The ASFE story

L'histoire d'ASFE

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SYNOPSIS The Association of Soil and Foundation Engineers (ASFE) is an association of consulting geotechnical engineering firms. Established in 1969, ASFE has developed a variety of professional liability loss prevention programs and materials. By using these programs and materials, members of ASFE have gained what reportedly is the best professional liability loss prevention record of all U.S. design professionals. In the year of ASFE's formation, geotechnical engineers had the worst liability record of all U.S. design professionals, a situation which threatened the continuance of consulting soil and foundation engineering as a distinct practice.

INTRODUCTION

The Association of Soil and Foundation Engineers (ASFE) is, perhaps, the most successful of all ten-score national engineering groups in the United States. Formally established in March 1969, the organization's initial purpose was to develop means by which its member consulting soil and foundation (geotechnical) engineering firms could reduce their exposure to professional liability claims and losses.

ASFE's accomplishments have been extraordinary. According to insurance sources, consulting geotechnical engineers in 1969 had the worst loss experience of any branch of the design professions. By 1982, the group's members were credited with having the best loss experience record of all design professionals.

Why has ASFE succeeded where other groups -- most far larger and much wealthier -- have failed? In the mid-1970s, when ASFE first gained national attention, that question was answered by "conventional wisdom": Because soil and foundation engineering firms were the first to be assaulted by "litigious mania," they were the first to respond. As a consequence, the argument went, their organization -- ASFE -- was thrust into the vanguard largely by circumstance. But a decade later, ASFE remains in the vanguard, virtually alone, thus disproving conventional wisdom. What, then, is the cause of ASFE's success? No one can say for a certainty, but an analysis of ASFE's most significant programs is instructive. It reveals that almost all have been based on ideas and concepts which had been successfully advanced in other fields, and that each involved risk: There was no assurance it would be accepted once developed, or that it would be effective once applied.

In fact, the two principal characteristics of ASFE's most significant programs are mirrored by characteristics unique to geotechnical engineering. In essence, geotechnical engineers are involved with more types of projects and clients than most other design professionals, and thus are exposed to more different ideas and concepts. Geotechnical engineers also are more involved in the analysis of risks, and have grown used to basing their recommendations on conditions whose existence is less than certain. Given this relationship, it can be hypothesized that ASFE has taken a lead role because the nature of those who comprise the group has given ASFE the wherewithal to function as a pioneer.

A BRIEF HISTORY OF THE ORGANIZATION

Professional liability problems are a relatively new phenomenon in the United States. Through the first half of the twentieth century they were relatively unheard of. Learned professionals comprised an important part of the nation's generally esteemed leadership community. Their position in society was such that few were willing to challenge their judgements. Starting in the mid-1950s, however, attitudes toward learned professionals began to change. Americans became far less intimidated by "professional status," and far less tolerant of professionals' errors.

Insofar as design professionals were concerned, none were more seriously affected by these new attitudes than soil and foundation engineers. The unique nature of their work was not understood, and they had done little to dispel the notion that something less than perfection was the rule rather than the exception. As a consequence, they were being bombarded with lawsuits, many initiated on a frivolous basis, in the hopes of winning an out-of-court settlement for a sum less than what a geotechnical engineer would have to pay to prove his innocence in court. Thus, by 1968, the profession of soil and foundation engineering stood on the edge of an abyss: Relatively few of its practitioners in independent private practice could obtain

professional liability insurance at any price, and to continue practice in such a litigious environment without insurance seemed to create too great a risk.

On December 11, 1968, senior principals of ten consulting geotechnical engineering firms met in Chicago, Illinois, to discuss the problems they faced. The individuals involved were A. C. Ackenheil (A. C. Ackenheil & Associates, Inc.), Charles A. Bragg (Eustis Engineering Company), Bramlette E. McClelland (McClelland Engineers, Inc.), James J. Schnabel (Schnabel Engineering Associates), John P. Gnaedinger (Soil Testing Services, Inc.), James Haley (Haley & Aldrich), E. D'Appolonia (E. D'Appolonia Consulting Engineers, Inc.), Donald E. Clark (Cooper, Clark and Associates), William L. Shannon (Shannon & Wilson, Inc.), and W. A. Wahler (W. A. Wahler & Associates). Also meeting with the group: Edward B. Howell, president of Risk Analysis & Research Corporation; Felix Kloman, with Alexander & Alexander, Inc., insurance brokers, and James V. Atkins, of Hurley, Atkins and Stewart, insurance brokers.

Principal concerns of the group were obtaining professional liability insurance and reducing the problems leading to professional liability claims and losses. With respect to the latter issue, a task committee was formed to review and prepare recommendations for "a standard form of agreement for professional services by a soil mechanics and foundation engineer, procedures for handling agreements prepared by others which contain for instance an uninsurable hold harmless clause, procedures for handling on-the-job disputes between soil mechanics and foundation engineer and civil engineer or contractor or owner, defense measures and reports, and defense procedures for injuries to contractor's employees." In addition, Risk Analysis and Research Corporation (RAR) was retained to put together an insurance package.

The group met again in March 1969 and decided to establish Associated Soil & Foundation Engineers, Inc. (later changed to Association of Soil and Foundation Engineers), a nonprofit organization whose purpose would be "to promote the interests and conditions of practice of soil and foundation engineering." RAR was retained to identify principal causes of professional liability claims against consulting soil and foundation engineers, and to develop techniques and recommendations for reducing exposures to them.

The group met again in April 1970, and copies of ASFE's new Practice Reference Manual were distributed to the 26 members attending. It was at this meeting that ASFE first broached the idea of limiting liability in the contract of hire. The group was favorably inclined toward the concept and authorized research. Six months later, at a meeting in Pittsburgh, it was suggested that a limit of $50,000 or the fee, whichever was higher, would be appropriate. The insurance group met separately following that meeting and formation of a separate insurance company was considered. The concept was formally adopted in April 1971, leading to creation of what today is known as Terra Insurance, Ltd. Also in April 1971, at their regular meeting, ASFE members were introduced to yet another new concept: The Institute of Professional Practice (IPP). As discussed, the IPP would comprise a comprehensive educational experience for mid-level managers of geotechnical engineering firms. Through home study and a seminar, they would learn not about geotechnical engineering, but rather about factors comprising the context in which geotechnical engineering services are provided: the history of civil engineering; the impact of law, and the importance of effective contracts and communications, among other subjects. Meeting attendees also heard a psychologist discuss "People Factors in Professional Liability Loss Prevention."

Moving swiftly, ASFE held a special meeting in August 1971, where materials for implementation of the group's new limitation of liability concept were distributed. Afterward, the insurance group discussed plans to establish an offshore insurance company headquartered in Bermuda. ASFE's regular meeting was held two months later, and a psychologist/philologist addressed the subject, "Limitation of Liability -- A Problem in Group Communications." It was at this meeting that plans for implementing the Institute of Professional Practice were reported. Both the IPP and limitation of liability represented dramatic new developments which ASFE members voted unhesitatingly to carry forward.

Due to membership growth, the organization voted in April 1973 to retain the services of an independent association management firm. By 1984, the group's membership exceeded 200 firms operating from some 700 offices. Although most member firms and offices are located in the United States, ASFE membership is not restricted to U.S. firms.

A key factor in ASFE's extensive growth has been its near 100 percent retention of existing members from year to year. Members say they continue to support ASFE because membership is cost-effective. The organization's programs and materials help them avoid costly claims and losses while also helping them improve the professionalism of their practices.

ASFE today is governed by a seven-member Board of Directors consisting of a President, President-Elect, Treasurer, Secretary, two Directors-at-Large, and the Immediate Past President. In addition, the elected chairman of the ASFE Institute of Professional Practice Alumni Council serves as a nonvoting member (Associate Director) on the Board. The Institute of Professional Practice Alumni Council (IPPAC) was established by ASFE to function somewhat as an organization within an organization. Consisting of those who have graduated from the IPP program, IPPAC elects its own leadership to identify the concerns of younger members of firms' hierarchies. In addition, IPP alumni serve on most ASFE committees to provide additional perspective and to obtain in-depth involvement in professional matters to better equip them for

the leadership roles which eventually will be theirs.

Another ASFE "organization within an organization" is its Council of Fellows. It consists of well-recognized senior leaders of consulting soil and foundation engineering, who are responsible for identifying issues worthy of their pursuit and for shepherding new ideas through development.

One of the key responsibilities of the Council of Fellows is participation in annual updating of the ASFE Long-Range Plan, the first version having been developed in October 1977. The Plan identifies six objectives for the group. These include:

1. Develop programs to improve the quality of geotechnical consulting services provided to clients of member firms.

2. Develop and promote effective procedures for reducing professional liability losses of geotechnical and other design professionals, and improve methods of conflict resolution within the construction industry.

3. Broaden ASFE firm membership and increase individual participation to extend the influence and effectiveness of the Association.

4. Promote the professional development of employees.

5. Improve business practices and conditions of practice for soil and foundation engineers.

6. Improve the image of soil and foundation consultants.

ASFE's success in working for attainment of these objectives has significantly improved the environment faced by today's consulting geotechnical engineering firms. Professional liability insurance is now available to them from several sources, including Terra Insurance, Ltd. Participation in ASFE activities is required to obtain and maintain coverage from Terra which, in essence, utilizes ASFE as its loss reduction program; an approach which reportedly has greatly enhanced the company's claims experience.

ASFE PROGRAMS AND MATERIALS

Before discussing some of the additional ASFE programs and materials, it should be noted that, with few exceptions, all are available to members free of charge. This unusual policy reflects the organization's philosophy that nothing should inhibit the effective dissemination of loss prevention knowledge. For this reason, too, ASFE has made known its willingness to share its programs and materials with other groups. And, as will be seen, ASFE has much to offer.

Loss Prevention Seminars

Each of the two annual ASFE meetings features a loss prevention seminar. Speakers have included psychologists, sociologists, psychiatrists, futurists, jurists, attorneys -- even a manager of terrorist incidents -- among many others. The goal in many of these instances has been to expand attendees' horizons, to give them a better understanding of how people think. Many speakers also have addressed certain of the "nuts and bolts" of professional liability loss prevention, as well as related issues such as selection and retention of design professionals, serving as an expert witness, and so on.

In November of 1981, ASFE initiated a long-planned series of supplemental regional loss prevention seminars. The regional seminars, manned by IPP alumni, comprise an outreach service particularly for those personnel who would not ordinarily attend a national loss prevention seminar. The first series of regional seminars, concluded in 1983, concentrated on developing effective contracts. The second series, scheduled for implementation through 1986, will emphasize techniques for developing loss prevention programs within a firm.

Limitation of Liability

Limitation of liability -- one of ASFE's oldest programs -- initially met strong resistance. Although the concept itself was centuries old, it had never before been applied to a learned profession. To help gain acceptance, ASFE established a committee which used ASFE-prepared audio-visual presentations to introduce the subject to audiences throughout the nation. As ASFE explained it, limitation of liability was fair and reasonable. Without such a limit, geotechnical engineers would be forced to assume risks out of all proportion to the fees they received. Some antagonists claimed the concept was unprofessional. ASFE demurred. It pointed out that many liability problems could be prevented simply by discussing the issue before signing a contract. Limitation of liability comprised an excellent vehicle for stimulating such discussion, and for ultimate development of mechanisms which would help mitigate typical problems before they occurred. This approach, ASFE contended, was far more professional than blithely entering into a project under the unrealistic assumption that problems would not occur.

Opponents of limitation of liability also said the concept would encourage less-than-optimal performance by a geotechnical engineer. ASFE's response: The $50,000-or-fee (whichever is higher) limit was (and still is) a minimum which can be negotiated upward and, in any event, the limitation does not apply to third-party suits. This latter issue is significant because, in U.S. courts, third parties may claim negligence against design professionals despite the absence of a contractual relationship (privity). Also, ASFE said, the existence of a limitation of liability clause encourages clients to select their design professionals with more care, as by examining

the quality management programs of those firms interested in providing service.

Detractors also stated that limitation of liability for design professionals would not stand a court challenge. This argument, too, has fallen by the wayside. The legality of limitation of liability for design professionals has been upheld by courts in at least two significant instances. Also by the wayside: Detractors' claims that limitation of liability would never be accepted by owners. In fact, limitation of liability is now virtually a standard element of most U.S. consulting soil and foundation engineers' contracts and -- in some areas of the nation -- it is applied extensively by other engineers and architects as well.

ASFE today has three documents to create better understanding and foster greater use of limitation of liability. The basic document -- Limitation of Liability: A Handbook for Members -- is a 20-page guide written for geotechnical engineering firms. It explains the background of the concept and specific elements of the contract clause involved; identifies typical questions that are posed and suggested answers, and provides a number of exhibits for direct use. These exhibits include "Model General Conditions for Use with Letter Agreement between the Consulting Geotechnical Engineer and the Client," "Model General Conditions Phraseology," "Model Short Contract (Letter Form) Written to Small Client," and "Model Work Order." The other two documents -- What Owners Should Know about Limitation of Liability and What Contractors Should Know about Limitation of Liability -- are intended for distribution by geotechnical engineers to owners and contractors, respectively.

Peer Review Program

ASFE's Peer Review Program is considered one of the organization's most significant contributions to the engineering profession. Through it, professional and managerial aspects of a consulting geotechnical engineering practice are reviewed in detail by a peer review team, (typically consisting of two or more principals of other firms, for two days (team size and length of stay vary according to size of office being reviewed). At the conclusion of the review, the chief executive officer (CEO) of the office involved receives a frank appraisal from the peer review team coordinator, based on what the team has read, seen and heard. Both those reviewed and those performing the reviews agree almost unanimously that participation in the peer review process has been among the most fulfilling challenges of their careers.

The idea for peer review was not new to ASFE. It had been developed earlier by the American Institute of Certified Public Accountants (AICPA). ASFE's Board of Directors discussed the concept at length in October 1976, and it voted unanimously to investigate its potential. The assignment was given to the Council of Fellows.

Working with AICPA-provided materials, the Council embarked on developing a program uniquely suited for ASFE members. It identified a number of written materials essential to quality performance; materials a firm would be required to provide to peer reviewers prior to visitation. Among the items involved: policy and procedures manual, project procedures manual, organizational charts, job descriptions, policies relative to assigning personnel to projects and use of outside consultants, and a description of information retrieval systems. In essence, then, firms were informed of the types of materials essential to quality management. This later led to development of ASFE's A Guide to Establishing Quality Control Policies and Procedures in Geotechnical Engineering Practice.

Four offices were peer reviewed on a pilot basis and, in October 1978, the Council of Fellows reported results to the ASFE membership. Members' enthusiastic response encouraged the Council to press on and, ultimately, a fully tested and operational program was turned over to a new Peer Review Committee for ongoing program management and refinement.

The benefit of ASFE's peer review program has been so significant that, in 1982, Terra Insurance, Ltd., made it incumbent on all insureds -- to maintain coverage -- to have each principal office peer reviewed at least once every three years. Soon thereafter, as planned, the Peer Review Committee, working with representatives of the Council of Fellows and Terra, performed a comprehensive review of the program, based on surveys of experience, and instituted comprehensive program revisions. These call for ASFE to receive a modest fee ($250) for administering a peer review, and for peer reviewers to receive an honorarium in addition to reimbursement of expenses. Also, all peer reviewers must every three years undergo retraining through special peer reviewer training sessions held for the purpose.

According to ASFE's Long-Range Plan, it is the group's goal to have all appropriate member offices peer reviewed once every three years. ASFE has no plans to require all firms to undergo peer review nor are the results of any given peer review used for purposes other than the specific information of the reviewed office. The general experiences of peer reviewers are gathered through survey to indicate to the organization areas where new loss prevention programs and activities possibly should be directed. The experiences of CEOs of peer-reviewed offices also are ascertained through survey, to monitor the effectiveness of peer reviewers.

Report Review

Established in 1974, ASFE's Report Review Program was designed as a self-help effort whereby member firm personnel could receive constructive criticism and guidance on their geotechnical engineering reports. As developed, the program calls for each member office to submit two copies of one report. The ASFE office then sends for review to each

submitting office one copy each of two reports developed by other program participants.

ASFE recommends that, in performing a review, the CEO of an office distribute to each appropriate staff member one copy of each of the two reports involved. Each staff member reviews these on his own, and then the reports and reviews are discussed by the intra-office group. Among other benefits, this approach helps the office CEO identify strengths and weaknesses of his own staff. Subsequent to discussion, the CEO prepares or supervises preparation of a review summary. Summaries and reports are then sent to and reviewed by the ASFE Report Review Committee to identify overall strengths and weaknesses, to establish appropriate remedial activities. Once the Committee completes its review, reports, along with summaries and other comments, are returned to those who submitted them.

The materials developed for use with ASFE's report review program have been incorporated in an ASFE publication titled A Guide for the In-House Review of Proposals and Reports.

Laboratory Review/Accreditation

In keeping with its concept that excellent guidance can be obtained from reviews performed by responsible peers, ASFE in 1975 began discussion of a laboratory accreditation program. This ultimately led to a collaborative effort with the American Association for Laboratory Accreditation (AALA), for which ASFE developed an accreditation program in soils. ASFE used the materials it developed to publish ASFE Laboratory Review Program, a 44-page guide for internal use by a single member firm, or for use by two firms which agree to review one another's laboratories to help enhance the standards of both.

Mediation/Arbitration

Mediation/arbitration ("med/arb") is an emerging ASFE program based on concepts originally developed for resolution of labor disputes. As ASFE applies the concept, a mediator/arbitrator would be selected for a given project by major project participants. In the event of a dispute, the mediator/arbitrator would be called in at once. His initial goal would be to effect resolution through mediation. If that failed, however, the mediator/arbitrator would have authority to impose binding arbitration.

It is ASFE's contention that "med/arb" is eminently applicable to the construction industry, and will yield results far superior to either litigation or arbitration. The problems associated with litigation are evident even to those with passing knowledge of civil proceedings in the United States. Extensive, multi-year delays are the rule rather than the exception, and the lay judges and juries involved are asked to decide upon facts which, more often than not, are beyond their comprehension. Justice seldom is done and, even if it is served through decision, the bulk of the money changing hands typically finds its way to the pockets of those engaged to resolve the dispute, rather than the principals involved.

Although arbitration is generally preferred to litigation, it too suffers from time delays and relatively high costs. In addition, the right to discovery is not guaranteed as it is in litigation. As such, a disputant does not necessarily have the right to peruse another disputant's files, to help identify all pertinent facts.

Mediation/arbitration overcomes many of the problems associated with litigation and arbitration. The mediator/arbitrator is selected before problems occur, based on experience in the construction industry, and a record for integrity and intellectual honesty. Should a dispute arise, the mediator/arbitrator can be on the scene quickly, to discuss the matter with those involved, while facts are still fresh in their and witnesses' minds. In addition, each party has a right to discovery.

ASFE's believes that mediation/arbitration is a far more responsible approach to conflict resolution because it eliminates the long delays otherwise involved, as well as the attitudinal problems which inevitably occur when work must continue while conflicts remain unsettled. Furthermore, it helps assure that almost all the funds which may change hands go to the principals involved, rather than their attorneys and experts.

Several variants of mediation/arbitration are being used with success throughout the United States, and ASFE believes that mediation/arbitration has the potential of becoming the group's single-most important contribution to the construction industry as a whole. However, geotechnical engineers comprise but one element of a vast construction industry. Therefore ASFE is considering sponsorship of a multigroup effort to take mediation/arbitration forward. ASFE hopes that, by 1995, mediation/arbitration will be the norm in most construction contracts.

The Issue of Geotechnical Engineer Selection and Retention

The manner in which consulting geotechnical engineers are selected and retained for a project is of particular concern to ASFE. The organization believes this issue affects both professionalism and exposure to professional liability.

For decades, it has been common practice in the U.S. and elsewhere for the client to interview several firms for a project and then work with the firm deemed most suited to develop a comprehensive workscope. Once the workscope is established, the client and firm discuss fee. In recent years, however, and especially in the public sector, there has been growing reliance on competitive bidding. A worldwide phenomenon, this involves the client setting a workscope and distributing it to several firms for solicitation of more detailed technical proposals and a fee bid. ASFE began reacting to this situation in 1978, by writing letters of concern to those relying on fee-bidding. Among other things, ASFE pointed out that fee-bidding encourages design professionals to minimize their workscopes in order to create the low fees needed to secure engagements.

Minimizing a workscope and providing a high-quality service are incompatible, ASFE said.

ASFE's arguments were hardly new. They were essentially the same as those made clear in Congressional hearings held in the early 1970s relative to what emerged as U.S. Public Law 92-582, also known as the Brooks Law, after its principal sponsor (Congressman Jack Brooks of Texas). This law requires the federal government to select architects and engineers on the basis of their qualifications, with fee to be discussed only after the best qualified firm has been identified and has worked with the agency involved to develop a workscope. As the federal government realized, design services comprise one percent or less of the costs associated with construction and life-cycle operation and maintenance, but -- nonetheless -- the quality of design determines what the other 99+ percent of costs will be. Accordingly, it would be "penny-wise and pound-foolish" to attempt to minimize design fees at the expense of higher construction or life-cycle operating and maintenance costs.

ASFE's initial efforts centered on the private sector and the activities of local governments. Soon, however, ASFE was made aware of what appeared to be violations of PL92-582 and took its protests to the federal government's General Accounting Office (GAO). However, time has shown that the GAO has no desire to overrule decisions of individual federal agencies, even though such decisions may have been wrong. Accordingly, ASFE decided to address the issue on an agency-by-agency basis, with excellent results. Nonetheless, ASFE believes that action by a national organization alone cannot reduce the use of fee-bidding at the state and local levels, or in the private sector. Accordingly, all members have been encouraged to initiate a "grass roots" effort, and ASFE has prepared resource material to help.

In developing resource material, ASFE realized that one of the most significant problems associated with the "traditional approach" epitomized by Federal law was the many different names for it. Some called it negotiated procurement, while others used "competitive negotiation," "noncompetitive procurement" and so on. As a first order of business, then, ASFE developed a new name for the procedure, to more accurately describe what it is about. The word negotiation was eliminated from consideration, ASFE said, because it implies a preoccupation with fee. In practice, however, most of the effort is expended in identifying the most qualified firm and establishing a workscope. Accordingly, the new name ASFE created is "professional architect-engineer selection and retention," or PAESAR, and the new ASFE sourcebook on the subject (PAESAR: Professional Architect-Engineer Selection and Retention) is in extensive distribution. Prepared for all design professionals, the publication points out that "cheap design is expensive." It states that fee-bidding encourages design professionals to cut corners in order to submit low fees, and that such corner-cutting makes it necessary (for prudent professionals) to use conservative design approaches which typically cost more to implement than those developed as a result of closer review and analysis. The principal element of the book is a section comprising typical comments made by fee-bidding advocates, each followed by an incisive retort pointing out the fallacies upon which fee-bidding advocates' arguments are based. The guide also presents techniques for "spreading the word" about PAESAR, as well as sample materials for use in that regard. Examples: All design professionals in favor of a PAESAR approach are encouraged to take some action whenever receiving a request for bids. If they decide to respond, they are encouraged to issue a letter stating a preference for PAESAR and explaining why it is in the owner's or other client's best interest to employ that approach. If they decide to decline involvement, they are encouraged to send a letter explaining why.

The Certification Issue

In the United States, geotechnical engineers frequently are called upon to "certify" their opinions. For example, they will be asked to certify that compaction has been properly performed. As those involved in construction recognize, however, the tests involved can only give reason to believe that compaction has been properly performed; they cannot guarantee that such has occurred. Nonetheless, the courts frequently hold that the word certify is tantamount to a guarantee and, since the engineer is issuing the certification, courts hold the engineer -- not the contractor -- responsible for proper performance of the work. Issuing a certification therefore greatly extends a design professional's liability exposure and, to make matters worse, these exposures are not covered by typical professional liability insurance policies. Such policies exempt from coverage "promises made in writing," because these create contractual liabilities which do not arise from errors or omissions.

ASFE has been dealing with this issue since the late 1970s, and has enjoyed remarkable success. It advocates that a design professional "declare" -- rather than "certify" -- his opinion of what tests imply. Among other benefits, this approach helps assure that contractors performing the work retain responsibility for doing it properly. Several federal agencies have modified their forms based on ASFE recommendations, as have various local governments and many individuals and organizations in the private sector.

The Case History Approach

ASFE has found the use of case histories of actual professional liability loss experiences to be a particularly effective means for alerting members to certain professional liability issues. The approach first was used at a national loss prevention seminar, and response was so enthusiastic that case history presentations are now regular elements of every third or fourth national and each regional loss prevention seminar. Presentations also are developed into brief factual documents which comprise ASFE's 30-element case history series.

Five ASFE case histories comprise the major constituents of The ASFE Guide to In-House Loss Prevention Programs, a 60-page publication developed principally for project engineers and managers. Unlike case history information contained in the thirty-element series, which is presented in a dry, factual manner, those in the Guide are presented in a somewhat novelesque fashion, interspersed with hypothetical quotations, contract excerpts, etc., to heighten participant involvement. The Guide was designed for incorporation into a firm's in-house professional liability loss prevention program, and thus includes comprehensive instructions for the intended application.

Case histories also are a principal constituent of one of ASFE's most ambitious publications to date: ASFE Professional Liability Loss Prevention Education Program. In essence, the publication gives to each firm using it the wherewithal to establish its own professional liability loss prevention training program, affecting virtually all members of the firm, including those in clerical positions. The initial material issued by ASFE comprises a comprehensive set of instructions and 12 separate "teaching modules." Case histories are used as resource materials, demonstrating how failure to observe principles of loss prevention have led to major problems.

Each of the teaching modules presents a brief lesson plan usable by those instructors familiar with the subject matter, and an expanded lesson plan for those instructors not as experienced. The expanded lesson plan also identifies questions which can be asked of class participants, in order to stimulate discussion of the subject at hand. The titles of these modules issued to date indicate the breadth of the program's coverage. They are: "Understanding the Importance of Professional Liability Loss Prevention," "Understanding the Importance of PAESAR," "Dealing with the Unknown," "Specifying Interactions with Other Design Professionals on a Project," "Understanding the Importance of Construction Monitoring," "Client Evaluation," "Detecting Early Symptoms of Problems Ahead," "Defensive Measures," "Notes and Memoranda," "Engineering Away a Loss," "Interrelationships on Site," and "Dealing with Unsafe Conditions on Site." Each module also identifies for whom in a firm its presentation is most relevant, and most also include quizzes and exercises that can be used before, during and after presentations.

ASFE believes that, over time, its Education Program will be expanded to some 50 modules, to incorporate virtually everything it has learned about professional liability loss prevention.

Other Materials

It is instructive to review other materials developed by ASFE, to indicate the issues deemed important in loss prevention as well as the underpinnings of a truly successful loss prevention program.

Professional Liability Loss Prevention Manual is the latest version of the original loss prevention material developed in 1971. A few of the 180-page book's chapter headings and subheadings include: "Men, Machines, Methods and Other Ms of Management"; "Engineering Away a Loss"; "Uncertainty Related to Contract Types and Contingency Reserves"; "Tools of Communication;" "The Pollyanna in Us"; "Memory"; "Measures for Prevention"; "Client Types and Project Complexity," and "Expecting the Unexpected."

ASFE Contract Reference Guide is a 72-page book which provides a comprehensive review of contract clauses which result in problems, alternative wording which can alleviate these problems, and methods to gain acceptance for such alternatives. Problems discussed include assumption of liability, certifications, incorporation by reference, reliance on information provided by others, job-site safety, incomplete services, indemnification, risk allocation and dispute resolution, among others. ASFE believes the importance of a well-worded contract cannot be overstressed. Its members' experience shows many disputes and losses result not from errors or omissions, but rather from a misunderstanding of contractual meaning or intent.

ASFE also has developed a widely used single-sheet document called Important Information about Your Geotechnical Engineering Report. Created to accompany submittal of a member firm's report to the client, some of its key headings indicate the nature of discussion: "A Geotechnical Engineering Report Is Based on a Unique Set of Project-Specific Factors," "Most Geotechnical Findings Are Professional Estimates," "Subsurface Conditions Can Change," "A Geotechnical Engineering Report Is Subject to Misinterpretation," "Boring Logs Should Not Be Separated from the Engineering Report," and "Read Responsibility Clauses Closely."

Important Information about Your Geotechnical Engineering Proposal is a similar document, devised to accompany submission of a proposal. Instructive key headings include: "Have Realistic Expectations," "Develop the Subsurface Exploration Plan with Care," "Read General Conditions Carefully," "Have Your Geotechnical Consultant Work with Other Design Professionals," "Obtain Construction Monitoring Services," and "Rely on Your Consulting Soil and Foundation Engineer for Additional Assistance."

Newslog is the title of ASFE's newsletter issued to members every 45 days. Each issue covers a variety of concerns, including activities within ASFE, general guidance about professional and general liability issues, activities of other related organizations, as well as guidance on subjects such as employee relations, corporate finance, marketing and so on. A readership survey is instituted every third year and results of the most recent indicate that Newslog is the most popular periodical read by ASFE members, followed by Civil Engineering (published by the American Society of Civil Engineers) and Engineering News-Record (published by McGraw-Hill).

All of ASFE's materials are described in its ASFE Directory of Publications and Loss

Prevention Aids, available free of charge by writing to or calling the group's office (8811 Colesville Road, Suite G106, Silver Spring, MD 20910; 301/565-2733).

THE FUTURE

Because of its relatively small size and limited resources, ASFE has restricted its activities to those concerns deemed most important. The issue of frivolous suits is one of these. The U.S. system of justice holds that anyone may sue anyone else for virtually any reason at any time, and it also permits those interested in doing this to obtain an attorney without initial expense, on a contingency fee basis (the attorney's fee comprises a percentage of "winnings"). Attorneys have found many defendants are willing to pay $5,000 or so to settle a meritless claim out of court, simply because it will cost two or more times that amount to get such a claim dismissed. Various legislative remedies have been instituted across the nation to help deal with this problem, but none has proved successful. ASFE at this time is considering several alternatives.

Expert witnessing also is an area of ASFE concern. Expert witnesses are supposed to serve the public at large by serving justice. Their testimony should be the same no matter who engages them. There is a great distance between the actual and the ideal, however. In fact, expert witnesses all too frequently become advocates for the positions of their clients. The American system now is such that charges of ethical violations cannot be brought against expert witnesses who disregard facts in order to sway a jury or judge. ASFE has scheduled publication of a comprehensive treatise on serving as an expert witness, including discussion of techniques which can be employed to minimize the impact of unprofessional professionals.

ASFE also is concerned about the education of engineering students, and over the past several years has worked informally with a number of professors to assist in development of courses and curricula which address the issues of professionalism and professional liability. In the future, ASFE is scheduled to develop a model curriculum for use by interested colleges and universities throughout the United States.

SUMMARY

The ASFE story is one of accomplishment. Born of adversity, the organization has identified the principal problems of a profession and has attacked them vigorously, helping to assure continuance of consulting soil and foundation engineering. Without ASFE, there is every reason to believe that geotechnical engineering would have become too risk-prone for prudent individuals to pursue. But ASFE's gains have not come easily or without controversy. They have required diligent effort on the part of a relatively few individuals working within a small organization with limited resources. They have also required a willingness to take risks and to innovate, attitudes fostered by the nature of soil and foundation engineering.

It is particularly instructive to note that enhanced professionalism is the common goal of virtually all ASFE programs and materials. It has advocated that its members reduce their liability problems not by using exculpatory language or by transferring their responsibilities to others, but rather by performing in a more professional manner, for their own benefit, the benefit of their clients, and the benefit of the public at large.