NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM
SYNTHESIS OF HIGHWAY PRACTICE

105

CONSTRUCTION CONTRACT CLAIMS: CAUSES AND METHODS OF SETTLEMENT

TRANSPORTATION RESEARCH BOARD
National Research Council

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CONSTRUCTION CONTRACT CLAIMS: CAUSES AND METHODS OF SETTLEMENT

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TRANSPORTATION RESEARCH BOARD
NATIONAL RESEARCH COUNCIL
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NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM

Systematic, well-designed research provides the most effective approach to the solution of many problems facing highway administrators and engineers. Often, highway problems are of local interest and can best be studied by highway departments individually or in cooperation with their state universities and others. However, the accelerating growth of highway transportation develops increasingly complex problems of wide interest to highway authorities. These problems are best studied through a coordinated program of cooperative research.

In recognition of these needs, the highway administrators of the American Association of State Highway and Transportation Officials initiated in 1962 an objective national highway research program employing modern scientific techniques. This program is supported on a continuing basis by funds from participating member states of the Association and it receives the full cooperation and support of the Federal Highway Administration, United States Department of Transportation.

The Transportation Research Board of the National Research Council was requested by the Association to administer the research program because of the Board's recognized objectivity and understanding of modern research practices. The Board is uniquely suited for this purpose as: it maintains an extensive committee structure from which authorities on any highway transportation subject may be drawn; it possesses avenues of communications and cooperation with federal, state, and local governmental agencies, universities, and industry; its relationship to its parent organization, the National Academy of Sciences, a private, nonprofit institution, is an assurance of objectivity; it maintains a full-time research correlation staff of specialists in highway transportation matters to bring the findings of research directly to those who are in a position to use them.

The program is developed on the basis of research needs identified by chief administrators of the highway and transportation departments and by committees of AASHTO. Each year, specific areas of research needs to be included in the program are proposed to the Academy and the Board by the American Association of State Highway and Transportation Officials. Research projects to fulfill these needs are defined by the Board, and qualified research agencies are selected from those that have submitted proposals. Administration and surveillance of research contracts are the responsibilities of the Academy and its Transportation Research Board.

The needs for highway research are many, and the National Cooperative Highway Research Program can make significant contributions to the solution of highway transportation problems of mutual concern to many responsible groups. The program, however, is intended to complement rather than to substitute for or duplicate other highway research programs.

NOTE: The Transportation Research Board, the National Academy of Sciences, the Federal Highway Administration, the American Association of State Highway and Transportation Officials, and the individual states participating in the National Cooperative Highway Research Program do not endorse products or manufacturers. Trade or manufacturers' names appear herein solely because they are considered essential to the object of this report.

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PREFACE

A vast storehouse of information exists on nearly every subject of concern to highway administrators and engineers. Much of this information has resulted from both research and the successful application of solutions to the problems faced by practitioners in their daily work. Because previously there has been no systematic means for compiling such useful information and making it available to the entire highway community, the American Association of State Highway and Transportation Officials has, through the mechanism of the National Cooperative Highway Research Program, authorized the Transportation Research Board to undertake a continuing project to search out and synthesize useful knowledge from all available sources and to prepare documented reports on current practices in the subject areas of concern.

This synthesis series reports on various practices, making specific recommendations where appropriate but without the detailed directions usually found in handbooks or design manuals. Nonetheless, these documents can serve similar purposes, for each is a compendium of the best knowledge available on those measures found to be the most successful in resolving specific problems. The extent to which these reports are useful will be tempered by the user's knowledge and experience in the particular problem area.

FOREWORD

By Staff
Transportation
Research Board

This synthesis will be of special interest to construction engineers, contract administrators, lawyers, and others seeking information on settlement of highway construction contract claims. The most common types of claims are identified and settlement procedures are discussed.

Administrators, engineers, and researchers are continually faced with highway problems on which much information exists, either in the form of reports or in terms of undocumented experience and practice. Unfortunately, this information often is scattered and unevaluated, and, as a consequence, in seeking solutions, full information on what has been learned about a problem frequently is not assembled. Costly research findings may go unused, valuable experience may be overlooked, and full consideration may not be given to available practices for solving or alleviating the problem. In an effort to correct this situation, a continuing NCHRP project, carried out by the Transportation Research Board as the research agency, has the objective of reporting on common highway problems and synthesizing available information. The synthesis reports from this endeavor constitute an NCHRP publication series in which various forms of relevant information are assembled into single, concise documents pertaining to specific highway problems or sets of closely related problems.

An increasing number of highway construction contracts result in claims for additional compensation by the contractor. This report of the Transportation Research

Board contains information on the most common types of claims, their causes, and procedures used for their settlement.

To develop this synthesis in a comprehensive manner and to ensure inclusion of significant knowledge, the Board analyzed available information assembled from numerous sources, including a large number of state highway and transportation departments. A topic panel of experts in the subject area was established to guide the researcher in organizing and evaluating the collected data, and to review the final synthesis report.

This synthesis is an immediately useful document that records practices that were acceptable within the limitations of the knowledge available at the time of its preparation. As the processes of advancement continue, new knowledge can be expected to be added to that now at hand.

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CONSTRUCTION CONTRACT CLAIMS: CAUSES AND METHODS OF SETTLEMENT

SUMMARY

This report identifies the main types of highway construction contract claims and describes their causes and the procedures that currently are used for settling them either through negotiated adjustments under the contract or by reference to various forms of adjudication. Procedures and practices of the state highway agencies and the Federal Highway Administration (FHWA) regarding participation of federal-aid funds in contract claim awards are also discussed.

Although data on causation and settlement of contract claims are not systematically compiled or published nationally, a sampling of contractor and contracting agency experience indicates that the occurrence of claims increases with the levels of risk present in construction projects. Contractor characteristics and practices that increase risks of miscalculation or escalation of construction costs include: inadequate investigation of work sites and working conditions before bidding, unbalanced bidding, overoptimism and deliberate bidding below cost, poor planning and use of wrong equipment, and failure to follow authorized procedures for adjusting work. Contracting agency characteristics and practices that increase risks include: changing plans or specifications during construction, inadequacy of bidding information or time for bid preparation, excessively narrow interpretation of plans and specifications, unnecessarily rigid specifications, and contract requirements that are nonconstruction oriented.

When claims are evaluated with a view to identifying areas where remedial measures could be taken, critical features can be noted in the contract documents and in practices associated with contract awards, contract administration, and procedures for claim settlements.

The great majority of construction contract claims—about 80 percent—are settled agreeably by determinations at the project level. Another 10 percent are settled through departmental administrative review proceedings, which all state highway and transportation agencies provide. The remainder are appealed from the departmental decision to arbitration or to litigation in courts, boards, or commissions. Although differing in details, administrative procedures generally stress informality, flexibility, and the benefits of using the contracting agency's engineering staff to resolve technical questions. Contractors perceive these proceedings as subject to bias in favor of the agency's staff, and have recommended that disputed claims be submitted to outside mediation panels. Highway agencies have not believed that such outside mediation would significantly improve settlement results.

Increased use of arbitration is advocated by contractors' organizations as an alternative to litigation of disputed agency determinations. Based on very limited ex-

perience (principally in California, Florida, Kansas, and North Dakota), it appears that arbitration may be advantageous in expediting settlement of small claims (under $50,000), but where claims are large or complex, the time and costs of litigation and arbitration tend to be similar.

All forms of appellate review of claims are costly in time and money. A substantial, but often unappreciated, cost to highway agencies is the amount of time spent by key technical and administrative personnel in their participation in claim proceedings.

The question of federal-aid participation in a claim settlement award is likely to affect a contracting agency's position regarding settlement. Most refusals to participate are based on alleged failure of the state's award to be "grounded in the contract and actual costs involved" or "reasonable on all the facts available." Under current federal court decisions, states have no absolute right to participation of federal-aid funds. In these cases, the United States Court of Claims has found "proper" FHWA's position that unbudgeted settlement costs will be reimbursed only to the extent that they are reasonable.

There is, however, a wide range of opportunities for informal determination of FHWA's position in advance of a settlement. FHWA encourages such advance consultation but will not participate as a party in a state's claim negotiations, or automatically participate in a state's award.

Some argue that FHWA criteria for eligibility and procedures for participation are unclear and susceptible to inconsistent interpretations and administration. Those regulations are currently under review by FHWA for possible revision.

CHAPTER ONE

INTRODUCTION

BACKGROUND

This study is an outgrowth of a report issued in 1979 by the Transportation Research Board identifying subject areas in which research and development efforts promised to improve the effectiveness and efficiency of the management of highway construction engineering (*1*). Among the subjects recommended in this study were "Identification of the Causes of Contract Claims" and "Guidelines for Administrative Settlement of Highway Construction Contract Claims."

In 1980 these subjects were recommended for inclusion in a Synthesis of Highway Practice Report under the National Cooperative Highway Research Program. The present study combines these two subjects in a single report.

SCOPE OF SYNTHESIS

The object of this synthesis is to identify the most prevalent types of claims arising from the performance of highway construction contracts, describe the causes of such claims and the procedures that currently are authorized and used for settling claims, either through negotiated adjustments under the contract or by reference of the claim to various forms of adjudication. The report also discusses the procedure and practices of the Federal Highway Administration (FHWA) and the state highway agencies regarding participation of federal-aid funds in highway construction contract claim adjustments and awards.

The claim settlement procedures that are described in this report include those that are established in the contract documents for use by the parties in making adjustments needed during performance, those that utilize the contracting agency's own administrative review processes, and those that involve use of litigation, arbitration, or other external dispute-resolving procedures.

Although it is generally recognized that both *claim prevention* and *claim settlement* are important in improving the efficiency and effectiveness of construction engineering management, the focus of this report is on settlement. Where claim prevention measures are pertinent and information on them is available, references are made to measures that have been found to be successful in reducing or eliminating the conditions associated with high incidence of claims.

In practice, both parties to highway construction contracts make claims on each other. The contractor's claims generally seek compensation for work or materials actually furnished, although not clearly covered by the terms of the contract or ordered by the contracting agency's field engineer. The contracting agency may make claims on the contractor for any of several reasons—termination for cause, breach of warranty, or liquidated damages for delay, for example. Claims by contracting agencies against their contractors are not directly discussed in this report because they account for only a small part of all construction contract claims, and because the dynamics of such claims and claim settlement procedures differ from those that apply to claims originated by contractors. In addition, claims against contractors or contracting agencies by third parties—subcontractors, material suppliers, sureties, governmental regulatory agencies—are not within the scope of this study, since claimants in those instances generally enjoy special status under the law or contract that defines their rights and the manner in which their claim is settled.

DEFINITIONS OF KEY TERMS AND CONCEPTS

There is a substantial and sometimes confusing diversity in the usage of certain key terms and concepts used in discussing claims and claim settlement procedures.

Claim

Essentially a "claim" is a request or demand made by one party of a contract on the other party to do or forego doing some act that the claimant asserts is owed as a matter of right. In the construction process, however, the term has been applied to a variety of actions and types of representations. In some instances, a "claim" is said to be made whenever the contracting agency's attention is in fact called to a condition or occurrence that has contractual or legal consequences. For example, where a contractor calls attention to an unanticipated water condition on the work site or a work delay caused by bad weather, the contractor may later assert that payment should be made for more work or more time should be allowed than was provided for by the terms of the contract.

In a variation of this usage, some recognize a claim only when there is formal notification of the claimant's demand, its nature, and its basis.

There are others who apply this term to contractors' demands only when the demands are submitted to the contracting agency's field engineer in accordance with the agency's published notification formalities.

Other users of the term select some point in the contracting agency's administrative procedure for consideration and determination and say that when the contractor's demand is under consideration at that level it is a "claim." Thus, some may say a claim exists when a contractor's demand is officially in the hands of the contracting agency's field engineer for considera-

tion, while others may say that a claim arises only after the field engineer makes a determination that is contested by the contractor. There is general agreement, however, that as a contractor's demand moves through successive levels of consideration by the field engineer, area engineer, and various officials or committees at the contracting agency's headquarters, it is proper to refer to it as a claim. Finally, matters that are submitted to adjudicative tribunals often are referred to as claims.

Against this background of varying usage, the selection of any definition of "claim" is likely to seem arbitrary by some. For the purpose of this report, a "claim" will be regarded as a demand that is formally submitted for determination by someone in the contracting agency above the level of direct supervision of the work out of which the demand arose. Under this definition, claims include all demands that are not resolved by the contractor and contracting agency's field staff and inspectors, and therefore are referred for determination to the contracting agency's engineer in charge of the project as the first level of supervisory authority.

Dispute

Usage of the term "dispute" also varies widely. Those of one point of view apply the term whenever there is a difference of opinion between the parties over interpretation of the contract. Others apply the term to cases where a claim is presented and specifically denied, and the claimant disagrees with the denial in an appeal (or notice of intent to appeal) to higher authority. In a still narrower view, some reserve the term for contested claims that are based on allegation of breach of the contract.

There appears to be no clear consensus on the usage of this term, nor any applicable authoritative definition in contract law or the standard contract documents. Accordingly, in this report the meaning of the term is determined by the context in which it is used.

Settlement

As used in this report, the "settlement" of claims includes all methods or procedures for determining the rights of the contractor and contracting agency in the subject matter of a claim. It extends from informal negotiation between contractor and field engineer at the work site to formal adjudication by a court or arbitration board. It does not necessarily contemplate a compromise of any right or consideration to which a claimant is entitled by the contract or the law.

Designation of Organizations and Personnel

The structure and styling of both the organizational components and key personnel of state highway agencies and contractors' corporate organizations vary greatly. Examination of the functions performed by each, however, reveals common characteristics.

Therefore, as used in this report, "contracting agency" means the state highway agency or local public works department authorized to award construction contracts, regardless of what name the agency has in state government.

"Field engineer" designates the engineer in charge of the construction site as representative of the contracting agency, regardless of the title or position the engineer holds in that agency.

"Area engineer" refers to the engineer in charge of a series of construction projects in a specified geographical area. Customarily, such areas have been officially known as districts or regions.

CHAPTER TWO

CONSTRUCTION CONTRACT CLAIMS AND THEIR CAUSES

THE CONSTRUCTION CONTRACT CLAIMS PROBLEM

Contractors and contracting agencies generally agree that the handling of claims arising in highway construction projects is a serious problem, and that efforts are needed to improve both the methods of preventing claims and the procedures for settling them when they occur. Although perceived to be substantial, the "claims problem" is not documented by any regularly or rigorously compiled statistics. There is an almost total lack of nationwide data on the claims experience of highway agencies and construction contractors from which general conclusions can be drawn or trends predicted. Moreover, there is no uniformity in reporting claims experience state by state.

Even where statewide experience is reported, efforts to evaluate it are hampered by the lack of agreement on a frame of reference for making comparisons. Although it is expected that claims will arise, and contract documents provide authority and procedures for submitting them during or at the end of a project, there is no "normal level" of claims that furnishes a standard for evaluating the experience of projects or programs.

In addition, the frequency and character of claims may change with shifting economic conditions, and nonrational factors sometimes are involved. When construction work is plentiful, some contractors prefer not to submit claims to which they may be entitled. Believing that claims may antagonize the contracting agency, they absorb the added expense of the work in question with the hope that they will make it up on the next job. When times are hard for construction contractors, however, they are less willing to waive claims to which they believe they are entitled.

Since 1977 decreasing numbers of highway projects and increasing competition among contractors have combined to make contractors more claim-conscious and more familiar with the procedures for pursuit of claims. This has encouraged the perception among both contractors and contracting agencies that the incidence of claims has been increasing in recent years (*2*). Indirect evidence of an economic climate that favors increased claims is cited. During the period 1978–1982, new construction in the federal-aid highway program decreased, and competition, as indicted by the number of bidders per project, became keener. Bidding became tighter, as reflected in the relationship of low bids to engineers' estimates, and left the successful bidders with less margin for contingencies, changes, and other causes of added expense during construction (Table 1).

While these indicators suggest that construction contractors nationwide have had to accept higher risks in recent years, the connection between increased risks and increased claims must be studied state by state.

SUBJECTS OF CLAIMS: CLAIMS PROFILES

Factors Affecting Claims Profiles

Although numbers of claims may indicate when a contracting agency needs to improve its claim settlement and prevention procedures, they do not suggest what parts of the construction process or the contracting system need attention. For this it is necessary to know what aspects of construction are most frequently the subject of claims.

Some of the same factors that hamper compilation of data on numbers of claims and their disposition also limit the development of a nationwide profile of the subjects that are involved in claims. Causation sometimes is difficult to determine because alleged bases of claims differ from actual bases. Thus, where inexperienced contractors start a job with inadequate equipment or methods and have to replace them with more expensive equipment or methods, they may know they will not succeed in recovering their added expense if they admit using bad judgment. Therefore, the contractors submit a claim on other arguable grounds; such as, the contracting agency misrepresented the quantity or quality of material in a borrow pit.

Claims profiles usually react to changing economic conditions that affect construction. Where, for example, shortages of materials or rapid price increases occur between the time of bidding and the time work is to be done, it may encourage substitution of materials, designs, or work methods, with resulting claims where there are disagreements over payment of cost differences or the acceptability of results.

Differing types of construction work have differing claims experience. For example, state highway programs in the 1960s and early 1970s had a large number of heavy construction projects for bridges and expressways on new locations. Such projects had a high incidence of claims involving excavation costs (alleging excessive rock, or different types of soil than expected, or excessive water) all attributed to the inadequacy or inaccuracy of available information. In urban areas, such claims often involved unmapped building foundations or utilities, or delays in utility relocation. In new construction, design changes frequently were the basis for claims.

Contrasts occur where highway program emphasis shifts to rehabilitation and reconstruction of existing highways. Contracts tend to become smaller. More of them are performed by small contractors who may not be experienced with state highway program specifications and procedures. More reliance is placed on existing as-built drawings, which may not accurately reflect details of either the original plans or the existing conditions, locations, or dimensions. Claims based on miscalculations of the character or condition of existing highway facilities

TABLE 1

BIDDING TREND IN FEDERAL-AID HIGHWAY CONSTRUCTION CONTRACTS: TOTAL FEDERAL-AID EXCEPT SECONDARY, 1978-1981[a]

Calendar Year	Number of Contracts	Number of Bids	Average Number of Bids	Low Bid vs. Engineer's Estimate (% under)
1982	5,215	30,169	5.8	13.7
1981	5,341	32,116	6.0	14.3
1980	4,817	24,474	5.1	8.4
1979	5,491	21,053	3.8	2.8
1978	5,474	20,764	3.8	1.5

[a]Source: FHWA, Bid Opening Report: Federal-Aid Highway Construction Contracts, Calendar Years 1978, 1979, 1980, 1981, 1982.

are likely to be numerous. Thus, where bids for painting an existing bridge are calculated by reference to the structure's weight, and that weight turns out to be greater than initially described by the contracting agency, the contractor may try to recover the consequences of the miscalculated costs through a claim.

Additionally, the claims profile for rehabilitation and reconstruction projects is likely to show a high incidence of claims alleging delay owing to extra traffic engineering and control measures, coordination of specialty contractors and utility relocations, added costs of design modifications, or substitution of materials. When program shifts are made in periods of sharper competition, it is also to be expected that there will be increased claims for interference, hindrance, and delay in order to try to recoup overhead costs, interest on retained funds, and other business costs.

Because the various parts of the construction process are interrelated, claims in one part may affect other parts. The necessity for excavating deeper than originally planned may be followed by changes in other parts of the plans or specifications and almost certainly will be accompanied by delays for additional testing and review of the work. So, where test piling for a bridge foundation showed the need for more pilings than originally planned, the contracting agency ordered additional, longer pilings and modified other parts of the project design to accommodate this condition. Subsequent claims by the contractor raised the question of whether these actions amounted to a change in the character of the work, in which case the contractor would be entitled to an adjustment in the contract price, or were merely added piling, for which payment would be made at the contract price.

Changes may be made to accommodate unanticipated requirements of environmental or socioeconomic impact analyses or work site safety standards. For example, where the Environmental Protection Agency requires a contractor to provide an on-site incinerator, or the Occupational Safety and Health Administration inspector orders installation of safety nets for bridge painters, contractors are likely to ask for their added costs to be covered by change orders or claims.

Although these considerations make it unwise to try to suggest any nationwide profile of highway construction contract claims according to their subject matter, the major categories for such a profile can be indicated. Based on contacts with the highway agency claim administrators in 12 states (California, Illinois, Louisiana, Indiana, Massachusetts, Missouri, New Jersey, New Mexico, New York, North Dakota, West Virginia, and Wisconsin) the following types of claims occur most frequently in their construction programs.

Time Problems and Liquidated Damages

Most construction contracts contain a provision for assessment of monetary damages at a fixed daily rate (liquidated damages) if the contractor fails to perform according to schedule. This results in frequent claims for extension of the contract completion date in order to avoid such damages or to nullify them if previously assessed. These claims generally rely on the argument that the time problem is not the contractor's fault. In this way, contractors may try to recover costs that are due to their difficulty in obtaining delivery of materials on schedule, or delays that are due to strikes, acts of God, or slowness of local approval of zoning applications.

Time problems also may occur as a result of difficult field conditions requiring design changes, right-of-way obstructions, utility relocations, or increases in quantities of work. Here claimants may allege that the delay is due to acts or omissions of the contracting agency. Some of the items of cost that often are cited as resulting from such delays include:

- Increased unit labor costs.
- Idle equipment.
- Increased overhead and increased taxes when construction must be extended into another season.
- Increased materials costs.
- Increased costs when work must be performed under adverse weather conditions or carried over into another construction season.

These costs may be based on the alleged fault of the contracting agency for causing a delay (e.g., pumping water into a construction site and so hindering the work), or for the contracting agency's neglect in failing to maintain conditions in which the contractor could perform the work on time (e.g.,

failure to provide clear right-of-way). Highway construction in urban areas frequently generates claims for time extensions because of delays in relocating utilities in the right-of-way, a matter that may be the responsibility of either the contractor or contracting agency depending on the terms of their agreement. More clearly within the scope of the contracting agency's responsibility, however, are delays in processing tests of materials, inspection reports, or approvals needed when phases of work are completed. Claims for additional time or compensation for these causes are part of the claims profile in all states.

Claims arising from delays are among the most difficult to analyze (*3*). Often several contributing factors may occur, and may overlap. Within a short period, a project may experience a late delivery of materials, a modification of design, and a strike. In determining the origin of the overall delay to completion of the project, the extent of its impact, and the responsibility for it, disputes may easily occur.

This potential is increased by the fact that the rules governing liability for the costs of delay vary from state to state. Occasionally, public construction specifications (e.g., in Arkansas, Delaware, Georgia, Illinois, and Mississippi) contain "No Damage For Delay" provisos, allowing extensions of time but no added compensation where time problems occur. But exceptions have been made where courts have believed that a contracting agency's delay was unreasonable (*3*). These factors, added to the naturally complex fact situations that occur in cases of delay, have made time problems a major part of any claims profile.

Additional Compensation for Unanticipated Conditions

In all types of construction, claims may arise to recover expenses that are due to the occurrence of conditions differing from what was expected or indicated by information available at the time the contract was bid and awarded. A substantial proportion of these claims relate to subsurface conditions and excavations:

- Suitability of excavated material for embankments.
- Increased quantities of excavation required because unsuitable material was found at the plan elevations.
- Change in the scope of earthwork operations to correct slides occurring after material is removed according to plan.
- Substantial differences in quantities estimated in project plans and quantities actually removed.

These conditions may involve unanticipated finding of rock, soil conditions, water tables, unmarked or unmapped utility fixtures, pilings, building foundations, and even sunken ships in channels where bridge foundations are planned.

Many states provide for the handling of these claims under so-called "changed conditions clauses," which authorize equitable adjustment of a contractor's compensation where the contractor encounters:

> Subsurface or latent physical conditions at the site differing materially from those indicated in the contract or unknown physical conditions at the site of an unusual nature differing materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the contract. (Illinois Department of Transportation, *Standard Specifications for Highway Construction,* Sec. 104.04).

Language such as this has encouraged extension of the application of the changed conditions clause from subsurface conditions to include all physical aspects of a project site. Thus, claims have been sustained where soils turned out to be wetter than normal for their location in the region. Efforts to go further and include added costs attributable to nonphysical conditions, acts of God, strikes, and fires or other natural disasters, have made the concept of changed conditions a controversial one, and led some states to regard it as a contributing cause of claims (*4, 5*). In federal construction contracts, the scope of this clause has been clarified by referring to "differing site conditions" instead of "changed conditions."

Unexpected major escalation of the price of an essential material, as in the case of asphalt and other petroleum products in the mid-1970s, severely tested the outer limit of the concept of changed conditions. In a few instances these occurrences were recognized as grounds for adjustment of contractors' compensation. Such adjustments, however, were authorized by specific legislation rather than judicial stretching of the contract's changed conditions clause. (Fla. Stat. 337.143, Supp. 1983; State Dept. of Transportation v Edward M. Chadbourne, Inc., 382 S.2d 293, Fla. App., 1980.)

State highway agencies are almost evenly divided in their use of changed conditions clauses or differing site conditions clauses. Where states do not provide for equitable adjustment under such clauses, they sometimes have been subjected to claims and litigation based on allegations that the contracting agency misrepresented the conditions of the work site in information it furnished or withheld at the time of bidding. Typically, these claims cite such conditions as the type and nature of soils, quantity of excavation required, suitability of borrow for use as fill, weather, water tables, underground springs, and underground structures. Information relied on may be in the form of statements by the contracting agency's employees and officials or documents and physical evidence (e.g., core samples). Demonstration that the information furnished by the contracting agency was erroneous or incomplete, and that the contractor's reasonable reliance on it resulted in additional expense, are essential to success in the claim.

Claims also have been based on inferential conclusions derived from plans and specifications. For example, claimants have argued that where plans call for a 1:1 slope in a feature of the geometric design it is reasonable to infer that the soil at the work site is suitable to hold the slope. Or, listing a pit as "available and could be used for borrow" justifies reliance on its suitability for that use. Silence on the part of a contracting agency also has been the basis of claims for unanticipated contractor costs, as where the agency in a bridge replacement project does not disclose the current condition of other nearby existing bridges and the contractor subsequently discovers they are unsafe for use in diverting traffic while performing the replacement work. These claims depend on holding the contracting agency to an implied warranty of conditions on which the success of the contractor's work depends and for which the contractor must have accurate information before bidding (*6*).

Claims alleging erroneous information are not limited to subsurface or latent physical conditions, and sometimes cite items of cost required by the contracting agency's plans but which later turn out to be unnecessary. Such a situation is illustrated by a contractor's claim that "falsework" was installed on a bridge because of the contracting agency's statement that the

bridge deck would have to be removed, but deck removal later turned out to be unnecessary.

Ambiguous Contract Provisions

Cases involving conflicting interpretations of ambiguous or defective specifications make up a major category of the claims profile in all states (*3*). In such instances,contractors may contend that the field engineer's interpretation amounts to a constructive change in the plans and specifications for the work, and, if the engineer disagrees, the disagreement may be carried on in the form of a claim. Contractors have a duty to request clarification of language that is patently unclear. However, the courts generally construe ambiguities that are not obvious against the contracting agency that drafted it, reasoning that the drafters had the best opportunity to protect or advance their interest in the contract (*4*).

Ambiguous or defective language may be alleged in other construction situations. The most common, probably, are those instances in which work does not meet performance standards when completed. Where, for example, a building roof leaks, the field engineer may attribute it to poor workmanship, but the contractor may contend that the specifications were defective, so that by using them a watertight roof could not have been built. Another frequent claim situation involves failure to remove existing work at a site when it has been replaced, as where a pavement marking project is the occasion for a disagreement as to who must bear the cost of removing the old markings that are being replaced.

Extra Work

Claims may be used to recoup the costs of overruns of work and materials. In these situations contractors sometimes attribute these costs to erroneous application of the contract's terms, as illustrated by claims to recover the expense of redoing work that the contractor charged was improperly subjected to a method of testing different from that called for in the contract.

Probably more often, however, claims in this category argue that the extra work should be compensated because "the character of the work or the unit costs thereof are materially changed" (*7*, Sec. 104.02). Thus, a contractor who is directed to install extra piling in a bridge foundation may claim that this directive changes the character of the work. In the same way, a highway agency's decision to open a bridge to traffic before it receives its final painting may expose the contracting agency to a claim by the contractor who subsequently must give the bridge an extra cleaning before it can be painted. In some cases, contractors receive a certain amount of protection from these risks of extra work by provisions that specify an allowable amount of changes that may be made (for example, not to exceed five percent of the contract quantity) and time extensions for performance. Where such provisions are absent, the issue of whether the work in question is within the scope of the contract is a matter for negotiation and liable to be disputed.

Changes in Design and Specifications

Where a field engineer directs or agrees to substantial changes in the original plans or specifications for a project, the rights of the contractor and contracting agency in regard to the new requirements should be established in a written change order or formal contract modification. Such changes may result from the redesign of parts of the original plan after construction has commenced, changes in shop drawings, substitutions of materials or equipment to accommodate supply developments or site conditions, and similar actions. Where formal documentation of a change agreement is absent, any contractor's claim based on it is technically subject to denial. A tendency of courts to hold that these technical requirements can be waived by the assenting conduct of the parties, however, has encouraged contractors to make alleged contract changes a major subject of claims.

CAUSES OF CONSTRUCTION CONTRACT CLAIMS

The Problem of Identifying Causation

Construction contract claims may be classified in various ways. When claims are classified according to their subject matter (e.g., excavation, paving, electrical work) or according to events in the construction process that cause the contractor added expense (e.g., time delays, design changes, or discovery of unanticipated subsurface conditions), it is possible to identify the activities or steps in a construction project that are likely to involve controversial extra work or costs. Claims also may be classified by reference to sections of the contract documents or the law that authorize remedies and prescribe criteria for relief (e.g., "changed conditions clause" claims, or liquidated damages).

These systems of classification may identify conditions of the site, the work, or the supervision that are particularly difficult to predict and plan for. Sometimes it is possible, also, to infer appropriate preventive or curative responses. But these inferences usually rely on assumptions that may turn out to be unrealistic, and not likely to reveal or recommend specific remedial measures that reduce the conditions or practices associated with high levels of claims. These latter aspects of the claims problem can be addressed most effectively by focusing on the practices and characteristics of contractors and contracting agencies that are associated with high incidence of claims.

Contractor Practices

Inadequate Investigation before Bidding

Where contractors fail to thoroughly investigate work sites, borrow pits, sources of materials or equipment, labor supplies, and specialty subcontractors before bidding, they increase their exposure to risks of subsequent costs that they have not anticipated, and increase the pressure to recoup their losses through claims (K. Hoegstedt, personal communication, 1981). For example, a contractor who relies on the contracting agency's statement of the weight of a bridge to calculate how much paint will be needed to cover it may later find that information wrong and

need more paint than was anticipated (*8*). Or, a contractor who infers the adequacy of a borrow pit because the contracting agency lists the site as a "possible source" of fill may find the pit unusable (*8*). Failure to make an independent investigation sufficient to determine the conditions under which work will have to be performed (notwithstanding specific admonition to do so) sometimes is explained as being caused by lack of time for bid preparation, or disinclination to duplicate the contracting agency's data-gathering effort. Such explanations, however, have seldom been accepted as excuses for the contractor.

Unbalanced Bidding

The practice of submitting unbalanced bids on unit-priced items appears to be widespread, although in some states it is prohibited by law, regulations, or specifications. Often it is done to qualify a contractor for progress payments that help meet expenses in the early stages of the work (K. Hoegstedt, personal communication, 1981). For example, by bidding early work, such as clearing and grubbing, at an artificially high unit price (and work to be done later at a low price), a contractor can obtain funds for the more costly paving phases in the later stages of the project. In so doing, however, contractors run risks of miscalculation that lead to submission of claims.

Bidding below Costs and Overoptimism

In an effort to ensure success in competitive bidding, contractors may purposely bid below costs, a practice sometimes called "low-balling" the bid (K. Hoegstedt, personal communication, 1981). Their success in winning the award of a contract in this way, however, is likely to leave them unable to cope with the extra costs and contingencies that invariably occur. In such cases, they are likely to try to salvage their position through the claims procedure.

Contractors also tend to be overoptimistic about their capacity, the ability of their work force, adequacy of their funding, and other factors affecting their success (*3*). Where bids are overoptimistic because of inexperience or unfamiliarity in an area, contractors may easily become overextended and try to recover their unanticipated costs in the form of claims.

Poor Planning and Use of Wrong Equipment

Most highway construction contracts contemplate that the contractor has the responsibility for planning the construction phase of a project and selecting the equipment to be used in the work. Some contractors have charged that this formal division of labor is not reflected in the practice of contracting agencies, but the courts generally have tried to enforce the letter of these contracts when they have been challenged. Recognition of the importance of sound planning is seen in prequalification criteria of some states that are intended to reveal managerial capacity to plan, coordinate, and supervise construction operations. This is an area where small businesses and minority-owned businesses often have been weak, and where, as a result, claims can be traced to poor planning or use of wrong equipment.

Failure to Follow Authorized Procedures

Dislike of formalities and paperwork for small matters, or delays in obtaining approval of changes, and sometimes personality problems between a contractor and a field engineer, sometimes are cited to explain failure to follow contract procedures. Such situations may develop where a contracting agency fails to provide staking, inspections, or testing for various construction activities, or the contractor fails to request needed work in a timely manner. Occasionally, limitations on a field engineer's authority to issue change orders may be an inducement to accomplish the same result indirectly through the claims procedures.

Contracting Agency Practices

Changes in Plans or Specifications

Revisions of plans or specifications by the contracting agency during construction frequently are necessary, but they are not always accomplished by issuance of change orders. Where such changes result in extra work, contractors may resort to claim procedures to pursue what they regard as their right under the contract. Initial plans or specifications may turn out to be inadequate for a variety of reasons, including reduced levels of the contracting agency staff who prepare contract documents, acceleration of contract award dates, or changes in the availability of materials after commencement of a project.

Inadequate Bid Information Issued by the Contracting Agency

Determination of what information to issue in order to assist the preparation of bids sometimes involves difficult choices for contracting agencies. It may result in allegations that a contracting agency has misrepresented the condition of a work site or the availability of materials (*9*). Misrepresentations need not be positive statements of wrong information that are intended to be reliable. They may be published data that only partially cover a bidder's information needs (e.g., soil conditions, weather data, water table), or assumptions that later prove to be inaccurate (e.g., required erection of falsework on a bridge that was not needed when removal of the bridge deck turned out to be unnecessary), or the fair implications of certain specific contract requirements (e.g., warranty of the condition of soil implied from the slope cross section in the design) (*8*).

Inadequate Time for Bid Preparation

The time allowed for bid preparation directly affects a contractor's ability to make independent investigations of site conditions and sources of materials and labor. Instances of miscalculation may arise from inadequate or inaccurate information. Bid preparation time is entirely within the control of the contracting agency, and practice regarding it varies substantially nationwide (H. Lindberg and C. W. Enfield, personal communication, 1981).

Excessively Narrow Interpretation of Plans and Specifications

Because standard specifications for highway construction (*7*, 105.01) prescribe that the field engineer will decide all questions as to the quality of materials furnished and the interpretation of the terms and performance of the contract, the engineer's decisions are likely to be focal points for claim controversies. For example, where a contract calls for use of "unclassified" soil as fill, the contractor may challenge the field engineer's classification of soil actually used, claiming it was too wet to meet the standards and should have been classified as "unsuitable" and paid for at a higher rate (*8*).

Restrictive Specifications

Closely related to excessively narrow interpretations is a perception that some specifications are more restrictive than necessary to achieve their construction objectives—that they are more prescriptive than end-result oriented. Generally, contractors do not object to having their choice of methods or materials restricted as long as construction quality is improved. Where, however, they are required to redo work in order to comply with what they consider an unrealistic or unnecessarily limited choice of methods or materials, they are likely to challenge the contracting agency's insistence on using that specification. So, where a contractor followed specifications that required using epoxy as a base for plastering over brickwork, the contractor objected to being required to redo the work without additional compensation when the plaster did not hold and the contracting agency insisted on having the original specification followed (*8*).

Contract Requirements for Socioeconomic Objectives Unrelated to the Construction Process

Contractors have criticized highway construction contracts because of requirements that are designed to implement national socioeconomic policies, and are not directly related to the construction process (J. Gentile, personal communication, 1982). Such requirements are cited as causing claims when their strict enforcement results in delays and added coordination expenses. For example, requirements that contractors have affirmative action programs for recruiting minority laborers and achieve specified quotas in the use of minority business subcontractors may delay or increase the cost of construction while contractors attempt to comply. Although these requirements are known by contractors from the time a project is announced, the availability and competence of minority resources are not uniform, and may at times be quite uncertain.

Personal Factors and Contract Claims

Experience with contract claim administration and adjudication suggests that some claims cannot be attributed to any identifiable event or condition in the construction process, but rather must be charged to incompatible personalities of the supervisory personnel of the contractor and contracting agency. Some field engineers have a tendency to treat contractors as adversaries. These field engineers are more likely to interpret specifications very narrowly and to reject all claims as unfounded. Although impossible to measure, these factors are quite real to contractors and construction program administrators and, where they are allowed to persist, construction projects have high levels of claims. Experienced construction program administrators recognize that the possibility of these personal factors must be considered when making assignments of supervisory field personnel (*10*).

Experience also suggests that in some instances no amount of care in selecting project supervisory personnel will substantially reduce the number of claims to be expected. Every state highway agency has encountered certain contractors who make it their practice to use the claims procedure freely and frequently, despite the availability of procedures for issuance of change orders and authorizing extra work with compensation. Such contractors, sometimes with the cooperation of the contracting agency's field personnel, prefer to use the claims process as an exploratory technique in connection with all types of adjustments needed during construction.

Institutional Factors and Contract Claims

The construction process sometimes has been described as "dispute-prone," implying that those who deal with it must accept a high probability that claims will arise during the construction process, and that many of them will have to be settled by adjudication (*11*).

Various reasons are given for this characterization. Modern construction is a complex process, often extending over lengthy periods of time, requiring detailed plans and specifications, skillful supervision, and coordination. Frequently it involves numerous supporting parties—subcontractors, material suppliers, sureties, and funding sources. Money and personnel, in the right amounts and of the proper types to carry out the contract tasks, must be readily available when needed. If any of these elements is missing, late, or insufficient, the contractor is in danger of failing to perform the contract or of losing money on the work.

In addition, highway projects involve a wide variety of types of construction, which may have to be carried out under conditions, either natural or artificial, that cannot be fully or exactly anticipated when bids are prepared. Preparing and administering highway project contract documents, therefore, is more difficult than dealing with services or products produced on assembly lines where substantially all factors can be controlled and the risks of unforeseen conditions can be minimized. Customarily, the quality of highway construction has been maintained at higher levels than in private sector building practice, and the options for dealing with highway construction that does not meet specifications often may be limited (F. Burroughs, personal communication, 1981).

Most contractors and highway administrators reject the idea that highway construction programs need to tolerate a high incidence of claims. Rather, they believe that the construction process always involves certain claim-generating risks for contractors, but that these risks can be adequately managed and claims can be settled equitably under the contract's provision for this purpose (*12, 13*).

In addition, contractors urge that the construction contract documents be viewed as establishing a cooperative risk-sharing

relationship between them and the contracting agencies to achieve a construction goal desired by both (*12, 14*). This view understandably emphasizes use of the claim procedure of the contract for equitable adjustments of the contract's terms as unanticipated conditions develop during construction. Contracting agencies, on the other hand, tend to take the view that the contract itself apportions the risk between the contracting agency and the contractor. They believe that the bid price should cover all contractor risk and contingencies and that award at the bid price should cover the total construction cost, except for ordered extra work and contingencies on which the agency has clearly opted to assume the risk.

RELATIONSHIP BETWEEN CLAIMS AND THE CONTRACTING PROCESS

The foregoing discussion helps identify those aspects of the construction process that are most frequently involved in claims, but does not indicate specific changes in the contracting process that are likely to reduce the number of claims or the severity of disputes. When contract claim experience is reviewed for this latter purpose, the contracting process may be studied most easily by grouping claim causes into the following four categories:

- The contract documents.
- The award of contracts.
- Contract administration.
- Claim settlement procedures and practices.

Causes Associated with the Contract Documents

The purpose of the contract documents is to provide a full, clear, and definite statement of the responsibilities of the contracting parties regarding performance of the construction project. Contract documents consist of the basic agreement, the general conditions governing performance and the working relationship of the parties, any supplemental or special conditions applicable to specific construction details, the plans, the specifications, and the bid form. These documents are incorporated by reference into the basic agreement, and altogether they tell the contractor what to build in terms that are as explicit as is feasible. They also furnish a frame of reference for the parties to supply or modify any details of construction that may be needed because of circumstances occurring during the work.

State highway agencies and contractors agree that inadequate or improperly prepared contract documents are among the main reasons for claims. When deficient, they create uncertainty in the bidding, and introduce into the contractor's bid and plans a variety of errors that may be discovered only after construction has commenced. In practice, these deficiencies may occur because plans or specifications are prepared too hurriedly to receive needed reviews and cross-checks before being announced. Unintended inconsistencies and omissions may also be introduced when certain features of the contract are incorporated by reference to other published standards or specifications. The practice of placing notes on the plans that may be superfluous or conflict with the specifications can easily become the cause of claims, and often is the result of a detailer being unfamiliar with the specifications.

The possibility of gaps and of a certain amount of ambiguity in the contract documents is recognized in the standard specifications of all states by provisions for approval of changes in the contract as they may be needed and agreed to by the parties during construction. Additional compensation or time extensions may be authorized when change orders are issued.

For a variety of reasons this contract mechanism has not eliminated claims based on the contract documents. In many highway projects the documents necessarily are complex, and they often are singled out for close scrutiny by contractors in hopes of finding bases for claims to hedge against risks inherent in the construction. Under these circumstances field engineers sometimes suspect that claims involving disagreements with their interpretation of contract language are speculative and inflated. Rather than risk criticism for approving a claim that later is denied by higher departmental authority, they may prefer to deny any such claims and let the contractor take them to higher levels for determination.

Contractors defend their use of the claim settlement procedures as necessary to obtain interpretations that are free of what they perceive as the field engineer's bias favoring strict compliance with specifications that may be unrealistic. They argue that specifications for highway work are tighter than many types of private sector construction, and therefore it is more important to have flexibility in their application. In their view, this can be obtained only when claims are carried to the highest departmental authority or, preferably, to an arbiter outside the contracting agency (F. Burroughs, personal communication, 1981).

Exculpatory Clauses

Contractors who complain of claim-causing language in construction contracts frequently have criticized the so-called "exculpatory clauses." One of the most familiar instances of exculpatory language in highway contracts warns prospective bidders that statements in the bid documents relating to subsurface conditions on the work site are developed for the state's design and estimating purposes only, that they do not relieve bidders of the necessity of making an independent investigation of the site, and that when contractors submit a bid it is assumed that they have made such an investigation.

Contractors charge that this shifts to them the risks arising from reliance on incomplete or inaccurate information when, in fact, the contracting agency is in a better position than they are to minimize those risks (*14, 15*). Contracting agencies respond that this conclusion is unwarranted, and that courts have never permitted exculpatory clauses to shield agencies from liability for negligently issuing inaccurate information (K. Hoegstedt, personal communication, 1981; *16*). The rationale of highway contracting agencies for using these provisions has been explained as follows (*17*):

> Public agencies, in making subsurface investigations, do so for their own use in the design of the project, and not primarily for the use of bidders. By the same token, however, bidders are interested in the information thus obtained, even though such information was not developed primarily for their use. It makes sense, therefore, that information which the public agency has developed regarding its subsurface investigations should be made available to bidders. It is obvious, however, that information disclosed by the public agency as to its tests on samples taken

in its subsurface investigations can have as much effect in raising the cost of a project as in lowering it.

Under these circumstances the public agency has a legitimate reason for including in its contract the so-called Disclaimer of Warranty provisions when it discloses such information to bidders, and, also, for including in its contract provisions requiring the contractor to conduct his own investigations and to rely on his investigations and not on information supplied by the public agency.

No subsurface information, however completely or accurately made, can ever eliminate the risks inherent in excavation work. Actual conditions can only be disclosed by performing the work. Moreover, the ability of a contractor, for example, to produce road building materials from a borrow site will depend in large measure upon the skill, experience and personnel of the contractor, and his selection of the proper equipment to do the work, and as a bidder he must base his bid upon these factors. It is for this reason the contract provides that the bidder should make his own investigations and bid on the basis of those investigations.

In an effort to protect contractors from miscalculation and themselves from claims, contracting agencies sometimes have adopted practices at the opposite extremes of disclosure, on one hand, refusing to provide any information about worksite conditions, or, on the other, giving pre-bid briefings and tours of the site. A more common prevention measure, however, is to issue information only on request, and to require recipients to sign statements acknowledging the intended limitation and denying reliance on it in the preparation of bids.

With most transportation construction contracts, bids are based on the contracting agency's estimates of quantities that will be needed. The accuracy of these estimates is critical to the contractor's success in bidding realistically. Yet, frequently the agency's specifications warn that actual needs may vary. Some of the contractor's risk in these situations can be limited by so-called "Variation in Quantity" clauses that limit the amount of variation that will be allowed in the contract estimate before price adjustments will be made. For example, a San Francisco Bay Area Rapid Transit Authority project contract provided that where the estimated total price of a contract item amounts to more than 5 percent of the total contract price, the bid price will not be changed for variations in quantity up to 25 percent. If the variation is more than 25 percent over or under the estimate, a price adjustment will be made by change order (*3*).

Mandatory Advance Notice of Claims

Another regular feature of the standard specifications that has been singled out for criticism by contractors is the requirement that written notice of the intention to file a claim must be given before performing the work on which the claim is based. (*18*). This proviso states that failure to file such notice will be construed as a waiver of the claim. Claimants argue that strict application of this rule unfairly defeats on technical grounds some claims that otherwise are justified.

The persistence of this provision in standard specifications is based on the acknowledged need of the contracting agency to keep records of the actual cost of the work that is in dispute and of the circumstances under which the work is done. (*19*). The notice requirement offers another practical benefit by providing an opportunity for the contracting agency to resolve the problem before it worsens and becomes a claim. But the absence of adequate definitions of what constitutes notice has made enforcement of this feature controversial in some states.

Finality of Engineer's Decisions

The provision that establishes the contracting agency's authority for interpreting the contract and the acceptability of the contractor's performance has also been controversial. The AASHTO Guide Specifications' version of this provision, which is widely used in state standard specifications, is as follows (*7*, Sec. 105.01):

> The Engineer will decide all questions which may arise as to the quality and acceptability of materials furnished and work performed and as to the rate of progress of the work; all questions which may arise as to the interpretation of the plans and specifications; all questions as to the acceptable fulfillment of the contract on the part of the Contractor.

Contractors who are critical of this proviso charge that it denies their right to have a neutral party decide important questions and potential disputes, especially if the state's specifications also provide that the decision of the engineer is final (*15*).

In practice, unless there is proof of fraud or bad faith, or that the engineer exceeded the authority given, courts have tended to uphold engineers' decisions on technical matters and questions of fact (*6*). They have, however, reserved the right to review their determinations of liability under the contract, so that the contractual language of apparent finality of the engineer's judgment is a less formidable obstacle to the contractor than it has been made to appear. Basically, the purpose of this clause is to prevent the construction process from being halted over a disagreement regarding specifications.

Whether this practice has prejudiced contractors is not demonstrable by empirical proof, but it remains a controversial feature of the standard highway contract documents, and is regarded by contractors as a factor contributing to claim disputes.

"Changed Conditions" Clauses

The construction industry's recommendation on contract provisions that they perceive as shifting the risks of unforeseen costs to the contractor is to include a so-called "changed conditions" clause in all contracts. Such a provision generally is associated with federal construction contracts, but the AASHTO Guide Specifications include the version that follows (*7*, Sec. 104.02):

> Should the Contractor encounter or the Department discover during the progress of the work subsurface or latent physical conditions at the site differing materially from those indicated in this contract, or unknown physical conditions at the site of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the contract, the Engineer shall be promptly notified in writing of such conditions before they are disturbed. The Engineer will thereupon promptly investigate the conditions and if he finds they do so materially differ and cause an increase or decrease in the cost of, or the time required for performance of the contract, an equitable adjustment will be made and the contract modified in writing accordingly.

About half of the states include this or equivalent language in their highway construction contracts.

Contractors do not view this mechanism as inconsistent with a contract with fixed unit prices. Even without such a clause, claimants sometimes have recovered their added costs through litigation on grounds of innocent misrepresentation, practical impossibility of performance, or the particular definition of work that is used in the contract. They emphasize the advantage of the "changed conditions" clause in permitting the parties to settle a claim within the terms of the contract rather than treating it as a breach of the contract, and in enabling contractors to bid more realistically on the information that is available to them. They argue that this is in harmony with a growing body of law (especially regarding tunneling projects) holding that a contracting agency should be legally as well as morally responsible for the adequacy and accuracy of its engineering work, and for sharing the risks that must be expected in complex construction problems (*14*).

Not all contracting agencies agree that "changed conditions" clauses should be used to resolve issues arising after contract award. One commentary on these clauses attributes their origin to federal construction contract law of the mid-nineteenth century, which precluded settlement of claims involving breaches of contract or matters outside the scope of the contract (K. Hoegstedt, personal communication, 1981). Against this background the usefulness of the "changed conditions" clause in federal construction contracts is understandable, but generally no such necessity exists for the states under their own laws. Nor has it been a problem in federal law since 1978 (K. Hoegstedt, personal communication, 1981; *16*).

Presumably, "changed conditions" clauses benefit the contractor by reducing the risk of having to absorb the added costs of coping with unexpected conditions during construction (*14*). In theory, contracting agencies share in this reduction of risk by receiving lower bids from the contractors. But this has not been demonstrated in the limited studies that have been made. Nor has it been demonstrated that the presence of a "changed conditions" clause reduces the incidence of contract claims, for, unless all parties agree that a situation in question is a changed condition, the presence of the clause merely provides one more basis for disputes (*19*). The experience of Oregon, which at one time used "changed conditions" clauses and later discontinued the practice, seems to indicate that they affect neither claims nor bids (*5*).

Some states believe that the presence of a "changed conditions" clause in construction contracts helps ensure participation of federal-aid funds in payments made on contractor claims. Because FHWA regulations authorize participation only where claims arise under the contract, this clause provides a needed reference point in the contract.

Periodic Review of Contract Documents

A source of claims is likely to exist wherever contract specifications fail to reflect the current state-of-the-art technology and construction practice. Thus, use of new advanced testing methods may result in rejecting certain construction work that previously had been accepted under less rigorous but customary testing procedures. Or, newly developed synthetic materials may meet contract objectives at lower costs than the materials called for in the plans and specifications, but their substitution may not be approved by the field engineer. In both of these cases it is to be expected that claims would be filed to obtain reconsideration of the engineer's decisions.

The incidence of claims based on situations such as these can be reduced by periodic review of contract documents to ensure that they reflect technology, administrative procedures, and construction practices that are appropriate for the work and agreed to by the parties. Most state highway agencies have joint committees of agency and construction industry representatives who meet regularly to discuss matters of policy and practice in which there is mutual interest, including updating the agency's contract documents. Advance solicitation of views and suggestions from all parts of the agency and industry puts the members of these committees in a position to focus their joint effort on revisions of specifications when they are needed.

The success of these joint committees in maintaining the current effectiveness of the state highway agency's contract documents is evidenced by their widespread and continued use at both state and national levels (e.g., the joint cooperative committee between AASHTO, ARTBA, and AGC). Given the specialized character of highway construction and the specific procedural framework furnished by the federal-aid program, it seems prudent to encourage states to take responsibility for the modernization of their own contract documents as well as for the exploration of ways to improve contracting practices through model or uniform statutes, regulations, and procedures.

Causes Associated with the Award of Contracts

With rare exceptions, highway construction contracts are awarded to the lowest responsible bidder in general competition among all qualified contractors. The objective of this competitive bidding system is to provide opportunities for all qualified contractors to be informed fully and fairly of the requirements of a proposed construction project, and to submit their best competitive bids on such work so that the contracting agency has the benefit of the best work at the lowest price. As practiced at the present time, this system is prescribed by state legislation, and sometimes by constitutional provisions, relating to public contracts, and by federal as well as state law with respect to federal-aid highway projects. Neither the state highway agencies nor the construction industry propose abandoning this system.

Yet this system of awarding contracts has been criticized, at least by implication, as fostering conditions associated with high incidence of claims arising out of mistakes and miscalculations made during the bidding and award process. When critically reviewed, however, the basis for such criticism is weak.

Most of the contractor practices that are the direct causes of claims have been mentioned earlier (i.e., overoptimism in preparing bids, unbalanced bidding, bidding below costs, and failure to fully investigate the worksite before bidding) and appear to be individual practices initiated for what contractors perceive to be their own interests. Most of the practices of contracting agencies that were identified earlier as causes of claims (i.e., incomplete or inaccurate bidding information, allowance of inadequate time for bid preparation, plan and design changes during the bidding process) are deviations from the system rather than necessary results of it.

Diversity of State Contract Award Rules

Two aspects of the contract award procedures frequently receive attention as areas in which improvements are needed. One is the diversity of state laws and regulations on the details of advertising projects, receiving bids, and awarding contracts. It is argued that greater uniformity of these rules would reduce the risk of confusion in the bidding process and, with it, the likelihood of incidents associated with claims. Proof that greater uniformity of rules on bidding and contract award would reduce the incidence of claims is not directly demonstrable, but it seems certain that contractors engaged in multistate business or seeking to compete in states where they have little previous experience would benefit by such a trend.

Treatment of Bid Mistakes

A second aspect of the contract award process that may affect the incidence of claims involves the contracting agency's treatment of mistakes made in bidding. Contract law and state contracting regulations generally distinguish two categories of problems: *mistakes in calculation*, illustrated by inadvertently misplacing a decimal point in tabulating a unit price; and *mistakes of judgment*, illustrated by erroneously believing that excavation can be done for a certain price, when in fact it will cost substantially more because of soil conditions that were not fully considered before bidding.

When mistakes in calculation are detected before the contract award, the practice generally, by statute or common law, allows bidders to withdraw or correct such bids. It should be recognized, however, that it is possible that some "mistakes" may be deliberate. Mistakes in judgment are not so easily remedied, however, and may result in extended efforts to avoid their consequences through the claims process. In dealing with these problems, contracting agencies can reduce their potential for claims by developing clear law and policy on handling bid mistakes, and by effective monitoring of contracts for early detection of evidence that a bid mistake exists.

Causes Associated with Contract Administration

The objective of contract administration is to provide for inspection, liaison, and, when needed, technical guidance and support as called for in the contract documents, to ensure that there is satisfactory performance of the contract requirements. The goal of a good administrator is to make the construction process run smoothly and according to plan. When contract administration is poorly handled, it is to be expected that there will be a high incidence of claims.

Coordination

Effective and timely coordination is essential to successful contract administration, and numerous situations in the construction process are capable of generating claims if coordination breaks down. For example, an agency's failure to secure rights of entry to worksites or to schedule utility relocations, thus causing a delay in commencing work, will generally be strong grounds for the contractor to claim the additional expenses of equipment rental, overhead, and other attributable costs. Similarly, where several contractors must be engaged in work on the same site at the same time, or must be scheduled to perform consecutive phases of a project, the contracting agency's failure to coordinate these activities frequently is cited as a claim cause.

Interpretation of Policy and Practice

Interpretation of the contracting agency's rules and policies as they apply to construction situations is an important aspect of contract administration. When different districts of a state highway agency give different interpretations of the same specifications or policies, contractors understandably are encouraged to use the claim procedure to seek a favorable ruling on a matter of interest. The same can be said where a project is subjected to the issuance of numerous addenda, design modification, substitutions of materials or methods, change orders, and similar actions suggesting that the contracting agency's plans for the project are uncertain.

Inspection, testing, and analysis of the contractor's work are parts of the contract administration function that may be associated with claims. Failure to notify a contractor promptly of inspection or test results, particularly where the contractor's performance is not approved, may be construed as grounds to recover any added expenses of correcting the disapproved work.

Equally pertinent to the problem of promptly and clearly instructing contractors regarding the acceptability of work is the language used in test reports. When reports of laboratory tests of paving or other materials are forwarded to contractors, their significance should be made unmistakably clear. Louisiana has adopted the following language for its test reports to prevent misunderstanding (*20*):

> This is to advise that the cement samples submitted for preliminary testing, represented by the following lab numbers, have been satisfactory. Since this preliminary source testing is based only on certain critical properties, it shall remain the supplier's responsibility to assure conformance with all requirements at the point of delivery.

Attitude and Administrative Style

The attitude of a contract administrator may directly affect the incidence of claims from contractors. Personality clashes among parties who share responsibility for the work must be avoided, and it is recognized that every good construction engineer must match field engineers to their assignments with this personality factor in mind. It is just as important that field and area engineers approach claim situations in a frame of mind that favors prompt settlement and prevents escalation of claims. This is made easier when the contractor perceives the field engineer as being cooperative, reasonable, and as thoroughly committed to the successful completion of the work as is the contractor.

Documentation

Another key to successful contract administration and decisive settlement of claims is good documentation of the circum-

stances in which claims arise and the actions taken by the parties in dealing with those situations. Failure of a contracting agency to keep adequate records of its position, or other relevant matters, handicaps the agency in negotiations and invites the filing of claims on speculation that allegations that can be documented by the claimant cannot be refuted by the contracting agency. On the other hand, there is general agreement that good documentation by the contracting agency of activity at a worksite, and of other circumstances bearing on the contract performance, serves as a deterrent to speculative claims.

Program Factors

Most facets of contract administration that have been noted as affecting the incidence of claims are within the power of the contracting agency to control. However, some factors that adversely affect administrators by creating unstable conditions and contributing to an atmosphere of increased risk for the contractor cannot be controlled. Among these are the occurrence of erratic funding schedules or political considerations that may require compressing the time available for calculating, drafting, and checking contract plans and specifications, or for inspecting and testing work in progress.

Causes Associated with Claim Settlement Procedures and Practices

The objective of settlement procedures is to provide forums and rules for contractors to present claims, offer supporting evidence, receive a full and fair determination of their claims without unreasonable delay or expense, and provide the necessary authority to make such determinations. Disposition of claims by negotiation, arbitration, and litigation are included as types of claim settlement procedures.

Settlement Strategy

There is general agreement among contractors and contracting agencies that when claims arise it is best for all concerned to have them settled through negotiation at the project level as soon as possible. A number of practical reasons favor this strategy.

1. Time is saved (particularly the time of top management personnel of the contractor's organization and the contracting agency who otherwise would be involved in the adjudication and appeal proceedings).
2. The amount of the claim is likely to be less when settled promptly at the project level than if taken to a higher level and deliberated over a longer period of time. During this time other aspects of the construction project can become affected.
3. At the project level the parties are closest to the facts, both physically and in time; thus the most complete description of the circumstances surrounding the claim can be obtained. At the project level the parties negotiating the claim usually have firsthand knowledge of what happened.
4. Negotiated settlements at the project level dispose of claims by the mechanism of the contract itself, so that no question of breach arises to complicate final acceptance and payment of the contract.

Factors Limiting the Effectiveness of the Settlement Strategy

Despite these considerations, the strategy of settling claims by negotiation at the project level sometimes is not adopted, and proceedings at the project level either are bypassed or else treated merely as rehearsals for more serious adjudication at higher levels. A variety of factors are cited as responsible for this behavior, and include the following:

- In some instances the contractor or the contracting agency, or both, are not represented at the project level by persons who can act authoritatively for them on the subject of the claim in question.
- Even where the parties at the project level are authorized to make a final settlement, the field engineer's determination is not accepted because the claimant believes that it is biased against the claim and a fully objective determination cannot be obtained except from the highest departmental authority, or adjudication outside the agency. Sometimes this bias is perceived as a tendency of field and area engineers to believe that their approval of a claim is an admission against their interest, with the result that claims are regularly denied with an expectation that a sufficiently interested claimant will appeal the claim to a higher level where it can be authoritatively determined.
- Other forums for adjudication of claims often are made to seem more attractive. Arbitration has a reputation among some state highway agency personnel for encouraging claims because they believe that arbitration panels tend to view the equitable resolution of a claim as requiring that each side come away with something that reflects its fair share of the disputed amount. Accordingly, claimants can be sure of almost always obtaining some degree of recovery.
- At times, litigation may also appear attractive. Announcement of a court decision making a major award in favor of a contractor usually will be followed by an increase in claims of that same type. One well-documented demonstration of this occurred in a California case where extra compensation was claimed because of unanticipated subsurface conditions. The trial court's award of $900,000 to the contractor was followed by a flood of claims alleging similar factual bases. However, these claims were promptly dropped when, on appeal, the trial court's award was reversed (K. Hoegstedt, personal communication, 1981).
- Finally, the very fact that the law governing a state's settlement process provides opportunities to appeal those determinations made at the project level sometimes is regarded as an invitation to seek more favorable determinations.

Claim Prevention Measures

Some of the foregoing conditions can be found in all states and their contributions to the claims problem are generally recognized, even though they cannot be measured empirically. Much of their adverse effect, however, can be eliminated by

voluntary action of the parties to a contract. Delegation of authority to field staffs is a relatively easy matter and it puts the parties in a position to dispose of many minor claims at the project level.

Delays in obtaining reviews, opinions, and approvals of claims can be reduced by improving the channels of communication between the contracting agency's headquarters and field offices. "Hotlines" to special staffs who are able to give authoritative responses to technical and policy questions have facilitated project-level settlements in some states.

Although contractors commend these steps to improve the attractiveness and effectiveness of contracting agencies' administrative procedure for claim settlement, they remain suspicious that a subtle bias in favor of its own staff's views can never be entirely eliminated. Accordingly, contractors' organizations have called for more use of forums outside of the contracting agency where, they believe, independent and impartial consideration will be given to claims. Customarily such outside bodies have been in the form of boards, commissions, and courts of special jurisdiction in contract claims, and have entertained appeals from decisions of the contracting agency's highest administrative authority.

CHAPTER THREE

THE CLAIM SETTLEMENT PROCESS

THE NECESSITY FOR PROVIDING FOR CONTRACT CHANGES

Rarely is a construction contract performed exactly as it is visualized in the preconstruction planning or the contractor's bid. Accordingly, standardized contract documents provide for extensions of performance time, interpretation and correction of plans and specifications, and alteration of the plans or character of the work within the general scope of the contract. In addition, they provide authority and procedures for adjusting the contractor's compensation for work or materials not clearly covered by the contract or ordered by the field engineer as extra work. These provisions enable the parties to adjust the compensation or other aspects of the performance of the contract as needed when unanticipated situations are encountered or because of differences in the interpretation of the contract's terms.

The AASHTO Guide Specifications (7, Sec. 105.17) provide a procedure for the settlement of claims by the contracting agency's chief engineer. Claims must be submitted in writing to the field engineer, and, if found to be justified, they are paid for as extra work under a force account. In practice, however, claims are not always settled agreeably at the project level. In any matter of consequence the contractor is likely to carry a claim as high in the contracting agency's administrative hierarchy as time and money will allow in order to obtain a favorable decision. Therefore, all states provide contractors an opportunity to have their claims considered in a separate forum, or at least by an officer in the contracting agency who has not previously been involved in managing or overseeing the work in question. Sometimes these procedures are informal; sometimes they are highly structured. Some states keep the process entirely within the contracting agency; others authorize, or may require, the use of separate tribunals that act as arbitrators between the claimant and the contracting agency. Most states give the claimant the opportunity to obtain some type of judicial review of decisions by the contracting agency or arbitrator.

A state-by-state review of these procedures leaves an impression of numerous differences in details. When the basic types of settlement processes are compared, however, patterns of practice can be identified and four types of settlement processes may be described:

1. Procedures provided in the standard contract documents for adjustment or settlement of claims at the project level,
2. Procedures for departmental administrative determination of claims and resolution of claim disputes by the contracting agency,
3. Procedures for determination of the contracting agency's liability for a claim by a special tribunal or administrative body, and
4. Procedures for determination of the contracting agency's liability for a claim through litigation in a judicial tribunal.

Several features of this system have parallels in private sector practice. In private construction, contractor claims are dealt with initially by the architect/engineer as provided in the terms of the standard construction contract forms. If the architect/engineer's decision is disputed by the contractor, the matter can be submitted to the owner. This is not so much an appeal as it is an enlargement of the negotiation process, and if the matter cannot be settled agreeably between the parties, all have ready access to the courts if they believe the issue is worth the cost and effort of litigation. Or, if the contract provides specifically for it, the parties may submit their dispute to arbitration.

FACTORS SHAPING PUBLIC CONTRACT CLAIMS PROCEDURE

Two basic differences between public works construction projects and private sector construction, however, make their respective claim settlement practices differ. One is a perceived general limitation on the ability of public contracting agencies

to increase the compensation of a contractor who has been awarded a construction contract through competitive bidding.

The language of this limitation may be unequivocal, as in Arizona where the state constitution provides that:

> The legislature shall never grant any extra compensation to any officer, agent, servant or contractor, after the services shall have been rendered or the contract entered into . . . (Arizona Constitution, Art. 4, Pt. 2, Sec. 17).

Or it may be conditional, as in Iowa:

> No extra compensation shall be made to any . . . contractor, after the services shall have been rendered, or the contract entered into; nor shall any money be paid on any claim, the subject matter of which shall not have been provided for by pre-existing law, . . . unless such claims be allowed by two-thirds vote of the legislature. (Iowa, Constitution, Art. 3, Sec. 331).

The original purpose of these restrictions was to protect the public purse from being used to fatten a contract that had been awarded to the low bidder in a competitive process, and to give stability to the prices provided for in those contracts.

In practice, these legal restrictions on the power of the parties to increase the compensation that is fixed in the contract have not been a major deterrent to claims. Contract provisions for equitable adjustment of compensation for changed conditions, and submission of compensation claims to the contracting agency for determination, have been construed as being compatible with legal prohibitions against increasing the contract price. Yet the presence of these restrictions regarding public contracts has contributed to a belief that claims are not normal in construction contracts, and that, if approved, they may have the effect of circumventing the contracting agency's award unless they are strictly limited.

The second factor that has shaped the claim settlement process in public contracts is the legal doctrine of sovereign immunity. Applied to construction contracts, this has meant that the ultimate recourse to litigation, which is so readily available to contractors in the private sector, is not available for the settlement of public contract claim disputes except insofar as the state gives its consent to be sued on such matters.

The doctrine of sovereign immunity provides that a sovereign—in this case a state or any of its agencies—cannot be sued in its own courts for any of its own actions unless it consents to such suit, and a judgment rendered against the sovereign in favor of one of its citizens cannot be enforced without its consent. The doctrine of sovereign immunity is part of basic United States law, and exists in each state unless it is abrogated or modified by the courts or legislature. Where the doctrine is not abrogated or modified, and is applied broadly, contractors who deal with governmental agencies must rely on the fairness and integrity of those agencies to ensure that disputed claims are settled equitably and agreeably.

Although formal and explicit abrogation of the doctrine of sovereign immunity has occurred only in relatively few states, some others may be said to have implicitly abrogated it by constitutional directives that the state legislature shall prescribe forums and procedures for suits against the state. A summary of the provisions of the state constitutions on this subject is shown in Appendix A.

The result of such directives is a varying pattern of procedures that reflect differences in the states' policies, practices, and governmental organization. In Alaska, for example, claimants must exhaust all administrative remedies before suit can be filed in court; in Wisconsin, claimants may sue in court only after their claim has been denied by the State Claims Board; in Michigan, suit may be brought only in a Court of Claims established for that purpose. Where the state constitution is silent on the subject of sovereign immunity, some legislatures have acted on their own initiative to prescribe limited waivers of sovereign immunity to allow suits to be brought in the regular courts under the state's general rules of civil procedure (e.g., Hawaii, Kansas, New Hampshire) or in special administrative proceedings (e.g., Maryland's Board of Contract Appeals).

In a few instances (Colorado, Delaware, Idaho, Kansas, Mississippi, Missouri, Oklahoma, and South Carolina), where both the state constitution and legislature have been silent on the subject of sovereign immunity, courts have taken the initiative in denying the availability of this defense to the state in certain contract claim situations. In such cases the courts' action frequently has been based on finding that there is an "implied waiver" of immunity in the legislature's act of authorizing state agencies to enter into contracts with private parties, the terms of which establish mutual rights and duties for the settlement of disputed interpretations or performances. The Supreme Court of South Carolina used this rationale in explaining that state's law as follows:

> With respect to the question of sovereign immunity this Court has often held that the State cannot be sued without its consent. . . . However, while we concur in the. . .assertion that absent a waiver of immunity an individual cannot maintain an action against the State; we do not agree that a waiver of sovereign immunity can only be obtained from a self-executing provision of the Constitution or by express statutory enactment. . . . Thus, when a State secures to itself the benefits of a contract, it implicitly assumes the corresponding liabilities. . . . Wherever the State of South Carolina, pursuant to statutory authority enters into a valid contract, the State impliedly consents to be sued and waives its sovereign immunity to the extent of its contractual obligations. To hold otherwise would be to endorse an obvious contradiction, for it cannot be true that the State is empowered to contract with individuals and yet retains the power to avoid its obligations. Neither the State nor its citizens can be bound, yet not be bound, by a single contract. [Kinsey Construction Company v South Carolina Department of Mental Health, 249 S.E. 2d 900 (1978)].

In other instances, courts have cited statutes establishing state highway agencies and enumerating the agency's powers. Where an agency is authorized to act as a governmental entity to make contracts and to sue and be sued in that corporate capacity, it has been held that the action of the legislature amounts to a waiver of sovereign immunity to suits on claims arising from such contracts [see, for example, State v Dabson, 217 A.2d 497 (Del., 1966); Grant Construction Co. v Burns, 443 P.2d 1005 (Ida., 1968); Barker v Hufty Rock Asphalt Co. 18 P.2d 568 (Kan., 1933); Wunderlich v State Highway Commission, 184 So. 456 (Miss., 1938); State ex rel State Highway Commission v Bates, 296 S.W. 418 (Mo., 1927); Coffey v McMullan, 570 P.2d 1152 (Okla., 1977)].

For the purpose of this study, the states that retain the doctrine of sovereign immunity in their law fall into two groups. One group (Alabama, Arkansas, and West Virginia) declares that the doctrine bars suits against the state in its regular courts and directs that in the absence of that remedy claimants may request recovery in a special tribunal—Alabama's Board of Adjustment, Arkansas' State Claims Commission, and West

Virginia's Court of Claims. The second group (Maine and Texas) denies claimants access to the courts and refers them to procedures established as part of the legislative process. These procedures generally involve screening by a review committee, followed by the appropriation of funds for payment of the awards, recommended by the committee.

CLAIM SETTLEMENT UNDER STANDARD CONSTRUCTION CONTRACT PROCEDURES

The procedures provided in standard highway construction contracts for settling or preventing claims are set forth in the state highway agency's standard specifications. Although actually a separate document, these specifications are considered part of the contract in the same way that private construction contracts treat the general conditions as an integral part of the agreement between owner and contractor.

To promote uniformity among the states in contract administration, the American Association of State Highway and Transportation Officials (AASHTO) in 1962 developed Guide Specifications for Highway Construction (*7*). Recognizing that details sometimes must be varied to accommodate local laws, policies, materials, and conditions, these specifications provide a basis for similar general practice by all state highway agencies (see Appendix B).

In the current edition of the AASHTO Guide Specifications the procedure for handling changes in the contractor's rights and duties after performance has commenced is based on four sections of the document. They are:

- Section 104.01, stating that the intent of the contract is to provide for the construction and completion in every detail of the work described.
- Section 104.02, reserving to the contracting agency the right to make, at any time during the progress of the work, such increases or decreases in quantities of materials or alterations in the work as may be found to be necessary or desirable, provided always that these changes are within the general scope of the contract.
- Section 105.17, prescribing the requirements for notice and for the filing and settlement of claims for added compensation because of work done in response to directions or unanticipated conditions at the work site. This is the so-called "changed conditions" clause.
- Section 105.01, declaring that the engineer in charge of a construction project is to be the final judge of all questions as to the quality or acceptability of the materials and work provided by the contractor, and all questions relating to the interpretation of plans and specifications or acceptable fulfillment of the contract's terms.

By including these provisions in their standard specifications and making them part of the contract documents, state highway agencies and contractors have a mechanism for altering the performance requirements within the general scope of the contract, and adjusting time and compensation for performance after the contract has been executed. This system functions entirely within the framework of the contract, depending on the parties' consent and agreement for its authority rather than on formal rules imposed on the parties by law.

Contract Formalities for Notice and Settlement

Typically, proceedings to settle claims through the provisions of standard construction contracts are commenced by the contractors notifying the field engineer in writing of their intention to file a claim. This notice serves two purposes. It advises the field engineer of a situation that, unless promptly settled, will result in a formal claim by the contractor. It also allows the engineer an opportunity to investigate the circumstances and set up a system for obtaining information about the costs incurred for the disputed work or materials so that, subsequently, the amount claimed by the contractor can be verified.

Consideration of claims at the project level generally is informal, and concentrates on establishing the facts. In many instances, once the factual situation producing a claim is clarified, the parties can agree on the technical measures that solve the problem, and on an appropriate change order, including additional compensation, when warranted. In such cases, the result is likely to be a negotiated settlement, implemented voluntarily by the field engineer's action under the authority to order changes within the scope of the contract. The field engineers' position in these situations has been compared to that of a tightrope walker; they must exercise extreme care to avoid, on one hand, being overly generous with the claimant, and, on the other, denying a claim that is justified.

Delegation of Authority

Although it generally is not stated in the standard specifications, one important feature of the process for settling claims at the project level is the authority of the field engineer to promptly order changes in the work or materials and in the contractor's compensation. The practical need for this is obvious since physical conditions on the work site may require that remedial measures or other actions be taken without delay. Both the contractor and the contracting agency have financial stakes in maintaining work and delivery schedules.

Most state highway agencies recognize in principle the necessity of delegating to the field engineer the authority to make enforceable commitments for changes and additional compensation for extra work. Among the states, however, the practice of delegation varies. Some state legislators and administrators prefer to limit the settlement authority of field or area engineers, but experience indicates that skillful use of claim settlement authority at the project level, especially for relatively small claims, can result in major savings of project costs.

Engineers in field offices sometimes have been criticized for failing to use their existing authority and engineering judgment to resolve claims at the project level. This criticism charges that deliberate referral to the contracting agency's headquarters for decisions, or preemptory denial of claims so that claimants are forced to appeal, encourages the volume of claims. When these tendencies are apparent, contractors are quick to treat decisions at the project level and intermediate headquarters level merely as rehearsals for pursuing their claim to the highest echelon of the contracting agency for an authoritative decision.

Delegation of authority concerns both the contracting agency and the contractor. Use of contract procedures to avoid or settle claims at the project level requires that both parties be represented by agents authorized to negotiate and sign change orders

on their behalf. Where this delegation of authority to commit the contractor is lacking, the field engineer may have the unwelcome choice of either stopping work until the contractor can provide an authorized agent, or of allowing a construction problem to worsen through neglect until the contractor can act.

Documentation of Claim Situations

One key to successful resolution of claims at project levels is adequate documentation of the circumstances on which the claim is based. Failure of field engineers to have records covering the critical elements of a claim puts them at a disadvantage in determining the claim's validity, and almost guarantees that denial of the claim at the project level will be followed by an appeal. On the other hand, it is generally believed that when it is known that field engineers have good documentation of activity at the work site and other aspects of the performance, that fact serves as a deterrent to speculative claims and facilitates achievement of agreeable settlements at the project level.

Effectiveness of Contract Claim Settlement Procedures

How effective the system of handling claims through the procedure prescribed in the contract documents is perceived to be may depend on whether one stands in the position of the contractor or the contracting agency. Comprehensive records of states' experience are lacking, but it is generally accepted that at least 80 percent of the claims brought by contractors are settled agreeably by the determinations of field or area engineers. This rate of successful resolution increases to 90 percent if determinations made by the construction engineer at the contracting agency's headquarters are added.

From the contracting agency's viewpoint this is a good record that can be translated into savings of the time and costs of going outside the contract to settle a dispute. It would seem to verify the effectiveness of the contract documents currently being used. Highway agencies also generally attribute successful claim adjustment to a mutual respect that contractors and the state's personnel have for each other's professionalism and a mutual trust each has in the fairness of the other.

Contractors are likely to be more impressed with the 10 to 20 percent of their claims that are not agreeably settled at the project level, and cite the fact that the claims that are disputed and frequently have to be carried to the highest level of appeal are the ones in which the largest sums of money are at stake. This burden could be minimized, contractors say, if the contract's claim settlement procedure eliminated its built-in bias in favor of the contracting agency. Their criticism is focused on the widely adopted language of the AASHTO Guide Specifications (*7*, Sec. 105.01) that states:

> The Engineer will decide all questions which may arise as to the quality and acceptability of materials furnished and work performed and as to the rate of progress of the work; all questions which may arise as to the interpretation of the plans and specifications; all questions as to the acceptable fulfillment of the contract on the part of the Contractor.

In their view, this language puts contractors in the position of giving away the right to have a neutral party decide matters that directly affect their performance and compensation. If enforced strictly and literally, these provisions would leave most contractors with little negotiating leverage in their dealings with field engineers. They regard these agreements as "adhesion" contracts in which there is a significant disparity of bargaining power between the contractor and the contracting agency. In the absence of proof that the engineer is guilty of fraud, bad faith, or lack of authority, courts regularly have upheld engineers' determinations of technical questions, noting that these contracts are voluntarily undertaken by the parties. To this rationale contractors reply that their alternative of not bidding on jobs where such specifications are imposed is not a realistic option.

Contracting agencies deny this characterization, pointing out that the contractor sets the price to be paid in the bid. They also deny the finality of all the field engineer's determinations, since courts traditionally have reserved for themselves the role as the final authority for interpreting the legal significance of the contract documents' language.

Claim Prevention

Claim prevention programs generally concentrate on eliminating problem causes while they are at the project level. At that level, the parties enjoy the advantages of (a) having direct knowledge of or information about the situation being investigated, and (b) negotiating when their attitudes are most conciliatory and committed to successful completion of the work. These advantages may be lost, however, unless the contracting agency and the contractor maintain an atmosphere that facilitates project-level settlement of claims.

The experience of state highway agencies suggests that project-level claim prevention can be facilitated by emphasizing the following attitudes:

- *Consciousness of claim potential.* Day-to-day occurrences in the construction process should be monitored and evaluated for their potential to become the bases of claims. Every member of the contracting agency's field staff at the project level should accept responsibility for developing this form of "claims consciousness."
- *Recognition of the consequences of field actions.* Closely related to the recognition of claim-producing construction situations is recognition of the consequences of actions in the field in response to these situations. This applies particularly to informal statements and actions or omissions of the contracting agency's staff.

These two factors are illustrated by a recent highway project in which an excavation subcontractor unexpectedly encountered part of a timber bulkhead for an old bridge buried in a railroad embankment through which a drainage pipe had to be passed. When the field engineer was told of this obstacle by the subcontractor, he took no special notice of it and allowed the subcontractor to struggle with it until substantial additional cost had been incurred for that part of the work. Subsequently, a claim for this added cost was made and denied by the field engineer because of failure to give formal written advance notice of the claim.

When this denial was reviewed, the state construction engineer reversed the field engineer's action. To the construction engineer,

it was clear that the field engineer, the contractor, and the excavation subcontractor all had failed to recognize the buried timbers as the basis of a potential claim and to adjust work plans and compensation. There also was a failure to recognize that allowing the work to continue under those circumstances would add costs for which the contractor had not planned, and that the necessary result of denying a claim for these costs would be an appeal to the highway agency headquarters, with added expense for all parties.

Claims that arise from or are aggravated by the failure of project-level supervisors to take timely preventive action may be minimized by systematic efforts to improve claims consciousness in the contracting agency. Some specific suggested measures for this purpose are as follows:

- Better guidelines from the highway agency headquarters to its field offices regarding the handling of potential claim situations, with emphasis on early recognition of claim potentials.
- Better procedures for consultation between highway agency headquarters and field or area engineers so that field offices can obtain prompt, specific, and direct responses to questions on technical, policy, and administrative matters as applied to situations in the field.
- Better communication between the parties at the project work site. The example above shows how important it is to include subcontractors as well as contractors and contracting agency staff in this communication.
- More conciliatory and cooperative attitudes by all parties involved in the project. This factor is especially applicable to the example above because the subcontractor was engaged only in a small part of the whole project and might easily have been left to seek a remedy from the prime contractor.
- Fairness in the handling of situations with claim potentials. All aspects of the question of liability should be investigated, and findings should be made in determining the claim. In the example above, the buried timbers probably could not have been anticipated from any information available to the parties. Yet the questions of whether the claimant should have discovered this features by independent investigation before bidding and whether the contracting agency withheld any pertinent information that it should have shared with the contractor always must be addressed. The determination by the field or area engineer must not only be fair, it must be perceived as fair by all the parties concerned.

CLAIM SETTLEMENT THROUGH DEPARTMENTAL ADMINISTRATIVE REVIEW PROCEDURES

A contractor whose request for additional time or compensation is denied at the project level has an opportunity in every state to seek a more favorable determination at higher levels of the contracting agency. The authority for such review and reconsideration rarely is spelled out in any of the contract documents, but is implied in the organization of the contracting agency. Just as in private sector construction the owner is the ultimate authority for deciding what position will be taken regarding a contractor's claim, so the ultimate authority for deciding what position a state highway agency will take regarding a claim is the agency's chief administrative officer or its highway commission.

Intermediate Level Reviews

The methods of bringing claims before a contracting agency's chief administrative officer for determination vary, but in most states they involve intermediate reviews by the agency's construction division (e.g., construction engineer), and sometimes by a deputy director of the department or a standing committee established for claims review. In a few instances (e.g., North Carolina, South Dakota), claims that are not settled at the project level may be referred directly to the state highway agency's chief administrative officer; but in such cases the final determination invariably is made with advice from the agency's construction staff.

Reviews by intermediate level officers or claims committees serve two important functions. First, they investigate the facts alleged in the claim, verify the technical decisions made by the parties at the work site, advise on the merits of the claim, and recommend a disposition. This permits the reviewing officer or body to draw on the full range of professional expertise in the contracting agency's staff to resolve technical questions involved in the claim, and, where a committee is used, it provides the benefit of collective judgment rather than an individual, personal decision.

Second, each level of intermediate review presents an opportunity for a permanent settlement of the claim based on the reviewing officer's recommendation. Settlement at any time in this review process works to the advantage of both the claimant and contracting agency because it removes the need for further expense or demands on the time of both parties' top management.

The advisory character of the contracting agencies' intermediate level reviews is reflected in their preference for using informal procedures that resemble extensions of the negotiation process rather than appeals of official rulings of administrative officials. Where departmental reviews are formalized, it generally is because some state legislatures and courts have extended the constitutional safeguards on administrative fairness to include these proceedings (e.g., Idaho, New Jersey). Accordingly, where departmental review is formalized, the results are subject to rules for conducting hearings, giving notice and opportunity to present evidence, and requiring written findings and decisions in a timely manner.

In most cases, departmental claims committees are composed of the heads or deputies of the offices directly concerned with construction, maintenance, or administration, and are appointed by the chief administrative officer. Occasionally departmental attorneys or an assistant attorney general serve as members or advisors. Because one purpose of intermediate reviews is to minimize the volume of claims that must be referred to the chief administrative officer, their emphasis is on achievement of a negotiated settlement without further appeal where that is possible. It is also their purpose to develop a full and accurate record of the claim for the benefit of the officer who must make the contracting agency's final administrative determination, and for legal counsel who must defend it if it is challenged in court. Most claims committees try to accomplish these objectives by proceeding informally, avoiding the necessity (actual or perceived) for claimants to be represented by legal counsel, encouraging presentation and consideration of new documentation or evidence that may not have been available when the claim was handled at the project level, and generally giving full op-

portunity to all parties to explain as fully as possible how and why actions were taken at the job site.

Reviews by claims committees and intermediate level officials are, with rare exceptions, inventions of the contracting agencies, intended to assist the agencies' chief administrative officers in making final determinations of claims. Review procedures are prescribed by the contracting agencies, and claimants have little that they can regard as legally protected rights in these proceedings. Where a final determination is challenged, therefore, the appeal is more likely to involve a consideration of all of the evidence over again rather than merely reviewing alleged errors in the procedure by which the department's administrative determination was reached.

Final Determinations in Administrative Reviews

The customary practice of state highway agencies is to have final determinations of claims made by the agency's chief administrative officer, reserving consideration by the state highway commission or secretary of transportation for only those occasional claims that involve unusual policy questions or other special issues that necessitate action by them. This practice is based on practical considerations since only those states with very low volumes of claims can afford to mobilize the top policy-making body of their highway agency to perform this function in addition to its other responsibilities.

Because contracting agencies' top administrative officers rarely have direct knowledge of claim producing situations, their proceedings for final determination of claims almost always involve a hearing. Such hearings seldom produce any entirely new evidence, but they provide opportunities for claimants to explain their version of the causal events and resulting damages, and give their interpretation of the contract's provisions governing liability. This opportunity provides a chance to present an overall summary of the claim and its documentation, and, in some states, satisfies the requirements of procedural fairness that are called for by the states's Administrative Procedure Act or its court decisions.

Departmental Administrative Review Experience

It is generally estimated that 80 to 90 percent of all highway construction contract claims are successfully settled through the contracting agency's administrative review process (F. Burroughs, personal communication, 1981). As state highway agencies view their departmental review systems, the strong points of these procedures appear to be their informality, their flexibility in obtaining information on the issues, and their capacity for relatively prompt action. They also emphasize that claims receive the attention of professionals who understand both the technical and practical problems of highway construction better than would any outside arbiter. Highway agencies believe that their record of successful settlement is due in some degree to a mutual respect between their administrative and engineering officers who work on construction contract claims and the contracting industry. This mutual trust that each will deal fairly with claim situations is a safeguard against unnecessary or unwarranted claims.

Earning and keeping this respect through departmental procedures sometimes involves substantial expense, the bulk of which must be paid by the contracting agency. These expenses include the cost of investigating the claimant's allegations and verifying damages, holding hearings, and preparing findings and recommendations. Although contractors sometimes go to substantial effort and expense to prepare and present their claims, these costs are relatively small compared to those borne by the contracting agency (K. Hoegstedt, personal communication, 1981).

Contractors who are long established in their business recognize the advantages of using departmental reviews to negotiate with agency officials whose views and methods they know. Small or new contractors may not feel they share these advantages. They are more likely to feel that agency procedures are too lengthy, and that the agency may treat their claim as a routine matter (which it may very well be to the agency) instead of a matter that may seriously damage the contractor's financial position if it is not paid promptly (which also may be true) (*10*). In addition, there is a widespread perception among contractors that contracting agency staffs regard all construction contract claims with a certain amount of skepticism, based on having experienced some in which both the claim and its urgency were overstated.

Some contractors and contracting agencies have been critical of certain features of the departmental administrative review system. One of these features is flexibility, which relieves the claimant from having to comply with the strict judicial rules of evidence. From the contractor's viewpoint, however, these same loose standards also permit the decision-making officer to hear allegations and information about the previous mistakes and failures of the contractor in other unrelated jobs, with the result that the atmosphere of the hearing may be prejudiced by this extraneous factor. To contractors who have a large or complicated claim, this situation presents a dilemma, for they cannot answer the extraneous charges without neglecting the presentation of their main claim (*10*).

Contracting agencies complain about the ease with which current practice permits contractors to file claims without sufficient supporting information to indicate clearly their basis and amount. Where this occurs the contracting agency must choose between two unpleasant alternatives: one is to spend the time and effort needed to work with the contractor to develop the needed supporting information; the other is to invoke a regulation (which is part of the standard specifications in some states) that authorizes rejection of any claim that is not submitted in sufficient detail to be determinable.

Another feature of the departmental administrative reviews that has been the subject of criticism is the lack of standards for decision making. Contractors contend that despite extensive staff work before final determinations, the contracting agencies' decision makers often fail to review claims before holding final hearings and, therefore, have to gain their impressions by listening to oral testimony and arguments. Ultimately, therefore, they may decide the claim in question on the basis of such factors as the claimants' performance record with the agency or their previous success in claim negotiations.

On the positive side, these same critics emphasize to contractors the necessity of documenting and presenting their claims well if they hope to be successful in departmental review proceedings. The stronger that a claim appears to the officer hearing

the matter, the easier it is for him or her to admit the agency's liability for it.

The same point is made when state officials assess the results of their review procedures. Some acknowledge that contractors often seem better prepared to document the bases and costs involved in their claims than the state's engineering and administrative staffs are to verify or refute them. Various reasons are cited for this difference (P. Milano, personal communication, 1981), including:

- Notwithstanding notice requirements and continuing inspection activity, contractors often anticipate potential claim situations before highway agency personnel do, and begin compiling evidence to support the claim.
- When contractors prepare to file a claim, they often are able to assign professional and technical personnel to document it, while highway agency field staffs lack sufficient personnel to give similar attention to documentation of their position at that time.
- Where large claims are involved, contractors may arrange for close coordination between their claims analysts, field supervisors, and home office administrative officers, while highway agency field and headquarters staffs must conduct their claim investigation and negotiations through departmental channels, often with a resulting loss of time and urgency in the coordination of the agency's efforts.
- Contractors may treat a large claim as an important aspect of the construction project, and throughout the contract period spend money to develop supporting evidence, while highway agencies seldom choose to match such efforts until and unless the claim becomes the subject of litigation.

Accordingly, when contracting agencies seek ways to improve the effectiveness of their departmental review procedures, some feel that priority should be given to measures that increase the advance notice of intended claims and improve the coverage and accuracy of their field staff's documentation of the facts regarding a claim. State highway personnel believe that their departmental reviews can and do make a full and fair determination of liability for a claim within reasonable limits of time and expense for the contractor once the claim and its surrounding circumstances are understood.

Although many contractors willingly submit their claims to departmental reviews and accept the results, some believe that fundamental changes are needed to eliminate what they view as unnecessary adherence to rigid rules of contract administration and bias in the interpretation of contract documents. Arguing that these factors have serious consequences in the 10 to 20 percent of claims that are not agreeably settled through departmental review, and that these claims tend to be the ones involving the largest amounts of money, the American Road and Transportation Builders Association (ARTBA) in 1980 proposed:

> that the FHWA recommend to all States that such States establish at once a body of not more than three (3) persons to receive the attempt to negotiate in good faith a settlement of contractor claims before any such claims shall go to a claims board or court for adjudication (L.P. Lamm, unpublished data, 1980).

The response of FHWA to this proposal was that

> it has no objection to a State making use of outside bodies to help settle its contractor claims, but we are not certain that such bodies would produce any better or more rapid decisions than a State could make using its own personnel and internal procedures (L.P. Lamm, unpublished data, 1980).

To date this proposal has not been tested by experience in any state, and any evaluation must rest largely on inference. One factor that is pertinent to such an evaluation is that the outside body must receive enough information about the claim producing circumstances to permit it to function effectively. Indeed, if, as envisioned, this panel is to identify new bases for possible mediation that previously were overlooked, this phase of its work is essential.

Provision for this additional fact-finding phase inevitably increases the expense of the settlement process. Comparisons between use of arbitration for claim settlements in California and the proposed ARTBA mediation panels suggests that the added cost of these remedies is substantial. Because the efforts of mediation panels are advisory only, state highway personnel may understandably believe that final determination of claims can be obtained with less delay and expense by submitting disputes to a court or other adjudicative body directly after a final administrative determination is rejected by a claimant.

CLAIM SETTLEMENT BY SPECIAL REVIEW BODIES

In thirteen states and the District of Columbia, claims that are not settled by the contracting agency's administrative determination may be considered by special review bodies. The function and jurisdiction of these bodies vary from limited fact-finding roles utilized in legislative or executive proceedings to full quasi-judicial determinations of all issues on their merits. Summary descriptions of the composition and jurisdiction of these bodies and the enforceability of their awards are shown in Table 2.

The reasons for establishing special forums and rules for public construction contract claims are in large part peculiar to individual state law and governmental organization, but the following groupings can be suggested:

- Where a state's sovereign immunity is strictly maintained (Alabama and Arkansas), special adjudicative boards or commissions serve as the exclusive forums for further consideration of claims not settled by administrative determination. These proceedings serve in lieu of either legislative relief or litigation. However, in Alabama the proceedings apply to agencies other than the highway department; claims on contracts awarded by the Alabama Highway Department are determined by departmental administrative procedures in which the highway director is the final authority.
- In three states (Alaska, Maryland, and Pennsylvania) and the District of Columbia, claims not settled by departmental administrative review are directed to special boards of contract appeals that determine those claims under formal rules for notice, hearing, evidence, and written reports with documented findings supported by substantial evidence.
- In the remaining eight states (Connecticut, Idaho, Rhode Island, South Carolina, South Dakota, Tennessee, Vermont, and

TABLE 2

SPECIAL ADJUDICATIVE BODIES FOR SETTLEMENT OF CONSTRUCTION CONTRACT CLAIMS

STATE	NAME OF AGENCY	COMPOSITION	JURISDICTION	ENFORCEABILITY OF AWARD
ALABAMA	Board of Adjustment	Prescribed by statute as Director of Finance, State Auditor, and Secretary of State.	All contracts to which State is a party, except contracts of State Highway Department, for which departmental review is the exclusive remedy.	Award may be assessed against appropriation of agency against which the claim is brought.
ALASKA	Department of Administration	Departmental staff.	Contract claims which have been disallowed by administrative or executive officers of the agency involved in the contract.	Department of Administration may issue warrant against the agency liable for payment of the award.
ARKANSAS	Arkansas State Claims Commission	Three-member commission appointed by Governor. Members must be Arkansas citizens and include two attornies, one of which is from list provided by State bar association.	All contract claims against State agencies.	Awards of less than $2,000 are self-executing against the agency; awards over $2,000 must be appropriated by the legislature.
CONNECTICUT	Contract Board of Review	Five-member board is appointed by Commissioner of Transportation.	Claims not settled by negotiation, or by departmental review up through Director of Construction may be submitted to Board for hearing on changed conditions, time extension, extra work requests, and similar issues.	Board decision is conclusive on Department of Transportation, but contractor may bring further action in Superior Court.
IDAHO	Board of Examiners	Statutory members consist of Governor, Secretary of State, and Attorney General.	All claims for which a legislative appropriation is necessary. State Auditor must verify the accuracy of claim before being considered by Board.	Board's approval of a claim is reported to Legislature for appropriation of funds; denial may be reviewed by State Supreme Court.
MARYLAND	Board of Contract Appeals	Three-member board is appointed by Governor with advice and consent of State Senate. Members must be qualified to serve in quasi-judicial capacity, and be familiar with State procurement process.	Appeals from decisions of State Procurement Officer regarding interpretation or performance of contract; protests by interested parties regarding bidding or contract awards.	Board decisions are conclusive on facts, but subject to judicial review for alleged error of law. Judgments may be enforced against State agencies.
PENNSYLVANIA	Board of Claims	Three-member Board is appointed by Governor with advice and consent of State Senate. Members must include an attorney, a registered engineer, and a layman resident of Pennsylvania.	Claims under contracts of State's bridge and highway agencies which are over $300 and filed within 6 months after claim accrued.	Award is certified by Board to the agency that is liable for its payment, which pays it from funds appropriated for the purpose.
RHODE ISLAND	Joint Committee on Accounts and Claims	Nine members of General Assembly appointed by Speaker of House and Lieutenant Governor.	Permanent joint committee of legislature responsible for investigating and adjusting or compromising claims against State agencies.	Joint committee's resolution for payment of a claim is sent to agency against which the claim is brought.

TABLE 2

SPECIAL ADJUDICATIVE BODIES FOR SETTLEMENT OF CONSTRUCTION CONTRACT CLAIMS (*Continued*)

STATE	NAME OF AGENCY	COMPOSITION	JURISDICTION	ENFORCEABILITY OF AWARD
SOUTH CAROLINA	Budget and Control Board	Governor, State Treasurer, Comptroller General, Chairmen of State Senate Finance Committee and House of Representatives Ways and Means Committee.	All claims for services supplied to the State. Claim must be submitted to Board prior to start of legislative session.	Board's recommendation of approval is referred to House Ways and Means Committee for appropriation.
SOUTH DAKOTA	Commission to Investigate Claims Against the State	Senior Circuit Court judge in county, sitting as a Commissioner.	Investigation to provide factual findings in disputed claims not settled by departmental review.	Commission findings are submitted to the Governor, who submits them to next legislative session for payment, compromise or rejection.
TENNESSEE	Board of Claims	State Commissioner of Personnel, Commissioner of Revenue, Comptroller of Treasury, State Treasurer, and Secretary of State.	Investigation and determination of claims based on written contracts of State agencies.	Awards are treated as judgments, and are paid out of departmental funds of the agency found to be liable.
VERMONT	Claims Commission	State Treasurer, Auditor of Accounts, and Attorney General.	Investigation and determination of claims of less than $1,000 against State agencies.	Commission award is accompanied by an order for payment.
WISCONSIN	State Claims Board	Representatives of Governor, Attorney General, Department of Administration, and Senate and Assembly Finance Committees.	Investigation and recommendation for legislative on claims on which the State is legally liable, or in good conscience ought to pay.	Board findings and recommendations go to Legislature's Joint Committee on Finance for consideration.
DISTRICT OF COLUMBIA	Contract Appeals Board	Three-member Board consists of chairman and a lawyers appointed by the Corporation Counsel, and an engineer member appointed by Board Chairman.	Review and determination of protests and appeals from decisions of Contracting Officer in disputes involving contracts of D.C. government.	Board decisions are final and conclusive on questions of fact. Board decisions which are not appealed may be enforced against the agency which is liable.

Wisconsin), the special bodies supplement other methods of settlement, usually litigation, that are available to claimants who cannot reach an agreeable settlement through departmental administrative proceedings.

A variety of rules govern the payment of awards made or recommended by these special bodies. Where specifically authorized by statute, the awards of special bodies are enforceable as judgments of courts (e.g., Maryland's Board of Contract Appeals). In other instances their awards are, following certification, payable by the state from any of the contracting agency's appropriated funds (Pennsylvania Board of Claims, Tennessee Board of Claims). In still others (South Carolina, South Dakota) the award must be referred to the legislature for appropriation action at its next regular session.

Contractors' reactions to the use of special review bodies have been mixed. Some claimants believe that all governmental boards have trouble maintaining impartiality because the frequency with which the contracting agency's representatives appear before them results in creating an affinity or sympathy for the agency. Few contractors have specific complaints about the treatment of their claims, however, and there is a general opinion that contractors have at least as good a chance for favorable action by these boards as they have in the courts.

If complaints are justified, they are likely to arise from the costs associated with delays in issuing decisions. Some bodies that are required by law to issue written findings and conclusions are sparsely staffed for their workloads, and, because few have statutory timetables for their work, they tend to proceed at the pace dictated by their circumstances.

CLAIM DETERMINATION BY ARBITRATION

Arbitration is the voluntary submission of a dispute to a third-party umpire or panel for a determination of the rights and liabilities of the principal parties on the disputed issues. It is an alternative to litigation in the courts or proceedings before special purpose administrative tribunals.

In private sector construction projects, more than half of the contracts contain standardized provisions for arbitration of disputes, generally conducted under the Construction Industry Arbitration Rules, administered by the American Arbitration Association (AAA). Inclusion of similar provisions in contracts awarded by public highway agencies, however, has occurred only relatively recently and only in a few states.

Various reasons have been advanced to explain this lack of greater use of arbitration in public construction contracts. Arbitration was first and most successfully applied to commercial transactions; not until the 1960s was any serious effort made to develop rules and procedures oriented to handling disputes arising from construction contracts. Until recently, also, courts have not encouraged arbitration. Although they would enforce arbitral awards after they were made, courts often found many reasons for refusing to enforce contract provisions for submitting future disputes to arbitration.

At the present time eight states (California, Florida, Iowa, Kansas, Minnesota, Mississippi, North Dakota, and Rhode Island) have specific legislative authority to use arbitration when highway construction claims cannot be agreeably settled through departmental administrative review processes. Of these states, Iowa, Kansas, Minnesota, and Mississippi have laws making use of arbitration discretionary, and the state highway agencies have elected to make little or no use of it for construction contract claims. Rhode Island's law makes arbitration mandatory only where public buildings are being constructed and provides authority for litigation of most highway construction claims in the courts. Florida limits the use of arbitration to claims of $50,000 or less. California's mandatory arbitration became effective by executive order in 1979 and by statute in 1982, so experience under it is limited. Only North Dakota has had general experience with arbitration for a substantial period of time.

Arbitration in North Dakota

North Dakota's statute requiring arbitration of claims arising from state highway department contracts was enacted in 1953. Its mandatory character is based on a legislative proviso that "any person who voluntarily enters into a contract for the construction or repair of highways shall be considered as having agreed to arbitration of all controversies arising out of such contract" (N.D. Cent. Code, 24-2-26). This mandatory use of arbitration has been construed by the state's supreme court as not denying any constitutionally guaranteed rights of access to the courts, due process of law, or trial by jury [Hjelle v Sornsin Constr. Co., 173 N.W. 2d 431 (1969)].

Arbitration panels are established separately for each case and consist of three members, one of whom is appointed by each of the parties and the third is appointed by the two thus designated. By law the panel has broad power to determine all controversies between the parties growing out of the contract, including whether it was performed on time and according to specifications, and to give appropriate directions for completing the job. Its awards are to be based, insofar as practicable, on the contract price, "having due regard for what is just and equitable between the parties under the facts and circumstances" (N.D. Cent. Code 24-2-31). A statutory requirement for advance notice of a demand for arbitration is designed to allow the highway department to inspect the disputed work and specify steps to facilitate completion of the project.

Only about one case per year is taken to arbitration in North Dakota, and the state highway department is openly critical of its experience with the system (M. Bothun, personal communication, 1982). One major criticism is that the panel makes too much of its directive to do "what is just and equitable between the parties under the facts and circumstances of the case," and pays too little attention to the law and the terms of the contract. Another sore point is the arbitrators' perceived lack of documentation of their decisions, or establishing a record for their action. Awards often appear to the state to be contrary to the weight of evidence, and efforts to obtain correction through appeals to the courts or revision through legislation have so far failed [Nelson Paving Co. & Hjelle, 207 N.W. 2d 225 (1973)].

Arbitration in Florida

The experience of Florida is in sharp contrast to that of North Dakota. Legislation establishing the Florida State Road Arbitration Board was enacted in 1969, and it was authorized use of arbitration by contractors as an alternative to litigation for claims totaling less than $50,000 (Fla. Stat. Ann. 337.32). The arbitration board consists of three members: one is appointed by the highway agency, one elected by the construction companies currently having contracts with the highway agency, and the third chosen by agreement of the first two. Panel members serve two-year terms and may be reappointed. Since its establishment, this panel has had a very stable membership.

The arbitration board meets monthly and handles about 50 cases a year. The informality and speed of its proceedings, compared with the cost and delay of litigation in the congested court system, have made arbitration popular with both contractors and the state highway agency for disposing of small claims. There also is general satisfaction with the substantive justice of the board's record of awards, and the state's only criticism is of a perceived excessive leniency regarding contractors' requests for time extensions, which (in the state's view) fails to appreciate the hidden costs of construction delays to the public (H. E. Cowger, personal communication, 1982).

Arbitration in California

By statute approved in September 1981, California amended its State Contract Act to require that claims arising from contracts that are subject to that Act must be resolved by arbitration. The law also established a Public Works Contract Arbitration Committee to develop standards and qualifications for arbitrators (Cal. Public Contract Govt. Code, 10240 et seq.). This legislation was an outgrowth of a Governor's Executive Order in December 1978 requiring construction contracts (among others) of the Department of Transportation to include a proviso

agreeing to submit to arbitration any dispute remaining unresolved after remedies available under the contract were exhausted.

In place of this, the new law states simply that "the remedy for the resolution of claims arising under contracts made under the provisions of this chapter shall be arbitration. . . ." Procedural requirements and time limits of the new system are similar to those laid down in the 1978 Executive Order (*21*). Unresolved claims are submitted to a single arbitrator who has been agreed upon by the parties or appointed by a court, and who holds a hearing to receive evidence and arguments. Issues must be decided in accordance with applicable state law, and decisions must include written findings of fact, summaries of evidence, and reasoned conclusions. Decisions are specifically subject to judicial review for conformity to state law and support by substantial evidence.

California's mandatory arbitration statute repealed existing legal procedure for determination of claims of up to $50,000 by proceedings before special administrative hearing officers. For some ten years previously, this procedure provided an alternative to litigation in the state courts where long delay in bringing a civil case to trial was not uncommon. During this time it was demonstrated to the general satisfaction of both the state contracting agencies and the construction industry that a special procedure and forum for handling small construction contract claims was both practical and beneficial (O. F. Finch, personal communication, 1982). This lesson apparently was not lost on the California legislature because in its 1981 mandate for arbitration it specified that the state departments whose contract practices were affected by the new law should develop and adopt regulations for, among other things, "simplified procedures" for claims of $50,000 or less. The success of this attempt to accommodate small construction claims remains to be determined.

California's current arbitration law was drafted to avoid inappropriate provisions of traditional or typical arbitration. It requires written and reasoned decisions with findings on which awards are based, without which it is often difficult to obtain participation of federal-aid funds in the awards. Discovery is permitted as in civil litigation. Awards must be in accordance with state law. Fees are set at realistic levels to pay administrative costs, and administrative remedies must be exhausted before resorting to arbitration.

Evaluation of the first three years' experience will support only tentative conclusions, but they would seem to be as follows (*22*):

- Arbitration is a more expeditious method of settling claims than is litigation when court calendars are congested. Arbitration cases require about a year to complete, while in the most congested courts in California it requires several years to bring a case to trial.
- Arbitration awards are higher than court judgments. California arbitration awards for 1979–1981 averaged about 30 percent of the amount claimed. In a comparable period prior to 1979, California paid an average of 15 to 20 percent of the amount claimed. Arbitration awards were, however, lower than contractors had offered to settle for in negotiations.
- Total costs of arbitration, generally divided between the parties in California's practice, averaged $5,000 for a four- to five-day arbitration hearing, and was more expensive to the contracting agency than litigation of a comparable claim.

Reactions to Arbitration

When the merits of arbitration are discussed by contractors, they generally favor its use, citing the speed and economy it can offer because it need not apply all of the rules of law and formal procedures for building a record that are necessary in litigation. It is, they say, uniquely suited to going deeply and decisively into the complex factual situations that frequently develop in construction projects. When public highway agencies discuss arbitration, these acknowledged advantages often are offset by experienced difficulties in selecting competent impartial arbitrators and keeping the arbitration consistent with the terms of the contract and the law. Public contracting agency officials, who emphasize that they must be accountable for the awards paid from public funds, argue that arbitration awards are unsuitable for public contracts because they do not become binding precedents for guiding future contract administration or claim settlements. They also contend that the rigorous fact-finding rules of litigation are easier and more reliable ways to present and interpret the voluminous evidence of a complex construction contract claim than the unstructured and permissive method of handling evidence in arbitration.

Thus, reactions to arbitration are mixed. The suitability of arbitration for resolving construction contract disputes may, therefore, depend on the case. In small cases, where liability depends on technical circumstances and the issue is a factual one, arbitration can be both faster and more economical than litigation. On the other hand, cases that turn on the application of subtle legal theories and distinctions are not well suited for arbitration. Also, where substantial amounts of money are involved or the fact-finding effort is an extended one, the relative speed and economy of arbitration become doubtful. Arbitration has no enforcement powers, so that its awards must be confirmed by a court and reduced to judgment. And finally, the absence of procedural formalities may mean, in some instances, that there is a corresponding absence of procedural safeguards.

CLAIM ADJUDICATION THROUGH LITIGATION

Among the methods of resolving construction contract claim disputes, litigation is probably the most widely known. One reason for this is the versatility of the remedies that are available through the courts. Another is the ability of courts to deal with multiple party proceedings in which the rights of all regarding each other can be determined in a single proceeding. Litigation also offers the most rigorously controlled fact-finding process available to the parties, and its procedures and rules of evidence enable courts to deal efficiently and certainly with large and complex bodies of data. Moreover, the general availability of judicial remedies and procedures for resolving contract claims against public contracting agencies makes litigation the method that is most widely used when negotiated settlements are not attainable. The form in which claims may be litigated depends initially on how a state has modified its sovereign immunity for this purpose. In some states special tribunals of limited jurisdiction (courts of claims) provide forums for contractors. More often, however, claims are litigated in the regular courts and treated as any other civil suit involving private parties (see Appendix A).

Courts of Claims

In five states (Illinois, Michigan, New York, Ohio, and West Virginia) special courts of claims have been established to handle claims against the state and its agencies. The jurisdiction, powers, and general procedures of these courts are limited to what is provided by their basic statutes. Typically, cases are heard by a judge or panel of judges, sitting without juries and applying rules of civil procedure and evidence similar to those generally used in civil cases in the state. It is customary to require that the state or its contracting agency be given advance notice of filing for adjudication by these courts. Courts of claims sit in the state capital, a factor that may compel the claimant to spend substantial effort and expense to bring witnesses and physical evidence from the construction site. This induced Ohio to authorize its court to remove to another location if necessary to avoid hardship or for any other consideration of justice.

Just as in the case of other civil litigation, negotiations over a claim may continue after proceedings in a court of claims are initiated, and if a compromise settlement is reached, the proceedings are terminated. If the court of claims suit is completed and the court's decision leaves the claimant feeling aggrieved, it may not always be possible to appeal it. Illinois and West Virginia law make their courts of claims' decisions final. In Michigan, New York, and Ohio appeals can be taken. In all five states, judgments of courts of claims are subject to special rules limiting the enforceability of their judgments to specified sources of state funds.

State Civil Courts

In states that have waived their sovereign immunity to suits on contract claims, but have not established courts of claims or special administrative tribunals for that purpose, contractors may seek recovery on construction claims by filing suits in the state's regular court system. In such cases the contracting agency stands in the same position as a private individual or corporate defendant, and the court applies the state's regular rules of civil procedure and evidence in a trial of the issues. Determinations of claims and awards made in the form of judgments are enforceable as such.

Where statutory limitations have been placed on the litigation contract claims in the state's regular courts, they generally relate to the scope of the proceedings. Some restrict the court's function to judicial review of determinations previously made by administrative officers or claim adjudication bodies (e.g., California, Illinois, Maryland, Pennsylvania, Wisconsin, and the District of Columbia). In such cases, the court proceedings are limited to reviewing the administrative record to determine such issues as whether administrative procedures were sufficient and were complied with, and whether the decision is supported by the evidence.

A type of jurisdictional limitation that is widely found requires that suits on public contract claims must be brought within specified time limits, usually dated from the accrual of the claim or the completion of the contract (e.g., Alaska, Arizona, New Jersey, and South Dakota). Generally, claimants may bring suits in any state court where jurisdiction over all necessary parties can be obtained, but a few states require that suits on claims must be filed in certain specified counties or in the county where the construction project was located, or in the state capital; in some states the contractor can choose from one of these.

All states authorizing suits on contract claims encounter the question of whether claimants must exhaust their administrative remedies before resorting to the courts. Some states specify that this must be done as a jurisdictional requirement for the suit (e.g., Arizona, Delaware, and Montana); others imply it by authorizing jurisdiction only for claims previously rejected by the contracting agency's chief administrative officer (e.g., Colorado, South Carolina, and South Dakota). Where claimants need not exhaust administrative remedies and procedures available to them before resorting to litigation (e.g., Kentucky, New Jersey, and Oklahoma) practical considerations of time and expense influence their decisions regarding the timing of litigation.

Evaluation

In evaluating litigation as a method of adjudicating construction contract claim disputes, many of the characteristics of current practice do not lend themselves to analysis in quantitative terms. Therefore, while it may be possible to draw certain conclusions from comparing the average time and money that it takes to bring a case to trial in a court of claims as compared with a regular county or district court, it is not as easy to establish criteria or compile data on such factors as the comparative capacities of judges and juries to comprehend and evaluate complex factual situations that occur in the construction process. Evaluations of the litigation method as a whole, therefore, are likely to vary with the circumstances and experiences of each state, and to be based on observations that seldom can be demonstrated by empirical evidence. Some of the most persistent criticisms that have been expressed regarding construction claim litigation are as follows:

- The courts' ability to handle a complex and difficult factual question often is achieved only at the price of an overwhelming amount of paperwork. This includes not only what may be involved in presenting and interpreting the factual circumstances of the claim, but what may be involved discovering that information through investigations, interrogatories, depositions, and the like. Even when courts resort to use of masters or special examiners to sift out the pertinent facts before trial is held, this process often is time-consuming and expensive.
- Complex or extensive construction claims generally are best handled by judges sitting without juries. Most lawyers believe that getting one judge to understand the construction process and the fact situation that gave rise to the claim is difficult and risky enough; it would not be prudent to multiply that risk by using a jury. Moreover, there is an impression that lay jurors may be overwhelmed by trying to deal with a financial problem involving millions of dollars for which they have no personal frame of reference in daily life.
- In major metropolitan regions congested court calendars may delay litigation. In Los Angeles County, the California Department of Transportation reports that it takes from four to five years to bring a civil suit to trial (O.F. Finch, personal communication, 1982). Delays of this scale admittedly are unusual, but they serve to emphasize how serious a delay in settling a claim can be to a claimant.

- In litigation, the court's determination of the issues is accomplished by an adversary process. That is, each side presents the evidence that is most favorable to its position and most damaging to the other side. How well this partisan technique serves as a fact-finding process has been questioned, especially where the events or actions from which a claim arises involve a high order of "engineering judgment." This criticism is particularly applied to situations where factual issues turn on the interpretation of technical data by expert witnesses. Often reliance on expert testimony may seem to be self-defeating when highly qualified experts offer opposite views of the same data. In such situations the role of legal counsel appears to be to establish and defend the credibility of their particular partisan witness.
- Settlement negotiations may continue along with litigation, and lead to an agreeable resolution of a claim at any time up to the moment the court reaches its decision. This parallel pursuit of both processes may be an advantage to the parties.
- Contract claim litigation may be treated as a business tool or tactic. Contractors who use the courts in this way may plan and prepare for litigation from the initial stages of a project, and some claimants seem to be in court constantly—sometimes unnecessarily and unfairly. Those who do so, however, generally find that the expense of this activity makes it very costly.
- Notwithstanding all of these aspects in which the litigation system has risks and shortcomings, the system continues to be relied on by all parties in the construction process. One commentator summed up his evaluation as follows:

> Experience shows that the system works and permits both parties equal fact-finding opportunities, the ability to hire talent, and a place to run or settle a problem. It is expensive at times, and it is slow at times, and once in a while the result will be wrong. . . . The courts, however, do work (*10*).

Improving the Claim Litigation Process

Efforts to improve the handling of construction contract claim litigation have concentrated on two aspects of this process: reduction of delays in bringing cases to trial, and more efficient management of the voluminous factual record that may be involved in large or complex claims.

Excessive delay caused by the courts' congested trial calendars is cited by proponents of arbitration as a major reason for arbitrating rather than litigating claims. Their arguments for arbitration have not yet been convincingly tested in any state having a substantial volume of claims of all categories, and most states have preferred to seek ways of making the litigation process more responsive rather than to resort to arbitration.

Those critics of the delays in claim litigation who are not ready to abandon that system for arbitration or quasi-judicial proceedings before special boards or commissions, suggest that more use should be made of the mechanisms that historically have been used to assist judges in handling voluminous or complex records. Greater use of masters or special hearing examiners would conserve the time otherwise needed to compile and interpret factual records in open court. More skillful use of discovery techniques and more persistence in trying to achieve pretrial stipulations of pertinent information also can reduce the time and effort involved in court. Finally, critics emphasize that improvement of construction contract claims litigation requires that judges and lawyers become more familiar with the construction process so that legal rules and contract language are applied to fact situations with sensitivity for design and engineering practices and industry customs as well as the letter of the law. Inexperience and lack of sufficient preparation for trial also are cited as causes of "bad law" in the field of contract claim litigation.

Reduction of the number of cases brought to trial may be achieved by judges who take a tough-minded position with the parties in pretrial conferences, and permit court hearings to be scheduled only after they have sent the parties back to resume negotiations on the remaining disputed issues. Judges of New York's Court of Claims have succeeded in reducing the volume of their cases in this way.

A novel experiment in reducing exploratory or speculative litigation, devised by a federal court judge and now being copied, is called the "summary jury trial." The procedure utilizes a six-person panel drawn from the pool of prospective jurors for regular trials, and it permits counsel for the claimant and contracting agency each to use one hour to present their cases through an opening statement, a summary of the evidence that would be used in a full trial (including facts that would be used to challenge the credibility of opposing witnesses), and a closing argument. No witnesses are called, but the entire proceedings are held in a judicial atmosphere.

When the panel renders a decision the judge asks the parties to consider it and resume efforts to reach a negotiated settlement. If, in two weeks, the parties do not settle the case and wish to go ahead with a normal full trial, the court will schedule it.

The results of this specific effort to promote out-of-court settlements are reported to have exceeded expectations as 90 percent of the disputes referred to "summary jury trial" subsequently were settled with savings of time for the court and trial expenses for the parties (*23*).

CHAPTER FOUR

FEDERAL-AID PROGRAM POLICIES AND PRACTICES

THE PARTICIPATION ISSUE

When settling a contract claim arising in a federal-aid highway construction project, the principal parties—contractor and state highway agency—deal directly with each other. Yet the question of whether the state will be reimbursed by federal-aid funds for its settlement with the contractor always is an important consideration whenever substantial sums of money are involved. Full reimbursement for claim settlements is not automatic, and where disagreements between states and FHWA over the participation of federal-aid funds have occurred, they have threatened to strain the historic highway program partnership.

Resolution of the participation issue is complicated by the contract relationships that exist among the interested parties. The contract out of which a claim arises is between the state highway agency and the contractor. The FHWA is not a party to this contract and, therefore, it cannot enforce its standards of design, construction, or management on the contractor directly. In those instances where Congress or the Secretary of Transportation desires to have certain standards or policies implemented, the responsibility for imposing those requirements on the contractor is given to the state highway agency as a condition of federal participation in the state's cost of construction. The state, in turn, imposes these requirements on the contractor through the contract between them, and undertakes the responsibility of enforcing them through its contract administration procedures. The working relationship between the three parties, therefore, is governed by two contracts: the construction contract awarded to the contractor by the state highway agency and the federal reimbursement agreement executed between the state highway agency and FHWA.

The obligations of FHWA and the state highway agency with respect to participation of federal-aid funds in a project are established initially by the FHWA approval of the plans, specifications, and estimates prepared by the state. These are subsequently formalized in a project agreement specifying that the state will cause the project to be constructed according to the approved plans and specifications, applicable state and federal law, and the policies and procedures issued by FHWA. In turn, FHWA agrees to reimburse the state an established percentage of the actual construction cost when the state has met its obligations under the project agreement.

Participation of federal-aid funds in contract claim settlements made by state highway agencies is governed by federal regulations that provide that:

> The eligibility for, and extent of, Federal-aid participation in claim awards made by the State to Federal-aid contractors on the basis of arbitration board awards or State court judgments shall be determined on a case by case basis. Generally, the criteria for establishing Federal-aid participation in claims and resultant settlements is the extent to which such settlements are grounded in contract provisions and specifications and actual costs incurred (23 CFR 635.120).

In the interpretation of these regulations, substantial questions have been raised regarding how they should be applied to particular situations. For example, what kinds of costs are "grounded in contract provisions and specifications"? Is there any upper limit on the "actual costs incurred"?

Because these regulations authorize participation for "awards based on arbitration board awards or State court judgments," what is the basis for participation in settlements through negotiations without any formal adjudicative proceedings?

As the administrative history of federal participation in state construction contract claim settlements and awards has evolved case by case, these questions have remained unresolved. This has led some contractors and states to urge revision, or at least clarification, of the federal regulation and practice. One longstanding recommendation aimed at relieving this uncertainty is that FHWA should automatically approve participation of federal funds in any claim settlement approved by the chief administrative officer of the state highway agency and the state's attorney general (*24*).

The principal argument favoring such a policy is a practical one, citing the delay and expense of claims hearings and appeals; but arguments also are made on technical legal grounds that federal participation in claim settlements should be automatic following the state's award (*25*). This argument relies on statements by Congress in the federal-aid highway legislation that secretarial approval of the state's surveys, plans, specifications, and estimates is deemed to constitute a federal contractual obligation for payment of its proportional contribution (23 USC 106); that the federal-state project agreement shall cover the state's prorata share of the cost of the project's construction (23 USC 110); and that the federal payment shall be for the costs of construction incurred by the state on a project (23 USC 121).

Read together, the argument runs, these provisions establish the duty of the federal government to reimburse the states for the construction costs of designated highway projects in accordance with the percentage specified by statute. This apparently straightforward arrangement should not be complicated unnecessarily by questioning whether an item of the state's actual cost is covered by an arbitrary legalistic definition of "cost of construction" adopted for purposes of its administration.

Answering these arguments, the position of FHWA is that its responsibilities to ensure the proper expenditure of federal-aid highway funds prevent it from committing itself to payment of these funds in advance of knowing the amount and basis of the state's settlement. Where this federal share of a claim set-

tlement is 50 to 90 percent, it is to be expected that states may be strongly tempted to settle some claims that would be resisted under other circumstances. While in most cases FHWA accepts the decision of a state's board or court, it reserves the right to review such decisions to ensure that they are not fraudulent, arbitrary, capricious, or so grossly in error as to necessarily imply bad faith, and that they are supported by substantial evidence. Whether this legal duty could be delegated to the states' highway agencies in its entirety apparently has never been fully answered. FHWA believes it must have sufficient freedom of action within the terms of the project agreement to protect the federal government's interest in the highway construction funds in any set of circumstances that may occur (*26*).

FHWA's statutory duty to protect the federal interest is reflected in its general regulations regarding when specific items are eligible for federal-aid participation. Certain of these standards have been sources of disagreement and deserve notice, as follows:

1. *Participation in progress payments:* Progress payments usually do not present difficult situations where phases of construction work have been completed and are in place. Borderline cases occur where materials have been stockpiled at the construction site or elsewhere. Federal regulations contain specific limitations on when payment for such materials is justified (23 CFR 635.114).
2. *Use of publicly owned equipment:* Specific limitations are set forth in federal regulations regarding participation in state costs associated with use of publicly owned equipment by contractors. Disagreements over the proper pricing of these items arise easily because federal limitations are complex, and unforeseeable conditions hamper the states in making orderly advance arrangements for equipment use (23 CFR 635.119).
3. *Changes and extra work:* Both of these items must be carefully controlled to prevent unanticipated increases in the cost of construction. Federal regulations spell out specific procedures for giving advance notice and obtaining advance approval from FHWA field offices. The occurrence of unforeseeable circumstances that give rise to the need for prompt on-the-spot changes has been cited as a reason why rigorous compliance with these procedures is unrealistic (23 CFR 635.121).
4. *Contract time extensions:* Contractors seeking to avoid liability for liquidated damages are anxious to obtain extensions of time for completion of their work. Such state agreements must, however, have the concurrence of FHWA division offices and be based on full justification and documentation. These requirements have been the basis of numerous disagreements (23 CFR 635.122).
5. *Force account agreements:* Use of force accounts to pay for extra work is a customary practice, and is advantageous in providing for unanticipated needs of highway agencies and contractors. Because they are outside the original project plans and specifications, however, they need to be fully coordinated with the FHWA division office. Inadequate coordination may easily lead to disagreements over subsequent participation of federal funds in these arrangements (23 CFR 635.123).

Where disagreements have occurred regarding reimbursement, they sometimes have involved these or other federal regulations in one of two ways. In some instances disagreement relates to whether a particular fact situation is within the scope of the federal rule. These are matters that normally can be authoritatively disposed of by submitting them to technical expertise. In other instances, disagreement relates to whether a particular procedural requirement should be waived under existing circumstances. Generally these are not matters that can be negotiated because FHWA takes the position that compliance with federal regulations is a prerequisite to participation of federal-aid funds.

This sometimes has resulted in the criticism that construction projects could be carried out more expeditiously if it were not for federal insistence on procedural requirements that sometimes offer no benefit to the state and contractor. Customarily the response to such criticism has been to emphasize the regulation's practical justification, and cite the fact that other states seem able to conduct construction projects, including claim settlements, without calling for waiver of the rules governing federal-aid reimbursement.

RIGHTS AND RESPONSIBILITIES OF THE STATES AND FHWA

In case of disagreement over participation of federal-aid funds in the settlement of a contractor's claim, some states have explored the question of whether the courts will enforce a right to federal participation.

In these cases the state asserts a contract right based on the project agreement. Recent cases brought in the Court of Claims under the Tucker Act (28 USC 1491) indicate that, where it is shown that the state's settlement constitutes part of the cost of construction that meets the federal criteria of eligibility for participation, the state may enforce its right through that procedure. On the other hand, unless a state demonstrates that its claim clearly and fully qualifies for federal participation under the pertinent regulations, the tendency of the court is to leave this question to the federal agency's discretion.

Two recent decisions on federal-aid highway construction claim settlements illustrate the extent to which the courts have clarified the pivotal provisions of the federal regulations.

Grounded in the Contract and Actual Costs Incurred

The regulation limiting participation in State settlements to the extent to which they are "grounded in contract provisions and specifications and actual costs incurred" was interpreted in *Louisiana Department of Highways v United States,* 604 F.2d 1339 (1979), with the following general comment:

> Though the wording is far from clear (and could and should be clarified) we understand this provision to mean that the Federal Highway Administration will refuse to participate if the contractor's claim is not reasonably, arguably, or colorably founded in some part of the contract or the specifications, fairly construed. Conversely, the regulation seems to mean that the Federal Government will not participate in a settlement of a contractor's claim which is wholly unmeritorious, insubstantial or frivolous. We take it to be the deliberate policy of the Highway Administration to discourage the making and settlement of such worthless claims by letting it be known in advance that it will not participate in a settlement—even though the Federal Government will be liable to share the costs of litigation if the matter

goes to trial. That policy choice is, of course, one for the Highway Administration to make (604 F.2d at 1340).

The contractor's claim in this case sought to recover liquidated damages withheld by the state from its final payment because of delays following failure of cofferdams installed during work on bridge piers. As a result of these failures, the design of the piers was changed and the work eventually was completed. Both the substitute design and assessment of liquidated damages had federal approval.

Responding to this penalty, the contractor sued for damages allegedly because of the state's misrepresentations and errors in its information regarding soil conditions and in its plans and specifications. Litigation was commenced. Notwithstanding a prospect that the ultimate decision of the case would be favorable, the state decided to settle the case in order to reduce its financial risk, and to avoid costs of litigation and the time of high level departmental officers who would be required to testify. The basis of settlement was the liquidated damages plus interest from the date of judicial demand.

When participation of federal-aid funds was requested, FHWA refused, claiming that the state's promise to pay interest on the liquidated damages had the effect of creating a new contract in which the state's obligation was increased over the original amount. The court agreed that FHWA did not have to participate in the cost of the settlement.

The lesson of this case appears to be that the courts will not interfere with a federal agency's insistence on strict compliance with its regulations that govern participation of federal-aid funds, despite the fact that a settlement saves the state the inconvenience and expense of litigation, that the state gets what it contracted for at the price originally agreed to, and that public policy favors settlement of disputes and avoidance of litigation wherever it can be done on a mutually satisfactory basis.

The court does not say directly what could have been done differently to ensure participation, but may offer a clue in noting that the state made no effort to consult with FHWA before the settlement was completed. Federal policy authorizes reimbursing unbudgeted settlement costs under unusual and unanticipated circumstances, but no opportunity to explore possible applications of this policy occurred in this instance.

Reasonable on All the Facts Available

Eligibility of claim settlements for participation of federal-aid funds depends not only on being grounded in the contract and specifications and actual costs, but also on the reasonableness of the settlement. This latter requirement was examined by the Court of Claims in 1981 when the Pennsylvania Department of Transportation sued to recover money spent in settlements arising out of changes in design and materials that exceeded the original project cost limitations. [Commonwealth of Pennsylvania Department of Transportation v United States, 643 F.2d 758 (1981)].

The Court of Claims explained the basis of the requirement as follows:

> Defendant's decision to *limit* its reimbursement obligation to only reasonable settlement costs . . . necessarily follows from the statutory scheme (and its legislative history) establishing the Federal highway aid program. From that scheme,
>
> . . . it is clear that Congress did contemplate that the Secretary exercise administrative expertise to see that apportioned funds are not expended on projects which fail to meet reasonable standards of cost. . . .
>
> The Congressional intent is that the Secretary may exercise his discretion to insure that the roads are well constructed and safely built at the lowest possible cost, all in furtherance of the Act. . . .
>
> A rule requiring Federal participation regardless of reasonableness might well be imprudent where the State disbursing the moneys bears only a small fraction of the true costs. Applying the rule of reasonableness to unforeseen costs in cases under the Act is consistent with the more general rule requiring that a Government contractor must proceed reasonably in order to recover expenses beyond the limitations contained in a cost-reimbursement contract. We find the defendant's requirement that unbudgeted settlement costs are reimbursable only if reasonable, to be proper (643 F.2d at 762).

The state did not seriously dispute this rule, and the issue was whether the state's settlement in this instance met the rule's requirements. The state requested reimbursement for two settlements: one made to obtain release of a local water authority's claim that highway construction work caused siltation and clouding of water in its reservoir; and the other made to avoid litigation of a contractor's claim for additional compensation because of having been required to use a different borrow site than originally planned.

In the settlement involving the reservoir, the state agreed to finance construction of a new reservoir and provide a five-year water quality surveillance program—obligations that later were converted into a lump-sum settlement. In the settlement for the additional cost of using an alternative borrow site, the state agreed to pay the contractor's actual expenses of the shift plus reasonable profit.

In both cases no question was raised about being grounded in the contract, nor was there lack of advance consultation. The objection was that in each case the state could have ended its potential liability by other measures that would have been less costly. The cause of the water authority's claim could have been cured by redesigning, regrading, and replanting the drainage area in the vicinity of the reservoir—all at a fraction of the cost of providing a new plant and surveillance program. Fear that operations in the originally designated borrow site would worsen this siltation problem caused the state to direct the excavation contractor to use an alternative site. Although this clearly was a precaution under the circumstances, the state's decision and instruction to the contractor were delayed so long that the contractor's actual costs were substantially higher than would have been incurred if the state's action had been more timely.

In upholding the FHWA's refusal to participate in these settlements the Court of Claims discussed the requirement of reasonableness as follows:

> . . . the mere fact that a claim against a State may have some legal merit does not mean any possible settlement of the claim is reasonable. We must also look to whether the settlement, as made, appears to be reasonable on all of the facts available to a State at the time of settlement. We have, in other circumstances characterized the duty of reasonableness in several ways, but the essence of the term is that a party must proceed prudently, wisely, and efficiently. The settlement is reasonable only to the extent it would have been made by a prudent businessman placed in a similar position (643 F.2d at 765).

> Reasonableness requires, we think, not only that the State explore and adopt less expensive alternative means of terminating the lawsuit other than by outright cash settlement but, also, that the State proceed in a manner so that its potential liability on claims is kept to a minimum (643 F.2d at 766).

In explaining the requirement of reasonableness this way, the Court of Claims laid to rest some of the questions generally raised in argument. Specifically, the court rejected the idea that any settlement must be regarded as unreasonable if it results from the state's negligence. On the other hand, the fact that a claim has some merit and evidence to support it, and that the settlement is in "the public interest" is not by itself enough to make a settlement reasonable. By stating that more is needed, the court appeared to reserve to FHWA a right to evaluate the quality of the bargain that the state makes without at the same time giving the parties to any objective criteria by which to test their case. In this sense the Court of Claims leaves an area of calculated risk for future settlement.

The Duty of Consultation

The extent to which the state consulted with FHWA before requesting federal-aid participation was a factor in both the cases noted here, and several conclusions may be inferred from the court's discussion. One, on which there is apparent agreement, is that FHWA's failure to object to a settlement before a request for reimbursement does not amount to an estoppel of the federal government's right to deny such a request when it is made (643 F.2d at 764). On the other hand, some positive action of commitment by FHWA to reimburse an unbudgeted expense may establish a legally enforceable contract right to federal participation in settling a claim that the state may not be legally liable to pay [State of Arizona, ex Arizona Highway Department v United States, 494 F.2d 1285 (1974)].

There is less agreement on whether FHWA has a duty to consult, advise, or warn regarding negotiations in progress. Some argue that there should be, as illustrated by the remarks of one judge in reviewing PennDOT's settlement with its excavation contractor:

> . . . instead of misconstruing the silence and nonfeasance of dilatory FHWA representatives, it should have demanded a decision in a manner to reach the attention of FHWA's highest levels (643 F.2d at 768).

The court's observation touches a central issue of the federal-aid relationship. FHWA cannot reasonably be expected to make a commitment as to participation on all claims while they are in negotiation. Claims often are complex and involve difficult issues, so that a well-considered opinion on participation cannot be given until evidence is reviewed and decisions of other boards and courts are studied. Moreover, FHWA has no responsibility to make contract administration decisions for the states. On the other hand, it is true that consultation in the prelitigation stage is the best way to gain understanding of the issues, and is an appropriate time to express a position, if such information would advance both its interests and those of the state.

Another view goes further to suggest that once a project has been approved and funds allocated to it, FHWA's responsibilities implicitly require it to investigate any condition or event that raises the serious prospect of a claim reimbursement, and to advise the state as to whether or not federal-aid funds can be expected to participate in the state's costs. It argues that FHWA cannot in fairness rely on its technical insulation from the state-contractor settlement negotiations to say or do nothing until a formal request for participation is made (*15*). Such an argument suggests a parallel to the acknowledged duty of FHWA to respond promptly when reimbursement is explicitly requested. Failure to respond promptly, thereby delaying the project and increasing the state's costs, would be a breach of the implied duty of cooperation and noninterference, which is inherent in the contract.

RESOLVING THE PARTICIPATION ISSUE

Although the great majority of state requests for participation of federal-aid funds in contract claim settlements are handled expeditiously and with mutual agreement, the recent history of litigation over the participation issue calls for consideration of measures to reduce the incidence of state-federal disputes on this point. Such measures may be grouped under three headings:

- Those calling for revision of the basic working relationship established by the project agreement,
- Those aimed at improving the practices and procedures for determining participation of federal-aid funds under the current regulations, and
- Those aimed at improving administrative practices associated with claim negotiations.

Changes in the Project Agreement

As some states and contractors view the project agreement, it cannot be said to constitute a full partnership as long as FHWA reserves the privilege of "second guessing" state highway agencies on whether a claim settlement is eligible for reimbursement. This was the belief that led the American Road and Transportation Builders Association in 1981 to recommend that federal-aid participation be made automatic wherever a settlement is approved by the state highway agency's chief administrative officer and the state's attorney general (*24*).

Such a change, it is argued, could eliminate the need for FHWA's surveillance of settlement transactions by substituting that of responsible state officials. In addition, states understandably believe that FHWA refusal to participate in an award that is based on a judgment of a state's claim adjudication tribunal, despite the strongest defense the state can offer, penalizes them unfairly, while neither party receives any balancing benefit.

On the other side of this issue it is noted that state court decisions may vary widely on some matters, so that federal-aid reimbursement of all contract claims allowed under state law would magnify this inconsistency. States with more liberal systems for contract relief would be rewarded through federal participation at the expense of states with less liberal policies. Pennsylvania's "total cost" approach to assessing damages, and New York's rule allowing reimbursement of anticipated profits are examples of decisions that are not in accord with generally accepted common law. Thus, while states are free under the federal form of government to adopt differing substantive law and experiment with differing policies, the federal government

cannot abandon its own responsibility to oversee the use of federal funds with fairness and according to the intent and direction of Congress.

Adoption of a policy of automatic participation would require basic legal authorization, for the responsibility of FHWA to exercise separate and independent judgment has been verified by opinions of the Comptroller General of the United States (9 Comp. Gen. 175, Oct. 30, 1929). Currently, FHWA is not seeking a modification of this responsibility, and it believes that its record as a program partner of the states, and also as a protector of the federal interest, shows that neither responsibility has been slighted or abused (*26*).

Since 1973, the participation issue in federal-aid highway projects has been subject to certification acceptance (CA) agreements between states and FHWA. These agreements contemplate FHWA review and approval of the state's contract administration plan and claim settlement procedures, following which individual claim settlements are eligible for participation of federal-aid funds as long as they are certified as complying with approved procedures. Current law permits certification acceptance to be applied to projects on any federal-aid highway system, except the Interstate system (23 USC 117; 23 CFR 635.103).

The essential integrity of FHWA's function is not compromised by use of certification acceptance. CA agreements cannot change federal laws or regulations, or relieve either the state or FHWA of responsibility to enforce standards and regulations that otherwise apply to carrying out federal-aid highway program regulations, policies, and objectives. State directives on procedure and practice regarding claims are reviewed by FHWA when CA agreements are made or subsequently modified, and state decisions and settlement awards are checked as part of periodic program reviews. Instances in which claim settlements might not be eligible for participation of federal funds can be identified and dealt with at those times.

Improvements in Policies and Procedures

Various suggestions have been made for improving claim settlement policies and practices without changing FHWA's basic responsibility under the law or reducing its independence of judgment in determining the participation issue.

From the state's view, it would be most desirable to have representatives of FHWA's division offices participate actively in the claim settlement negotiations with the contractor. It could then be expected that FHWA would do likewise in the later stages involving payment. The position of FHWA, however, has always been that it cannot become an active party in the settlement process, working to influence the outcome for either party. It will, as in the PennDOT claim described earlier, send representatives to observe the proceedings; but this practice is part of FHWA's own fact-finding process, and should not be misconstrued by the state or the contractor.

Lacking actual participation from FHWA as a party to the negotiations, states may wish to obtain an advance review of the terms of a proposed settlement, and issuance of an advance opinion on its merits before final determination is made by the state's highest administrative authority. Traditionally, FHWA has resisted issuing such advance opinions, although on a case-by-case basis, depending on the circumstances involved, FHWA has agreed to review the merits of claims in advance of the state's decision. FHWA division officers, working directly with the state highway agencies, have emphasized that if early warning of a claim is given to them, they can study the claim and advise informally on the merits of various settlement options and the interpretation of the criteria for participation of federal-aid funds.

Other measures that have been suggested for consideration in handling the participation issue include the following:

- Recognition by FHWA of greater latitude for state highway agencies to use discretionary waiver of contractors' compliance with procedures requiring notification of changes and issuance of formal change orders in those instances where the construction contract gives the agency that discretionary right (C. Edson and G. Peyton, personal communication, 1981).
- Clarification of various federal regulations relating to eligibility of costs for reimbursement from federal-aid funds. This is part of a general desire for better guidance to FHWA field offices. One example of needed clarification, cited by the Court of Claims, is the requirement that eligibility shall depend on being "grounded in the contract and specifications" (604 F.2d at 1340).
- Consideration of whether the general criteria for federal-aid participation in claims and settlements should be changed to reflect the extent to which the award or settlement is based on the probabilities of ultimate recovery for liability and compensatory damages under the terms of the contract and applicable law (*26*).
- Clarification of the extent to which federal-aid participation is affected because the claim being settled is based on a design defect or other cause attributable to the negligence of state highway agency personnel, and adherence to a policy of no federal-aid participation where a claim is due to gross negligence or willful misconduct, or where a settlement or award involves speculative or punitive damages, anticipated profits, or attorneys' fees (*26*).
- Greater deference to a determination of liability under state law in deciding whether there will be federal-aid participation in the payment of an award or settlement based on it. Thus, substantial weight would be given to the legal brief submitted by a state in support of its reimbursement request in order to reduce inconsistencies between state law regarding liability and federal policy regarding reimbursement. Currently legal briefs are required to be submitted only in certain cases (C. Edson and G. Peyton, personal communication, 1981).
- Establishment of a uniform policy and procedure for early notice to FHWA of a state's intention to request reimbursement for a contractor's claim settlement or award, and for coordination of FHWA observance of the state's negotiation or defense activities. Currently, federal regulations are silent on this matter (*26*).

Improvement of Administrative Practices

There is uniform agreement that some of the most persistent factors in the denial of reimbursement requests could be eliminated, or at least significantly reduced, by improving practices followed in the presentation and support of state claims. Generally these are practical steps that are easily within the power

of all of the parties to take (*27*). Reduced to an itemization, these steps are:

1. The facts relating to a claim must be fully and clearly presented to FHWA. Adequate documentation should, where necessary, include excerpts from primary records (diaries, field notes, photos, diagrams, etc.) and give engineering evaluations of the issues and the options available to the contractor and field engineer.
2. The legal basis for paying the claim should be accurately and persuasively presented, demonstrating that the award or settlement is in accordance with state law.
3. The claim must be presented with its cost items organized so that it can be audited accurately and readily.
4. The case for reimbursement from federal-aid funds should be argued from strength rather than weakness. If a state is itself convinced by the documentation it offers in support of its request, it will go far in persuading FHWA to participate.

The potential for improvement of administrative practices extends to preventive measures. A critical element of a successful system of handling reimbursements for awards and settlements is early notice and coordination of the state's and FHWA's evaluations of the claims in question. Most states can cite practices that they have developed as preventive measures, such as Massachusetts' special early notice form alerting FHWA to extra work or change orders on which reimbursement subsequently will be requested. On a nationwide level, FHWA might circulate to its field offices and the state highway agencies periodic summaries of claim settlements that it has approved for participation.

All of the administrative practices noted here can be introduced through training programs or periodic departmental conferences and seminars for highway agency personnel. The precedent for such programs is widespread among the states. Continuing education programs sponsored by professional engineering organizations and construction industry trade associations, offer the private sector similar opportunities to become familiar with improved systems of claim prevention and settlement.

CONCLUSIONS

In the great majority of cases there is no disagreement between the state highway agency and FHWA regarding the eligibility of a request for participation of federal-aid funds to reimburse the agency for a claim settlement award. Where disagreements have arisen, their resolution generally is sought through negotiation, since the courts have not shown much willingness to enforce states' rights to reimbursement over an administrative decision by FHWA denying participation. Unless FHWA has taken an action that constitutes a voluntary commitment to pay a particular expense, FHWA may generally require strict compliance with federal regulations as a condition to participation of federal-aid funds.

Citing its duty to monitor the use of federal funds, FHWA generally has resisted adoption of rules providing automatic reimbursement where responsible state officials approve an award or settlement, or the introduction of practices that provide advance assurance of participation in particular cases. As a result, the working relationship between FHWA and the state highway agencies has developed an important level of informal coordination through which each party is able to communicate its views on issues that arise as a settlement or award evolves.

Success in handling federal-aid in this way and under these conditions requires that the policies, regulations, and practices that govern participation be clear, consistent, and comprehensive. Current federal regulations prescribing procedures and criteria of eligibility have been criticized by the states, the construction industry, and the courts for various features. FHWA recognizes that these regulations, some of which date from the early 1960s, deserve reevaluation for their continuing effectiveness in a period when increasingly greater responsibility for managing the highway program is being turned over to the states, and the federal role is being satisfactorily performed through certification acceptance procedures.

CHAPTER FIVE

CONCLUSIONS AND RECOMMENDATIONS

It is generally recognized that the construction process always involves risks of added cost and delay because of conditions or events that are not anticipated and provided for when construction contracts are awarded. Accordingly, all state highway agencies have procedures for administratively authorizing changes in plans or work methods, providing additional time or compensation for extra work, and for departmental administrative review and determination of claims submitted in connection with a project.

The great majority of construction contract claims—about 80 percent—are settled agreeably through administrative determinations by the contracting agency. Yet the general volume of claims, and the costs of resolving those that are not settled administratively, make state highway agencies consider those matters as major problems in current highway programs. Contracting agencies are concerned about understanding the causes of their claims and the steps that can be taken to improve their methods of claim settlement and claim prevention.

Highway construction is no more "dispute-prone" than other types of construction, and impressions that claims have increased are, to a considerable extent, reflections of economic conditions that result when new construction activity declines. As competition among contractors becomes keener and construction costs increase, contractors' bids contain a smaller margin for absorbing unanticipated expenses, and some contractors use claims to make their profit or merely reduce their loss on a project.

Most of the claims arising under highway construction contracts involve the following subjects or issues:

- Time problems and liquidated damages;
- Additional compensation for unanticipated subsurface conditions;
- Additional compensation for "differing site conditions;"
- Ambiguous, incomplete, or defective contract provisions; and
- Extra work or disputed work.

CAUSES OF CONSTRUCTION CONTRACT CLAIMS

When causation of claims is viewed in terms of the current practices that are associated with increased risk of miscalculation or escalation of construction costs, the following appear to be major factors:

Contractor practices

- Inadequate investigation before bidding.
- Unbalanced bidding.
- Bidding below costs and overoptimism.
- Poor planning and use of wrong equipment.
- Failure to follow authorized procedures.

Contracting agency practices

- Changes in plans and specifications during construction.
- Inadequate bid information.
- Inadequate time for bid preparation.
- Excessively narrow interpretation of plans and specifications.
- Restrictive specifications.
- Contract requirements for socioeconomic objectives.

When claim experience is evaluated with a view to identifying features of the contract and contract administration process that are associated with claims, and therefore may be of critical importance in claim prevention, the following are regarded as major factors:

Causes associated with the contract documents

- Exculpatory clauses.
- Mandatory advance notice of claims.
- Finality of field engineer's decisions.
- "Changed conditions" clauses.
- Lack of periodic review of documents.

Causes associated with contract awards

- Diversity of state contract award rules.
- Treatment of bid mistakes.

Causes associated with contract administration

- Coordination of contracting agency responsibilities.
- Interpretation of contracting agency policy and practices.
- Attitude and style of contract administrators.
- Documentation of contract performance in field records.
- Contracting agency program factors.

Causes associated with claim settlement procedures and practices

- Encouragement of project-level settlements.
- Delegation of settlement authority to field supervisors.
- Effectiveness of field/headquarters consultation.

CLAIM SETTLEMENT PROCEDURES

- Although data on departmental claim filings and settlements are not compiled systematically or in formats that can be compared, it is generally thought that 80 to 90 percent of all claims are agreeably settled through departmental administrative review procedures.
- The forms of review given to claims under highway departmental procedures vary substantially among the states, and so do the states' experience in administrative settlement of claims.
- Departmental review procedures are perceived by some contractors as being biased against the claimant because of the close daily working relationship of the decision makers within the department. Contractors' organizations recommend that when it appears that a claim cannot be settled through negotiation it should be referred to an impartial outside body for determination. State highway officials deny the necessity of recourse to outsiders in order to ensure impartial decisions, and they consider that use of departmental boards and committees ensures full and fair investigation and presentation of all claims.
- Contractors tend to favor arbitration because there is less reliance on the terms of the contract and more emphasis on equitable sharing of costs than occurs in litigation. However, there has been relatively little experience with arbitration of highway construction claims, and conclusions cannot yet be documented convincingly. On the basis of limited experience it appears that arbitration can provide efficient, prompt, and economical resolution of small claims (under $50,000). For large, complex claims requiring lengthy proceedings and use of legal counsel, the costs and time often have exceeded those incurred in litigation.
- The doctrine of sovereign immunity does not significantly restrict the ability of contractors to recover construction contract claims against state highway agencies. All states provide for departmental review of claims and for some form of appeal of administrative determinations to a higher forum for independent review. This appellate proceeding, however, is not in all cases a rehearing of the evidence.
- All forms of appellate consideration and determination of claim are costly in terms of time and money. A substantial, but often unappreciated, cost to highway agencies is the amount of time of key technical and administrative personnel that is consumed by their participation in the claim settlement process.
- Despite the existence of a large and growing body of statutes, administrative regulations, and court decisions dealing with construction contract claims, there are numerous aspects that remain unclear, and on which state law and practice are not uniform.

FEDERAL-AID PARTICIPATION IN CLAIM SETTLEMENTS

- Although the question of federal participation in a claim settlement award technically is extraneous to the state's construction contracts, and irrelevant to a claim under such contracts, it may have practical significance on the state's position regarding a claim settlement.
- Refusal to let federal-aid funds participate in negotiated settlement awards has resulted in some states litigating claims in order to strengthen their request for federal-aid participation.
- Under federal court decisions, states have no absolute right to participation of federal-aid funds.
- There is, however, a wide range of opportunities for the state to determine informally in advance of a settlement award what position FHWA will take regarding participation, and FHWA encourages the use of such opportunities.
- There is a great variation among the states in their practices of notifying FHWA of proposed claim settlements. States and contractors' organizations generally agree in urging FHWA to relax restrictions on participation of federal-aid funds. They recommend a rule that automatically extends participation to awards made by highway agencies pursuant to judgments of state courts or state law. FHWA maintains that its statutory responsibilities preclude it from agreeing to approve participation in advance of case-by-case determinations of whether settlements have complied with all applicable federal-aid regulations.
- Current federal regulations prescribing criteria of eligibility and procedure for participation have been criticized by the states, the courts, and the construction industry. FHWA recognizes that its regulations, some of which date from the 1960s, deserve reevaluation.

RECOMMENDATIONS

1. A continuing program to compile statistical data on highway construction claims experience should be developed so that causes of claims can be studied systematically.
2. State highway agencies, contractors' organizations, and FHWA, through joint committees, should conduct continuing reviews of standard contract documents and contract administration practices, and develop guidelines for interpretation and, where needed, revisions of these documents and practices.
3. The regulations governing participation of federal-aid funds in state claim settlements should be thoroughly reviewed, with specific attention to those features that presently are controversial (such as rules relating to payment of interest on awards) and to those aspects in which instructions to FHWA field offices may need clarification (such as in ensuring uniform interpretation).
4. States should expand the role of their field engineers in prevention and settlement of claims. This can be accomplished either through the engineer's delegated authority to settle claims, or through special support activities (such as a claims "hot line") that increase the effectiveness of coordination between headquarters and the field offices.
5. States should give particular attention to development of procedures for early and prompt determination of small claims (less than $50,000).
6. As a measure to prevent claims or settle them early, states and FHWA field personnel should develop training programs and operational practices that increase the "claims consciousness" of all departmental personnel.

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APPENDIX A

HIGHWAY CONSTRUCTION CONTRACT CLAIM SETTLEMENT REMEDIES AND PROCEDURES

State	State's immunity to contract claim suits	Departmental Claim Review	Special Review Bodies	Judicial Remedies and Procedures
Alabama	State is immune from suit. Contract claims must be adjudicated by departmental review and special board.	Informal review by agency staff and internal claims committee. Final decision by Director may be referred to an Advisory Board.	Board of Adjustment, composed of State Finance Director, Auditor and Secretary of State, is authorized to determine State liability on all contract claims except State Highway Department contracts.	
Alaska	Constitution directs Legislature to provide for suits against the State. Statutory procedures cover contract claims.	Informal review by agency staff. Final decision by departmental Contracting Officer may be appealed to Contract Claims Review Board. Final determination by Commissioner of Transportation is made with advice of Contract Claim Review Board.	Claims disallowed by agency administrative action may be submitted to Department of Administration for hearing and determination.	Statutory jurisdiction of courts extends to all claims for reimbursement of money spent or compensation for labor, material or services furnished to State by contract or ratification. Rejection of claim by Department of Administration is prerequisite to court jurisdiction.
Arizona	Constitution authorizes Legislature to provide for suits against the State. Statute allows suit on contract claims following rejection by department.	Informal review by agency staff. Final decision by State Engineer is made after hearing by 3-person advisory board.		Suit may be brought in any Superior Court within 2 years after claim occurs. Claimant must exhaust administrative remedies before filing suit. Court has jurisdiction for all aspects of contract claim.
Arkansas	Constitution prohibits suit against the State. Legislature has established a special commission to deal with claims not settled by departmental review.	Informal review by agency staff. Final decision by department's Chief Engineer may be appealed to Arkansas State Claims Commission.	Arkansas State Claims Commission is an external body appointed by Governor. Two of the three members must be lawyers. Commission conducts formal hearings and has jurisdiction over all aspects of contract claims. Commission decision is final and unappealable.	

State	State's immunity to contract claim suits	Departmental Claim Review	Special Review Bodies	Judicial Remedies and Procedures
California	Contract claimants may institute arbitration under the State Contract Act for a de novo determination. Arbitration awards can be appealed by either party to Superior Court on the basis of errors of law or lack of substantial evidence. Arbitration is authorized in lieu of other remedies.	Informal review by District Director. If a claim remains unresolved, it may be submitted to a Board of Review appointed by departmental Deputy Director. The Board's findings and recommendations are reviewed by the Deputy Director, whose decision is final unless a demand for arbitration is filed with the State's Office of Administrative Hearings.	Arbitration of contract claims is mandated by the contract using a single independent arbitrator selected by the parties from a certified list or another person agreed to by the parties.	Demand for arbitration may be made at any time after the expiration of 240 days following completion of the work. Appeal from arbitration is to the Superior Court.
Colorado	In absence of constitutional or statutory provisions relating to sovereign immunity, Colorado courts have held that the State's contract award implies waiver of immunity to suit on that particular contract.	Informal review by departmental staff. Final decision is made by Chief Engineer with advice of 3-member review board selected one by Chief Engineer, one by contractor, and the third by the other two members.		Suits on contract claims that have been rejected entirely or in part by Chief Engineer may be brought without further jurisdictional requirements.
Connecticut	Constitution provides that claims against the State may be resolved in any manner prescribed by law. Statute authorizes suits on claims denied by departmental review.	Informal review by departmental staff. Claims that cannot be settled by departmental Director of Construction may be submitted to Contract Board of Review.	Department of Transportation's Contract Board of Review is composed of 5 members appointed by Commissioner of Transportation. Board has jurisdiction to make final decision on claims involving changed conditions, time extensions, extra compensation, and breaches of contract.	Contract claim suits must be brought in Superior Court of Hartford-New Britain. Written notice of claim must be filed within 2 years after acceptance of work and suit started within 3 years after acceptance of work.
Delaware	Constitution provides that State may be sued according to provisions by the Legislature. In absence of any general legislative waiver Delaware courts have held that State's contract award implies waiver of immunity to suit on that particular contract.	Informal review by departmental staff according to a standard claims review procedure. Final determination is made by the Secretary of Transportation. The claim may then be taken to arbitration.		Claim disputes arising out of or relating to contracts must, in absence of agreement to the contrary, be submitted to arbitration in accordance with Construction Industry Arbitration Rules of the American Arbitration Association.

State	State's immunity to contract claim suits	Departmental Claim Review	Special Review Bodies	Judicial Remedies and Procedures
Florida	Constitution provides that Legislature by general law may authorize suits against the State. Legislature has authorized suits against Department of Transportation on contract claims.	Informal review by departmental staff. Final determination by Secretary of Transportation may be appealed to courts.		Suits on contract claims must be brought within 2 years after completion of the work in question and filed in county where the work was done or in Leon County. In lieu of filing suit against State, contractor whose claim is under $50,000 may submit it to arbitration following rejection by Secretary of Transportation.
Georgia	Constitution expressly waives State's immunity to suit on public works contract claims. But court decisions allow immunity defense in some contract claim cases. Current status of sovereign immunity is uncertain.	Informal review by departmental staff. Final determination by State Highway Engineer may be appealed to courts.		Although State's immunity to suit on contract claims has been waived, jurisdictional requirements regarding claims that have been denied by department are uncertain.
Hawaii	In absence of constitutional provisions, Legislature has authorized suits on State contract claims.	Informal review by departmental staff. Final determination by departmental Chief Engineer is appealable to courts.		Suits may be brought against the Department of Transportation on contract claims provided the contract is shown to be within the scope of the contracting agency's authority.
Idaho	Constitution establishes a Board of Examiners for reviewing State claims, and authorizes State Supreme Court to handle claims against the State. Lacking clarification of these provisions, courts have held that Department's legal authority to award contracts is an implied waiver of immunity to suit on such contracts.	Informal review by departmental staff. Final determination by State Highway Administrator may be appealed to State Transportation Board. Appeal to Transportation Board vacates Highway Administrator's decision and opens all issues of fact for proof in formal hearing. Board's decision is conclusive on facts, but subject to judicial review under Administrative Procedure Act on issues of fairness.	All claims for which there must be a legislative appropriation must be passed on by Board of Examiners composed of Governor, Attorney General and Secretary of State. Claims not covered by existing appropriations may be denied, but denials may be appealed to State Supreme Court.	Suit directly against the Department of Transportation is authorized in addition to other remedies. Suit may be filed in any District Court to recover claim on contract within the scope of the department's legal authority.

State	State's immunity to contract claim suits	Departmental Claim Review	Special Review Bodies	Judicial Remedies and Procedures
Illinois	Constitution has abolished sovereign immunity except as the Legislature may provide. Legislature has limited suits against the State to those that may be tried in Court of Claims.	Informal review by departmental staff. Final determination by Engineer of Construction .		Court of Claims has jurisdiction of contract claims against State, Cases are tried by 3-judge court without jury. Suits must be filed within 60 days after final payment of contract and claimant must exhaust all administrative and legal remedies before filing suit. Court of Claims judgment is final and not appealable.
Indiana	Constitution authorizes Legislature by general law to provide for suits against the State.	Informal review by departmental staff. Final determination by Director may be kept open for litigation by contractor's refusal to sign final statement of quantities.		Suit may be filed to recover claim denied by departmental Director.
Iowa	Constitution makes no provision for suit against the State, but Legislature has waived immunity of Department of Transportation to suits on construction contract claims.	Formal review and hearing by contracting officer may be held on contractor's request. Final determination by contracting officer may be appealed to courts or arbitration panel		Suit to recover claim denied by departmental review may be brought in the county where the disputed work was done. In lieu of litigation, contractor may request that his claim be submitted to arbitration by a 3-member panel comprised of one selected by the contracting authority, one by the contractor and one by the other two members. Arbitration is limited to the issue of additional compensation and may not judge the quality of the work, modify the contract, or interprete plans and specifications.
Kansas	Constitution makes no provision for suits against the State. Court has held that Legislature waived immunity to suit by giving Department of Transportation legal authority to make and perform contracts and to sue and be sued.	Informal review by departmental staff. Final determination by Secretary of Transportation may be submitted to arbitration or appealed to court.	Claim disallowed by highway agency may within 30 days be submitted for arbitration with approval of Secretary of Transportation. Arbitration by 3-member panel may pass on all compensation issues but may not judge quality of work or material or modify contract terms.	Suit to recover claim denied by departmental review may be brought in the county where the disputed work was done.

State	State's immunity to contract claim suits	Departmental Claim Review	Special Review Bodies	Judicial Remedies and Procedures
Kentucky	Constitution provides that Legislature may direct how and where suits may be brought against the State. Legislature has authorized suits by general laws in 1966, 1974 and 1978.	Informal review by departmental staff. Final determination by Commissioner of Highways is made after reviews by staff, a Liquidated Damages and Claims Committee, and a Contract Claims Oversight Committee. Commissioner's decision may be appealed to court.		Suit to recover a contract claim must be filed in the Circuit Court of Franklin County within 1 year after contract's completion date. Prior exhaustion of administrative remedies is not a jurisdictional prerequisite.
Louisiana	Constitution waives immunity of State agencies to suit on contracts. Also, statutory authority of State Department of Transportation to sue and be sued has been held to waive immunity from suit on claims based on its contracts.	Informal review by depart mental staff. Final determination by Chief Engineer may be appealed to courts.		Suit to recover a claim denied by departmental review must be brought in either the Parish where the disputed work was done or in East Baton Rouge Parish, which is the domicile of the Department.
Maine	Constitution does not deal with suits against the State. In the absence of any legislative or judicial waiver of immunity, the Legislature responds to petitions for special appropriations or permission to litigate specific claims.	Informal review by departmental staff. Final determination by Commissioner of Transportation may be the subject of legislative petition for direct relief or permission to litigate a claim denied by departmental review.		
Maryland	Constitution does not deal with suits against the State but State Legislature has provided that State agencies may not use sovereign immunity defense as to contracts entered into after 7/1/76.	Informal review by departmental staff. Final determination by State Highway Administration may be appealed to the State Board of Contract Appeals.	Notice of appeal to Board of Contract Appeals must be filed within 30 days after final departmental decision. After formal hearing, Board issues a decision which is subject to judicial review.	Decisions of Board of Contract Appeals are subject to judicial review of legal issues. Also, suits to recover on claims may be filed within 1 year after claim accrues or contract is completed.
Massachusetts	Constitution does not deal with suits against the State but State Legislature has by general law authorized suits on State contract claims.	Informal review by departmental staff. Final determination by Chief Engineer is made with advice of a Claims Committee composed of Chief Engineer, Deputy Chief Engineers for Highway Construction and for Maintenance, and Construction Engineer.	Chief Engineer's decision may be appealed to the Public Works Commission which considers the claim following a formal hearing and recommendation by a Hearing Examiner.	Appeal of the Public Works Commission's decision must be filed in Superior Court for Suffolk County if claim exceeds $2,000 and in county where claimant resides if claim is less than $2,000.

State	State's immunity to contract claim suits	Departmental Claim Review	Special Review Bodies	Judicial Remedies and Procedures
Michigan	Constitution provides that procedures for adjustment of claims against the State shall be prescribed by law. Legislature has established a Court of Claims for con tract claims against the State.	Informal review by departmental staff. Final determination by Director of Department of State Highways and Transportation may be appealed to Court of Claims.		Notice of intent to sue in the Court of Claims must be filed within 1 year after claim accrues and suit must be filed within 3 years after claim accrues. Cases are tried by one judge without a jury. Court of Claims decisions may be appealed in the same manner as other non-jury circuit court cases.
Minnesota	Constitution does not deal with suits against the State but Legislature has waived immunity to suits on highway contract claims.	Informal review by departmental staff. Final determination by Claims Engineer may be basis of litigation.	Department is authorized to include an arbitration clause in construction contracts, but it has not done so.	The contractor may bring suit where he resides, where the work was done, or in Ramsey County. Suit must commence within 90 days after receiving final voucher or 6 months after doing work.
Mississippi	Constitution does not deal with suits against State, but courts have held that legislative authority to make and perform contracts waived immunity to suit on them.	Informal review by departmental staff. Final determination by Director of State Highway Department may be basis of litigation.	All State highway construction contracts provide for arbitration of claims if requested by either party. State Arbitration Board has jurisdiction of claims up to $25,000. Larger claims are arbitrated by specially selected panels. Awards may be appealed to Circuit Court.	Before bringing suit on any State claim it must be submitted to Auditor of Public Accounts for approval or denial. The refusal of Auditor to issue a warrant for payment is a jurisdictional requirement for suit.
Missouri	In absence of constitutional or statutory provisions relating to immunity of the State from suit, Missouri courts have hald that the Highway Commission's corporate status and authority to sue and be sued makes it amenable to suit on contract claims.	Formal procedure for review involves filing claim with Highway Commission followed by consideration by departmental Claims Committee and staff, Final determination by Chief Engineer may be appealed to Highway Commission. Decision by Commission may be basis of litigation.		Suit againsT Highway Commission to recover contract claim previously denied may be brought in Circuit Court of county where disputed work was performed. Also, claims may be brought against State Auditor for mandamus to issue warrant for payment of claim notwithstanding that other judicial and legislative remedies are available to claimant.
Montana	Constitution does not deal with suits against the State but Legislature has authorized suits on claims or other disputes involving contracts.	Informal review by departmental staff. Claim must be filed within 90 days after accrual. Final detaermination by Highway Commission following hearing (or Chief Engineer in case of small claim) may be the basis of litigation.		Suit to recover a contract claim must be filed in a State district within 1 year after the dispute accrues or after final administrative disposal of the claim. Exhaustion of administrative remedies is a prerequisite to suit.

State	State's immunity to contract claim suits	Departmental Claim Review	Special Review Bodies	Judicial Remedies and Procedures
Nebraska	Constitution authorizes suits against State, and Legislature has provided procedures for certain types of contract claims.	Informal review by detartmental staff. Final determination by Director-State Engineer may be basis for litigation.		Statutory procedure for suit to recover contract claim requires that claim be submitted to Director of Administrative Services for adjudication prior to bringing court action. After denial of claim, suit may be filed in District Court of Lancaster County.
Nevada	Pursuant to constitutional authority, the State Legislature has enacted general waiver of immunity from suits and civil liability on contract claims.	Review starts with formal processing by Highway Claims Review Board, followed by investigation, hearing and recommendations to departmental Director. Final determination by Director may be basis for litigation.		Suits to recover contract claims may be brought in the county where the cause of action arose or in the county where the plaintiff resides.
New Hampshire	Constitution does not deal with suits against the State, but Legislature has waived immunity to suit on contract claims.	Informal review by departmenral staff. Final determination by Commissioner may be basis for litigation.		Suit to recover rejected contract claim may be brought in Superior Court which has jurisdiction over all issues arising under the contract, including setoffs and counterclaims.
New Jersey	Constitution does not deal with suits against the State but Legislature has waived immunity to suits on contract claims.	State Administrative Code has rules for formal review of claim by Departmental Claims Committee. Final determination by Deputy Commissioner of Transportation is made with advice from staff and Claims Committee.		Suit to recover a claim under State's Contractual Liability Act may be filed in Superior Court at any time during the administrative review. Jurisdictional requirements include (1) notice to State of condition or event on which claims is based at least 90 days after accrual of claim, (2) commencement of suit within 1 year after completion of contract or 2 years after accrual of claim, and (3) lack of settlement or acceptance of earlier award.
New Mexico	Constitution does not deal with suits against the State but Legislature has authorized suits against the State on contract claims.	Claim denied by Project Engineer may be submitted to a departmental Claims Hearing Board for investigation and determination. If Board's decision is adverse, claimant may submit his claim to State Highway Commission. Final determination by Highway Commission may be basis of litigation.		Suit to recover contract claim must be based on a written contract and commenced within two years after accrual of cause of action.

State	State's immunity to contract claim suits	Departmental Claim Review	Special Review Bodies	Judicial Remedies and Procedures
New York	Constitution authorizes creation of Court of Claims to determine claims against State. Courts have held that legislative establishment of Court of Claims constitutes waiver of State's immunity to suit on contract claims.	Informal review by departmental staff. Final departmental determination by Commissioner is made with advice of staff. In addition, contractor and department meet at completion of work to review and negotiate any unresolved claims. Departmental determination may be basis of Court of Claims suit.		Suit must be filed within 6 months after accrual of claim unless notice of intent to sue is filed within that time. If notice is filed, suit must be brought within 2 years after accrual of claim.
North Carolina	Constitution does not deal with suits against the State and courts have held that State is immune from suits except as expressly authorized by law. Legislature has enacted procedures for suit on contract claims.	Claims denied by Project Engineer may be submitted to State Highway Administrator within 60 days after receiving final estimate. Final determination by Administrator is made after conference with contractor and may be basis of litigation.		Suit to recover contract claim must be filed within 6 months after denial by State Highway Administrator. Suit must be filed in Superior Court of Wake County or any county in which the disputed work was performed.
North Dakota	Constitution provides that State may be sued in the manner prescibed by law. Legislature has enacted procedures for suits based on contracts, and has authorized arbitration.	Informal review by departmental staff. Final determination by Assistant Chief Engineer may be the basis for litigation or arbitration.		If arbitration is requested, the claim is submitted to a 3-member board with each party nominating one member and the third designated by these two nominees. The arbitration may deal with all issues under the contract. Judgment is enforceable in the same manner as other voluntary arbitration. In lieu of arbitration, a contractor whose claim is denied by departmental review may bring suit in the State's district courts. Jurisdictional requirements include showing that the claim has been presented to and rejected by State Department of Accounts and Purchases.
Ohio	Constitution provides that suits against the State may be brought in the manner prescribed by law. Legislature has provided for suits in a Court of Claims.	Claims are referred to the Central Office's Bureau of Construction for investigation and recommendation. If contractor disagrees with Bureau's recommendations, and negotiations for settlement are unsuccessful, contractor may sue in Court of Claims.		Suit in Court of Claims must be brought within 2 years after cause of action accrues or any shorter period applicable to similar suits between private parties.

State	State's immunity to contract claim suits	Departmental Claim Review	Special Review Bodies	Judicial Remedies and Procedures
Oklahoma	In absence of constitutional or statutory provisions relating to sovereign immunity, courts have held that the Department's authority to enter into contracts allows it to be sued on such contracts.	Claims not settled at Project and Division levels may be referred to departmental Board of Claims. Final determination by Highway Commission may be basis of litigation.		Suit to recover contract claim may be brought in State's district court.
Oregon	Pursuant to constitutional authorization, Legislature has provided that State and counties may be sued on contract claims.	Informal review by departmental staff. Final determination by State Highway Engineer is made with advice of departmental Contract Claims Review Board, and may be the basis for litigation.		Suit may be brought to recover a contract claim within 1 year after final estimate and voucher has been sent to contractor or after departmental denial of the claim.
Pennsylvania	Pursuant to constitutional authorization, Legislature has created a Board of Claims for determination of contract claims, and has authorized appeal to courts.	Informal review by Chief Highway Engineer with appeal to Secretary or Deputy Secretary of Transportation, whose decision may be appealed to Board of Claims.	Board of Claims is a 3-member body, consisting of a lawyer, a civil engineer, and a layman. Board is authorized to investigate and hold hearings. Decisions may be appealed to courts.	Decisions of Board of Claims may be appealed to the Commonwealth Court within 30 days after being issued. Board decisions are affirmed unless found contrary to law or the evidence. If not affirmed Board decisions may be modified, set aside or remanded.
Rhode Island	Constitution makes no provision for suits against the State, but Legislature has authorized arbitration and litigation for highway contract claims. Legislative relief also is available.	Informal review by departmental Claims Board with appeal to Chief Engineer and to Director of Highways. Final decision by Director may be basis for special petition to Legislature.	Special relief bills introduced in the Legislature are referred to a Joint Committee on Accounts and Claims which investigates and makes recommendations on claims, including efforts to negotiate seetelemt between claimant and agency.	Arbitration by a specially selected 5-member panel is required for claims under contracts for public buildings costing more than $10,000. Litigation in Superior Court is authorized for claims not covered by arbitration.
South Carolina	Pursuant to constitutional authorization, Legislature has created a State Budget and Control Board. Also, courts have held that highway agency's authority to make contracts waives immunity to suit on contract claims.	Informal review by departmental staff. Final determination by Chief Engineer may be basis for litigation or special legislative remedy.	Claims against State agency may be filed with Legislature prior to opening of session. Legislative relief by special appropriation may be authorized. Claims are barred from legislative relief after 3 years from date claimant's right arose.	Suit to recover contract claim denied by departmental review may be brought in Circuit Court, and may deal with any issue arising out of the contract's terms.

State	State's immunity to contract claim suits	Departmental Claim Review	Special Review Bodies	Judicial Remedies and Procedures
South Dakota	Pursuant to constitutional directive, Legislature has established a special commission for adjudicating claims, and has waived immunity to suit on contract claims.	Claims not resolved at the project level are referred to State Highway Engineer, who makes a determination after recommendations of a departmental Claims Committee. Final decision by State Highway Engineer may be basis for other remedies.	Commission to Investigate Claims Against the State makes recommendations to Governor who submits them to next legislative session for consideration. Claims must be submitted to Commission within 1 year after accrual.	Suits to recover contract claims denied by departmental review may be broughtin Circuit Court of any county where part of the disputed construction work occurred. Suit must be brought within 2 years after date of completion of contract.
Tennessee	Pursuant to constitutional authority, Legislature has created a Board of Claims to adjudicate claims against State agencies. Legislature also has given jurisdiction for judicial remedy against State in contract cases.	Informal review by departmental staff. Final determination by Highway Commissioner may be appealed to Board of Claims.	Board of Claims is composed of State Commissioner of Personnel, Commissioner of Revenue, Comptroller, and Secretary of State. Determination of claims is made after investigation and formal hearing. Awards are enforceable as judgments.	Suits to recover contract claims may be brought in circuit and chancery courts of Davidson County, and are subject to the statute of limitations for civil actions generally.
Texas	Neither the State constitution, statutes or court decisions have authorized suits against the State. Claims must be settled by administrative determination or legislative action.	Claims not resolved at the District level are referred to a departmental Claims Committee for interpretation of the contract terms. Final determination by the Highway and Transportation Commission may be basis for special legislative relief.		Special permission to sue the State to recover a contract claim may be granted by the legislature on petition by claimant either after or in lieu of seeking administrative remedy.
Utah	Constitution makes no provision for suits against the State, but Legislature has waived immunity to suit on contrct claims.	Claims not settled at the headquarters level are referred to a departmental Claims Review Panel which is final administrative authority, but may be basis for litigation.		Suits to recover contract claims denied by Claims Review Panel may be brought in District Court
Vermont	Constitution has no provision for suits against the State, but Legislature has provided special tribunals and procedures for recovery of claims.	Claims not settled at the project level are referred to Chief Engineer whose determination may be appealed to State Highway Board. The Board's final determination may be basis for litigation.	Claims Commission may determine validity of claims under $1000 and make award to claimant.	Suits to recover contract claims denied by the Transportation Board may be brought in Superior Court.

State	State's immunity to contract claim suits	Departmental Claim Review	Special Review Bodies	Judicial Remedies and Procedures
Virginia	Constitution makes no provision for suits against the State, but Legislature has authorized suits to recover contract claims against the State.	Review by department staff; response by Chief Engineer. Contractor can appeal to Highway Commissioner. Administrative process is a prerequisite to litigation.		Suit to recover contract claim may be filed in Circuit Court for City of Richmond or in county where project was located.
Washington	Constitution waives State's immunity to suit and Legislature has provided procedure for bringing suits.	Informal review by departmental staff. Final determination by Secretary of Transportation or Transportation Commission may be basis for litigation.		Suit to recover contract claim may be filed in Superior Court of Thurston County within 180 days after approval of project's final estimate by the Commission.
West Virginia	Constitution prohibits suit against the State, but Legislature has established Court of Claims for cases against State otherwise barred by sovereign immunity	Informal review by departmental staff. Final determination by Highway Commissioner may be basis for suit in Court of Claims.		Court of Claims suits to recover contract claims must be brought within 120 days after acceptance of payment. Court awards must be approved by Governor and State Auditor. Court denial of a claim bars further action to collect it.
Wisconsin	Pursuant to constitutional authorization, Legislature has established procedure for a State Claims Board and for suit in courts.	Informal review by departmental staff. Final determination by Secretary of Transportation may be submitted to State Claims Board.	State Claims Board is composed of representatives of Governor, Attprney General, Department of Administration and chairpersons of Senate and Assembly Committees on Finance. Following hearings, the Board recommends action to Legislature through Joint Committee on Finance.	Suit against the State on a claim denied by State Claims Board may be filed with special permission of the Legislature. Suit must be brought after claim arose.
Wyoming	Pursuant to constitutional authority, Legislature has established procedure for suits to recover contract claims against the State.	Informal review by departmental staff. Final determination by departmental Superintendenent may be appealed to State Highway Commission under rules of State Administrative Procedure Act. Commission decision is subject to judic ial review.		Appeal for judicial review of Highway Commission decision may be brought in State District Courts. Review is limited to the administrative record to assure that decision gave full consideration to the record and the law.
District of Columbia	Organic legislation provides that claims may be determined by Contract Appeal Board.	Claims not settled at Project leval are referred to Contracting Officer who makes determination with advice of department staff.	Contract Appeals Board, under its own procedures, investigates and hears evidence on claims. Decisions are conclusive on matters of fact, but legal issues are subject to judicial review.	Appeals for judicial review of Contract Appeals Board decisions may be brought in Superior Court. Review is limited to the administrative record.

APPENDIX B

EXCERPTS FROM THE GENERAL PROVISIONS OF THE GUIDE SPECIFICATIONS FOR HIGHWAY CONSTRUCTION

SECTION 104—SCOPE OF WORK

104.01 Intent of Contract. The intent of the contract is to provide for the construction and completion in every detail of the work described. The Contractor shall furnish all labor, materials, equipment, tools, transportation and supplies required to complete the work in reasonably close conformity with the plans, specifications and terms of the contract.

104.02 Alteration of Plans or Character of Work. The Department reserves the right to make, at any time during the progress of the work, such increases or decreases in quantities and such alterations in the work within the general scope of the contract, including alterations in the grade or alignment of the road or structure or both, as may be found to be necessary or desirable. Such increases or decreases and alterations shall not invalidate the contract nor release the surety, and the Contractor agrees to perform the work as altered, the same as if it had been a part of the original contract.

Under no circumstances shall alterations of plans or of the nature of the work involve work beyond the termini of the proposed construction except as may be necessary to satisfactorily complete the project.

Unless such alterations and increases or decreases materially change the character of the work to be performed or the cost thereof, the altered work shall be paid for at the same unit prices as other parts of the work. If, however, the character of the work or the unit costs thereof are materially changed, an allowance shall be made on such basis as may have been agreed to in advance of the performance of the work, or in case no such basis has been previously agreed upon, then an allowance shall be made, either for or against the Contractor, in such amount as the Engineer may determine to be fair and equitable.

No claim shall be made by the Contractor for any loss of anticipated profits because of any such alteration, or by reason of any variation between the approximate quantities and the quantities of work as done.

If the altered or added work is of sufficient magnitude as to require additional time in which to complete the project, such time adjustments may be made in accordance with the provisions of subsection 108.07.

Should the Contractor encounter or the Department discover during the progress of the work subsurface or latent physical conditions at the site differing materially from those indicated in this contract, or unknown physical conditions at the site of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the contract, the Engineer shall be promptly notified in writing of such conditions before they are disturbed. The Engineer will thereupon promptly investigate the conditions and if he finds they do so materially differ and cause an increase or decrease in the cost of, or the time required for performance of the contract, an equitable adjustment will be made and the contract modified in writing accordingly.

104.03 Extra Work. The Contractor shall perform unforeseen work, for which there is no price included in the contract, whenever it is deemed necessary or desirable in order to complete fully the work as contemplated. Such work shall be performed in accordance with the specifications and as directed, and will be paid for as provided under subsection 109.04.

SECTION 105—CONTROL OF WORK

105.01 Authority of the Engineer. The Engineer will decide all questions which may arise as to the quality and acceptability of materials furnished and work performed and as to the rate of progress of the work; all questions which may arise as to the interpretation of the plans and specifications; all questions as to the acceptable fulfillment of the contract on the part of the Contractor.

The Engineer will have the authority to suspend the work wholly or in part due to the failure of the Contractor to correct conditions unsafe for the workmen or the general public; for failure to carry out provisions of the contract; for failure to carry out orders; for such periods as he may deem necessary due to unsuitable weather; for conditions considered unsuitable for the prosecution of the work or for any other condition or reason deemed to be in the public interest.

. . . .

105.17 Claims for Adjustment. If, in any case, the Contractor deems that additional compensation is due him for work or material not clearly covered in the contract or not ordered by the Engineer as extra work, as defined herein, the Contractor shall notify the Engineer in writing of his intention to make claim for such additional compensation before he begins the work on which he bases the claim. If such notification is not given, and the Engineer is not afforded proper facilities by the Contractor for keeping strict account of actual cost as required, then the Contractor hereby agrees to waive any claim for such additional compensation. Such notice by the Contractor, and the fact that the Engineer has kept account of the cost as aforesaid, shall not in any way be construed as proving or substantiating the validity of the claim. If the claim, after consideration by the Engineer, is found to be just, it will be paid as extra work as provided herein for force account work. Nothing in this subsection shall be construed as establishing any claim contrary to the terms of subsection 104.02.

APPENDIX C

EXCERPTS FROM FEDERAL-AID HIGHWAY REGULATIONS RELATING TO FEDERAL-AID PARTICIPATION IN STATE CONTRACT CLAIM SETTLEMENTS (23 CFR, 1983)

PART 140—REIMBURSEMENT

Subpart E—Administrative Settlement Costs—Contract Claims

AUTHORITY: 23 U.S.C. 121, 315; 49 CFR 1.48(b); and OMB Circular A-102, Attachment G, Standard 2 (h) and (i).

SOURCE: 44 FR 59233, Oct. 15, 1979, unless otherwise noted.

§ 140.501 Purpose.

This regulation establishes the criteria for eligibility for reimbursement of administrative settlement costs in defense of contract claims on projects performed by a State under Federal-aid procedures.

§ 140.503 Definition.

Administrative settlement costs are costs related to the defense and settlement of contract claims including, but not limited to, salaries of a contracting officer or his/her authorized representative, attorneys, and/or members of State boards of arbitration, appeals boards, or similar tribunals, which are allocable to the findings and determinations of contract claims, but not including administrative or overhead costs.

§ 140.505 Reimbursable costs.

(a) Federal funds may participate in administrative settlement costs which are:

(1) Incurred after notice of claim,

(2) Properly supported,

(3) Directly allocable to a specific Federal-aid or Federal project,

(4) For employment of special counsel for review and defense of contract claims, when

(i) Recommended by the State Attorney General or State Highway Agency (SHA) legal counsel and

(ii) Approved in advance by the FHWA Division Administrator, with advice of FHWA Regional Counsel, and

(5) For travel and transportation expenses, if in accord with established policy and practices.

(b) No reimbursement shall be made if it is determined by FHWA that there was negligence or wrongdoing of any kind by SHA officials with respect to the claim.

PART 635—CONSTRUCTION AND MAINTENANCE

Subpart A—Contract Procedures

SOURCE: 39 FR 35152, Sept. 30, 1974, unless otherwise noted.

§ 635.114 Participation in progress payments.

Federal funds will participate in the estimated costs to the State highway agency of construction accomplished as the work progresses, based on claims submitted by State highway agency. When the contract provisions provide for stockpiling, the amount of the claim upon which participation is based may include the appropriate value of approved specification materials delivered by the contractor at the project site or other designated location in the vicinity of such construction, or stockpiled by the contractor at a location not in the vicinity of such construction, if the division administrator determines that (a) because of required fabrication at an off-site location the materials cannot be stockpiled in the vicinity of the project, (b) the materials have been purchased by the contractor, and (c) the materials conform with the requirements of the plans and specifications. The quantity of a stockpiled material eligible for Federal participation in any case shall not exceed the total estimated quantity required to complete the project. This value may not exceed the appropriate portion of the value of the contract item or items in which such material is to be incorporated.

§ 635.120 Claims and claim awards.

The eligibility for, and extent of, Federal-aid participation in claim awards made by the State to Federal-aid contractors on the basis of arbitration board awards or State court judgments shall be determined on a case by case basis. Generally, the criteria for establishing Federal-aid participation in claims and resultant settlements is the extent to which such settlements are grounded in contract pro-

visions and specifications and actual costs incurred. Where legal issues arise in the course of resolving a claim, any data submitted for consideration shall include a brief from the legal counsel for the State setting forth the basis for determining the extent of the State's liability for the claims under local law.

§ 635.121 Changes and extra work.

(a) Subsequent to authorization by the division administrator to proceed with a project or any undertaking thereunder, no change shall be made which will increase the cost of the project to the Federal Government or alter the termini, character or scope of the work without prior authorization by the division administrator.

(b) All major changes in the plans and contract provisions and all major extra work must be approved in writing by the division administrator in advance of their effective dates except that when emergency or unusual conditions justify, the division administrator may, give tentative advance approval orally to such changes or extra work and ratify such approval in writing as soon thereafter as practicable. For minor changes and minor extra work written approval is necessary but such approval may be given retroactively at the discretion of the division administrator. Such minor changes and minor extra work items would include, but not necessarily be limited to, modifications in construction items within the scope of the plans and contract provisions when such modifications are required during the progress of construction.

(c) Proposed changes and extra work involved in nonparticipating operations that may affect the design or participating construction features of a project, shall be subject to review and concurrence by the division administrator.

§ 635.122 Contract time and contract time extensions.

Contract time extensions granted by a State highway agency which affect project costs or liquidated damages, shall be subject to the concurrence of the division administrator and will be considered in determining the amount of Federal participation. To be approved by the division administrator, extensions of contract time must be fully justified and adequately documented.

§ 635.123 Submission of contract and force account documents.

A conformed copy of the contract between the State highway agency and the construction contractor and of each force account agreement shall be furnished to the division administrator as soon as practicable after it is executed.

APPENDIX D

STATE LEGISLATION AND COURT DECISIONS RELATING TO SETTLEMENT OF CONTRACT CLAIMS

STATE	LEGISLATION	COURT DECISIONS
Alabama	Const., Art. I, sec. 14 Code (1982 Supp.), sec. 41-9-62	Dunn Constr. Co. v State Bd of Adjustment, 175 So. 383 (1937) State v State Bd. of Adjustment, 32 So.2d 216 (1947)
Alaska	Const., Art. II, sec. 21 Stat. (1982 Supp.), secs. 09.50.250 et seq.; 44.77.010 et seq.	Wright Truck & Tractor Service Inc. v State, 398 P.2d 216 (1965)
Arizona	Const., Art. IV, sec. 18 Rev. Stat. (1982 Supp.), sec. 12-821	State v Angle, 104 P.2d 172 (1940)
Arkansas	Const., Art. V. sec. 20 Stat. (1981 Supp.), secs. 13-1401 et seq.	Caldwell v Donaghey, 156 S.W. 839 (1913)
California	Public Contract Code, Secs. 10228 et seq. (Laws, 1981, c.301) Govt. Code, secs 14410 et seq. Civil Procedure Code, sec. 1296	
Colorado		Ace Flying Service v Colorado Dept. of Agriculture, 314 P.2d 278 (1957)
Connecticut	Const., Art. XI, sec. 4 Gen. Stat. (1982 Supp.), secs. 3-7; 4-61	Horn v State, 330 A.2d 109 (1974)
Delaware	Const., Art. I, sec. 9 Code Ann. (1982 Supp.), Tit. 10, secs. 5701 et seq.	George & Lynch v State, 197 A.2d 734 (1964) State v Dabson, 217 A.2d 497 (1968) Kuhn Constr. Co. v State, 248 A.2d 612 (1968) James Julian Inc v Hall, 349 A.2d 750 (1975)
Florida	Const., Art. III, sec. 22 Stat. Ann. (1982 Supp.), secs. 337.19; 337.32	Southern Drainage Dist. v State, 112 So. 561 (1927) State Dept of Transp. v San Marco Contracting Co., 333 So.2d 77 (1976)

STATE	LEGISLATION	COURT DECISIONS
Georgia	Const., Art. I, sec. III, par.I; Art. VI., sec. V, par. I	Azizi v Bd. of Regents, 212 S.E.2d 627 (1975) University System v Blanton, 176 S.E. 673 (1934) State Highway Dept. v Knox-Rivers Constr. Co., 160 S.E.2d 641 (1968) Hewitt Constr. Co. v State Highway Dept., 149 S.E.2d 735 (1966) State Highway Dept. v W.L. Cobb Constr. Co., 143 S.E.2d 500 (1965) Meadow Motors Inc. v Dept. of Admin. Services, 233 S.E.2d 14 (1977) CPI Constr. Co. v Bd. of Regents, 243 S.E.2d 700 (1978) National Distributing Co. v Dept. of Transp., 283 S.E.2d 470 (1981)
Hawaii	Rev. Stat. (1980 Supp.), c.661	
Idaho	Const., Art. IV, sec. 18; Art. V, sec. 10 Code (1981 Supp.), secs. 67-2001 et seq.; 67-5201 et seq.	Grant Constr. Co. v Burns, 443 P.2d 1005 (1968) Jewett v. Williams, 369 P.2d 591 (1962) Padgett v Williams, 348 P.2d 944, 350 P.2d 353 (1960)
Illinois	Const., Art. XIII, sec. 4 Rev. Stat. (1982 Supp.), c.37, secs. 439.8, 439.24; c.127, sec. 801	Hoeffken Bros., Inc. v State of Illinois Div. of Highways, 30 Ill. Ct. Cl. 453 (1975) Kruger Constr. Co. v State, 28 Ill. Ct. Cl. 83 (1972)
Indiana	Const., Art. IV, sec. 24 Code (1981 Supp.), sec. 34-4-16-1	Etherton v Wyatt, 293 N.E.2d 43 (1973)
Iowa	Const. Art. II, sec. 31 Code (1982 Supp.), secs. 573.18; 613.11; 613.12; 679A.1 et seq.	Montandon v Hargrave Constr. Co., 130 N.W.2d 659 (1965) Hawkins/Korshoj v State Bd. of Regents, 255 N.W.2d 124 (1977) Jefferson County v Barton-Douglas Contractors, Inc., 282 N.W.2d 155 (1979)

STATE	LEGISLATION	COURT DECISIONS
Kansas	Stat. Ann. (1982 Supp.), secs. 5-201 et seq.; 68-407; 75-5004	Burke v Hufty Rock Asphalt Co., 18 P.2d 568 (1933)
Kentucky	Const., Sec. 231 Rev. Stat. (1982 Supp.), secs. 45A.225 et seq.; 45A-245	H.E. Cummins & Sons Constr. Co. v. Turnpike Authority, 562 S.W.2d 651 (1977)
Louisiana	Const., Art. XII, sec. 10 Rev. Stat. (1982 Supp.), sec. 49:22	Bazanac v State, 231 So.2d 373 (1970)
Maine		Kerr v State, 142 Atl. 197 (1928)
Maryland	Ann. Code (1982 Supp.), Art. 41, sec. 10A	
Massachusetts	Ann. Laws (1982 Supp.), c. 16, sec. 5(b); c.258, sec. 1; c.260, sec. 3A	DeMatteo Constr. Co. v Commonwealth, 156 N.E.2d 659 (1959) Campanello & Cardi v Commonwealth, 158 N.E.2d 304 (1959) Thomas Bros. Corp. v Commonwealth, 187 N.E.2d 666 (1963)
Michigan	Const. Art. IX, sec. 22 Stat. Ann. (1982 Supp.), secs. 27A.6401 et seq.	W.H. Knapp Co. v State Highway Dept., 18 N.W.2d 421 (1945) Zynda v Aeronautics Comm., 125 N.W.2d 858 (1964) Davidson v State, 201 N.W.2d 296 (1972) Blue Water Excavating Co. v State Highway Comm'r., 144 N.W.2d 630 (1966)
Minnesota	Stat. (1982 Supp.), secs. 3.751; 161.34	Spannaus v McGuire Architects-Planners, Inc., 245 N.W.2d 218 (1976) Kirckof Plumbing & Heating Co. v State, 240 N.W.2d 804 (1976) St Paul Dredging Co. v State, 107 N.W.2d 717 (1971)
Mississippi	Code Ann. (1982 Supp.), secs. 7-7-33; 11-15-1 et seq.; 11-45-1 et seq.	Stewart v State Highway Comm., 148 So. 218 (1933) Wunderlich v State Highway Comm., 184 So. 456 (1938) Horne v State Building Comm., 76 So.2d 356 (1954)

STATE	LEGISLATION	COURT DECISIONS
Missouri	Ann. Stat. (1982 Supp.), secs. 33.120; 226.100	State ex rel State Highway Comm. v Bates, 296 S.W. 418 (1927) State ex rel Newton McDowell v State, 67 S.W.2d 50 (1933)
Montana	Code Ann. (1981 Supp.), secs. 18-1-401 et seq.	
Nebraska	Const., Art. V, sec. 22 Rev. Stat. (1981 Supp.), secs. 24-319 et seq.; 77-2406; 77-2407	
Navada	Const. Art IV, sec.22 Rev. Stat. (1982 Supp.), sec. 41.031	
New Hampshire	Rev. Stat. Ann. (1981 Supp.), sec. 491.8	State v Peter Salvucci & Sons, Inc., 272 A.2d 854 (1970)
New Jersey	Stat. Ann. (1982 Supp.), secs. 59:13-1 et seq.; Admin. Code, secs 16:33-1 et seq.	
New Mexico	Stat. Ann. (1978 Supp.), sec. 37-1-23	Vinnell v State. 512 P.2d 71 (1973)
New York	Const. Art. VI, sec. 9 McKinney's Consol. Laws, v.29A, "Judiciary", Pt.2, (Court of Claims Act), sec. 8, 9. State Finance Law, sec. 145	Taylor v State, 58 NYS 2d 33 (1945)
North Carolina	Gen. Stat. (1981 Supp.), sec. 136-29	Smith v State, 222 S.E.2d 412 (1976) S. J. Groves & Sons & Co. v State, 273 S.E.2d 465 (1980)
North Dakota	Const., Art. I, sec. 9; Art.X, sec. 12 Cent. Code Ann. (1979 Supp.), secs. 24-02-26 et seq.; 32-12-02 et seq.	Ford Motor Co. v Baker, 300 N.W. 435 (1941)
Ohio	Const., Art. I, sec. 16 Rev. Code (1980 Supp.), secs 2743.02 et seq.	
Oklahoma		Coffey v McMullen, 570 P.2d 1152 (1977) State Bd. of Public Affairs v Principal Funding Corp., 542 P.2d 502 (1975)

STATE	LEGISLATION	COURT DECISIONS
Oregon	Const., Art IV, sec. 24 Rev. Stat. (1981 Supp.), secs. 30.320; 30.330; 33.210	
Pennsylvania	Const., Art. I, sec. 11 Stat. (1982 Supp.), Tit. 72, secs. 4651-1-1 et seq.	Foley Bros. v Com. Dept. of Highways, 163 A.2d 80 (1960) Adam Eidmiller, Inc. v Com. Dept of Highways, 182 A.2d 911 (1962) Com. Dept. of Transportation v Driscoll Constr. Co., 381 A.2d 516 (1978)
Rhode Island	Gen. Laws (1981 Supp.), secs. 22-7-1 et seq.; 37-13-1; 37-16-1 et seq.	Sterling Engineering & Constr. Co. v Burrisville Housing Authority, 279 A.2d 445 (1971)
South Carolina	Const., Art XVII, sec. 2 Code (1982 Supp.), secs. 1-11-10; 2-9-10 et seq.; 57-3-620	Kinsey Constr. Co. v So. Carolina Dept. of Mental Health, 249 S.E.2d 900 (1978) L.J.Inc. v So. Carolina Highway Dept., 242 S.E.2d 656 (1978) Wilder v So. Carolina Highway Dept., 90 S.E.2d 635 (1955)
South Dakota	Const., Art. III, sec. 27 Comp. Laws (1982 Supp.), secs. 21-32-1 et seq.; 31-2-34	Griffis v State, 11 N.W.2d 138 (1943) Peter Kiewit Sons Co. v So. Dakota State Highway Dept., 269 F.Supp. 333 (1967)
Tennessee	Const., Art. I, sec. 17 Code Ann. (1982 Supp.), secs. 9-8-101; 29-10-101 et seq.	Schoenly v Nashville Speedways, Inc., 344 S.W.2d 349 (1961)
Texas	Const., Art. III, sec. 44	
Utah	Const., Art. VII, sec. 13 Code Ann. (1979 Supp.), secs. 27-12-9; 63-30-5 et seq.	
Vermont	Stat. Ann. (1982 Supp.), Tit. 32 sec. 931 et seq.	
Virginia	Code (1982 Supp.), secs. 8.01-192 et seq.; 8.01-255; 33.1-382 et seq.	

STATE	LEGISLATION	COURT DECISIONS
Washington	Const., Art. II, sec. 26	Romano Engineering Co. v Seattle, 112 P.2d 549 (1941)
	Rev. Code (1982 Supp.), secs. 4.92.010 et seq.; 47.28.120	
West Virginia	Const., Art. VI, sec. 35	
	Code (1981 Supp.), secs. 14-2-1 et seq.	
Wisconsin	Const., Art. IV, sec. 27; Art VIII, sec. 2	
	Stat. Ann. (1982 Supp.), secs. 15.105(2); 16.007; 775.01	
Wyoming	Const., Art. I, sec. 8	Utah Constr. Co. v State Highway Comm., 19 P.2d 951 (1933)
	Stat. (1980 Supp.), secs. 9-4-101 et seq.; 9-2-332; 24-2-101	Price v State Highway Comm, 167 P.2d 309 (1946)
		Tri-County Electric Assn. v City of Gillette, 525 P.2d 3 (1974)
District of Columbia	D.C. Reorganization Plan No. 5, (66 Stat. 324)	Gunnell Constr. Co. v District of Columbia, 551 F.2d 425 (1977)
	D.C. Reorganization Plan No. 9, Pt. 6, DCCE, Tit. 1, App. III	

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