’s long-standing policy that the most important consideration in determining whether a proposed installation is a utility or not is how the State views it under its own State laws and/or regulations. There was also the appearance that accommodating non-utilities under the utility regulations might interfere with other requirements currently in effect for accommodating non-utilities, particularly in regard to fair market value, use of revenues for title 23 purposes, and the environment.

Even so, there may be times when it would be expedient and prudent to consider a facility to be “similar” to a utility and to accommodate it under the utility regulations. This should only be done on a case-by-case basis and the reasons should be well documented. Particular attention should be given to environmental, right-of-way, and other sensitive issues to assure they are adequately addressed.

Highway Utility Safety

Motor vehicle collisions with utility poles result in approximately 1,100 deaths and 83,000 injuries in the U.S. annually. Utility poles also have a negative effect on the aesthetics of a roadway. It is important, therefore, whether designing roads or streets in rural or urban locations, to consider accommodating utilities early in the design process.

The most desirable design solution, in terms of safety for overhead utilities, is to locate the utility poles where they are least likely to be struck by a vehicle.

The *Roadside Design Guide* contains the following options for the location and design of utilities:

- Bury electric and telephone lines underground
- Increase lateral pole offset
- Increase pole spacing
- Combine pole usage with multiple utilities
- Use a breakaway pole design
- Use traffic barriers to shield poles

There are no Federal-aid funding sources designated specifically for highway utility safety, however, there are funds that can be used for highway utility safety. For example:

- For regular highway construction and reconstruction projects that happen to involve utility work, regular construction funds such as National Highway System (NHS), Surface Transportation Program (STP) or Interstate Maintenance (IM) may be used and the Federal pro rata share will be either 80% for non-Interstate or 90% for Interstate roadways.

- When a project is funded with NHS, STP, or IM funds, there is also a list of specific traffic and safety items (one of which is the installation of breakaway utility poles) that can be funded at a 100% Federal share, even though the bulk of the project is still funded at 80% or 90%.
- Bridge projects are funded with bridge funds, but oftentimes there are modifications done to the approaches to the bridge. In this case, the bridge itself is funded with bridge funds, but the approach work is funded with NHS, STP, or IM funds. If, along the approach, there is the need to remove, relocate, or mitigate utility poles, this work can be funded at the pro rata share for the approach work (80% or 90%). If breakaway utility poles are installed, they can be funded at 100% as discussed above.
- There are also projects that are done solely to address highway safety. Annually, 10% of each State's STP apportionment is set aside for safety projects (called safety setasides).

In Maryland, for example, this is generally about \$9 million annually. The \$9 million safety setaside funds are further broken down into three categories: hazard elimination, highway/rail crossings, and optional safety. The optional safety category is extra dollars because the other two categories have a cap that the State can use for either hazard elimination or highway/rail crossings. It is the State's choice and can change from year to year. So, the bottom line is that a hazardous utility pole can be removed, relocated, or mitigated using either the hazard elimination funds or the optional funds that the State chooses to use for hazard elimination projects, provided the hazard created by the pole meets the criteria for hazard elimination projects in 23 USC 152. The hazardous utility pole will be compared to and ranked against other hazardous intersections and roadway sections in the State. The projects with the highest benefit/cost ratio are then funded first, and so on down the list. It is not a huge pot of money and it is tough to compete for the dollars when going against large, heavy volume intersections that will likely rank higher, but it can be done.

APPENDIX A

23 CFR, PART 645, SUBPART A UTILITY RELOCATIONS, ADJUSTMENTS AND REIMBURSEMENT

Sec.

- 645.101 Purpose.
- 645.103 Applicability.
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Authority: 23 U.S.C. 101, 109, 111, 116, 123, and 315; 23 CFR 1.23 and 1.27; 49 CFR 1.48(b); and E.O. 11990, 42 FR 26961 (May 24, 1977).

Source: 50 FR 20345, May 15, 1985, unless otherwise noted.

§ 645.101 Purpose.

To prescribe the policies, procedures, and reimbursement provisions for the adjustment and relocation of utility facilities on Federal-aid and direct Federal projects.

§ 645.103 Applicability.

(a) The provisions of this regulation apply to reimbursement claimed by a State transportation department (STD) for costs incurred under an approved and properly executed transportation department (TD) / utility agreement and for payment of costs incurred under all Federal Highway Administration (FHWA) / utility agreements.

(b) Procedures on the accommodation of utilities are set forth in 23 CFR Part 645, Subpart B, Accommodation of Utilities.

(c) When the lines or facilities to be relocated or adjusted due to highway construction are privately owned, located on the owner's land, devoted exclusively to private use and not directly or indirectly serving the public, the provisions of the FHWA's right-of-way procedures in 23 CFR 710.203, apply. When applicable, under the foregoing conditions, the provisions of this regulation may be used as a guide to establish a cost-to-cure.

(d) The FHWA's reimbursement to the STD will be governed by State law (or State regulation) or the provisions of this regulation, whichever is more restrictive. When State law or regulation differs from this regulation, a determination shall be made by the STD subject to the concurrence of the FHWA as to which standards will govern, and the record documented accordingly, for each relocation encountered.

(e) For direct Federal projects, all references herein to the STD or TD are inapplicable, and it is intended that the FHWA be considered in the relative position of the STD or TD.

[50 FR 20345, May 15, 1985, as amended at 64 FR 71289, Dec. 21, 1999]

§ 645.105 Definitions.

For the purposes of this regulation, the following definitions shall apply:

Authorization -- for Federal-aid projects authorization to the STD by the FHWA, or for direct Federal projects authorization to the utility by the FHWA, to proceed with any phase of a project. The date of authorization establishes the date of eligibility for Federal funds to participate in the costs incurred on that phase of work.

Betterment -- any upgrading of the facility being relocated that is not attributable to the highway construction and is made solely for the benefit of and at the election of the utility.

Cost of relocation -- the entire amount paid by or on behalf of the utility properly attributable to the relocation after deducting from that amount any increase in value of the new facility, and any salvage derived from the old facility.

Cost of removal -- the amount expended to remove utility property including the cost of demolishing, dismantling, removing, trans-ported, or otherwise disposing of utility property and of cleaning up to leave the site in a neat and presentable condition.

Cost of salvage -- the amount expended to restore salvaged utility property to usable condition after its removal.

Direct Federal projects -- highway projects such as projects under the Federal Lands Highways Program which are under the direct administration of the FHWA.

Indirect or overhead costs -- those costs which are not readily identifiable with one specific task, job, or work order. Such costs may include indirect labor, social security taxes, insurance, stores expense, and general office expenses. Costs of this nature generally are distributed or allocated to the applicable job or work orders, other accounts and other functions to which they relate. Distribution and allocation is made on a uniform basis which is reasonable, equitable, and in accordance with generally accepted cost accounting practices.

Relocation -- the adjustment of utility facilities required by the highway project. It includes removing and reinstalling the facility, including necessary temporary facilities, acquiring necessary right-of-way on the new location, moving, rearranging or changing the type of existing facilities and taking any necessary safety and protective measures. It shall also mean constructing a replacement facility that is both functionally equivalent to the existing facility and necessary for continuous operation of the utility service, the project economy, or sequence of highway construction.

Salvage value -- the amount received from the sale of utility property that has been removed or the amount at which the recovered material is charged to the utility's accounts, if retained for reuse.

State transportation department -- the transportation department of one of the 50 States, the District of Columbia, or Puerto Rico.

Transportation department (TD) -- that department, commission, board, or official of any State or political subdivision thereof, charged by its law with the responsibility for highway administration.

Use and occupancy agreement -- the document (written agreement or permit) by which the TD approves the use and occupancy of highway right-of-way by utility facilities or private lines.

Utility -- a privately, publicly, or cooperatively owned line, facility or system for producing, transmitting, or distributing communications, cable television, power, electricity, light, heat, gas, oil, crude products, water, steam, waste, storm water not connected with highway drainage, or any other similar commodity, including any fire or police signal system or street lighting system, which directly or indirectly serves the public. The term utility shall also mean the utility company inclusive of any wholly owned or controlled subsidiary.

Work order system -- a procedure for accumulating and recording into separate accounts of a utility all costs to the utility in connection with any change in its system or plant.

§ 645.107 Eligibility.

(a) When requested by the STD, Federal funds may participate, subject to the provisions of § 645.103(d) of this part and at the pro rata share applicable, in an amount actually paid by a TD for the costs of utility relocations. Federal funds may participate in safety corrective measures made under the provisions of § 645.107(k) of this part. Federal funds may also participate for relocations necessitated by the actual construction of a highway project made under one or more of the following conditions when:

(1) The STD certifies that the utility has the right of occupancy in its existing location because it holds the fee, an easement, or other real property interest, the damaging or taking of which is compensable in eminent domain,

(2) The utility occupies privately or publicly owned land, including public road or street right-of-way, and the STD certifies that the payment by the TD is made pursuant to a law authorizing such payment in conformance with the provisions of 23 U.S.C. 123, and/or

(3) The utility occupies publicly owned land, including public road and street right-of-way, and is owned by a public agency or political subdivision of the State, and is not required by law or agreement to move at its own expense, and the STD certifies that the TD has the legal authority or obligation to make such payments.

(b) On projects which the STD has the authority to participate in project costs, Federal funds may not participate in payments made by a political subdivision for relocation of utility facilities other than those proposed under the provisions of § 645.107(k) of this part, when State law prohibits the STD from making payment for relocation of utility facilities.

(c) On projects which the STD does not have the authority to participate in project costs, Federal funds may participate in payments made by a political subdivision for relocation of utility facilities necessitated by the actual construction of a highway project when the STD certifies that such payment is based upon the provisions of § 645.107(a) of this part and does not violate the terms of a use and occupancy agreement, or legal contract, between the utility and the TD or for utility safety corrective measures under the provisions of § 645.107(k) of this part.

(d) Federal funds are not eligible to participate in any costs for which the utility contributes or repays the TD, except for utilities owned by the political subdivision on projects which qualify under the provisions of § 645.107(c) of this part in which case the costs of the utility are considered to be costs of the TD.

(e) The FHWA may deny Federal fund participation in any payments made by a TD for the relocation of utility facilities when such payments do not constitute a suitable basis for Federal fund participation under the provisions of Title 23, U.S.C.

(f) The rights of any public agency or political subdivision of a State under contract, franchise, or other instrument or agreement with the utility, pertaining to the utility's use and occupancy of publicly owned land, including public road and street right-of-way, shall be considered the rights of the STD in the absence of State law to the contrary.

(g) In lieu of the individual certifications required by § 645.107(a) and (c), the STD may file a statement with the FHWA setting forth the conditions under which the STD will make payments for the relocation of utility facilities. The FHWA may approve Federal fund participation in utility relocations proposed by the STD under the conditions of the statement when the FHWA has made an affirmative finding that such statement and conditions form a suitable basis for Federal fund participation under the provisions of 23 U.S.C. 123.

(h) Federal funds may not participate in the cost of relocations of utility facilities made solely for the benefit or convenience of a utility, its contractor, or a highway contractor.

(i) When the advance installation of new utility facilities crossing or otherwise occupying the proposed right-of-way of a planned highway project is underway, or scheduled to be underway, prior to the time such right-of-way is purchased by or under control of the TD, arrangements should be made for such facilities to be installed in a manner that will meet the requirements of the planned highway project. Federal funds are eligible to participate in the additional cost incurred by the utility that are attributable to, and in accommodation of, the highway project provided such costs are incurred subsequent to authorization of the work by the FHWA. Subject to the other provisions of this regulation, Federal participation may be approved under the foregoing circumstances when it is demonstrated that the action taken is necessary to protect the public interest and the adjustment of the facility is necessary by reason of the actual construction of the highway project.

(j) Federal funds are eligible to participate in the costs of preliminary engineering and allied services for utilities, the acquisition of replacement right-of-way for utilities, and the physical construction work associated with utility relocations. Such costs must be incurred by or on behalf of a utility after the date the work is included in an approved program and after the FHWA has authorized the STD to proceed in accordance with 23 CFR 630, Subpart A, Federal-Aid Programs Approval and Project Authorization.

(k) Federal funds may participate in projects solely for the purpose of implementing safety corrective measures to reduce the roadside hazards of utility facilities to the highway user. Safety corrective measures should be developed in accordance with the provisions of 23 CFR 645.209(k).

(Information collection requirements in paragraph (g) were approved by the OMB under control number 2125-0515)

[50 FR 20345, May 15, 1985, as amended at 53 FR 24932, July 1, 1988]

§ 645.109 Preliminary engineering.

(a) As mutually agreed to by the TD and utility, and subject to the provisions of paragraph (b) of this section, preliminary engineering activities associated with utility relocation work may be done by:

(1) The TD's or utility's engineering forces;

(2) An engineering consultant selected by the TD, after consultation with the utility, the contract to be administered by the TD; or,

(3) An engineering consultant selected by the utility, with the approval of the TD, the contract to be administered by the utility.

(b) When a utility is not adequately staffed to pursue the necessary preliminary engineering and related work for the utility relocation, Federal funds may participate in the amount paid to engineers, architects, and others for required engineering and allied services provided such amounts are not based on a percentage of the cost of relocation. When Federal participation is requested by the STD in the cost of such services, the utility and its consultant shall agree in writing as to the services to be provided and the fees and arrangements for the services. Federal funds may participate in the cost of such services performed under existing written continuing contracts when it is demonstrated that such work is performed regularly for the utility in its own work and that the costs are reasonable.

(c) The procedures in 23 CFR Part 172, Administration of Engineering and Design Related Service Contracts, may be used as a guide for reviewing proposed consultant contracts.

[50 FR 20345, May 15, 1985, as amended at 60 FR 34846, July 5, 1995; 65 FR 70311, November 22, 2000]

§ 645.111 Right-of-way.

(a) Federal participation may be approved for the cost of replacement right-of-way provided:

(1) The utility has the right of occupancy in its existing location because it holds the fee, an easement, or another real property interest, the damaging or taking of which is compensable in eminent domain, or the acquisition is made in the interest of project economy or is necessary to meet the requirements of the highway project, and

(2) There will be no charge to the project for that portion of the utility's existing right-of-way being transferred to the TD for highway purposes.

(b) The utility shall determine and make a written valuation of the replacement right-of-way that it acquires in order to justify amounts paid for such right-of-way. This written valuation shall be accomplished prior to negotiation for acquisition.

(c) Acquisition of replacement right-of-way by the TD on behalf of a utility or acquisition of nonoperating real property from a utility shall be in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (42 U.S.C. 4601 et seq.) and applicable right-of-way procedures in 23 CFR 710.203.

(d) When the utility has the right-of-occupancy in its existing location because it holds the fee, an easement, or another real property interest, and it is not necessary by reason of the highway construction to adjust or replace the facilities located thereon, the taking of and damage to the utility's real property, including the disposal or removal of such facilities, may be considered a right-of-way transaction in accordance with provisions of the applicable right-of-way procedures in 23 CFR 710.203.

[50 FR 20345, May 15, 1985, as amended at 64 FR 71289, Dec. 21, 1999]

§ 645.113 Agreements and authorizations.

(a) On Federal-aid and direct Federal projects involving utility relocations, the utility and the TD shall agree in writing on their separate responsibilities for financing and accomplishing the relocation work. When Federal participation is requested, the agreement shall incorporate this regulation by reference and designate the method to be used for performing the work (by contract or force account) and for developing relocation costs. The method proposed by the utility for developing relocation costs must be acceptable to both the TD and the FHWA. The preferred method for the development of relocation costs by a utility is on the basis of actual direct and related indirect costs accumulated in accordance with a work order accounting procedure prescribed by the applicable Federal or State regulatory body.

(b) When applicable, the written agreement shall specify the terms and amounts of any contribution or repayments made or to be made by the utility to the TD in connection with payments by the TD to the utility under the provisions of § 645.107 of this regulation.

(c) The agreement shall be supported by plans, specifications when required, and itemized cost estimates of the work agreed upon, including appropriate credits to the project, and shall be sufficiently informative and complete to provide the TD and the FHWA with a clear description of the work required.

(d) When the relocation involves both work to be done at the TD's expense and work to be done at the expense of the utility, the written agreement shall state the share to be borne by each party.

(e) In the event there are changes in the scope of work, extra work or major changes in the planned work covered by the approved agreement, plans, and estimates, Federal participation shall be limited to costs covered by a modification of the agreement, a written change, or extra work order approved by the TD and the FHWA.

(f) When proposed utility relocation and adjustment work on a project for a specific utility company can be clearly defined and the cost can be accurately estimated, the FHWA may approve an agreement between the TD and the utility company for a lump-sum payment without later confirmation by audit of actual costs.

(g) Except as otherwise provided by § 645.113(h), authorization by the FHWA to the STD to proceed with the physical relocation of a utility's facilities may be given after:

(1) The utility relocation work, or the right-of-way, or physical construction phase of the highway construction work is included in an approved Statewide transportation improvement program.

(2) The appropriate environmental evaluation and public hearing procedures required by 23 CFR part 771, Environmental Impact and Related Procedures, have been satisfied.

(3) The FHWA has reviewed and approved the plans, estimates, and proposed or executed agreements for the utility work and is furnished a schedule for accomplishing the work.

(h) The FHWA may authorize the physical relocation of utility facilities before the requirements of § 645.113(g)(2) are satisfied when the relocation or adjustment of utility facilities meets the requirements of § 645.107(i) of this regulation.

(i) Whenever the FHWA has authorized right-of-way acquisition under the hardship and protective buying provisions of 23 CFR 710.503, the FHWA may authorize the physical relocation of utility facilities located in whole or in part on such right-of-way.

(j) When all efforts by the TD and utility fail to bring about written agreement of their separate responsibilities under the provisions of this regulation, the STD shall submit its proposal and a full report of the circumstances to the FHWA. Conditional authorizations for the relocation work to proceed may be given by the FHWA to the STD with the understanding that Federal funds will not be paid for work done by the utility until the STD proposal has been approved by the FHWA.

(k) The FHWA will consider for approval any special procedure under State law, or appropriate administrative or judicial order, or under blanket master agreements with the utilities, that will fully accomplish all of the foregoing objectives and accelerate the advancement of the construction and completion of projects.

[50 FR 20345, May 15, 1985, as amended at 60 FR 34850, July 5, 1995; 64 FR 71289, Dec. 21, 1999; 65 FR 70311, November 22, 2000]

§ 645.115 Construction.

(a) Part 635, Subpart B, of this title, Force Account Construction (justification required for force account work), states that it is cost-effective for certain utility adjustments to be performed by a utility with its own forces and equipment, provided the utility is qualified to perform the work in a satisfactory manner. This cost-effectiveness finding covers minor work on the utility's existing facilities routinely performed by the utility with its own forces. When the utility is not adequately staffed and equipped to perform such work with its own forces and equipment at a time convenient to and in coordination with the associated highway construction, such work may be done by:

(1) A contract awarded by the TD or utility to the lowest qualified bidder based on appropriate solicitation,

(2) Inclusion as part of the TD's highway construction contract let by the TD as agreed to by the utility,

(3) An existing continuing contract, provided the costs are reasonable, or

(4) A contract for low-cost incidental work, such as tree trimming and the like, awarded by the TD or utility without competitive bidding, provided the costs are reasonable.

(b) When it has been determined under part 635, subpart B, that the force account method is not the most cost-effective means for accomplishing the utility adjustment, such work is to be done under competitive bid contracts as described in § 645.115(a) (1) and (2) or under an existing continuing contract provided it can be demonstrated this is the most cost-effective method.

(c) Costs for labor, materials, equipment, and other services furnished by the utility shall be billed by the utility directly to the TD. The special provisions of contracts let by the utility or the TD shall be explicit in this respect. The costs of force account work performed for the utility by the TD and of contract work performed for the utility under a contract let by the TD shall be reported separately from the costs of other force account and contract items on the highway project.

§ 645.117 Cost development and reimbursement.

(a) Developing and recording costs.

(1) All utility relocation costs shall be recorded by means of work orders in accordance with an approved work order system except when another method of developing and recording costs, such as lump-sum agreement, has been approved by the TD and the FHWA. Except for work done under contracts, the individual and total costs properly reported and recorded in the utility's accounts in accordance with the approved method for developing such costs, or the lump-sum agreement, shall constitute the maximum amount on which Federal participation may be based.

(2) Each utility shall keep its work order system or other approved accounting procedure in such a manner as to show the nature of each addition to or retirement from a facility, the total costs thereof, and the source or sources of cost. Separate work orders may be issued for additions and retirements. Retirements, however, may be included with the construction work order provided that all items relating to retirements shall be kept separately from those relating to construction.

(3) The STD may develop, or work in concert with utility companies to develop, other acceptable costing methods, such as unit costs, to estimate and reimburse utility relocation expenditures. Such other methods shall be founded in generally accepted industry practices and be reasonably supported by recent actual expenditures. Unit costs should be developed periodically and supported annually by a maintained data base of relocation expenses. Development of any alternate costing method should consider the factors listed in paragraphs (b) through (g) of this section. Streamlining of the cost development and reimbursement procedures is encouraged so long as adequate accountability for Federal expenditures is maintained. Concurrence by the FHWA is required for any costing method used other than actual cost.

(b) Direct labor costs.

(1) Salaries and wages, at actual or average rates, and related expenses paid by the utility to individuals for the time worked on the project are reimbursable when supported by adequate records. This includes labor associated with preliminary engineering, construction engineering, right-of-way, and force account construction.

(2) Salaries and expenses paid to individuals who are normally part of the overhead organization of the utility may be reimbursed for the time worked directly on the project when supported by adequate records and when the work performed by such individuals is essential to the project and could not have been accomplished as economically by employees outside the overhead organization.

(3) Amounts paid to engineers, architects and others for services directly related to projects may be reimbursed.

(c) Labor surcharges.

(1) Labor surcharges include worker compensation insurance, public liability and property damage insurance, and such fringe benefits as the utility has established for the benefit of its employees. The cost of labor surcharges will be reimbursed at actual cost to the utility, or, at the option of the utility, average rates which are representative of actual costs may be used in lieu

of actual costs if approved by the STD and the FHWA. These average rates should be adjusted at least once annually to take into account known anticipated changes and correction for any over or under applied costs for the preceding period.

(2) When the utility is a self-insurer, there may be reimbursement at experience rates properly developed from actual costs. The rates cannot exceed the rates of a regular insurance company for the class of employment covered.

(d) Overhead and indirect construction costs.

(1) Overhead and indirect construction costs not charged directly to work order or construction accounts may be allocated to the relocation provided the allocation is made on an equitable basis. All costs included in the allocation shall be eligible for Federal reimbursement, reasonable, and actually incurred by the utility, and consistent with the provisions of 48 CFR part 31.

(2) Costs not eligible for Federal reimbursement include, but are not limited to, the costs associated with advertising, sales promotion, interest on borrowings, the issuance of stock, bad debts, uncollectible accounts receivable, contributions, donations, entertainment, fines, penalties, lobbying, and research programs.

(3) The records supporting the entries for overhead and indirect construction costs shall show the total amount, rate, and allocation basis for each additive, and are subject to audit by representatives of the State and Federal Government.

(e) Material and supply costs.

(1) Materials and supplies, if available, are to be furnished from company stock except that they may be obtained from other sources near the project site when available at a lower cost. When not available from company stock, they may be purchased either under competitive bids or existing continuing contracts under which the lowest available prices are developed. Minor quantities of materials and supplies and proprietary products routinely used in the utility's operation and essential for the maintenance of system compatibility may be excluded from these requirements. The utility shall not be required to change its existing standards for materials used in permanent changes to its facilities. Costs shall be determined as follows:

(i) Materials and supplies furnished from company stock shall be billed at the current stock prices for such new or used materials at time of issue.

(ii) Materials and supplies not furnished from company stock shall be billed at actual costs to the utility delivered to the project site.

(iii) A reasonable cost for plant inspection and testing may be included in the costs of materials and supplies when such expense has been incurred. The computation of actual costs of materials and supplies shall include the deduction of all offered discounts, rebates, and allowances.

(iv) The cost of rehabilitating rather than replacing existing utility facilities to meet the requirements of a project is reimbursable, provided this cost does not exceed replacement costs.

(2) Materials recovered from temporary use and accepted for reuse by the utility shall be credited to the project at prices charged to the job, less a consideration for loss in service life at

10 percent. Materials recovered from the permanent facility of the utility that are accepted by the utility for return to stock shall be credited to the project at the current stock prices of such used materials. Materials recovered and not accepted for reuse by the utility, if determined to have a net sale value, shall be sold to the highest bidder by the TD or utility following an opportunity for TD inspection and appropriate solicitation for bids. If the utility practices a system of periodic disposal by sale, credit to the project shall be at the going prices supported by records of the utility.

(3) Federal participation may be approved for the total cost of removal when either such removal is required by the highway construction or the existing facilities cannot be abandoned in place for aesthetic or safety reasons. When the utility facilities can be abandoned in place but the utility or highway constructor elects to remove and recover the materials, Federal funds shall not participate in removal costs which exceed the value of the materials recovered.

(4) The actual and direct costs of handling and loading materials and supplies at company stores or material yards, and of unloading and handling recovered materials accepted by the utility at its stores or material yards are reimbursable. In lieu of actual costs, average rates which are representative of actual costs may be used if approved by the STD and the FHWA. These average rates should be adjusted at least once annually to take into account known anticipated changes and correction for any over or under applied costs for the preceding period. At the option of the utility, 5 percent of the amounts billed for the materials and supplies issued from company stores and material yards or the value of recovered materials will be reimbursed in lieu of actual or average costs for handling.

(f) *Equipment costs.* The average or actual costs of operation, minor maintenance, and depreciation of utility-owned equipment may be reimbursed. Reimbursement for utility-owned vehicles may be made at average or actual costs. When utility-owned equipment is not available, reimbursement will be limited to the amount of rental paid (1) to the lowest qualified bidder, (2) under existing continuing contracts at reasonable costs, or (3) as an exception by negotiation when paragraph (f) (1) and (2) of this section are impractical due to project location or schedule.

(g) *Transportation costs.*

(1) The utility's cost, consistent with its overall policy, of necessary employee transportation and subsistence directly attributable to the project is reimbursable.

(2) Reasonable cost for the movement of materials, supplies, and equipment to the project and necessary return to storage including the associated cost of loading and unloading equipment is reimbursable.

(h) *Credits.*

(1) Credit to the highway project will be required for the cost of any betterments to the facility being replaced or adjusted, and for the salvage value of the materials removed.

(2) Credit to the highway project will be required for the accrued depreciation of a utility facility being replaced, such as a building, pumping station, filtration plant, power plant, substation, or any other similar operational unit. Such accrued depreciation is that amount based on the ratio between the period of actual length of service and total life expectancy applied to the original cost. Credit for accrued depreciation shall not be required for a segment of the utility's service, distribution, or transmission lines.

(3) No betterment credit is required for additions or improvements which are:

(i) Required by the highway project,

(ii) Replacement devices or materials that are of equivalent standards although not identical,

(iii) Replacement of devices or materials no longer regularly manufactured with next highest grade or size,

(iv) Required by law under governmental and appropriate regulatory commission code, or

(v) Required by current design practices regularly followed by the company in its own work, and there is a direct benefit to the highway project.

(4) When the facilities, including equipment and operating facilities, described in § 645.117(h)(2) are not being replaced, but are being rehabilitated and/or moved, as necessitated by the highway project, no credit for accrued depreciation is needed.

(5) In no event will the total of all credits required under the provisions of this regulation exceed the total costs of adjustment exclusive of the cost of additions or improvements necessitated by the highway construction.

(i) *Billings.*

(1) After the executed TD/utility agreement has been approved by the FHWA, the utility may be reimbursed through the STD by progress billings for costs incurred. Cost for materials stockpiled at the project site or specifically purchased and delivered to the utility for use on the project may also be reimbursed on progress billings following approval of the executed TD/utility agreement.

(2) The utility shall provide one final and complete billing of all costs incurred, or of the agreed-to lump-sum, within one year following completion of the utility relocation work, otherwise previous payments to the utility may be considered final, except as agreed to between the STD and the utility. Billings received from utilities more than one year following completion of the utility relocation work may be paid if the STD so desires, and Federal-aid highway funds may participate in these payments.

(3) All utility cost records and accounts relating to the project are subject to audit by representatives of the State and Federal Government for a period of 3 years from the date final payment has been received by the utility.

(Information collection requirements in paragraph (i) were approved by the OMB under control number 2125-0159.)

[50 FR 20345, May 15, 1985, as amended at 60 FR 34850, July 5, 1995; 65 FR 70311, November 22, 2000]

§ 645.119 Alternate procedure.

(a) This alternate procedure is provided to simplify the processing of utility relocations or adjustments under the provisions of this regulation. Under this procedure, except as otherwise provided in paragraph (b) of this section, the STD is to act in the relative position of the FHWA for reviewing and approving the arrangements, fees, estimates, plans, agreements, and other

related matters required by this regulation as prerequisites for authorizing the utility to proceed with and complete the work.

(b) The scope of the STD's approval authority under the alternate procedure includes all actions necessary to advance and complete all types of utility work under the provisions of this regulation except in the following instances:

(1) Utility relocations and adjustments involving major transfer, production, and storage facilities such as generating plants, power feed stations, pumping stations and reservoirs.

(2) Utility relocations falling within the scope of § 645.113(h), (i), and (j), and § 45.107(i) of this regulation.

(c) To adopt the alternate procedure, the STD must file a formal application for approval by the FHWA. The application must include the following:

(1) The STD's written policies and procedures for administering and processing Federal-aid utility adjustments. Those policies and procedures must make adequate provisions with respect to the following:

(i) Compliance with the requirements of this regulation, except as otherwise provided by § 645.119(b), and the provisions of 23 CFR part 645, subpart B, Accommodation of Utilities.

(ii) Advance utility liaison, planning, and coordination measures for providing adequate lead time and early scheduling of utility relocation to minimize interference with the planned highway construction.

(iii) Appropriate administrative, legal, and engineering review and coordination procedures as needed to establish the legal basis of the TD's payment; the extent of eligibility of the work under State and Federal laws and regulations; the more restrictive payment standards under § 645.103(d) of this regulation; the necessity of the proposed utility work and its compatibility with proposed highway improvements; and the uniform treatment of all utility matters and actions, consistent with sound management practices.

(iv) Documentation of actions taken in compliance with STD policies and the provisions of this regulation, shall be retained by the STD.

(2) A statement signed by the chief administrative officer of the STD certifying that:

(i) Federal-aid utility relocations will be processed in accordance with the applicable provisions of this regulation, and the STD's utility policies and procedures submitted under § 645.119(c)(1).

(ii) Reimbursement will be requested only for those costs properly attributable to the proposed highway construction and eligible for participation under the provisions of this regulation.

(d) The STD's application and any changes to it will be submitted to the FHWA for review and approval.

(e) After the alternate procedure has been approved, the FHWA may authorize the STD to proceed with utility relocation on a project in accordance with the certification, subject to the following conditions:

(1) The utility work must be included in an approved program.

(2) The STD must submit a request in writing for such authorization. The request shall include a list of the utility relocations to be processed under the alternate procedure, along with the best available estimate of the total costs involved.

(f) The FHWA may suspend approval of the alternate procedure when any FHWA review discloses noncompliance with the certification. Federal funds will not participate in relocation costs incurred that do not comply with the requirements under § 645.119(c)(1).

(Information collection requirements in paragraph (c) were approved by the OMB under control number 2125-0533)

[50 FR 20345, May 15, 1985, as amended at 65 FR 70311, November 22, 2000]

APPENDIX B

23 CFR, PART 645, SUBPART B ACCOMMODATION OF UTILITIES

Sec.

645.201 Purpose.

645.203 Applicability.

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645.213 Use and occupancy agreements (permits).

645.215 Approvals.

Authority: 23 U.S.C. 101, 109, 111, 116, 123, and 315; 23 CFR 1.23 and 1.27; 49 CFR 1.48(b); and E.O. 11990, 42 FR 26961 (May 24, 1977).

Source: 50 FR 20354, May 15, 1985, unless otherwise noted.

§ 645.201 Purpose.

To prescribe policies and procedures for accommodating utility facilities and private lines on the right-of-way of Federal-aid or direct Federal highway projects.

§ 645.203 Applicability.

This subpart applies to:

(a) New utility installations within the right-of-way of Federal-aid or direct Federal highway projects,

(b) Existing utility facilities which are to be retained, relocated, or adjusted within the right-of-way of active projects under development or construction when Federal-aid or direct Federal highway funds are either being or have been used on the involved highway facility. When existing utility installations are to remain in place without adjustments on such projects the transportation department and utility are to enter into an appropriate agreement as discussed in § 645.213 of this part,

(c) Existing utility facilities which are to be adjusted or relocated under the provisions of § 645.209(k), and

(d) Private lines which may be permitted to cross the right-of-way of a Federal-aid or direct Federal highway project pursuant to State law and regulations and the provisions of this subpart. Longitudinal use of such right-of-way by private lines is to be handled under the provisions of 23 CFR 1.23(c).

§ 645.205 Policy.

(a) Pursuant to the provisions of 23 CFR 1.23, it is in the public interest for utility facilities to be accommodated on the right-of-way of a Federal-aid or direct Federal highway project when such use and occupancy of the highway right-of-way do not adversely affect highway or traffic safety,

or otherwise impair the highway or its aesthetic quality, and do not conflict with the provisions of Federal, State or local laws or regulations.

(b) Since by tradition and practice highway and utility facilities frequently coexist within common right-of-way or along the same transportation corridors, it is essential in such situations that these public service facilities be compatibly designed and operated. In the design of new highway facilities consideration should be given to utility service needs of the area traversed if such service is to be provided from utility facilities on or near the highway. Similarly the potential impact on the highway and its users should be considered in the design and location of utility facilities on or along highway right-of-way. Efficient, effective and safe joint highway and utility development of transportation corridors is important along high speed and high volume roads, such as major arterials and freeways, particularly those approaching metropolitan areas where space is increasingly limited. Joint highway and utility planning and development efforts are encouraged on Federal-aid highway projects.

(c) The manner in which utilities cross or otherwise occupy the right-of-way of a direct Federal or Federal-aid highway project can materially affect the highway, its safe operation, aesthetic quality, and maintenance. Therefore, it is necessary that such use and occupancy, where authorized, be regulated by highway agencies in a manner which preserves the operational safety and the functional and aesthetic quality of the highway facility. This subpart shall not be construed to alter the basic legal authority of utilities to install their facilities on public highways pursuant to law or franchise and reasonable regulation by highway agencies with respect to location and manner of installation.

(d) When utilities cross or otherwise occupy the right-of-way of a direct Federal or Federal-aid highway project on Federal lands, and when the right-of-way grant is for highway purposes only, the utility must also obtain and comply with the terms of a right-of-way or other occupancy permit for the Federal agency having jurisdiction over the underlying land.

[50 FR 20354, May 15, 1985, as amended at 53 FR 2833, Feb. 2, 1988]

§ 645.207 Definitions.

For the purpose of this regulation, the following definitions shall apply:

Aesthetic quality -- those desirable characteristics in the appearance of the highway and its environment, such as harmony between or blending of natural and manufactured objects in the environment, continuity of visual form without distracting interruptions, and simplicity of designs which are desirably functional in shape but without clutter.

Border area -- the area between the traveled way and the right-of-way-line.

Clear roadside policy - that policy employed by a transportation department to provide a clear zone in order to increase safety, improve traffic operations, and enhance the aesthetic quality of highways by designing, constructing and maintaining highway roadsides as wide, flat, and rounded as practical and as free as practical from natural or manufactured hazards such as trees, drainage structures, nonyielding sign supports, highway lighting supports, and utility poles and other ground-mounted structures. The policy should address the removal of roadside obstacles which are likely to be associated with accident or injury to the highway user, or when such obstacles are essential, the policy should provide for appropriate countermeasures to reduce hazards. Countermeasures include placing utility facilities at locations which protect out-of-control vehicles, using breakaway features, using impact attenuation devices, or

shielding. In all cases full consideration shall be given to sound engineering principles and economic factors.

Clear zone -- the total roadside border area starting at the edge of the traveled way, available for safe use by errant vehicles. This area may consist of a shoulder, a recoverable slope, a non-recoverable slope, and/or the area at the toe of a non-recoverable slope available for safe use by an errant vehicle. The desired width is dependent upon the traffic volumes and speeds, and on the roadside geometry. The current edition of the AASHTO "Roadside Design Guide" should be used as a guide for establishing clear zones for various types of highways and operating conditions. This publication is available for inspection and copying from the FHWA Washington Headquarters and all FHWA Division Offices as prescribed in 49 CFR part 7. Copies of current AASHTO publications are available for purchase from the American Association of State Highway and Transportation Officials, Suite 225, 444 North Capitol Street, NW., Washington, DC 20001, or electronically at <http://www.aashto.org>.

Direct Federal highway projects -- those active or completed highway projects such as projects under the Federal Lands Highways Program which are under the direct administration of the Federal Highway Administration (FHWA).

Federal-aid highway projects -- those active or completed highway projects administered by or through a State transportation department which involve or have involved the use of Federal-aid highway funds for the development, acquisition of right-of-way, construction or improvement of the highway or related facilities, including highway beautification projects under 23 U.S.C. 319, Landscaping and Scenic Enhancement.

Freeway -- a divided arterial highway with full control of access.

Highway -- any public way for vehicular travel, including the entire area within the right-of-way and related facilities constructed or improved in whole or in part with Federal-aid or direct Federal highway funds.

Private lines -- privately owned facilities which convey or transmit the commodities outlined in the definition of *utility facility* of this section, but devoted exclusively to private use.

Right-of-way -- real property, or interests therein, acquired, dedicated or reserved for the construction, operation, and maintenance of a highway in which Federal-aid or direct Federal highway funds are or have been involved in any stage of development. Lands acquired under 23 U.S.C. 319 shall be considered to be highway right-of-way.

State transportation department -- the transportation department of one of the 50 States, the District of Columbia, or Puerto Rico.

Transportation department -- that department, agency, commission, board, or official of any State or political subdivision thereof, charged by its law with the responsibility for highway administration.

Use and occupancy agreement -- the document (written agreement or permit) by which the transportation department approves the use and occupancy of highway right-of-way by utility facilities or private lines.

Utility facility -- privately, publicly or cooperatively owned line, facility, or system for producing, transmitting, or distributing communications, cable television, power, electricity, light, heat, gas, oil, crude products, water, steam, waste, storm water not connected with highway drainage, or

any other similar commodity, including any fire or police signal system or street lighting system, which directly or indirectly serves the public. The term utility shall also mean the utility company inclusive of any substantially owned or controlled subsidiary. For the purposes of this part, the term includes those utility-type facilities which are owned or leased by a government agency for its own use, or otherwise dedicated solely to governmental use. The term utility includes those facilities used solely by the utility which are a part of its operating plant.

[50 FR 20345, May 15, 1985, as amended at 51 FR 16834, May 7, 1986; 53 FR 2833, Feb. 2, 1988; 55 FR 25828, June 25, 1990; 60 FR 34850, July 5, 1995; 61 FR 12022, Mar. 25, 1996; 65 FR 70311, November 22, 2000]

§ 645.209 General requirements.

(a) *Safety.* Highway safety and traffic safety are of paramount, but not of sole, importance when accommodating utility facilities within highway right-of-way. Utilities provide an essential public service to the general public. Traditionally, as a matter of sound economic public policy and law, utilities have used public road right-of-way for transmitting and distributing their services. The lack of sufficient right-of-way width to accommodate utilities outside the desirable clear zone, in and of itself, is not a valid reason to preclude utilities from occupying the highway right-of-way. However, due to the nature and volume of highway traffic, the effect of such joint use on the traveling public must be carefully considered by highway agencies before approval of utility use of the right-of-way of Federal-aid or direct Federal highway projects is given. Adjustments in the operating characteristics of the utility or the highway or other special efforts may be necessary to increase the compatibility of utility-highway joint use. The possibility of this joint use should be a consideration in establishing right-of-way requirements for highway projects. In any event, the design, location, and manner in which utilities use and occupy the right-of-way of Federal-aid or direct Federal highway projects must conform to the clear roadside policies for the highway involved and otherwise provide for a safe traveling environment as required by 23 U.S.C. 109 (l)(1).

(b) *New above ground installations.* On Federal-aid or direct Federal highway projects, new above ground utility installations, where permitted, shall be located as far from the traveled way as possible, preferably along the right-of-way line. No new above ground utility installations are to be allowed within the established clear zone of the highway unless a determination has been made by the transportation department that placement underground is not technically feasible or is unreasonably costly and there are no feasible alternate locations. In exceptional situations when it is essential to locate such above ground utility facilities within the established clear zone area of the highway, appropriate countermeasures to reduce hazards shall be used. Countermeasures include placing utility facilities at locations which protect or minimize exposure to out-of-control vehicles, using breakaway features, using impact attenuation devices, using delineation, or shielding.

(c) *Installations within freeways.*

(1) Each State transportation department shall submit an accommodation plan in accordance with §§ 645.211 and 645.215 which addresses how the State transportation department will consider applications for longitudinal utility installations within the access control lines of a freeway. This includes utility installations within interchange areas which must be constructed or serviced by direct access from the main lanes or ramps. If a State transportation department elects to permit such use, the plan must address how the State transportation department will oversee such use consistent with this subpart, title 23 U.S.C., and the safe and efficient use of the highways.

(2) Any accommodation plan shall assure that installations satisfy the following criteria:

(i) The effects utility installations will have on highway and traffic safety will be ascertained, since in no case shall any use be permitted which would adversely affect safety.

(ii) The direct and indirect environmental and economic effects of any loss of productive agricultural land or any productivity of any agricultural land which would result from the disapproval of the use of such right-of-way for accommodation of such utility facility will be evaluated.

(iii) These environmental and economic effects together with any interference with or impairment of the use of the highway in such right-of-way which would result from the use of such right-of-way for the accommodation of such utility facility will be considered.

(iv) [Reserved]

(v) A utility strip will be established along the outer edge of the right-of-way by locating a utility access control line between the proposed utility installation and the through roadway and ramps. Existing fences should be retained and, except along sections of freeways having frontage roads, planned fences should be located at the freeway right-of-way line. The State or political subdivision is to retain control of the utility strip right-of-way including its use by utility facilities. Service connections to adjacent properties shall not be permitted from within the utility strip.

(3) Nothing in this part shall be construed as prohibiting a transportation department from adopting a more restrictive policy than that contained herein with regard to longitudinal utility installations along freeway right-of-way and access for constructing and/or for servicing such installations.

(d) *Uniform policies and procedures.* For a transportation department to fulfill its responsibilities to control utility use of Federal-aid highway right-of-way within the State and its political subdivisions, it must exercise or cause to be exercised, adequate regulation over such use and occupancy through the establishment and enforcement of reasonably uniform policies and procedures for utility accommodation.

(e) *Private lines.* Because there are circumstances when private lines may be allowed to cross or otherwise occupy the right-of-way of Federal-aid projects, highway agencies shall establish uniform policies for properly controlling such permitted use. When permitted, private lines must conform to the provisions of this part and the provisions of 23 CFR 1.23(c) for longitudinal installations.

(f) *Direct Federal highway projects.* On direct Federal highway projects, the FHWA will apply, or cause to be applied, utility and private line accommodation policies similar to those required on Federal-aid highway projects. When appropriate, agreements will be entered into between the FHWA and the transportation department or other government agencies to ensure adequate control and regulation of use by utilities and private lines of the right-of-way on direct Federal highway projects.

(g) *Projects where State lacks authority.* On Federal-aid highway projects where the State transportation department does not have legal authority to regulate highway use by utilities and private lines, the State transportation department must enter into formal agreements with those local officials who have such authority. The agreements must provide for a degree of protection to the highway at least equal to the protection provided by the State transportation department's

utility accommodation policy approved under the provisions of § 645.215(b) of this part. The project agreement between the State transportation department and the FHWA on all such Federal-aid highway projects shall contain a special provision incorporating the formal agreements with the responsible local officials.

(h) *Scenic areas.* New utility installations, including those needed for highway purposes, such as for highway lighting or to serve a weigh station, rest area or recreation area, are not permitted on highway right-of-way or other lands which are acquired or improved with Federal-aid or direct Federal highway funds and are located within or adjacent to areas of scenic enhancement and natural beauty. Such areas include public park and recreational lands, wildlife and waterfowl refuges, historic sites as described in 23 U.S.C. 138, scenic strips, overlooks, rest areas and landscaped areas. The State transportation department may permit exceptions provided the following conditions are met:

(1) New underground or aerial installations may be permitted only when they do not require extensive removal or alteration of trees or terrain features visible to the highway user or impair the aesthetic quality of the lands being traversed.

(2) Aerial installations may be permitted only when:

(i) Other locations are not available or are unusually difficult and costly, or are less desirable from the standpoint of aesthetic quality,

(ii) placement underground is not technically feasible or is unreasonably costly, and

(iii) the proposed installation will be made at a location, and will employ suitable designs and materials, which give the greatest weight to the aesthetic qualities of the area being traversed. Suitable designs include, but are not limited to, self-supporting arm-less, single-pole construction with vertical configuration of conductors and cable.

(3) For new utility installations within freeways, the provisions of paragraph (c) of this section must also be satisfied.

(i) *Joint use agreements.* When the utility has a compensable interest in the land occupied by its facilities and such land is to be jointly occupied and used for highway and utility purposes, the transportation department and utility shall agree in writing as to the obligations and responsibilities of each party. Such joint-use agreements shall incorporate the conditions of occupancy for each party, including the rights vested in the transportation department and the rights and privileges retained by the utility. In any event, the interest to be acquired by or vested in the transportation department in any portion of the right-of-way of a Federal-aid or direct Federal highway project to be vacated, used or occupied by utilities or private lines, shall be adequate for the construction, safe operation, and maintenance of the highway project.

(j) *Traffic control plan.* Whenever a utility installation, adjustment or maintenance activity will affect the movement of traffic or traffic safety, the utility shall implement a traffic control plan and utilize traffic control devices as necessary to ensure the safe and expeditious movement of traffic around the work site and the safety of the utility work force in accordance with procedures established by the transportation department. The traffic control plan and the application of traffic control devices shall conform to the standards set forth in the current edition of the "Manual on Uniform Traffic Control Devices" (MUTCD) and 23 CFR part 630, subpart J. This publication is available for inspection and copying from the FHWA Washington Headquarters and all FHWA Division Offices as prescribed in 49 CFR part 7.

(k) *Corrective measures.* When the transportation department determines that existing utility facilities are likely to be associated with injury or accident to the highway user, as indicated by accident history or safety studies, the transportation department shall initiate or cause to be initiated in consultation with the affected utilities, corrective measures to provide for a safer traffic environment. The corrective measures may include changes to utility or highway facilities and should be prioritized to maximum safety benefits in the most cost-effective manner. The scheduling of utility safety improvements should take into consideration planned utility replacement or upgrading schedules, accident potential, and the availability of resources. It is expected that the requirements of this paragraph will result in an orderly and positive process to address the identified utility hazard problems in a timely and reasonable manner with due regard to the effect of the corrective measures on both the utility consumer and the road user. The type of corrective measures are not prescribed. Any requests received involving Federal participation in the cost of adjusting or relocating utility facilities pursuant to this paragraph shall be subject to the provisions of 23CFR part 645, subpart A, Utility Relocations, Adjustments and Reimbursement, and 23 CFR part 924, Highway Safety Improvement Program.

(l) *Wetlands.* The installation of privately owned lines or conduits on the right-of-way of Federal-aid or direct Federal highway projects for the purpose of draining adjacent wetlands onto the highway right-of-way is considered to be inconsistent with Executive Order 11990, Protection of Wetlands, dated May 24, 1977, and shall be prohibited.

(m) *Utility determination.* In determining whether a proposed installation is a utility or not, the most important consideration is how the STD views it under its own State laws and/or regulations.

[50 FR 20354, May 15, 1985, as amended at 53 FR 2833, Feb. 2, 1988; 60 FR 34851, July 5, 1995; 65 FR 70311, November 22, 2000]

§ 645.211 State transportation department accommodation policies.

The FHWA should use the current editions of the AASHTO publications, "A Guide for Accommodating Utilities Within Highway Right-of-Way," and "Roadside Design Guide" to assist in the evaluation of adequacy of STD utility accommodation policies. These publications are available for inspection from the FHWA Washington Headquarters and all FHWA Division Offices as prescribed in 49 CFR part 7. Copies of current AASHTO publications are available for purchase from the American Association of State Highway and Transportation Officials, Suite 225, 444 North Capitol Street, NW., Washington, DC 20001, or electronically at <http://www.aashto.org>. At a minimum, such policies shall make adequate provisions with respect to the following:

(a) Utilities must be accommodated and maintained in a manner which will not impair the highway or adversely affect highway or traffic safety. Uniform procedures controlling the manner, nature and extent of such utility use shall be established.

(b) Consideration shall be given to the effect of utility installations in regard to safety, aesthetic quality, and the costs or difficulty of highway and utility construction and maintenance.

(c) The State transportation department 's standards for regulating the use and occupancy of highway right-of-way by utilities must include, but are not limited to, the following:

(1) The horizontal and vertical location requirements and clearances for the various types of utilities must be clearly stated. These must be adequate to ensure compliance with the clear roadside policies for the particular highway involved.

(2) The applicable provisions of government or industry codes required by law or regulation must be set forth or appropriately referenced, including highway design standards or other measures which the State transportation department deems necessary to provide adequate protection to the highway, its safe operation, aesthetic quality, and maintenance.

(3) Specifications for and methods of installation; requirements for preservation and restoration of highway facilities, appurtenances, and natural features and vegetation on the right-of-way; and limitations on the utility's activities within the right-of-way including installation within areas set forth by § 645.209(h) of this part should be prescribed as necessary to protect highway interests.

(4) Measures necessary to protect traffic and its safe operation during and after installation of facilities, including control-of-access restrictions, provisions for rerouting or detouring traffic, traffic control measures to be employed, procedures for utility traffic control plans, limitations on vehicle parking and materials storage, protection of open excavations, and the like must be provided.

(5) A State transportation department may deny a utility's request to occupy highway right-of-way based on State law, regulation, or ordinances or the State transportation department's policy. However, in any case where the provisions of this part are to be cited as the basis for disapproving a utility's request to use and occupy highway right-of-way, measures must be provided to evaluate the direct and indirect environmental and economic effects of any loss of productive agricultural land or any impairment of the productivity of any agricultural land that would result from the disapproval. The environmental and economic effects on productive agricultural land together with the possible interference with or impairment of the use of the highway and the effect on highway safety must be considered in the decision to disapprove any proposal by a utility to use such highway right-of-way.

(d) Compliance with applicable State laws and approved State transportation department utility accommodation policies must be assured. The responsible State transportation department's file must contain evidence of the written arrangements which set forth the terms under which utility facilities are to cross or otherwise occupy highway right-of-way. All utility installations made on highway right-of-way shall be subject to written approval by the State transportation department. However, such approval will not be required where so provided in the use and occupancy agreement for such matters as utility facility maintenance, installation of service connections on highways other than freeways, or emergency operations.

(e) The State transportation department shall set forth in its utility accommodation plan detailed procedures, criteria, and standards it will use to evaluate and approve individual applications of utilities on freeways under the provisions of § 645.209(c) of this part. The State transportation department also may develop such procedures, criteria and standards by class of utility. In defining utility classes, consideration may be given to distinguishing utility services by type, nature or function and their potential impact on the highway and its user.

(f) The means and authority for enforcing the control of access restrictions applicable to utility use of controlled access highway facilities should be clearly set forth in the State transportation department plan.

(Information collection requirements in paragraphs (a), (b) and (c) were approved under control number 2125-0522, and paragraph (d) under control number 2125-0514)

[50 FR 20354, May 15, 1985, as amended at 53 FR 2834, Feb. 2, 1988; 55 FR 25828, June 25, 1990; 65 FR 70311, November 22, 2000]

§ 645.213 Use and occupancy agreements (permits).

The written arrangements, generally in the form of use and occupancy agreements setting forth the terms under which the utility is to cross or otherwise occupy the highway right-of-way, must include or incorporate by reference:

- (a) The transportation department standards for accommodating utilities. Since all of the standards will not be applicable to each individual utility installation, the use and occupancy agreement must, as a minimum, describe the requirements for location, construction, protection of traffic, maintenance, access restriction, and any special conditions applicable to each installation.
- (b) A general description of the size, type, nature, and extent of the utility facilities being located within the highway right-of-way.
- (c) Adequate drawings or sketches showing the existing and/or proposed location of the utility facilities within the highway right-of-way with respect to the existing and/or planned highway improvements, the traveled way, the right-of-way lines and, where applicable, the control of access lines and approved access points.
- (d) The extent of liability and responsibilities associated with future adjustment of the utilities to accommodate highway improvements.
- (e) The action to be taken in case of noncompliance with the transportation department 's requirements.
- (f) Other provisions as deemed necessary to comply with laws and regulations.

(Approved by the OMB under control number 2125-0522)

§ 645.215 Approvals.

(a) Each State transportation department shall submit a statement to the FHWA on the authority of utilities to use and occupy the right-of-way of State highways, the State transportation department 's power to regulate such use, and the policies the State transportation department employs or proposes to employ for accommodating utilities within the right-of-way Federal-aid highways under its jurisdiction. Statements previously submitted and approved by the FHWA need not be resubmitted provided the statement adequately addresses the requirements of this part. When revisions are deemed necessary the changes to the previously approved statement may be submitted separately to the FHWA for approval. The State transportation department shall include similar information on the use and occupancy of such highways by private lines where permitted. The State shall identify those areas, if any, Federal-aid highways within its borders where the State transportation department is without legal authority to regulate use by utilities. The statement shall address the nature of the formal agreements with local officials required by § 645.209(g) of this part. It is expected that the statements required by this part or necessary revisions to previously submitted and approved statements will be submitted to FHWA within 1 year of the effective date of this regulation.

(b) Upon determination by the FHWA that a State transportation department 's policies satisfy the provisions of 23 U.S.C. 109, 111, and 116, and 23 CFR 1.23 and 1.27, and meet the requirements of this regulation, the FHWA will approve their use on Federal-aid highway projects in that State.

(c) Any changes, additions or deletions the State transportation department proposes to the approved policies are subject to FHWA approval.

(d) When a utility files a notice or makes an individual application or request to a STD to use or occupy the right-of-way of a Federal-aid highway project, the STD is not required to submit the matter to the FHWA for prior concurrence, except when the proposed installation is not in accordance with this regulation or with the STD 's utility accommodation policy approved by the FHWA for use on Federal-aid highway projects.

(e) The State transportation department 's practices under the policies or agreements approved under § 645.215(b) of this part shall be periodically reviewed by the FHWA.

(Information collection requirements in paragraph (a) were approved by the OMB under control number 2125-0514)

[50 FR 20354, May 15, 1985, as amended at 53 FR 2834, Feb. 2, 1988; 60 FR 34851, July 5, 1995; 65 FR 70311, November 22, 2000]

APPENDIX C

23 U.S.C. 123 RELOCATION OF UTILITY FACILITIES

Sec. 123. Relocation of utility facilities

(a) When a State shall pay for the cost of relocation of utility facilities necessitated by the construction of a project on any Federal-Aid system, Federal funds may be used to reimburse the State for such cost in the same proportion as Federal funds are expended on the project. Federal funds shall not be used to reimburse the State under this section when the payment to the utility violates the law of the State or violates a legal contract between the utility and the State. Such reimbursement shall be made only after evidence satisfactory to the Secretary shall have been presented to him substantiating the fact that the State has paid such cost from its own funds with respect to Federal-aid highway projects for which Federal funds are obligated subsequent to April 16, 1958, for work, including relocation of utility facilities.

(b) The term "utility", for the purposes of this section, shall include publicly, privately, and cooperatively owned utilities.

(c) The term "cost of relocation", for the purposes of this section, shall include the entire amount paid by such utility properly attributable to such relocation after deducting therefrom any increase in the value of the new facility and any salvage value derived from the old facility.

APPENDIX D

23 U.S.C. 109(I) PERTAINING TO ACCOMMODATION OF UTILITIES

Sec. 109. Standards

Paragraph (I)

(1) In determining whether any right-of-way on any Federal-aid highway should be used for accommodating any utility facility, the Secretary shall-

(A) first ascertain the effect such use will have on highway and traffic safety, since in no case shall any use be authorized or otherwise permitted, under this or any other provision of law, which would adversely affect safety;

(B) evaluate the direct and indirect environmental and economic effects of any loss of productive agricultural land or any impairment of the productivity of any agricultural land which would result from the disapproval of the use of such right-of-way for the accommodation of such utility facility; and

(C) consider such environmental and economic effects together with any interference with or impairment of the use of the highway in such right-of-way which would result from the use of such right- of-way for the accommodation of such utility facility.

(2) For the purpose of this subsection-

(A) the term "utility facility" means any privately, publicly, or cooperatively owned line, facility, or system for producing, transmitting, or distributing communications, power, electricity, light, heat, gas, oil, crude products, water, steam, waste, storm water not connected with highway drainage, or any other similar commodity, including any fire or police signal system or street lighting system, which directly or indirectly serves the public; and

(B) the term "right-of-way" means any real property, or interest therein, acquired, dedicated, or reserved for the construction, operation, and maintenance of a highway.