



U.S. Department  
of Transportation  
**Federal Railroad  
Administration**

# **Study Of Liability, Insurance And Indemnification Problems For FRA Programs**

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FINAL REPORT**

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## EXECUTIVE SUMMARY

This report presents the findings, conclusions and recommendations of an extensive six-month study of liability, insurance and indemnification problems in certain FRA programs.

### STATEMENT OF METHODOLOGY

In order to assemble the information presented in this report, we took the following steps:

1. We conducted personal interviews and had discussions with persons from various federal agencies, railroads, railroad equipment manufacturers, research and development firms, architectural and engineering firms, the insurance industry and a number of trade associations. These included:

- a) 26 persons from Department of Transportation Modal Administrations;
- b) 18 representatives from 5 railroads;
- c) 21 representatives from 5 railroad equipment manufacturers;
- d) 16 representatives from 4 companies performing railroad R&D;
- e) 6 representatives from 2 A&E firms;
- f) 46 executives and underwriters from 14 American insurance companies and 1 Japanese insurance company;
- g) 2 former employees of railroad insurance pools;

h) 4 underwriters from 3 American reinsurance companies;

i) 11 American insurance brokers;

j) 4 Lloyds of London underwriters;

k) 4 underwriters for London insurance companies;

l) 5 Lloyds of London brokers;

m) 2 representatives of a railroad trade association;

n) 1 representative of a railroad equipment manufacturers' trade association;

o) 4 representatives of 3 insurance trade associations;

p) 1 representative of an insurance brokers association; and

q) various persons from the Office of Federal Procurement Policy, the General Accounting Office, the General Services Administration, the Justice Department, the Bureau of Government Financial Operations of the Treasury Department, the Contract Insurance Section of the Naval Material Command and the Defense Contract Administration Services (New York Regional Office).

2. We performed extensive legal research, including a review of all statutes, regulations, directives, executive orders, government studies and decisions of the Comptroller General pertaining to issues of liability, insurance and indemnification.

3. We performed extensive legal research into railroad third-party liabilities, railroad research and development activity liabilities and the liability of the federal government for the negligence of its research and development contractors.



4. We conducted an extensive survey of all articles, journals, reports, rating services and treatises in both the insurance and railroad operations and engineering fields. We looked for any materials relating to railroad R&D accidents and insurance materials relating to insuring this type of risk or any similar risk. As part of this effort, a computer search was performed by the Railroad Research Information Service, National Research Council.

#### RECOMMENDATIONS

These recommendations are in order of preference:

1. The Department of Transportation should hire an insurance broker to establish an informal master program through which he will be instructed to purchase all insurance required for FRA, UMTA and TSC research and development activities. See Task III, part B. This will include the coverage for leased equipment at the TTC. See Task I, part A. It should become DOT policy to supply a Railroad Protective Liability insurance policy for each project only in the amount of the particular railroad's self-insured retention. The payment of this cost will be conditioned upon the absence of any unreasonable hold-harmless agreement between the R&D contractor and the railroad.

2. The DOT should requisition Congress for statutory authority to indemnify its R&D contractors. The power can be limited in various ways to make it more politically acceptable. See Task IV, part E.

3. The FRA should effectively self-insure the first \$1 million or \$2 million of all risks with no-year or fiscal year funds. A claims servicing organization should be hired and \$3 million or \$4 million of excess insurance purchased on a blanket basis for FRA programs. See Task IV, part C.

4. The FRA should only conduct R&D projects outside the TTC that are of a direct benefit to the participating railroad. The FRA should refuse as a matter of policy to pay for any special insurance costs. See Tasks I and II.

#### TASK SUMMARIES

##### TASK I

##### A. Aspects of FRA R&D Programs Which May Give Rise to Contractor or Government Liability

A number of FRA R&D programs give rise to liability on the part of either the contractors involved in them or the government. Two types of liability exist: property damage liability and third-party personal injury liability. Property damage is most likely to occur to property of railroads on whose lines tests are conducted or to property of railroads leased or borrowed for use at the Transportation Test Center. Personal injuries to third parties are most likely to happen during tests performed on railroad rights-of-way, although there is personal injury exposure at the TTC to a lesser extent.

The R&D section of the FRA is composed of three divisions: passenger systems, rail safety, and rail freight. The research programs of each division are generally conducted independently of the other divisions, although there are occasional joint activities.

The passenger division is presently conducting few tests with liability exposure. Recently-completed tests, using high-speed trains on the main line track, involved substantial liability exposure. Upcoming tests will not entail significant liability exposure.

In the rail freight division, the ongoing FAST program at the TTC, testing rolling stock and track, involves primarily potential property damage. Two other major test

programs in this division, both conducted on the open road, present considerable third-party liability exposure.

The rail safety division is currently conducting tests with liability exposure. Some programs operate exclusively at the TTC, while others only use the track of operating railroads, and some tests are conducted at both locations.

All FRA R&D conducted outside the TTC, and most conducted at the TTC, is directed at moderate improvement of existing technology, rather than radical innovation. However, it must be remembered that every R&D test, no matter how carefully planned, involves some liability exposure. The duration, location, and technical details of each particular test determine the degree to which the liability exposure is a problem.

B. Insurance and Liability Problems of the Department of Transportation's Modal Administrations in Research and Development Contracting

The other modal administrations within DOT have encountered many of the liability insurance difficulties faced by FRA.

The Urban Mass Transportation Administration (UMTA) has, on one occasion, provided limited indemnification to an R&D contractor by establishing a reserve fund consisting of appropriated funds in an amount equal to the potential liability it was assuming. Officials found this process cumbersome and unsatisfactory but see no alternative short of legislative relief.

The Transportation Systems Center (TSC) attributes the fact that it has avoided the insurance problems encountered by FRA to five factors:

- a) TSC's close relationship with certain railroad officials;

b) TSC's continuing involvement with a railroad which is in reorganization;

c) TSC's lack of safety regulatory and investigatory powers;

d) TSC's emphasis, at the outset of negotiations, that full indemnification is legally prohibited; and

e) TSC's ability to send back to FRA any contract where indemnification is likely to be a problem.

The National Highway Traffic Safety Administration (NHTSA), the Federal Aviation Administration (FAA), and the Federal Highway Administration (FHWA) have simply not had large numbers of their R&D contractors request indemnification by the government. On the one occasion when FAA was requested to do so, it refused on the ground that it would make the contractor less safety-conscious.

C. The Potential Liabilities Which Research and Development Contractors May Incur to Third Parties in the Course of FRA-Sponsored Research and Testing of Railway Equipment or Operations

Under state law, railroads have a common law duty to exercise a high degree of care to protect their passengers from injury. This duty can be enforced by an action on the contract of carriage or an action in negligence. While neither of these is a federal cause of action, failure to comply with a federal regulation may make the railroad negligent per se under state law.

The two basic federal statutes which regulate railroad equipment and practices are the Safety Appliances and Boiler Inspection Acts and the Federal Railroad Safety Act of 1970. Violation of the regulations in the Acts will create civil liability for negligence in actions brought by railroad employees. Other federal statutes exist which may also form the basis of liability.

Railroads are frequently held liable for injuries to persons on their property. State law applies in these situations, although once again a violation of a federal safety regulation or statute may be evidence of negligence or negligence per se. Railroads are generally liable for negligent repair and construction work which injures third persons, even if an independent contractor performed the work.

The most frequent railroad liabilities to adjacent landowners fall into three categories. These are (1) floods caused by clogged culverts, (2) fires spreading from railroad property, and (3) injury directly or indirectly to livestock.

Railroad liability to lessees of railroad property is governed by state nuisance, negligence, and landlord-tenant law. The railroads often obtain exculpatory clauses relieving them from all liability when they lease property.

Other liabilities to the general public may arise from state nuisance and negligence law. The variety of possible events causing liability is virtually unlimited.

Finally, an R&D contractor who tests equipment which is eventually manufactured might be sued in the future on a product liability theory on the ground that he did not conduct an adequate test.

## TASK II

### A. Introduction

Interviews were conducted with railroads, railroad equipment manufacturers, R&D companies, and architectural and engineering firms to develop data to ascertain the scope of the insurance problems encountered by FRA contractors and the degree to which these problems are capable of solution.

### B. Interviews With Railroads

Those railroads interviewed did not feel that FRA R&D

contracts created any special liabilities, other than those arising from normal operations. For R&D work, all expressed a need for either an indemnity agreement supported by proof of adequate coverage or a Railroad Protective Liability policy. The amount of coverage required is the full amount of the railroad's self-insured retention. Self-insured retentions range from \$1.5 million to \$5 million. The upper limits of their excess coverage range from \$38 million to \$50 million, with two-thirds to three-fourths of this coverage placed with London insurers. Almost all of the railroads request total hold-harmless indemnity clauses, which indemnify the railroad even for its own negligence. A less stringent agreement is sometimes made when the test being conducted will directly benefit the railroad. In addition, the interviewees suggested that a hold-harmless agreement would not be required from an R&D contractor who procured a Railroad Protective Liability policy with the railroad named as an insured. Generally, the railroads find that the type of insurance they need for their normal operations is available, particularly in London, but that the price is exorbitant and the underwriters are often unfamiliar with the risk.

#### C. Interviews With Equipment Manufacturers

The equipment manufacturers interviewed, most of whom had little or no direct FRA R&D experience, did not feel the risks created by FRA R&D programs would be unusual. They differed as to the types of insurance and amounts which would be required, with some manufacturers seeking large amounts of special insurance, while others felt no special insurance was necessary. Some existing insurance programs for the manufacturers contain self-insured retention layers of up to \$1 million. Upper limits of excess coverage range from \$10 million to \$100 million, with most of this placed in London. When performing R&D work on a railroad, the manufacturers have usually been

required to agree to hold the railroad harmless, even for its own negligence. All felt that an insurance policy limited to covering railroad R&D work would be extremely difficult and expensive to purchase, if not altogether impossible.

D. Interviews With R&D Companies

The R&D companies interviewed agreed that railroad R&D was not unusually dangerous compared to normal railroad operations, but they expressed concern that almost any minor accident or occurrence would result in a large number of plaintiffs' filing personal injury claims. The insurance program of each R&D company is different. Therefore, in performing an FRA project, one would require primary and excess insurance coverage going perhaps as high as \$50 million, one would require primary coverage going up to \$2 million, and the others would require no coverage beyond their existing policies. One company's policy contains a deductible of \$1 million, while the other companies have policies which do not cover the first \$250,000 of loss. When performing work on a railroad, these companies are almost always required to enter hold-harmless agreements. They generally felt that obtaining insurance to cover their liability when performing an individual railroad R&D project is extremely difficult.

E. Interviews With Architectural and Engineering Companies

The category of liability with which the A&E companies would be most concerned in performing an FRA A&E contract is third-party liability for bodily injury, although property damage liability could also be sizeable in accidents involving the heavy equipment of construction contractors. The theories upon which an A&E company's liability can be based include negligent construction supervision, design failure, and latent design defects. To protect against its liability, the A&E companies need a Comprehensive General Liability policy, an

Errors & Omissions Professional Liability policy, and a Builder's Risk policy. In addition, construction over a railroad's tracks may necessitate obtaining a Railroad Protective Liability policy. One company's current insurance does not really absorb total loss below \$10 million. Another has a \$350,000 deductible per occurrence for CGL and a \$10,000 deductible for E&O. Each company avoids indemnity clauses with railroads. However, each frequently negotiates a limitation-of-liability agreement with the purchaser of its A&E services. Each believes that most A&E companies would have extreme difficulty if they attempted to purchase separate coverage for the A&E work on an individual project.

### TASK III

#### A. Feasibility of a Blanket Insurance Policy

The ideal blanket insurance policy covering FRA's R&D contractors' liability exposure would be characterized by a small deductible, a premium which was either fixed or based on a rate schedule agreed upon in advance, a simple means of administration for issuing certificates of insurance to the parties in each test, and a binding commitment from the carrier to insure all FRA R&D activities unless they fell within certain limited exceptions. It would be written on the model of a Railroad Protective Liability policy rather than providing general liability coverage for the R&D contractor. This would entail naming the railroads as insureds under the policy upon the condition that they not require the R&D contractor to enter any hold-harmless agreement.

After extensive interviews, however, it seems likely that anything resembling such a blanket policy will be impossible to purchase. No insurer showed genuine interest in writing the first \$1 million to \$2 million of coverage, and most American carriers were negative about the entire risk. The chief reasons the FRA R&D program would be inherently difficult to insure on a



comprehensive basis are the facts that it does not involve a large number of homogeneous units and the risk of loss is not calculable. Augmenting these problems are other important factors—the limited capacity of the railroad insurance market, the general conception of railroad insurance as a specialized field requiring unusual expertise, the "capacity crunch" throughout the American insurance industry, and the insurers' disinclination to become involved in a risk related in this way to the government. These considerations combine to compel the conclusion that a blanket policy is probably not feasible.

B. Hiring a Single Broker

It is recommended that FRA hire a single broker to procure the coverage for every R&D program in which the contractor needs insurance. This would greatly improve FRA's representation in the insurance market, because the same individual would develop an understanding of the nature of FRA R&D exposures and then be better able to explain them and persuade carriers to underwrite the risks. Moreover, the broker could develop a market for these risks by having a consistent relationship with a group of underwriters whom he had, in effect, educated concerning this type of program. This approach can be expected to help prevent delays and would be simple for FRA to implement quickly. It appears to be the most satisfactory improvement available to FRA, short of statutory changes by Congress.

C. Self-Insurance Administered by a Self-Insurance Service Organization

FRA might adopt a self-insurance program to cover the primary layer of its R&D contractors' liability exposure (since a blanket insurance policy for this layer seems unavailable) and then rely on excess insurance for the higher layers of exposure. If it sought to do this, it would be much easier to obtain the excess coverage if the self-insurance program were

administered by a self-insurance service organization.

However, any attempt by FRA to self-insure against this type of liability would have to be designed so as not to violate the Anti-Deficiency Act. FRA's promise to pay its R&D contractors' losses out of the self-insurance program would have to be couched in uncertain terms which the contractor would probably find unacceptable.

#### D. Voluntary Insurance Pooling Mechanisms

Mass underwriting provided by a pool of insurance companies is a mechanism to provide insurance to an otherwise uninsurable risk, but there is little likelihood that a voluntary pool to handle the FRA's R&D risks would be formed at any time in the near future. This is chiefly because the amount of premium which can be generated from FRA is not large enough to justify the costs of creating a pool and because a previous pool to underwrite American railroad liability risks dissolved because of excessive losses. Anti-railroad and anti-government sentiment in the insurance industry also contribute to negate the likelihood of a pool. Interviewees expressed concern that, in addition, the antitrust laws would complicate formation of this type of pool, but legal authorities establish that this concern is unjustified. However, it seems extremely unlikely that this type of voluntary pool can be formed.

#### E. Pure Retrospectively-Rated Primary Insurance

Theoretically, a retrospective rating plan should be well-suited to the insurance of an exposure such as FRA's R&D program. However, insurers have indicated that there is no way to set a maximum on the premium that FRA would have to pay for its primary layer of coverage. In effect, the best that FRA can hope for from such a policy is to use it as a servicing mechanism, not as a means to bear any losses which might occur. In addition, it would probably be necessary to set aside a huge reserve of

appropriated funds in order to satisfy existing budgetary laws. Thus, this approach cannot be recommended.

F. Mandatory Residual Market Mechanisms for the Provision of Insurance

Although it seems very unlikely, it is conceivable that federal legislation could be passed to force American insurers to underwrite insurance for FRA's R&D program. However, regardless of whether an assigned risk plan or a joint underwriting association were used, serious conceptual problems arise in areas such as the identification of the carriers who would be required to participate. Constitutional arguments against the legislation might fail, but political realities and the lack of any genuine precedent for such legislation on the federal level indicate that it cannot be recommended.

TASK IV

A. The Government's Legal Authority to Reimburse Its Contractors for Liability Insurance Costs Which They Incur in Connection With Their Work on Government Projects

The legal authority of a government agency to reimburse its contractors for liability insurance costs which they incur in connection with their work on government projects is undeniable. As early as 1911, the courts held that the cost of liability insurance was part of the actual necessary cost of performing a contract whenever it would be normal, under the prevailing business custom, to purchase such insurance. The legislation presently in effect contains nothing to prohibit reimbursement of insurance costs in FRA procurement.

B. The Federal Railroad Administration's Legal Authority to Purchase, by Direct Contract With a Private Insurance Company, a "Blanket" Liability Insurance Policy Protecting All Its Research and Development Contractors From Tort Liability to Third Persons

Traditionally, the government is a self-insurer and

no appropriation may be expended to insure against its own risks. However, absent the availability of the option of indemnification by the government, the only practical means of securing the contractor's services are the purchase of insurance by the government or government reimbursement for the contractor's own insurance purchases. The latter is likely to be equally or more costly to the government than direct purchases of insurance by the government. It has been held that the policy of a general ban on the purchase of insurance against the government's own risks is inapplicable where the loss to be insured against would, in the absence of insurance, be borne by a party other than the government itself. Thus, the "no-insurance" rule is inapplicable to the situation presented here.

The manner in which FRA may procure such insurance is governed by statute and by the Federal Procurement Regulations. Analysis of the appropriate provisions suggests that FRA's purchase of a blanket policy would not necessarily be subject to advertising requirements, and that the premium could be paid prior to the full rendition of insurance services by the carrier. Finally, it appears that no legal authority prohibits the use of an insurance broker by a government agency.

C. The Legal Limits on the Right of FRA to Indemnify Its Research and Development Contractors Against the Tort Claims of Third Persons Arising out of FRA Projects

Statutory provisions restrict a federal agency from pledging that the government will pay obligations not approved in advance by Congress. As interpreted by the Comptroller General, they dictate that any agency agreement to indemnify its contractors for their legal liabilities to third persons arising out of their contract work must be limited by other contractual language, such as a limitation-of-cost clause or an availability-of-funds clause. There are several legal arguments that would support agency indemnification of its contractors, if the agency issued rules authorizing it under the Federal

Property and Administrative Services Act or if a contracting officer decided in favor of indemnification in a dispute arising under the contract's "disputes" clause. However, contractors might refuse to rely on such an indemnity promise, in the absence of clearer legal authority supporting it.

Congress has specifically authorized indemnification in some classes of contracts. This has been done in permanent legislation and in general appropriation acts. But, of all these, only Public Law 85-804 even arguably permits FRA to indemnify contractors in excess of available appropriations, in contracts which facilitate the national defense and involve an unusually hazardous risk.

In contrast to unlimited indemnification, FRA can indemnify its contractors subject to a contractually-set ceiling. The funds to pay obligations arising out of such a promise could be no-year funds, provided the contract specified that this implied no obligation on the government's part exceeding the no-year funds on hand at time of loss. Alternatively, the indemnification could be supported by a reserve in the amount of the total possible government liability, but such a reserve would be subject to disapproval by Congress on an annual basis.

Thus, there appears to be no fully satisfactory way for FRA to indemnify its contractors under present law.

D. The Federal Railroad Administration's Potential Liability for the Tortious Actions of Its Independent Contractors

The difficulty of calculating the total dollar amount of liability on the part of testing companies which would be covered by an FRA blanket insurance policy is greatly increased by the fact that the policy would not necessarily be tapped to cover the total damages suffered in an FRA test. Under some circumstances in some states, an injured plaintiff would be free to recover damages from the government directly instead of from the testing company. The blanket policy would not be applicable

to the damages collectible from the government directly.

E. Proposed Legislation to Authorize Indemnification of Contractors Against Third-Party Tort Claims Arising out of FRA Research and Development Projects

It is anomalous that the government does not now generally self-insure its contractors' tort liability risks, given the fact that it self-insures almost all its property risks as well as the tort liability risks arising from the actions of its agents and employees. Logically, there seems to be no good reason why the government should not assume its contractors' tort liability risks whenever (1) the government would ultimately bear the cost of contractor indemnification by private insurance, and (2) indemnification would be economically advantageous to the government.

Legislation to remedy this inconsistency could be in the form of either indemnification or immunization. The indemnification proposal is preferable because it would (1) permit federal indemnification of government contractors, (2) preserve congressional control over the creation of federal obligations arising under indemnity agreements, (3) encourage agencies that indemnify contractors to avail themselves of the claims-handling services of the private insurance industry, and (4) maintain the current system of private insurance in cases where indemnification would not result in significant economies. Alternatively, the immunization proposal would immunize government contractors from tort liability arising out of their contract activities and grant the victims of contractors' torts a cause of action against the United States under the Tort Claims Act, but immunization would leave Congress without control over the liability costs of contract programs.

## TASK V

### A. Introduction

This task was conducted and revised for the benefit of the Northeast Corridor Improvement Project (NECIP). It seeks to project the loss experience from third-party liability for personal injury and property damage expected to arise out of the construction and maintenance-of-way activities that NECIP will perform. To develop a projection, TRG conducted a number of interviews with appropriate officials of railroad companies, insurance companies, construction companies, a maintenance-of-way company, and an engineering design firm. While this approach produced good general information, it generated insufficient concrete statistics to create such a projection.

In consultation with its project insurance advisers, TRG developed a different methodology with which to approach the Task V problems. Using FRA information and plans for the NECIP, together with the insurance industry's rate manuals, data was developed to give a reasonable projection of the loss which may be expected to arise in each major category of activity which Amtrak will be performing for the NECIP.

### B. Sources of Information Which Did not Prove to Be of Value in Arriving at Concrete Data

At the outset of this project, it was believed that there were no actuarial figures which could be used to determine

the loss experience of the railroad industry, and then be applied to the work Amtrak is to perform. Under its contract, TRG interviewed various companies which NECIP believed would have valuable information. However, interviews with maintenance as well as design officials yielded no useful data for NECIP activities. In addition, TRG found that data from the FRA Office of Safety was categorized in a manner which could not be used or adequately translated for the purpose of this project.

#### C. Development of Methodology

Once the specific nature of the NECIP work elements was determined, TRG was able to develop a methodology with which to project potential Amtrak losses. Actuarial figures used by the insurance industry, when made to correspond roughly with these work elements, can be used by Amtrak to form a set of hypothetical premium rates for liability insurance. With certain technical adjustments for administrative expense and profit, the premium can be used to stand for projected Amtrak liability costs, assuming the costs are based on accidents of average frequency and severity.

The rate base associated with the type of comprehensive general liability insurance believed necessary is \$100 of payroll. Because accurate Amtrak payroll estimates were unavailable, TRG contacted officials in private industry to determine what percentage of railroad construction and



maintenance-of-way project cost is payroll expense. Based upon information gained in these interviews, TRG estimated payroll cost at 35%. These figures can be adjusted when actual payroll data on the Amtrak projects become available.

Following the determination of an estimated payroll figure, TRG utilized the ISO manual classification system to define an individual rate for each separate type of construction. Further refinement of estimated premiums was made possible by distinguishing geographical elements which vary the risks, and hence, the premium rates.

Shortcomings in this forecast may be present due to the following factors:

1. insurance depends upon the law of large numbers and thus cannot forecast the specific loss experience of a particular insured;
2. the methodology used here does not take into account the major role that subjective underwriting judgments play in arriving at an actual premium;
3. insurance premiums are calculated to include profit and administrative costs, as well as actual loss dollars.

Accordingly, if one desires a bottom-line figure which reflects only what Amtrak's losses may be expected to be, assuming they are going to be of average frequency and severity, the figures arrived at in this study must be

adjusted downward, taking 55% to 65% of the figures listed in the premium column. However, at least some of the expenses of handling and disbursing the money to cover Amtrak's losses arising out of the NECIP are likely to be the same, or possibly greater, than those which the private insurance industry incurs. Therefore, caution is necessary before assuming that the figures arrived at here can be adjusted downward on this basis.

D. The Data

Charts are included to illustrate the statistical projection of the third-party liability losses attributable to the maintenance-of-way and construction work which Amtrak will perform on the NECIP, by use of the actuarial figures contained in the insurance industry's rate manual. The figures are based on the projections contained in the three-volume document titled, "Amtrak Participation in NECIP: Statement of Work," authored by DeLeuw, Cather/Parsons & Associates, and dated January, 1978.

The total for all work elements is \$1,947,208.00.

A.

ASPECTS OF FRA R&D PROGRAMS WHICH MAY  
GIVE RISE TO CONTRACTOR OR GOVERNMENT  
LIABILITY

A number of FRA R&D programs can give rise to liability on the part of either the contractors involved in them or the government itself. Basically, this potential exists in two types: liability for property damage and third-party liability for personal injuries. Property damage is most likely to occur either when property borrowed from participating railroads is in use at TTC<sup>1</sup> or on the open road, or when cooperating railroads' property is being used in connection with tests run on their track or at other test facilities. Inquiries to third persons are most likely to be made while tests are being performed on the open road. To be sure, third parties can be injured at TTC. However, the controlled environment at that location makes such an event less probable.

The FRA's R&D section is composed of three divisions, respectively devoted to passenger systems, rail safety and rail freight. While the three divisions' test programs occasionally overlap, they are, for the most part, conducted independently of each other.

1. Passenger Systems R&D

At present, the passenger division of the FRA is conducting very few R&D tests which have substantial liability exposure. A number of tests which have a more significant degree of liability exposure have recently been completed, however. These tests were performed on the open road, although not in revenue service. Two of the tests focused on the suspension systems of the truck of the rail vehicle. Another concerned modifications of the cars' electrical control systems.

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In the electrical control test, a malfunction or failure could have caused the car to shut down or stop. Liability would then have been possible, most probably arising from a rear-end collision. Even if a shut-down occurred, however, it would be most likely that trains in following signal blocks would receive electronic notification of the shut-down. Thus, the possibility of an accident was reduced. A car stopping in a block is normally conceded to be a risk but is regarded as a minimal one.<sup>2</sup>

The two tests of truck suspension systems were performed on the metroliner and involved a substantially greater potential for liability than did the electrical control test. When the trucks were being tested, the speed at which they travelled was continually being increased. Measurements were made throughout the test period to determine the stability of the truck and the point at which instability began to manifest itself. Sophisticated instrumentation recorded any perturbations that were present or developed due to the increased velocity. Eventually, speeds were achieved which were consistently greater than those used in revenue service, in order to assure that the suspension systems provided a comfortable margin of safety when they were actually introduced into revenue service. These tests were performed exclusively on the open road.<sup>3</sup>

Another test with a substantial liability exposure, which the passenger division completed a number of years ago, was that involving the Turbotrain. As a piece of equipment, the Turbotrain was highly innovative in design and performance. It had a unique suspension system and was powered by a turbine-driven engine. The Turbotrain was utilized in open road testing and demonstration and was later put into revenue service. Moreover, during one time period after it had been put into active revenue service, the Turbotrain was sent on tour throughout the United States. This demonstration was viewed as a test by the railroads over whose tracks the train

passed, primarily because of the Turbotrain's unconventional design and performance. As a consequence, each participating railroad required insurance for liability protection.<sup>4</sup>

No tests similar to the ones described here are now in progress, and no open road tests are planned for the near future. Some testing at TTC in upcoming years is anticipated, however. For example, one program designed to test a radial axle is slated to be performed at TTC.<sup>5</sup> Property damage to the test cars is possible in this program, but the costs, if any, of that damage will be passed on to Amtrak.

## 2. Rail Freight Systems R&D

One major, ongoing rail freight systems test is the Facility for Accelerated Service Testing (FAST) program at TTC in Pueblo, Colorado. In this program, a train containing between 60 and 80 cars is run 16 hours per day over 4.8 miles of specially-designed track. The track is divided into 22 sections, each of which is designed to perform a different track test. A variety of types of rolling stock are in the consist, and a number of suspension systems are also put into use. Some of the suspension systems and trucks are viewed as pre-prototype pieces of equipment, since they have had a previous history of limited testing prior to their being used at TTC. When cars are not running on the track facility, measurements are taken and the different track sections are analyzed.<sup>6</sup>

One major purpose of the continuous testing is to facilitate the accumulation of use experience—measured in mileage and time. FAST testing accelerates real world experience by a factor of approximately ten to one. That is, it would take ten times longer in conventional use to duplicate the data and results which can be achieved at FAST.<sup>7</sup>

Since all FAST programs are run at TTC on borrowed equipment, they pose the possibility of liability for property damage. Personal injury liability, while theoretically possible,

is far less likely to occur in fact because of the care with which tests are conducted at the test center.<sup>8</sup>

A second rail freight systems program, the Truck Design Optimization Project (TDOP), attempts to define the physical characteristics of various suspension systems. Some of the suspension systems tested have never been sold in appreciable quantities, while others are widely used. The testing is accomplished on specific sections of selected railroad track, approximately 10-15 miles in length. One portion of the track is usually in high speed tangent (straight) track. Another section is generally in hilly and curving areas, while a final portion is likely to be on a branch line, where the track is not as smooth or straight as main line track. Such testing can conceivably produce a number of liabilities. A derailment can, of course, tear up participating railroad track, or, if one derailment occurs on a parallel track, it can cause a second derailment. Thus, the potential exists for significant property and third-party liability in this project.<sup>9</sup>

Another test program, the Light Weight Flat Car Project, involves a full train of approximately 50 cars. The two cars actually being tested are not entirely experimental, however, since they have been in use for a short period of time. The cars were first tested on the high speed loop at TTC at speeds up to 90 miles per hour. They were then tested on a branch line and a secondary main line of a co-operating railroad. Test zones throughout the country were then selected, and the train was outfitted with special measuring equipment. The same two cars were then put into revenue service on a revenue train that ran from Kansas City to Los Angeles. Data were collected from 10-15 designated areas along the route. After this run, the instruments were removed, and the cars remained in revenue service. They are now loaded and unloaded like conventional cars to accumulate mileage and wear and tear. The liability exposure for this

test, of course, potentially involves both personal injury and property damage liability.<sup>10</sup>

Future test programs are also planned. It is anticipated that some borrowed equipment will be employed and that tests will be performed at TTC, as well as on the open road, thereby generating additional liability exposure.<sup>11</sup>

### 3. Rail Safety Systems R&D

The safety division of the FRA has three subdivisions which conduct tests, primarily on an independent basis. The three subdivisions respectively deal with track, rail vehicles and inspection.

#### a. Track R&D

One test taking place on railroad-owned track in the midwest involves a potential for liability for both property damage and personal injury. The purpose of the test revolves around accident inspection. One portion of the test requires personnel to remove spikes from the track with a spike puller to determine the resistance which the wood gives to the spikes. This test is performed on track which is in revenue service. It would, therefore, be possible for a railroad to argue that a subsequent accident occurring on the test track was caused, at least in part, by FRA test activities.<sup>12</sup>

Another test, performed last year, involved six locomotives which were run on track owned by the cooperating railroad. The test was designed to measure and analyze the load imposed on the track by the locomotives. Instruments were built into the track and the locomotives to provide accurate data, and test cars were used to take direct track geometry measurements.<sup>13</sup> A similar, ongoing project, which has been partially completed, is designed to measure the wheel rail loads of a variety of trains. In this project, instruments are again built into the track, and data is recorded as

the trains pass through.<sup>14</sup> Both of these tests are performed on the track of a cooperating railroad. They, therefore, can occasion both property damage and personal injury liability exposure.

Another recently-completed test measured track stiffness in conjunction with a participating railroad. In that test, a specially designed car with sensitive equipment was sent over several hundred miles of track and measurements were taken. To be sure, the data recording instruments did not affect the track itself. The car, however, was government supplied and, thus, a potential for liability arising out of the operation of the car was created. It is possible this car will be run again in the future.<sup>15</sup>

Additional tests have been run to measure longitudinal rail stress on the track of both a participating railroad and the test center. The possible liability arising from this test was, of course, minimal. An instrument was attached to the track and took measurements as the trains passed by. The test instrument had no effect on either the track or the trains, however.<sup>16</sup>

One major undertaking which has been completed involved the performance of a series of tests on a privately-owned test track. A piece of track utilizing different track structures was built parallel to the main track of the participating railroad. After construction of the parallel track was completed, the traffic of the main line track was routed over the new track.<sup>17</sup> The liability exposure to third persons and equipment was, therefore, substantial.

A track-buckling test with a cooperating railroad is slated for the future. The test, to be performed on railroad property, involves heating a continuously-welded rail to ascertain the temperature at which it buckles. Since the test will, in fact, deform the track of the railroad, the potential for liability is obvious. Because the danger is self-evident, however, it should be possible to prevent



virtually all accidents related to the track-buckling test.<sup>18</sup>

Another test scheduled to be performed, the concrete tie performance verification project, will involve taking data on concrete ties from three cooperating railroads which use such ties in their track. In this test, ballast will be dug out and instrumentation implanted. Because railroads generally wish to be held blameless for such tests, a resulting contractual liability exposure problem will exist.<sup>19</sup>

b. Rail Vehicle R&D

In one significant ongoing test with liability exposure, a torch and 500 gallons of propane are used to evaluate the performance of thermal materials for possible utilization in tank cars. This testing is accomplished at TTC and is physically segregated from other projects. Nevertheless, it does have some remote personal injury risk.<sup>20</sup>

Another test in progress is designed to accelerate the life cycle of certain tank car components, such as couplers, head shields, and thermo shields. These components are subjected to the loads that would be encountered in an actual railroad environment. Some tank cars are borrowed. Thus, there is a potential for property damage liability. However, there appears to be no substantial likelihood of liability for personal injuries, since the testing is conducted at the Aberdeen proving ground.<sup>21</sup>

One test slated for the future proposes examining a nuclear cast to be used for transporting hazardous materials. The test process will probably result in the destruction of the cast, but this will be donated by ERDA. No other tests with significant liability exposure are planned.<sup>22</sup>

In a recently-completed rear-end impact test, two trains were collided with one another. Similarly, a number of tank cars were recently tested for their ability to withstand collisions by intentionally impacting them. All these tests were conducted at TTC. Since third persons, not government

employees, were present at TTC during the rear-end collision testing, these tests might have produced third-party liability for personal injury.<sup>23</sup>

c. Inspection R&D

A major, ongoing series of tests in this subdivision involves seven test cars, enumerated T-1, T-2, T-3, T-4, T-5, T-6, and T-7. These are rail-bound vehicles, with cars T-1 and T-3 hooked together, as are cars T-2 and T-4. Cars T-5, T-6, and T-7 run independently. Cars T-1 and T-3 are track geometry survey vehicles, as are cars T-2 and T-4. Cars T-5 and T-7 are data acquisition systems and have computers on board gathering information and recording it on tape. Car T-6 is a track geometry and rail flaw survey vehicle. Testing with these cars is performed all over the country on the open road. Thus, the potential exists for property damage to the cooperating railroad as well as for third-party liability.<sup>24</sup>

Another test concerns the high rail vehicle. This car is adaptable to either the highway or the railroad track and operates on the open road, with the concomitant possibility of property damage and personal injury liability.<sup>25</sup>

In another test, a rail vehicle, powered by a small engine, has an auxiliary cart which precedes the vehicle. A laser beam, sent out by the main car to the auxiliary cart, measures and surveys the track over which the vehicles ride. This type of testing is performed on the open road, as well as at TTC.<sup>26</sup>

The inspection subdivision anticipates in the future performing additional tests which will involve track analysis on the open road. Thus, liability exposure will be a continuing factor.<sup>27</sup>

## NOTES

1. It should be noted that there is a special liability problem at the TTC for leased or borrowed equipment. One of the purposes of the TTC is to provide a safe and efficient test site at which the private railroad equipment industry can develop equipment. At one time, the TTC had a person who basically promoted the use of the site with private industry. Though the proportion of private commercial work to FRA and UMTA work is decreasing, it is still a sizeable percentage of TTC activity.

In order to perform these tests, as in cost-sharing projects, the FRA often must lease or borrow equipment such as locomotives. This frequently leads to a demand by the owner for full indemnification. This demand has, in two or three instances, led to the cancellation of planned tests. Conversation with Larry Peck, Contracting Officer, TTC, Pueblo, Colorado.

When the FRA does lease equipment to conduct a private test, it often enters into an agreement to indemnify up to a certain limit. An example of such an agreement is:

(a) The Government assumes all risk and liability for loss of life, personal injury and damage to private property of third parties due to its own negligence for the term of this contract, while the locomotive is in the Government's possession. In addition, the Government assumes all risk and liability for damage to or loss of the locomotive as specified below for the term of this contract, while the locomotive is in the Government's possession, except for (1) normal wear and tear to the locomotive, or (2) loss which occurs as a result of negligence or fault in maintenance of the locomotive by the Contractor, or (3) loss resulting from a latent defect in the construction of the locomotive or a component thereof.

(b) In the event of damage to the locomotive, the Government may, at its option, make the necessary repairs with its own facilities, or by contract, or pay the Contractor the reasonable cost of repair of the locomotive. If damage to the locomotive is established to be the fault of the Government, rental payments to the Contractor during the repair period will be made as set forth elsewhere in this order.

(c) In the event the locomotive is lost, destroyed, or damaged so extensively as to be beyond repair, no rental payment will be made to the Contractor thereafter, but the Government will pay to the Contractor a sum equal to the fair market value of the locomotive just prior to such loss, destruction, or extensive damage, less the salvage value of the locomotive, provided that the liability of the Government hereunder in no event shall exceed \$375,000. Fair market value shall be determined using the attached exhibit "B" entitled "BN Locomotive Trend Index" dated May 28, 1976, with cost being acquisition cost to BN, depreciation rate being a constant .0392, and calculations being made according to the example provided.

(d) The Contractor certifies that the contract price does not include any cost attributable to insurance or to any reserve fund it has established to protect its interests in or use of the locomotive, regardless of whether or not the insurance coverage applied for the period during which the Government has possession of the locomotive. If, in the event of loss or damage to the locomotive, the Contractor receives compensation for such loss or damage, in any form, from any source, the amount of such compensation shall be credited to the Government in determining the amount of the Government's liability under this clause; except that this shall not apply to proceeds of insurance received solely as an advance of insurance pending determination of Government liability, or for an increment of value of the locomotive beyond the value for which the Government is responsible.

(e) In the event of loss or damage, the Government shall be subrogated to all rights of recovery by the Contractor against third parties for such loss or damage and such rights shall be immediately assigned to the Government. Except as the Contracting Officer may permit in writing, the Contractor shall neither release nor discharge any third party from liability for such loss or damage nor otherwise compromise or adversely affect the Government's subrogation or other rights hereunder. The Contractor shall cooperate with the Government in any suit or action undertaken by the Government against any such third party.

(f) Any failure to agree as to the responsibility of the Government or the Contractor under this clause shall, after a final finding and determination by the Contracting Officer, be considered a dispute within the meaning of the "Disputes" clause of this contract.

2. Conversations with Richard L. Scharr, Program Manager, Office of Passenger Systems R&D.

3. Id.
4. Id.
5. Id.
6. Conversation with Arne Bang, Chief, Freight Service Division.
7. Id.
8. Conversation with Donald M. Spanton, Director, Office of Freight Systems.
9. Conversation with Arne Bang.
10. Conversation with Donald M. Spanton.
11. Conversation with Arne Bang.
12. Conversation with Robert L. Krick, Chief, Improved Track Structures.
13. Id.
14. Conversation with Leavitt A. Peterson, Director of Rail Safety Research.
15. Conversation with Robert L. Krick.
16. Id.
17. Id.
18. Conversation with Leavitt A. Peterson.
19. Id.
20. Conversation with Donald Levine, Chief, Rail Vehicle Safety Research Division.
21. Id.
22. Id.
23. Conversation with Leavitt A. Peterson.
24. Conversation with John Mould, Program Manager, Improved Track Data and Acquisition.
25. Conversation with Leavitt A. Peterson.
26. Conversation with John Mould.
27. Id.

B.

INSURANCE AND LIABILITY PROBLEMS OF THE  
DEPARTMENT OF TRANSPORTATION'S MODAL  
ADMINISTRATIONS IN RESEARCH AND DEVELOP-  
MENT CONTRACTING

The FRA's liability, insurance and indemnification problems, which it has encountered in its research and development contracts with non-governmental parties, are apparently not unique to that Administration. Indeed, the other modal administrations within DOT are also engaged in the negotiation of transportation research and development contracts with non-governmental parties and, for this reason, it is not surprising that some of them have encountered problems similar to those of the FRA.

1. Urban Mass Transportation Administration

The position which has been taken by the Urban Mass Transportation Administration (UMTA) on issues of liability, insurance and idemnification in research and development contracts are similar—in some respects identical—to those of FRA. UMTA manages a wide variety of mass transit research and development programs for the purpose of improving urban transportation service and equipment. The primary areas with which it has been concerned have been bus transit, urban rail transit, automated personal rapid transit systems, systems analysis, transit planning, transit service, and innovative improvements in the efficiency of transit and in the transportation of the elderly, the poor, and the handicapped.<sup>1</sup>

In a few of the R&D programs involving the testing and demonstration of mass transit equipment, UMTA's contractors have raised the issue of liability for property damage and bodily injury or death to third parties. The most noteworthy context in which the issue was raised was in connection with

the demonstration of a new mass transit state of the art car (SOAC) on a high speed public transit line in Philadelphia.<sup>2</sup> The contractor insisted that UMTA indemnify it against all third-party liability which might arise out of the program.

UMTA's Office of the Chief Counsel, like the corresponding office at FRA, appears to be of the opinion that a government agency cannot enter into a contract which subjects the United States to a contingent liability in an indeterminate amount that may exceed the funds allocated to the contract. This opinion rests on the Anti-Deficiency Act, 31 U.S.C. § 665(c), as well as on 31 U.S.C. § 627, and 41 U.S.C. § 11(a), as interpreted in 54 Comp. Gen. 824 (1975), 42 Comp. Gen. 708 (1963), 16 Comp. Gen. 803 (1937), and 7 Comp. Gen. 507 (1928). These three statutes provide:

31 U.S.C. § 665(a): No officer or employee of the United States may make or authorize any expenditure or contractual obligation in excess of appropriated funds.

31 U.S.C. § 627: No act of Congress shall be construed as an appropriation or as authorization to enter into a contract involving the payment of money in excess of appropriated funds, unless the act specifically declares otherwise.

41 U.S.C. § 11(a): No contract on behalf of the United States shall be made unless it is authorized by law or is under an appropriation adequate to its fulfillment.

On the basis of these statutes and the Comptroller General's opinions interpreting them, the Chief Counsel's office at UMTA agrees with the staff attorneys at FRA that a government agency is without authority to indemnify its contractors in a contract which is not related to defense.<sup>3</sup>

Thus, since it regarded itself as unable to negotiate for the full indemnification of the SOAC demonstration contractor, UMTA instead authorized the contractor to obtain separate primary insurance coverage of \$1 million specifically covering this risk. The cost of this additional insurance was to be charged to the government as an item of "cost" under the cost-plus-fixed-fee contract. The contractor's excess insurance coverage would then assume this risk above \$1 million to the \$100 million policy limit. The contractor, however, was only able to obtain primary coverage with a \$500,000 deductible. Therefore, it insisted that UMTA contractually bear this \$500,000 of potential liability by way of indemnification.

Since \$500,000 was not otherwise available under the contract, UMTA found it necessary to reprogram funds. However, it was eventually able to set aside \$500,000 in appropriated funds for the duration of the project to meet this contingent liability which it was assuming.<sup>4</sup> The SOAC demonstration then proceeded without the occurrence of any incident which could impose third-party liability on any participant and, after the discontinuation of the project, the \$500,000 appropriation was reprogrammed to another purpose. Of course, it should be recognized, however, that there is a slight possibility that an incident will occur in a research and development project which is not noticed until some period of time after the completion of the test or demonstration. Though liabilities arising from transportation testing most frequently arise out of some form of accident or collision, and are normally immediately noticed, there are exceptions. These are most likely to occur in relation to third-party property damage, rather than personal injury, and may involve losses caused by stress loads or perhaps by release of chemicals. If there had been any such risk in the SOAC demonstration, the reprogrammed funds would technically have had to be reserved for at least the



period of the tort statute of limitations.<sup>5</sup>

This example will illustrate UMTA's experience with the same liability, insurance and indemnification problems which have confronted the FRA. Moreover, negotiations surrounding a pending R&D contract indicate that UMTA is currently faced with the problem again.<sup>6</sup> UMTA officials were able to suggest no ready solutions to the problem apart from proposals for new legislation.<sup>7</sup>

## 2. Transportation Systems Center

The Transportation Systems Center (TSC) is an agency utilized by FRA and the other modal administrations within DOT to perform various contracts in areas where TSC has special expertise. Located in Cambridge, Massachusetts, TSC is responsible for performing or arranging for the performance of research and development on technically advanced systems and for technological and socioeconomic research and development in all transportation disciplines. Executive direction for TSC is provided by the Assistant Secretary for Systems Development and Technology within the Office of the Secretary of Transportation.<sup>8</sup>

When TSC receives research and development contracts from FRA, it frequently finds it necessary to enter into contracts with railroads, rail equipment suppliers and private research and development firms to expedite portions of its overall task. In negotiating such contracts, TSC is placed in a position nearly identical with that of FRA when FRA enters into R&D contracts with non-governmental parties. However, thus far, TSC has not experienced the problems which FRA has encountered with regard to unusually high costs of liability insurance procured in connection with these contracts.

TSC officials stated that, as is true of FRA negotiations for R&D contracts, the negotiations between TSC and non-governmental parties inevitably include a request by the

private parties that the government fully indemnify them against all risks arising out of the program. At that point, TSC explains that the government cannot legally assume a contingent liability in an unknown amount without the Congressional approval of special legislation. However, TSC authorizes the contracting party to purchase insurance coverage and charge the premium costs to the government. TSC officials stated that, at this point, the persons negotiating on behalf of the non-governmental party discuss the matter with their insurance people and then follow either of two courses of action. More frequently, they decide that they will bear the risk of participating in the program without procuring additional insurance coverage—so that the cost to the government of insuring that particular program is merely that portion of the contractor's overhead costs which is attributable to insurance. Alternatively, they decide to procure insurance coverage and charge the premium costs to the government. In such cases, there has apparently been no problem in procuring adequate insurance at reasonable premium prices.

In total, the latter course of action is followed in only about three to four TSC contracts involving FRA R&D work per year, with the government paying premium costs of only about \$3,000 to \$4,000 per contract per year. It was also followed in one UMTA program involving New York City transit cars. TSC officials foresee little likelihood of greater problems in the near future.

The difference between FRA's and TSC's experiences with liability, insurance and indemnification problems appears to result from the differences in the purposes and functions of the two agencies. TSC's success in avoiding problems appears to be attributable to five interrelated factors:

- a. TSC's direct relationship and resulting rapport with a small number of railroad officials;

b. TSC's frequent involvement with the Boston & Maine Railroad, which is in re-organization and apparently less anxious than some other railroads about third-party liability;

c. TSC's lack of safety regulatory and investigatory power;

d. TSC's emphasis on the legal prohibition of the government from promising indemnification in nondefense contracts;

e. TSC's ability to send back to FRA any R&D contract where indemnification is likely to be a problem.

a. TSC has developed an especially good rapport with the railroad officials and other non-governmental parties with whom they negotiate railroad R&D contracts. As long as TSC continues to be involved with only a small number of contracts and a small number of non-governmental parties in the negotiation of these contracts, it will probably be able to maintain a friendly atmosphere at the negotiation sessions, with the result that problematic issues such as liability, insurance and indemnification can be kept in the background or resolved amicably. Because of TSC's smaller number of contracts and frequent direct technical performance of testing, TSC personnel may be more frequently in contact with railroad officials than equivalent FRA personnel.

b. TSC is located in Cambridge, Massachusetts, and many of the tests it performs or supervises are conducted on the Boston & Maine Railroad's right-of-way. That railroad is presently in reorganization and its trustees will not, as a matter of course, enter into new contracts. Therefore, rather than having to enter into a total hold-harmless agreement with the B & M, TSC or its contractor merely obtains a permit or license to conduct the test. These do not require complete

sole negligence indemnity and, therefore, create fewer problems.

c. TSC's lack of regulatory power with regard to railroad safety is undoubtedly a factor which contributes to its good rapport with non-governmental parties in contract negotiations. The non-governmental parties are apparently more willing to enter into informal agreements to participate in R&D projects without raising issues of liability, insurance and indemnification, simply because of their confidence that TSC will not be inspecting safety aspects of the non-governmental party's general operations. On the other hand, with respect to R&D projects handled directly by FRA, the non-governmental parties are usually only willing to enter into the project by means of a formal contract, because they feel that a formal contract is necessary in dealing with a regulatory authority. They apparently feel that such formalities protect them from having FRA personnel who are involved in the R&D project surreptitiously engage in inspections for safety violations in operations unrelated to the specific R&D project being performed. This desire for the formalities of a contract when dealing with FRA almost inevitably leads to negotiations over allocation of the risk and the desire of all non-governmental parties to be fully indemnified.

d. In those contract negotiations where the subject of indemnification for third-party liability has been raised, TSC has been successful in using the fact that the law generally prohibits the government from indemnifying against contingent liabilities in nondefense contracts as a way to avoid problems surrounding this issue. Apparently, it is frequently the case that the non-governmental party in the negotiations seeks full indemnification because it assumes that the government is capable of assuming these risks by virtue of its vast financial resources. Once the party realizes that the only way for the government to indemnify it would be to pass special legislation through Congress, it becomes less insistent in its demand for indemnification.

e. Because of the manner in which TSC was organized, it is clear that it could send back to FRA any railroad R&D contract where liability, insurance and indemnification became a problem. This would be done on the ground that such problems are not in a field where TSC possesses special expertise and that such problems would distract TSC from its central mission.<sup>9</sup> It may be that one of the reasons TSC has never had a problem involving liability, insurance and indemnification in its railroad R&D contracts is that FRA has not sent to TSC such contracts where liability, insurance and indemnification problems could be expected to arise.

In conclusion, it may be said that, although TSC has not encountered liability, insurance and indemnification problems in its railroad R&D contract negotiations similar to those of FRA, TSC's experience does not appear to offer any "solution" which would rid FRA of its problems in this area. Perhaps the only lessons to be learned are to develop more direct contact with the railroads themselves, to maintain flexibility in choosing a railroad in order to get better terms, and to make sure all parties understand FRA's ability to indemnify.

### 3. National Highway Traffic Safety Administration

The National Highway Traffic Safety Administration (NHTSA) administers a research and development program in the field of motor-vehicle-related equipment and operator safety. In this connection, passive restraint systems and experimental safety vehicles are particularly being developed and tested.<sup>10</sup>

NHTSA officials regard the legal parameters of their ability to negotiate on the issue of indemnification against the risks of third-party liability quite differently from their counterparts at FRA and UMTA. Specifically, notwithstanding the existence of 31 U.S.C. § 665(a), 31 U.S.C. § 627, and 41 U.S.C. § 11(a), the Director of the Office of

Contracts and Procurement within NHTSA believes that the matter is controlled by the standard "Insurance—Liability to Third Persons" clause contained in DOT Forms P-3, P-4, and P-6, each of which covers a particular type of cost-reimbursement contract, such as research and development contracts.<sup>11</sup> The position of staff attorneys at FRA and UMTA has been that, although this clause superficially appears to be a promise of reimbursement or indemnification of the contractor's third party liability—and therefore a contingent liability in an indeterminate amount which could exceed the funds allocated to the contract, in violation of the Anti-Deficiency Act—it is not, in fact, such a promise. Instead, in their view, the clause is controlled by the "Limitation of Cost" clause.<sup>12</sup> In contrast, the Director of the Office of Contracts and Procurements within DHTSA has stated:

I do not consider the Limitation of Cost clause as a limit on the maximum amount of indemnification or reimbursement which the Administration can provide to the contractor. The provisions of this clause are somewhat confusing with regard to the Government's intent to be a self-insurer as are the provisions of the Government Property clause. I also recognize that the "Insurance—Liability to Third Persons" clause does not specifically state that it is an exception to the "Limitation of Cost" clause. However, a promise is made in the Insurance clause that the Government will indemnify the contractor for liability arising to third persons not covered by insurance. It would be contradictory to expect that this liability would then be limited to the Limitation of Cost clause, since on most contracts this would reduce the liability

to an ineffective, impractical amount. This especially becomes true as the contract progresses and the amount available under the Limitation of Cost clause decreases toward zero. In the event of a claim, the Contracting Officer turns the matter over to the Justice Department for litigation and, if the Government is found liable under this clause, the liability is paid for; not from contract funds but from a general fund for this purpose maintained by the Justice Department.

Contractual history clearly shows this to be the intent of the Government, since the Federal Government does not prosecute [sic] claims against the contractor party for claims of third parties which arise under the Insurance clause, or under the Government Property clause, which are not otherwise covered by contract funds.<sup>13</sup>

To be sure, the position of NHTSA on this entire matter has been formulated in the abstract, inasmuch as no NHTSA basis of this clause. NHTSA officials attribute this fact to the safety standards maintained by its research and development contractors. They also note that NHTSA contracts generally involve little exposure to the general public. Most of NHTSA's R&D contracts can be performed entirely on the contractor's premises. Thus, any injuries resulting from the work would be likely to affect only the contractor's employees, whose injuries would be compensated under worker's compensation.<sup>14</sup>

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One conclusion which may be drawn from the differing positions taken by NHTSA officials and those of UMTA and the FRA is that the "Insurance—Liability to Third Persons" clause

contained in DOT R&D contracts is confusing and ambiguous. If this clause becomes the subject of litigation, it is not clear that the courts would give it the FRA-UMTA interpretation, as opposed to that offered by NHTSA. Since the possibility—however small—of catastrophic losses exists in connection with the performance of FRA R&D contracts, it is strongly recommended that DOT revise the wording of this clause to make it clear that its promise of indemnification for the contractor's third party liability is subject to the contract's limitation-of-cost clause.

#### 4. Federal Aviation Administration

The Federal Aviation Administration (FAA) directs its research and development activities toward providing the systems, procedures, facilities and devices needed for air navigation and air traffic control to meet the needs of civil aviation and the air defense system. FAA is also involved in developing and testing improved aircraft, engines, propellers and appliances.<sup>15</sup>

In awarding contracts for research and development in these fields, FAA has not found the matter of liability, insurance and indemnification to be a significant problem.<sup>16</sup> With respect to contracts which facilitate the national defense, FAA has never provided its contractors indemnification against unusually hazardous risks, even though it can do so under Pub. L. 85-804, 50 U.S.C. § 1431.<sup>17</sup> Indeed, only one bidder for a contract with FAA has ever even requested such third-party liability indemnification. That bidder's proposal was rejected solely on the basis of its indemnification request, without regard to any other factor. FAA's rationale for this action was that indemnification might make the contractor less safety-conscious, and that this result would be counterproductive to the safety goals of its research and development program.<sup>18</sup>



FAA, like the other modal administrations, includes the standard "Insurance—Liability to Third Persons" clause in its cost-reimbursement type contracts. It does not, however, regard this clause as establishing anything more than the contractor's right to charge an allocable portion of its insurance premiums to the contract.<sup>19</sup> As far as can be determined, the clause has not been the subject of specific discussions during any FAA contract negotiation.<sup>20</sup>

##### 5. Federal Highway Administration

The Federal Highway Administration (FHWA) coordinates a research and development program directed toward the problems of traffic congestion, street and highway safety, highway design, the reduction of construction and maintenance costs, and the social, economic and environmental impact of highway transportation.<sup>21</sup> In awarding contracts for research and development in these fields, the FHWA has not found the matter of insurance and liability to third parties to be a significant problem.<sup>22</sup>

The FHWA does include the "Insurance—Liability to Third Persons" clause in all its contracts which utilize DOT standard forms P-3, P-5, and P-6. However, as far as can be determined, the clause has not been a subject of discussion in the course of contract negotiations between FHWA and its contractors.<sup>23</sup> The FHWA's staff attorneys have, therefore, not been presented with a case requiring them to form an opinion as to whether the "Limitation of Cost" clause limits the maximum amount of indemnification or reimbursement which FHWA can provide to a contractor. There has apparently been only one FHWA contract in which the Administration reimbursed the contractor for the cost of insurance as a separately identifiable item of cost. In that contract, the amount involved was minimal and no problems arose.<sup>24</sup>

Apparently, the reason FHWA's contractors have not raised this issue is that most of FHWA's R&D contracts do not involve work that would expose the contractor to extensive third-party liability. In a great many of these contracts, the contractor can perform all of the work on its own premises. Thus, there is little likelihood of damage to third parties' property or of bodily injury or death to third parties. Where the tasks to be performed under a particular contract have exposed the contractor to the property of third parties or bodily injury or death to third parties, the contractors have apparently considered the likelihood of such damages too remote to be worthy of a discussion during contract negotiations.<sup>25</sup>

## NOTES

1. United States Government Manual 424 (1977).
2. The description of the SOAC demonstration negotiation, contained in this report, is based on an interview with Thomas Keefe, Office of Procurement and Third Party Contract Review, Urban Mass Transportation Administration, and Linda Watkins, Office of Chief Counsel, Urban Mass Transportation Administration, in Washington, D.C. (July 26, 1977).
3. [I]n the absence of specific statutory authority, a governmental agency is limited in its contractual authority to assume certain risks or to indemnify a contractor against any or all risks by the following:
  1. There must be an administrative determination that the assumption of a specific risk is in the interest of the Government.
  2. The amount of the risk must be determinable at the outset of the contract or a monetary limit of such risk must be specifically stated in the contract.
  3. Although funds to meet the contingent liability for such risk cannot be obligated under the contract concerned, funds must be available from a proper appropriation, with reprogramming if necessary, to meet any potential liability, or if it is conceivable that sufficient funds will not be available to cover such potential liability, the contract must provide that in the event that the Government has to pay, such payments will not entail expenditures which exceed appropriations available at the time of its occurrence and that nothing in the contract may be considered as implying that the Congress will, at a later date, appropriate funds to meet deficiencies.

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Memorandum from Office of Chief Counsel, FRA, to Associate Administrator for Administration at 3-4 (June 16, 1976).

4. In so doing, it was necessary to add a modification to the contract:

WHEREAS, Modification 39 provided for the operation of two (2) SOAC cars on the PATCO High Speed Lindenwold Line for a period of nine (9) months, and

WHEREAS, the Contractor is unable to obtain third-party liability insurance covering its potential liability during the revenue service operation of the SOAC cars on the above program, except under the terms stated herein, and

WHEREAS, PATCO requires a certificate of insurance from the Contractor covering its potential liability under the program, and

WHEREAS, the Government desires the Contractor to obtain the insurance specified herein and will assume liabilities not covered by such insurance to the extent specified herein in accordance with this Modification, the contract is hereby modified as follows:

A. Clause I - Statement of Work, paragraph 3.3, add the following clause to the "Work Statement for SOAC Revenue Service on PATCO",

(a) Pursuant to Clause 22, Insurance-Liability to Third Persons, of the contract, the Contractor shall obtain third party liability insurance as described in paragraph (c) of said Clause 22 covering the Contractor's potential liability during the conduct of the revenue test service on the PATCO line as described above. The Contractor has advised the Government that it can only obtain such insurance through August 9, 1976 with limits of at least \$100,000,000 but with a deductible for which the Contractor would be responsible of \$500,000 per occurrence. The Government accepts this insurance of satisfying the requirements for the Contractor to obtain this type of insurance through August 9, 1976 as required by clause 22.

(b) Liabilities under the aforementioned deductible, if incurred by Boeing, (the liabilities of PATCO or any other subcontractor are not covered) shall be treated as allowable cost, (notwithstanding

the Limitation of Funds Clause) provided that all terms and conditions for reimbursement under Clause 22 entitled, "Insurance-Liability to Third Persons" of the General Provisions, FAA P-3 (Rev. 10/15/69) are met. The Government's liability for costs under the deductible shall not exceed \$500,000.00.

(c) The Contractor shall endeavor to obtain additional insurance beyond August 9, 1976 on terms at least as favorable as those described above, and shall advise the Contracting Officer of the details of the insurance it is able to obtain or any difficulties it may encounter. The specific details of the insurance requirements beyond August 9 shall be the subject of separate negotiation to take into account the type of insurance which may be obtainable by the Contractor and any possible contract adjustment which may be required. In the event satisfactory insurance beyond August 9 cannot be obtained by the Contractor, the Demonstration shall not be continued until such time as the Contractor has obtained insurance coverage satisfactory to the Contracting Officer.

(d) The Contractor shall furnish the Contracting Officer such information relating to the proposed insurance coverage as may be requested by the Contracting Officer.

(e) Loss of or damage to Government property shall be specifically excluded from insurance policies the Contractor is to obtain as described above.

(f) The Contractor shall stop the demonstration and notify the Government immediately after the occurrence of any incident which may give rise to potential liability.

(h) In addition, the following two changes are hereby made to Modification No. 39 to this contract:

1. The "scope" paragraph of the attachment to Modification No. 39 is hereby modified by deleting the words "under the direction of the contractor" and substituting in lieu thereof the words "under subcontract from the Contractor. The Contractor shall provide the support, assistance and subcontract management which is necessary to run the program."

2. Item 3 under the attachment to Modification 39 to this contract is hereby modified by deleting the last sentence and substituting the following in lieu thereof: "He will provide the information necessary for proper maintenance of the propulsion and braking systems and be available for consultation relating to performance of such maintenance."

The above changes do not relieve the contractor of his responsibilities and obligations as prime contractor for the PATCO program.

(i) This modification does not change the total estimated cost or fixed fee of the contract.

5. In both Pennsylvania and New Jersey, the Statute of Limitations for tortious injury to property rights is 6 years. 12 P.S. § 31; N.J.S.A. 2A:14-1. In New Jersey, the statute of limitations for personal injuries is 2 years. N.J.S.A. 2A:14-2. In Pennsylvania, the statute of limitations for personal injuries not resulting in death is 2 years, 12 P.S. § 34, while, for death actions, it is 1 year, 12 P.S. § 1603.
6. Interview, supra note 2.
7. Id. For a discussion of these proposals, see Part IV of the present study.
8. The description of TSC activities contained in this report is based on an interview with Frederick Martin and Edward O'Donnell, Counsel's Office, TSC, Cambridge, Mass. (September 13, 1977).
9. Id.
10. United States Government Manual 423 (1977).
11. The pertinent part of that clause states:

(c) The Contractor shall be reimbursed

(2) for liabilities to third persons for loss of or damage to property (other than property (i) owned, occupied, or used by the Contractor or rented to the Contractor, or (ii) in the care, custody, or control of the Contractor), or for death or bodily injury, not compensated by insurance or other-

wise, arising out of the performance of this contract, whether or not caused by the negligence of the Contractor, his agents, servants, or employees: Provided, Such liabilities are represented by final judgments or by settlements approved in writing by the Government, and expenses incidental to such liabilities, except liabilities (A) for which the Contractor is otherwise responsible under the express terms of the clause or clauses, if any, specified in the Schedule, or (B) with respect to which the Contractor has failed to insure as required or maintain insurance as approved by the Contracting Officer, or (C) which results from willful misconduct or lack of good faith on the part of any of the Contractor's directors or officers, or on the part of any of his managers, superintendents, or other equivalent representatives, who has supervision or direction of (aa) all or substantially all of the Contractor's business, or (bb) all of the Contractor's operations at any one plant or separate location in which this contract is being performed, or (cc) a separate and complete major industrial operation in connection with the performance of this contract. The foregoing shall not restrict the right of the Contractor to be reimbursed for the cost of insurance maintained by the Contractor in connection with the performance of this contract, other than insurance required to be submitted for approval or pursuant to the provisions of this clause: Provided, Such cost would constitute allowable cost under the clause of this contract entitled "Allowable Cost, Fixed-Fee, and Payment."

12. Specifically, that portion of the clause which provides:

Except as required by other provisions of this contract specifically citing and stated to be an exception from this clause, the Government shall not be obligated to reimburse the Contractor for costs incurred in excess of the estimated cost set forth in the Schedule, and the Contractor shall not be obligated...to incur costs in excess of the estimated cost set forth in the Schedule, unless and until the Contracting Officer shall

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have notified the Contractor in writing that such estimated cost has been increased and shall have specified in such notice a revised estimated cost which shall thereupon constitute the estimated cost of performance of this contract. No notice, communication or representation in any other form or from any person other than the Contracting Officer shall affect the estimated cost of this contract. In the absence of the specified notice, the Government shall not be obligated to reimburse the Contractor for any costs in excess of the estimated cost set forth in the Schedule, whether those excess costs were incurred during the course of the contract or as a result of termination.

13. Letter of Joseph T. Bolos, Director, Office of Contracts and Procurement, National Highway Traffic Safety Administration, U.S. Department of Transportation, to James R. Pugh, The Research Group, Inc. (August 16, 1977).
14. Telephone interview with Joseph T. Bolos (July 14, 1977).
15. United States Government Manual 416 (1977).
16. Telephone interview with James E. Chestnut, Director, Contracts Division, Federal Aviation Administration, U.S. Department of Transportation (July 11, 1977).
17. See discussion of this provision in Task IV of the present study.
18. Telephone interview, supra note 16.
19. Id.; letter of James E. Chestnut to James R. Pugh, The Research Group, Inc. (August 29, 1977).
20. Id.
21. United States Government Manual 418 (1977).
22. Letter of Howard G. Gale, Director, Office of Contracts and Procurement, Federal Highway Administration, U.S. Department of Transportation, to James R. Pugh, The Research Group, Inc. (August 15, 1977).
23. Interview with R.L. Stanley, Acting Chief, Procurement Management Support Division, Office of Contracts and Procurement, Federal Highway Administration, and Gerald Bolyard, Office of Contracts and Procurement, Federal



Highway Administration, Washington, D.C. (July 27, 1977).

24. Telephone interview with Gerald Bolyard (July 29, 1977).

25. Interview, supra note 23.

C.

THE POTENTIAL LIABILITIES WHICH RESEARCH  
AND DEVELOPMENT CONTRACTORS MAY INCUR TO  
THIRD PARTIES IN THE COURSE OF FRA-SPON-  
SORED RESEARCH AND TESTING OF RAILWAY  
EQUIPMENT OR OPERATIONS.

Under state law, common carriers—including railroads—have a common law duty to exercise a high degree of care to protect their passengers from injury. The duty can be enforced by an action either on the contract of carriage or in negligence.<sup>1</sup> Neither of these types of actions against railroads will typically involve a federal cause of action, but either may involve the question of whether the railroad was per se negligent, under state law, because it failed to comply with some federal requirement.

Such federal regulations of railroad equipment and practices may be found in two primary statutes and the regulations issued under them. One of these is the Safety Appliance and Boiler Inspection Acts, 45 U.S.C. §§ 1-44. These Acts prescribe certain safety equipment which railroads must employ, and certain operations which they must follow, in the interests of safety. DOT is authorized to supplement these statutory standards by regulation. To be sure, no civil cause of action in private individuals arises under these Acts. However, railroad employees may recover for injuries caused by noncompliance with them, since this noncompliance will be deemed negligence per se.<sup>2</sup> Moreover, other persons may also recover for violations of these Acts in those states which deem such violations as negligence per se or as evidence of negligence.

The second statute which regulates railroad equipment and practices is the Federal Railroad Safety Act of 1970, 45 U.S.C. §§ 431-41, as amended by the Federal Railroad Safety Authorization Act of 1975, Pub. L. 94-56, 89 Stat. 263. This act authorizes the Secretary of Transportation to regulate "all areas of railroad safety," and to conduct research and testing in all such areas. Specific provision is made for waivers, by DOT, of the enforcement of its regulations in particular situations, provided that a hearing is held first.<sup>3</sup> The Act declares a congressional intent for national uniformity in railroad safety regulations, but allows states to continue existing laws and regulations in force until the Secretary has promulgated regulations covering the area in question. Even afterward, the states may maintain regulations relating to essentially local safety hazards.<sup>4</sup>

The Secretary is specifically empowered by the Act to contract with private parties for research and testing of railroad equipment.<sup>5</sup> Violation of regulations issued under the Act will create liability for negligence, again in actions brought by railroad employees.<sup>6</sup> Civil penalties are also provided for, to be collected in suits brought by the Attorney General.<sup>7</sup> Nothing in the Act, however, creates any private cause of action in third persons—other than railroad employees—injured by violations of regulations. Nevertheless, under the law of many states, negligence liability can be based on the performance of a regulatory duty.<sup>8</sup>

In addition to these two statutes, there is a wide variety of other provisions in other Acts which may arguably form the basis of liability. For example, a passenger may conceivably be able to show that his injury was causally related to a railroad violation of the Hours of Service Laws, 45 U.S.C. §§ 61-66, which sets maximum work shifts for railroad personnel. Similarly, there may be a federal cause of

action for persons who suffer injury because of carrier's violation of duty arising under Part I of the Interstate Commerce Act, 49 U.S.C. §§ 1-27.<sup>9</sup> These duties relate chiefly, but not exclusively,<sup>10</sup> to fares, rate discrimination, railroad service, line extensions, inter-railroad contracts and leases. The Act does provide a cause of action for injuries to goods being shipped by rail carriers. Damages are recoverable by the shipper for such injuries under a provision of the Act,<sup>11</sup> which follows the common law in making the carrier virtually an insurer of the goods. However, reduced shipping rates, with a corresponding reduction in the carrier's liability in the event of loss, are permissible.<sup>12</sup>

Aside from their liability for damage to goods, a railroad may be liable, under state negligence law, to consignees who are injured when unloading merchandise faultily loaded by the railroad,<sup>13</sup> or loaded in defective cars.<sup>14</sup> There is also an ICA duty to provide "safe" rolling stock for shippers of goods.<sup>15</sup>

Railroads' liability to persons on their property typically arises from trains' or cars' striking people, or from dangerous conditions of the railroad premises, which lead to falls, electrocutions or other accidents. State negligence law applies to these situations, although violations of a federal safety regulation or statute, such as those discussed supra, may provide evidence of negligence, or be deemed negligence per se.<sup>16</sup> Moreover, particular state statutes may be deemed to create additional duties on the part of railroads. An example of such statutes is the typical state fencing law. Many of these provisions have been construed to protect children from the attractive nuisance of a railroad car or track.<sup>17</sup> Another type is state law relating to train speed, lookout, or headlights. These are frequently invoked in cases involving

injuries to persons struck by trains. Of course, the remaining vitality of any state statute governing railroad safety equipment or procedures will depend on the existence of preemptive DOT regulations.<sup>18</sup>

Under the case law of most states, the negligent conduction of repairs and construction work which results in injuries to third persons may make the railroad liable to the victims. This is typically true, even if an independent contractor performed the work.<sup>19</sup>

There is possible state-law nuisance liability to landowners whose property is adjacent to railroads because of the noise generated. As a general rule, the inevitable noise required by the passage of trains cannot be actionable. However, other noise—repairyard noise, for example—might be deemed a nuisance in an appropriate case.

This conclusion may be affected, perhaps, by the Environmental Protection Agency's railroad noise regulations,<sup>20</sup> promulgated under the Noise Control Act of 1972, 42 U.S.C. § 4901 et seq. This Act does not itself create any private damage action. It does, however, authorize citizen suits for injunctive relief.<sup>21</sup> Research and development contractors may, nevertheless, obtain exemptions from the EPA's noise regulations,<sup>22</sup> including those pertaining to railroads.

More typical railroad liabilities to adjacent landowners may be grouped into three categories: (1) Those arising out of floods caused by clogged railroad culverts. In these cases, the common law of negligence or nuisance forms the basis for liability, although sometimes it is also based on a statutory duty to construct and maintain culverts; (2) those arising out of fires started on railroad property, but spreading elsewhere. These are often dealt with by state

statutes which were enacted during steam locomotive days; (3) those arising out of injuries to animals which come onto the right-of-way and are struck by trains, or made ill by eating a poisonous substance. Again, liability here is typically based on negligence, although the fencing laws may also be relevant.

The liability of railroads to lessees of railroad property is generally regulated by state nuisance, negligence and landlord-tenant law. However, there is also the added complication of exculpatory clauses, frequently inserted into the leases by the railroads. These clauses typically excuse the railroads from all negligence liability to the lessee. Similar clauses are also frequently inserted by railroads in spur trade contracts with shippers, and both types are generally upheld in the courts.<sup>23</sup>

The potential for liability to members of the general public is typified by the case of the stalled car struck by the train at a crossing. State negligence law normally governs this situation, while state or federal safety statutes sometimes define the scope of the railroad's duty in such situations. Occasionally, there is a state statutory cause of action.

When a railroad obstructs a highway, this action produces a public nuisance, which results in a private cause of action that can be brought by those who are specially injured by the nuisance. Additionally, there are state statutory duties regarding the maintenance of railroads on public highways.

If FRA contractors are engaged in testing and developing new railroad equipment, they may later be held liable under the doctrine of strict product liability<sup>24</sup> if the item they design or approve results in injuries after

it has been placed into commerce. This liability may be grounded, for example, on a defect in the item's design, or on a failure to warn of the dangers involved in its use.

The liability of a railroad may be affected by its joint operations, leases, and other agreements. ICC approval is generally required for joint operation or leasing agreements among carriers.<sup>25</sup> State decisional law, however, will determine the tort liability of the lessor, principal, or joint venturer, for activities by the lessee, agent, or joint venturer and the effect and construction of indemnity arrangements between the carriers involved.<sup>26</sup>

State tort law will define a contractor's other general duties to third parties, as well as his duties to his own employees (workmen's compensation). The contract itself will normally determine the indemnification rights of the contractor for liabilities caused by negligence in performance of the contract.<sup>27</sup>

## NOTES

1. For a discussion of the duty to use safe equipment and to maintain it, see 14 Am. Jur. 2d "Carriers" §§ 1028, 1029 (1964). Typical fact situations in which this duty has been invoked have included:
  - Platform and station accidents (slippery pavements, unseen obstacles, poor lighting, defective turnstiles, overcrowding, etc.).
  - Accidents when alighting or embarking (employee negligence, shoving, being struck by train on adjacent track, etc.).
  - Onboard accidents (collisions, slips and falls due to sudden stops or starts, assaults by employees or by unpoliced third persons; injuries caused by defective seats or other equipment).
2. Federal Employer's Liability Act, 45 U.S.C. §§ 51-60. This Act creates a federal cause of action in employees of railroads engaging in interstate commerce, against their employers, for:

[I]njury or death resulting in whole or in part from the negligence of any of the officers, agents or employees of such carrier, or by reason of any defect or insufficiency, due to its negligence, in its cars, engines, appliances, machinery, track, roadbed, works, boats, wharves, or other equipment . . . .

45 U.S.C. § 51. The railroad, however, must be a "common carrier . . . engaging in [interstate] commerce," and the injury must arise while the employee "is employed by such carrier in such commerce." Id.

Other sections of the Act bar the assumption-of-risk defense, 45 U.S.C. § 54, and institute a comparative negligence rule in lieu of a contributory negligence defense. 45 U.S.C. § 54. The Act also contains a very broad ban on exculpatory contracts, rules or regulations, which is phrased so broadly that it could conceivably be misinterpreted to apply even to a governmental regulation which purported to exempt a railroad from "any liability created by this chapter." 45 U.S.C. § 55.

Note that the Occupational Safety and Health Act of 1970, 29 U.S.C. §§ 651-78 (1970), does not apply to railroad work conditions as to which DOT has undertaken to prescribe



regulations under the Federal Railway Safety Act. Cf. 29 U.S.C. § 653(b)(1); Dunlop v. Burlington Northern R.R., 395 F. Supp. 203 (D. Mont. 1975). Note also that employees of independent contractors do not come under FELA. Cf. Annot., "Employers' Liability Act—Coverage" 30 A.L.R.2d 277 (1953).

3. 45 U.S.C. § 431(b)(c). Note that the corresponding regulation, covering waivers in equipment or operational testing situations, does not clearly provide for a hearing. 49 C.F.R. § 211.51.
4. 45 U.S.C. 434. It seems that disputes can arise as to the preemption of state statutes which arguably are, but perhaps are not, supplanted by DOT regulations that touch on the same subject matter, but only obliquely.
5. 45 U.S.C. § 437 (1976 supp.).
6. Federal Employers' Liability Act, supra note 2.
7. 45 U.S.C. § 438 (a, b, c).
8. The safety regulations promulgated under this Act appear in 49 C.F.R., subtitle B, ch. 2.
9. See 49 U.S.C. §§ 8, 9.
10. See 49 U.S.C. §§ 26, 1655(e)(y)(A), which transferred the ICC's former authority to police safety requirements to the Secretary of Transportation.
11. 49 U.S.C. § 20(11). Furthermore, a shipper of livestock has a cause of action in negligence against a carrier who violates the Cruelty to Animals Act, 45 U.S.C. §§ 71-74.
12. 49 U.S.C. § 20(11).
13. 65 Am. Jur. 2d "Railroads" § 414 (1972).
14. 65 Am. Jur. 2d "Railroads" § 415 (1972).
15. 49 U.S.C. § 1(10).
16. As to defective equipment or roadbed, see 65 Am. Jur. 2d "Railroads" § 436.
17. Cf. 65 Am. Jur. 2d "Railroads" § 454 (1972).
18. 45 U.S.C. § 434.

19. Cf. 65 Am. Jur. 2d "Railroads" § 395 (1972).
20. 40 C.F.R. Part 201 (effective January 1, 1977).
21. 42 U.S.C. § 4911(a).
22. 42 U.S.C. § 4909(b)(1).
23. 65 Am. Jur. 2d "Railroads" § 321 (1972).
24. Restatement (Second) of Torts § 402A.
25. 49 U.S.C. § 5(a). But see Regional Rail Reorganization Act of 1973, as amended by Regional Rail Reorganization Act Amendments of 1975, 45 U.S.C. §§ 701-94 (eliminating ICC approval in certain cases of joint ventures by Conrail and private carriers); Rail Passenger Service Act of 1970, 45 U.S.C.A. § 501-645 (which does the same for Amtrak's joint ventures).

In general, the former of these statutes creates the United States Railroad Association and authorizes creation of Conrail, to which the properties of bankrupt railroads in the eastern United States were to be conveyed. It also provides for the acquisition of the railroad properties with Conrail and USRA bonds, which may be guaranteed by the government.

The latter statute authorizes the creation of Amtrak and frees Amtrak operations from various types of regulation by the states or the ICC. Under the amendments to this statute inserted by the Amtrak Improvement Act of 1973, Amtrak can conduct its own R&D programs to develop passenger rail services and rolling stock. 45 U.S.C. § 545(e) (1976 supp.), and must advise DOT and Conrail concerning the Northeast Corridor project. 45 U.S.C. § 545(g) (1976 supp.). It is interesting to note that Amtrak has specific legislative authority to indemnify railroads for tort liability arising from operations under contracts with it. 45 U.S.C. § 562(a, c) (1976 supp.)

26. The FELA, supra note 2, of course, will determine who is an "employee" of whom, for its own purposes.
27. See discussion of this point in the Task IV report of the present study.

A.

## INTRODUCTION

In the report of Task I, a number of areas of potential liability with which FRA R&D contractors may be concerned were considered. Also considered were the experiences of other DOT modal administrations. In particular, three primary areas of exposure which may create liability for FRA R&D contractors were outlined:

- (1) third-party liability for personal injury,
- (2) liability for damage to cargo being hauled or to the property of third parties, and
- (3) liability for damage to the rolling stock and real property of railroads.

The causes of liability claims against FRA contractors may vary widely. They may include, for example, hazards involved in operating equipment during testing and demonstration programs, as well as hazards created in maintenance of test track. Since a number of R&D programs involve use of the railroads' regular track, these causes may include grade crossing hazards and potential damage to cargo and railroad rolling stock. Of course, R&D programs may conceivably result in catastrophic losses, in the event of an explosion, fire, or passenger train derailment.

In light of these considerations, the questions next arise as to the extent that FRA contractors have encountered insurance problems in their FRA work and the degree to which these problems are susceptible to solution. In this Task II, an effort was made to ascertain the scope of these problems and the limits of liability insurance coverage carried by them. This data was developed by interviews with personnel from railroads, railroad equipment manufacturers, and companies

normally performing research work.

In order to acquire related data which will be of use to FRA in railroad construction activities, similar questions were asked of representatives of two architectural and engineering firms. These questions referred to A&E work rather than to R&D.

#### INSURANCE PROBLEM FLOW CHART

The chart on the following page graphically depicts the variety of situations in which an FRA R&D insurance problem might arise. As can be seen, in three of the situations depicted, there is no insurance problem. In five other situations, however, an insurance problem may arise in that there may be delays, unavailability, or availability only at very high premiums. For a discussion of the difficulties involved in envisioning a blanket insurance approach that would resolve the problems in all five of these situations, see Task III.

B.

## INTERVIEWS WITH RAILROADS

### 1. Railroad Number 1

This is a Class I Operating Line-Haul Railroad. The information discussed in this report was obtained from interviews with persons in the insurance and engineering departments of the railroad. In these interviews, it was notable that there was a disparity of opinion as to the extent to which this progressive railroad should get involved or take risks in industry-wide or governmental projects.

#### a. Types of Liability With Which the Railroad Would Be Concerned When Performing R&D Projects Under FRA Contracts

The personnel of this railroad expressed no particular concerns about FRA R&D work. However, it was stated that the railroad would not be interested in permitting any R&D that involved vehicles or personnel in proximity to hazardous materials, population concentrations, or high-speed normal operations. The interviewees stated that the greatest frequency of claims made against their railroad were either: (1) grade crossing incidents, or (2) employee injuries. Grade crossing incidents are more frequent at unprotected crossings and private crossings. Employee injuries most frequently occur in classification yards. It was felt, however, that these areas of high exposure could be avoided in FRA or other R&D projects.

The persons interviewed stated that their concern was not with the particular types of liability to which the railroad might be exposed in an FRA project, but rather with the fact that any unusual activity could create a liability exposure. For example, a soil test was recently conducted on this railroad to determine the weight-bearing and water-draining properties of roadbeds of various soil compositions. The test was conducted on normal operating track with heavy

freight loads. This test was felt to be extremely minimal in risk, but very high in exposure, because of the amount of traffic on the line. Therefore, the railroad felt that it had to be protected to some extent from this exposure, irrespective of the degree of risk involved. This is a very graphic example of the attitude of railroads toward R&D programs.

It should be noted that this railroad has a good experience with R&D work. It has never suffered a loss or had a claim filed in relation to any of its own R&D or that of the government. Indeed, the persons interviewed were unaware of the occurrence of any R&D accidents anywhere.

b. Types and Amounts of Insurance Needed to Protect Against These Liabilities

The railroad personnel interviewed feel this railroad needs a Railroad Protective Liability policy to protect it against the risks created by the operations of an FRA R&D contractor. It is not very fond of the American Association of State Highway Officials (AASHO) form, because it excludes losses caused by the railroad's sole negligence. It prefers either the Michigan Mutual form or the Lloyds "Green Form," because neither of these includes this feature. All three forms of Railroad Protective policy have been accepted at different times, however.

This railroad requires \$2 million of coverage from R&D contractors. This sum is \$500,000 above the road's self-insured retention. While it prefers that the policy be purchased with no deductible, if this is not economically feasible, the interviewees believe that an indemnity agreement should be provided for the deductible portion, because all successful claims will involve this layer.

c. Types and Amounts of Insurance Carried by the Railroad

This railroad has a self-insured retention of

\$1.5 million. It also carries excess layers to a ceiling of \$40 million. These layers are placed 70% in London and 30% with American insurance companies.

The interviewees did not wish to have the railroad's premium costs disclosed in any manner. They did state that the premium is retrospectively rated from earned revenues on an annual basis. The premium rate is the result of extensive and difficult negotiations, conducted every year. The premium has risen over 1000% in the last few years, despite the fact that the railroad has not pierced its excess coverage since 1969. Because of this situation, the insurance personnel are somewhat afraid that any unusual activities on the part of the railroad will cause underwriter concern.

d. Types of Indemnity Clauses Which Are Generally Used by the Railroad

When this railroad is not the named insured in a contingent liability policy, the interviewees stated, it requires a total hold-harmless agreement which indemnifies it even for its sole negligence. Though it was stated that less stringent indemnities could possibly be satisfactory in certain contexts, no specific examples were uncovered. However, there was one example mentioned of a cooperative R&D venture between this and a few other railroads. In that case, there were simply no contractual indemnities and each party tacitly undertook the responsibility for its own negligence.

e. The Degree of Difficulty Which the Railroad Has Had or Would Expect to Have in Obtaining Insurance

The interviewees felt that liability coverage, probably written on a contingent liability basis as a Railroad Protective policy, was available for FRA R&D. However, they reported their experience that present underwriting practices were sloppy on any kind of special railroad risk. This, of course, always leads to an overcharge in premium.

During the expansion of the interstate highway system, Railroad Protective policies were often written by the major American insurance companies for their construction company clients involved in highway/railroad separation work. Also, in the 1960's, this railroad was able to purchase an eight-state blanket contingent liability insurance policy for its maintenance-of-way contractors. This was reasonably priced, with a modest deductible of \$5,000. These kinds of coverage, at realistic prices, have since disappeared, however. Issuing such coverage is apparently no longer considered a good business practice by the first tier of companies. It is now available only from the marginal markets and is accordingly overpriced. Deductibles have also increased enormously. Another problem is that the primary market is now in London and the underwriters are too far away to comprehend the individual risks.

The opinion was expressed that there is no possibility of acquiring a policy for FRA R&D on a blanket basis.

## 2. Railroad Number 2

This is a Class I Operating Line-Haul Railroad. The information discussed in this report was obtained from interviews with persons in its finance and legal departments.

### a. Types of Liability With Which the Railroad Would Be Concerned When Performing R&D Projects Under FRA Contracts

This railroad saw no extraordinary risks involved in FRA or other R&D work. Its representatives felt that government R&D was very safe and not a particular concern. Nobody interviewed had any knowledge of any railroad R&D accidents anywhere.

The interviewees did think that there was a liability exposure attached to any test, merely because of the presence



of new equipment and personnel unfamiliar with the line's operation. They stated that they would only incur this risk, with or without insurance, if the particular equipment being tested was likely to be of ultimate benefit to their own particular railroad. They also stated, conversely, that they would automatically deny permission to test any equipment that could not, in the foreseeable future, be utilized in their revenue-producing activities.

b. Types and Amounts of Insurance Needed to Protect Against These Liabilities

The interviewees observed that, in almost all cases, an indemnity agreement supported by proof of \$2 million coverage or a \$2 million Railroad Protective Liability policy would be sufficient to conduct FRA R&D. This would cover their \$2 million self-insured retention. However, they did point out that Railroad Protective policies are usually written on a combined single limit basis and that an FRA R&D project might involve several FRA contractors as named insureds in addition to the railroad. In such a case, the railroad may suffer considerable uninsured losses. To avoid this situation, and to assuage concerns on the part of all parties as to whether there is enough total coverage, the interviewees suggested that, as a general rule, a \$5 million limit would be more appropriate. They also felt that the premium difference between \$2 million and \$5 million would not be substantial.

c. Types and Amounts of Insurance Carried by the Railroad

This railroad has a self-insured retention of \$2 million for liability. Above this, it has an excess layered coverage to \$50 million. Although the leader on this coverage is an American company and 40% of it is domestically insured, 60% of the coverage is insured in London. Though first party property damage insurance is as low as \$100,000 on certain high density lines, there is no third-party insurance below

\$2 million. As with all railroads interviewed, the cost of this coverage has increased dramatically in recent years.

d. Types of Indemnity Clauses Which Are Generally Used by the Railroad

This railroad normally requests a total hold-harmless agreement indemnifying it even for its sole negligence. In certain situations, however, it requests only a hold-harmless agreement without the sole negligence feature. It was stated that the choice would depend on the extent to which the railroad felt it could control, limit, or monitor the planned activity. Nobody would state, however, whether FRA R&D, as a general rule, would fit into the latter category. Instead, it was stated that the determination in each case would depend on the particulars of the project. A Railroad Protective policy would eliminate the need for the agreement, of course.

The persons interviewed stated that they would be willing to execute a release for the R&D contractor at the conclusion of the test. They believe that losses incurred in R&D activities are apparent immediately and that they therefore do not need ongoing indemnification protection. In this same conversation, it was also stated that if the indemnification agreement were limited to \$5 million, the railroad would be satisfied.

e. The Degree of Difficulty Which the Railroad Has Had or Would Expect to Have in Obtaining Insurance

This railroad has never purchased a liability policy for FRA R&D projects. The persons interviewed were nevertheless relatively optimistic that such policies can be purchased at costs not inconsistent with the high cost of all rail-related insurance. They even felt that such coverage can be purchased on a blanket basis for all FRA R&D projects. In comparison to the other opinions gathered in the present Task, however,

this view seems, at best naive. The interviewees were not optimistic about acquiring a small deductible. They felt that a deductible somewhere between \$250,00 and \$500,000 was the best that could be expected.

### 3. Railroad Number 3

This is a quasi-public, for-profit Class I Operating Line-Haul Railroad. This railroad did not own any significant real property right-of-way until April, 1976. The information discussed in this report was obtained from interviews with persons in the insurance and claims departments of the railroads.

#### a. Types of Liability With Which the Railroad Would Be Concerned When Performing R&D Projects Under FRA Contracts

This railroad is quite familiar with FRA R&D. The interviewees therefore understand, probably better than persons at other railroads, that FRA R&D outside the TTC is more "proof of principle" than truly "experimental." There is no particular concern about unusual or extensive risks created by FRA R&D. However, the interviewees at this railroad expressed strongly the opinion that their right-of-way is not appropriate place for extensive R&D. They pointed out that this right-of-way is heavily traveled by commuter, inter-city, and freight traffic. It is also undergoing a major rejuvenation project. Thus, the combination of traffic and construction creates significant exposure in itself and makes the advisability of additional activities questionable. The interviewees were very concerned that the railroad's relationship with the government would lead the FRA to attempt to impose R&D projects on this railroad's congested right-of-way when other, private railroads, were uncooperative.

b. Types and Amounts of Insurance Needed to Protect Against These Liabilities

This railroad's personnel felt that a Railroad Protective Liability policy is the appropriate financial protection for the railroad during an FRA R&D project. Coverage for the railroad's sole negligence is not considered necessary. Moreover, they felt that \$2 million limits, the railroad's self-insured retention, are sufficient. This is true, they stated, even when there are multiple-named insureds on the policy. These insureds would include the various FRA contractors conducting the project and other railroads whose trains are exposed to the risk.

c. Types and Amounts of Insurance Carried by the Railroad

This railroad has a self-insured retention of \$2 million for liability coverage. Above this, it has excess layers up to a limit of \$38 million. This excess is placed 65% in London and 35% with American insurance companies.

The railroad, until recently, had coverage up to \$50 million. However, the top \$12 million for this railroad became unavailable on the London market and the coverage therefore shrank by a corresponding amount. Premium costs have increased considerably in the last few years. Moreover, it is known that premiums will increase dramatically because of the reconstruction process. However, the extent of these increases is unknown at this time. It is also unknown whether the underwriters will impose any different limits or conditions on coverage.

d. Types of Indemnity Clauses Which Are Generally Used by the Railroad

This railroad is a relatively new right-of-way owner. It has little experience with requiring indemnification for unusual projects. It has, up to now, not required total hold-harmless indemnities for its own sole negligence. It has required the purchase of insurance for FRA R&D projects and would probably do so again in the future.

This railroad has its trains operating on the rights-of-way of many other railroads. In those cases, it utilizes indemnity agreements in which it accepts the results of its own negligence and the other railroads accept the results of theirs.

e. The Degree of Difficulty Which the Railroad Has Had or Would Expect to Have in Obtaining Insurance

The interviewees agreed that insurance for FRA R&D projects is somewhat difficult to procure but is definitely available. The railroad has a market through an agency and the coverage is placed, in effect, entirely in London. However, although insurance is available, it is expensive. A recent FRA test, not in revenue service, required a \$2 million combined single limit Railroad Protective policy which carried a premium cost of \$73,000. This policy had a \$200,000 deductible. An attempt was made to have the policy written within a \$100,000 deductible, but this proved not to be economically feasible.

It should be noted that the agent, in order to establish the coverage, required rather specific underwriting information. Time of day, direction, and frequency of travel were considered important. Whether London underwriters can actually evaluate this information is certainly open to question. Nevertheless, they apparently want the security of seeing it.

4. Railroad Number 4

This is a Class I Operating Line-Haul Railroad. The information discussed in this report was obtained from interviews with persons in the insurance and legal departments of the railroad.

a. Types of Liability With Which the Railroad Would Be Concerned When Performing R&D Projects Under FRA Contracts

This railroad has itself performed R&D as an FRA contractor and has had other parties perform FRA R&D on its line. The interviewees stated that they did not see any particular or unusual liability risks attached to these activities, as long as they are conducted by qualified companies. They stressed that they would always want to have some control over exactly who had access to their track.

Even though the interviewees felt that R&D is more closely watched and therefore probably safer than normal operations, they were still concerned about the exposure involved in it. They stated that they were sure to be named defendants if any incident occurred and that, in such an event, their defense costs alone would be quite sizeable. This railroad was involved in two major rail disasters in the early 1970's. The litigation expenses which resulted from these disasters are already in the millions of dollars, and not all the lawsuits have yet been resolved. Last year, this railroad suffered \$38 million in uninsured losses. Of this sum, approximately 50% was third-party liability and FELA liability. The remainder was damage to its property, to cars of other railroads in interchange, and cargo liability for freight being hauled.

With these kinds of uninsured liability expenses, it is the policy of this railroad to avoid any additional exposure. This applies particularly to mobile risks which can cause losses in densely populated areas or interfere with the operation of other trains. For these reasons, it was expressed that any R&D activity must be protected by some contractual or insurance method.

b. Types and Amounts of Insurance Needed to Protect Against These Liabilities

When R&D is conducted on this railroad, it requires a Railroad Protective Liability policy for its benefit. It has accepted railroad protectives on the American Association of State Highway Officials (AASHO) form. This is not any railroad's

favorite protective form, however, because it excludes losses caused by the sole negligence of the railroad.<sup>1</sup> However, this railroad's available market for Railroad Protectives was through a wholesale broker in Chicago who was familiar with the AASHO form and used it. This was several years ago, and that particular broker is no longer in business. This railroad would like to find a Railroad Protective without that exclusion. This railroad also has a contingent liability policy, analogous to a Railroad Protective, with itself as the named insured, where its track passes through an Air Force base. This was negotiated by the railroad and paid for by the Air Force, because it was recognized that the government could not give an indemnity. The railroad believes that a contingent liability policy for a stated amount is the proper solution when it interfaces with the government.

It was stated that the railroad would be satisfied with a Railroad Protective in the amount of its self-insured retention—\$5 million—for FRA R&D. It has acquired policies in this amount for some R&D work. However, in one case where the railroad itself was the FRA R&D contractor, it had the FRA purchase a \$16 million Railroad Protective for it. At the time, its self-insured retention was only \$1 million. The interviewees could not explain or give a reason for this discrepancy. They merely stated that the railroad would require more than \$5 million if a test were clearly an unusual risk, but that this project was not such a risk. It was also suggested that the Railroad Protective may have been purchased because the excess layers were relatively inexpensive. There did not appear to be an evident explanation, however, and it is possible to draw the conclusion that the railroad merely purchased what was available.

The Railroad Protective Liability policies purchased by this railroad in the past have had a \$250,000 deductible.

c. Types and Amounts of Insurance Carried by the Railroad

This railroad has a self-insured retention of \$5 million. It has a layered excess placement up to a limit of \$46 million. The coverage is purchased 80% in London and 20% from American companies. The premium cost is \$2.2 million per year, or .12% of its gross revenues. Premiums have increased considerably in each of the last few years, even though no claims have been filed since 1974. This railroad, however, feels that it is ahead of its underwriters because of the losses it suffered in the early 1970's when price cutting caused unrealistically low premiums.

d. Types of Indemnity Clauses Which Are Generally Used by the Railroad

The representatives of this railroad stated that it always requested a total hold-harmless agreement, indemnifying the railroad even for its sole negligence. They did state, however, that it omitted the sole negligence feature in certain cases when the project was to the immediate benefit of the railroad. It was also admitted that certain mutually advantageous arrangements between the railroad and other parties conceivably could be worked out without including indemnity agreements. However, this type of arrangement had never been entered into in any situation similar to R&D.

The interviewees said that an indemnity agreement was not required when the party wishing to use the right-of-way purchased a Railroad Protective Liability policy for the benefit of the railroad.

e. The Degree of Difficulty Which the Railroad Has Had or Would Expect to Have in Obtaining Insurance

This railroad has had no real difficulty in purchasing Railroad Protective Liability policies to cover R&D projects.



Prices have been very high, however, and, for this reason, only the most sizeable projects appear to justify the premiums charged. The interviewees felt that there was only limited underwriting and risk analysis in the issuance of these policies, and that there appeared to be minimum premiums for certain amounts of coverage in the minds of the underwriters. All such policies have been issued in London and the underwriters are separated from the risk by American and then London brokers. This makes analysis difficult and will certainly keep prices high.

This railroad has always had to accept at least a \$250,000 deductible and thinks this should be seen as a minimum figure.

NOTE

1. The exclusion reads:

Under Coverages A(1), B and C, to bodily injury, property damage or loss, the sole proximate cause of which is an act or omission of any insured other than acts or omissions of any designated employee of any Insured; . . .

5. Railroad Number 5

This national railroad, operating primarily in the south-east and midwest, is basically satisfied with its insurance situation at the present time. The information collected concerning this railroad was obtained from interviews at its home office with an executive insurance manager, financial vice president, and staff attorney.

a. Types of Liability With Which the Railroad Would Be Concerned When Performing R&D Projects Under FRA Contracts

The railroad has had almost no experience with FRA R&D. While expressing a desire to cooperate with the FRA in any way possible, the persons interviewed indicated that they did not expect the railroad to become involved in any testing in the near future. Nevertheless, they felt that the liabilities normally present in day-to-day railroad operations would be likely to occur in any R&D testing. The railroad itself has no substantial R&D program and is dependent on technological improvements from other industry sources. Consequently, it has suffered no liability losses as a result of any R&D tests.

The loss experience of the railroad for which insurance was necessary—where the deductible amount was exceeded—has been confined to two major losses. One accident caused approximately \$10 million in third-party liability and \$6 million in property damage. Another resulted in \$5 million property damage and no third-party liability. It is the policy of the railroad to settle a claim against it as quickly as possible. It is felt that this is a less expensive approach than disputing every claim, which often necessitates extensive litigation. The railroad's representatives acknowledged that others in the industry feel differently on this issue. They noted that some railroads contest nearly every claim.

b. Types and Amounts of Insurance Needed to Protect Against These Liabilities

The persons interviewed did not feel that any special insurance coverage is necessary for R&D activities the railroad conducts, or for any test it conducts jointly with the FRA. They did acknowledge that the railroad would accept a Railroad Protective Policy with \$1 million coverage for main track tests and \$500,000 for side track tests. They also indicated that it would be necessary to review the railroad's entire business coverage if it did become involved in actual tests with the FRA.

c. Types and Amounts of Insurance Carried by the Railroad

The railroad's liability insurance is layered with a \$2 million deductible. This produces an excess coverage of \$39 million. Approximately 65% of the insurance is placed in London, while 35% is domestically placed. The premium cost for 1977 was about \$3.2 million. The anticipated expenditure for insurance for this year is \$3.6 million. Since the company's sales total approximately \$1.3 billion, the cost of insurance amounts to .25% to .3% of sales. This is not considered an exorbitant or even a very serious expense and is regarded as a highly worthwhile investment. It was noted, for example, that, in the past few years, between \$6 million and \$8 million had been spent to purchase insurance. The losses sustained during that period, however, had produced a non-deductible liability of nearly \$20 million, which was ultimately recovered from the insurers.

Because insurance costs are not viewed as a major expense, the railroad gives little consideration to insurance, either on a daily basis or in its long-range planning. Normally, the railroad has a general five-year plan from which it develops cost estimates and projected expenditures. Insurance is only a small factor in the current five-year plan. The plan assumes that the cost of insurance will continue to rise at roughly the rate of inflation. It also anticipates that, barring an unusual number of costly losses throughout the industry, the rate of increase in the cost will slow.

The railroad has even fewer problems with its property insurance, which is less complex than its liability insurance. This insurance is also layered. There is a \$2 million deductible, with a total of \$10 million excess coverage. All this insurance is placed in London.

It should be noted that, liability insurance aside, the railroad generally purchases other insurance by competitive bidding, usually obtaining two or three bids. The railroad's own cost analysis has determined that significant savings have been achieved in this manner.

The railroad has been satisfied with its insurance protection, largely due to the satisfactory coverage of the significant losses it has recently sustained. After an insurer has paid off a loss, it is the practice of the railroad to continue to purchase coverage from that insurer. This practice is viewed as one which will generate good will and give the railroad a reputation for fairness by allowing the insurer a chance to recoup some of the benefits it has paid out. The interviewees believed this practice to be customary within the industry. They also expressed a fear that a sudden switch of insurers, after a loss, would eventually make it more difficult to purchase insurance, since such a switch would be regarded negatively by the insurance industry.

d. Types of Indemnity Clauses Which Are Generally Used by the Railroad

When the railroad concludes an agreement with another party for the use of its track or other facilities, it requires, as a rule, a very strict indemnity agreement. In the past, the practice was always to insist that the railroad be held harmless from liability for all losses, even those occasioned by the railroad's own negligence. At present, this policy has been modified somewhat, however, and the ultimate indemnification agreement is now

the result of negotiations between the parties. It is still required, however, that, if there is no direct benefit to the railroad to be derived from a particular test or project, the railroad be held harmless.<sup>1</sup>

Despite the insistence on strict indemnity, this railroad's personnel indicated that it is completely satisfied with the Railroad Protective Policy and is willing to use this in almost all situations where an indemnity agreement is necessary. At present, it utilizes \$1 million on main lines and \$500,000 on side lines and will probably continue to be satisfied with this type of coverage.

e. The Degree of Difficulty Which the Railroad Has Had or Would Expect to Have in Obtaining Insurance

The railroad has had no difficulty in acquiring insurance for its normal operations. The interviewees agreed that coverage for an FRA or other R&D test may present some problems but that, at present, insurers are still willing to underwrite railroad risks.

NOTE

1. The standard agreement used by the railroad states, in pertinent part:

OWNER shall indemnify and save harmless RAILWAY from liability and against all losses, claims, demands, payments, suits, actions, recoveries, legal expenses and judgments of every nature and description made, brought or recovered against RAILWAY, because of personal injury to or death of any persons whomsoever (including, without limitation, injuries to or death of officers, against and employees of the parties hereto) and damage to or loss of any property whatsoever (including, without limitation, damages to or loss of property of the parties hereto and that of their officers, agents and employees) arising or growing out of (1) any defect in the EQUIPMENT, (2) any act or omission of OWNER, its officers, agents or employees in connection with said demonstration or regarding same, or (3) the presence of OWNER, its officers, agents or employees on or about the premises and property of RAILWAY, unless such damage or injury is due solely to the negligent acts of RAILWAY.

C.

## INTERVIEWS WITH RAILROAD EQUIPMENT MANUFACTURERS

### 1. Equipment Manufacturer Number 1

This equipment manufacturer produces railroad cars of various descriptions. It is a large national company with manufacturing plants in several states, and has a long history in this business.

The following information was obtained from interviews with the General Manager of one of the company's divisions, an executive with an engineering background with the company, an engineer, and the company's Insurance Manager.

#### a. Types of Liability With Which the Manufacturer Would Be Concerned When Performing R&D Projects Under FRA Contracts

This manufacturer has never performed FRA R&D. However, it has recently expended \$1.5 million in R&D for cars and has considered the liabilities involved. Damage to its own property is not considered a problem, but there is concern about damage to the property and personnel of the railroads due to the poor condition of the track system. FELA suits were mentioned as a particular threat. Like many rolling stock manufacturers interviewed, a number of persons in this company wanted to place most of the blame for equipment failure and derailment on track conditions. One interviewee actually began to catalogue particularly bad sections of track across the nation.

Although the interviewees stated that the third-party liabilities involved in R&D on a railroad's right-of-way were basically the same as those involved in any train movement, they felt that R&D was very much less risky than normal operations. They indicated that there was really no other situation where trained technical personnel, familiar with the test equipment, were monitoring and watching a car for signs of failure. This



company has never had an R&D loss or claim, and its representatives attribute this fact to these factors.

In this company's own testing, the area about which the interviewees are most worried is the transport of hazardous materials. They felt that, when tests of a tank car actually reach the point of transporting hazardous materials, the risk of serious accident increases dramatically. The interviewees were aware of the details of a number of \$10 million hazardous materials accidents in the last few years.

b. Types and Amounts of Insurance Needed to Protect Against These Liabilities

Both a General Manager and the Insurance Manager of this manufacturer were convinced that they need products liability coverage for the company's R&D activities. The issue of whether the product was in the stream of commerce during a test was discussed at length during the interview, however, and they admitted that the car would still be in their care, custody, and control at that time. However, they still insisted that their Comprehensive General Liability policy, which excludes the product hazard, would not cover this risk. The recent re-writing of their policy, with much less products coverage, seems to have created this fear. Their opinion that R&D involves a products hazard appears to be somewhat inaccurate, however, because the car being tested would not likely be deemed a finished product placed in the stream of commerce.<sup>1</sup>

The company has never had to purchase separate insurance for an R&D test, but the persons interviewed believe that they would have to do so if a test were conducted today. This is because of recent changes in their insurance program and recent changes in indemnities required from railroads. Presently, a planned test has been deferred until these problems are resolved or special insurance is purchased.

The interviewees stated that the amount of coverage necessary for an R&D test—even one involving hazardous materials—is not very substantial. They noted that no R&D test would be conducted in proximity to population concentrations or explosive materials. Although they agreed that such coverage should have a relatively low deductible to protect corporate assets, they observed that tests could easily be planned to avoid the possibility of more than \$2 million or \$3 million liability.

c. Types and Amounts of Insurance Carried by the Manufacturer

The first \$5 million of coverage for this company is radically different for non-products-liability claims and products liability claims. This primary coverage of \$5 million has a \$1 million deductible for non-products-liability claims and a \$4.9 million deductible for products liability claims. It is provided by an American insurer. The effective \$100,000 of products liability coverage, from \$4.9 million to \$5 million, is purchased merely to get the claims-handling and defense services of the insurer. Above its primary, the company has a \$75 million excess umbrella, composed of both foreign and domestic layers.

The present premium is about \$1.5 million, which is about 2% of this manufacturer's gross sales and almost 4% of its net income. The interviewees believed that this premium is absurdly high. It has increased by a factor of 11 in the past two years and, in the same period, the deductible went from \$50,000 for all liability to its present levels. Against this background, the largest third-party liability loss which the company has ever suffered was in the amount of \$40,000. The number of claims filed annually is still relatively small, although it has increased noticeably in the last two years.

d. Types of Indemnity Clauses Which Are Generally Used by the Manufacturers

When this manufacturer has conducted tests in the past, it has been required to sign a personal injury release by the railroads. By this agreement, the manufacturer released the railroad from any liability for personal injury, by any cause, to the manufacturer's personnel. Obviously, this did not present a third-party liability problem.

Recently, when negotiating to conduct a test, the manufacturer was sent a total hold-harmless agreement, by which it would have to indemnify the railroad for its sole negligence. For this and other reasons, the test has been postponed for the moment. The interviewees stated that, in the past, their testing activities were probably not reviewed by the railroad's legal department. They believed that the new agreement, in lieu of the personal injury release, was the result of legal department review. They also offered the opinion that railroads may have recently become more concerned about liability suits arising from rolling stock accidents.

e. The Degree of Difficulty Which the Manufacturer Has Had or Would Expect to Have in Obtaining Insurance

This company has never attempted to purchase a special R&D policy. The insurance manager expressed the opinion that one would almost certainly have to go to London to purchase this coverage and that it would be complicated to procure. From his experience in London, he concluded that it would be a complicated, time-consuming, and expensive educational process. He was therefore very pessimistic about the possibility of purchasing reasonably-priced insurance.

NOTES

1. The case of Swift & Co. v. London & Edinburgh Ins. Co., Ltd., 130 Ill. App. 2d 68, 264 N.E.2d 389 (1970), appears to be the governing authority on this issue. In that case, the court held that the standard products liability insurance policy does not cover accidents arising from a product or merchandise which must be regarded as work in process and not either finished goods or goods which have entered the channels of trade or stream of commerce. In other words, a products liability policy covers only those risks arising to an insured manufacturer after its product has become a finished product in regard to an ultimate user of the product or after finished goods have been placed in the stream of commerce. As such, while a product is still being prepared to be placed in the stream of commerce or while it is inventory or while it is still in the process of research and development, any injury caused by that product must be regarded as being neither covered by a products liability policy nor excluded by a manufacturer's comprehensive general liability policy's products exclusion clause.

The reasoning of the court appears to be sound. The language of the typical products liability policy or products liability exclusion clause does not, after all, refer to all products, but only to products "manufactured, sold or distributed by the insured." It is not necessary, then, to argue that a railroad car which is still in the process of research and development is not a "product." It is sufficient, instead, to say that, whether or not it is a product, it is not "manufactured, sold or distributed until it has become a finished product in regard to an ultimate user or has been placed in the stream of commerce. This reasoning thoroughly supports the conclusion of the court in the Swift & Co. case.

The leading cases in which courts have imposed liability upon a manufacturer on negligence or strict liability theories for defective products have all had to do with injuries occurring after the defective finished product had entered the stream of commerce. Greenman v. Yuba Power Products, Inc., 59 Cal. 2d 57, 27 Cal. Rptr. 697, 337 P.2d 897 (1962); Henningsen v. Bloomfield Motors, Inc., 32 N.J. 358, 161 A.2d 69 (1960); Escola v. Coca-Cola Bottling Co., 24 Cal. 2d 453, 150 P.2d 436 (1944); MacPherson v. Buick Motor Co., 217 N.Y. 382, 111 N.E. 1050 (1916). Part of the policy of these decisions has been that imposing liability on the manu-

liability on the manufacturer was appropriate because it had the economic power to perform the research and development necessary to design safer products before putting them into the stream of commerce.

Under these circumstances, it would be inconsistent to impose strict liability on a non-negligent manufacturer when an accident arose from a product being tested under a sound research and development program, designed to make sure the product was safe before it was put into the stream of commerce. However, whether strict liability would be imposed in a research and development accident case is a separate question which the Swift & Co. decision did not attempt to resolve. What it does stand for is the proposition that a products liability policy does not cover research and development accidents. On that point, this study has found no authority which contradicts its reasoning.

Of course, if research, development, and testing are performed in such a way that a defectively designed product results, the manufacturer may be held liable for that defect. This possibility, however, does not seem to have been the concern of the interviewees here.

2. Equipment Manufacturer Number 2

This railroad equipment manufacturer is an operating division of a very large national corporation. Although this manufacturer is a very large entity in its own right, producing 800 locomotives per year, it is only a small segment of the whole corporation. Therefore, many of its practices and policies are colored by the size of the entire corporation. In negotiating its contractual liability and purchasing insurance, it is the beneficiary of the strong economic bargaining power of one of the largest corporations in the country.

The information collected concerning this manufacturer was obtained from interviews with an executive, insurance purchasing personnel and an attorney from the corporation's home office, and with the insurance manager and engineering personnel from the operating division's home office. It should be noted that much of the experience with insurance purchasing and contractual liability is limited to the corporation's home office. The personnel in the operating division that actually produce the product are somewhat insulated from these concerns by a corporate insurance department that purchases insurance for all operating divisions of the company. Similarly, a home office corporate legal department approves all contracts. This corporate infrastructure and the size of the corporation make this railroad equipment manufacturer atypical. The majority of FRA R&D contracts will presumably not be with companies which are similar to this manufacturer.

a. Types of Liability With Which The Manufacturer Would Be Concerned When Performing R&D Projects Under FRA Contracts

This manufacturer has little experience with FRA R&D and its personnel have no knowledge at all of any problems or losses associated with such work. Some interviewees speculated as to the liabilities which might occur in R&D work, but all agreed

that these liabilities would not differ from those normally incurred in train operation. Federal Employers Liability Act (FELA) liability was mentioned a number of times because this essentially unlimited employee recovery is somewhat frightening to manufacturers who normally have the protection of the Workers' Compensation schedule of recoveries.

This manufacturer does conduct its own R&D program to improve its locomotives. Although most of the program takes place on its own premises, there is a certain amount of testing done on the right-of-way of operating railroads. Typically, these tests involve a locomotive which is operated as one of a group of at least four locomotives pulling a train consist. The test locomotive is followed by a test monitoring car, carrying instrumentation and the manufacturer's R&D personnel. The locomotive itself, however, is operated by railroad employees. This is the result of union regulations.

During these tests, the locomotive is essentially being loaned to the railroad for its use in its profit-making activities. This is the quid pro quo the railroad receives in exchange for the constraints and added liabilities of the testing activity and the monitoring car. Because of this mutual benefit, this manufacturer's representative states that it has had no problems in conducting its R&D program.

Indeed, this manufacturer has suffered no liability losses as a result of its R&D program. In fact, it was not aware of any claim ever having been filed in connection with any aspect of the program. Additionally, this manufacturer stated that it had a very clean claims record in general and that it had no record of any multi-million-dollar claims. It did not express the great fears concerning product liability that other railroad equipment manufacturers expressed. However, this may be caused in part by the fact that other divisions of the corporation manufacture products which generate large numbers of suits.

b. Types and Amounts of Insurance Needed to Protect Against These Liabilities

This manufacturer's personnel were unaware of the need for any special insurance coverage for its own R&D activities or any R&D it would conduct for FRA. This may be partly because its lending of locomotives has saved it from getting involved in strict hold-harmless agreements. It presently makes no special insurance provision for its own tests and does not even notify its carrier of the activities planned, on the assumption that its product liability coverage would apply.

Concerning the amount of coverage necessary, the interviewees considered this to be totally speculative. As a practical matter, for full coverage one would need as much as could be obtained. This manufacturer has two test locomotives. It is conceivable that each could be involved in a major accident in the same year. Although this is very unlikely, the interviewees stated that it is imaginable that each accident could cause liabilities in the tens of millions of dollars.

c. Types and Amounts of Insurance Carried by the Manufacturer

This manufacturer is covered by a Comprehensive General Liability policy for the whole corporation. All operating divisions are covered by the same blanket policy. The American subsidiary of a British insurance company provides first dollar coverage on a swing plan that is retrospectively rated with a maximum cap. There is, therefore, no true deductible.

The primary insurer provides \$2 million limits of liability per occurrence, personal injury and property damage. Above this, there is layered excess coverage up to \$100 million. A very large percentage of this is placed in the London market. All insurance is now written on a claims-made basis to eliminate the IBNR (incurred but not reported) factor.



The cost of insurance to this manufacturer is difficult to gauge, because it is not separated from the cost to the whole corporation. It is much less than 1% of sales, but the manufacturer's representatives could not be more specific. This manufacturer, because of its small number of units sold, is actually a low-risk division of this corporation. Its premium, as a percentage of sales, has not increased in seven years. This is very atypical in any durable products field, however, and is largely a reflection of the size of the whole corporation

d. Types of Indemnity Clauses Which Are Generally Used by the Manufacturer

This manufacturer has never had to enter into a total indemnity or hold-harmless agreement with a railroad for testing activities. It was stated that, at most, it has on occasion agreed to indemnify for its own negligence. A search of recent files revealed no such indemnity agreements, however. The agreement surrounding testing seemed to deal primarily with payment for personnel and fuel.

The good experience of this manufacturer may be partly the result of the bargaining power and liability-absorbing nature of a very large corporation. This manufacturer's representatives also stated that, in its testing activities, the railroads may more readily see short- and long-term benefits. This is particularly true in the short-term use of the test locomotive. An attorney for the corporation verified that, in crossing licenses and spur track agreements, the same railroads did require total indemnities from the corporation. This fact indicates that it is the benefits which flow from the test itself, and not the size of the corporation, which account for the absence of total indemnity agreements in the testing area.

e. The Degree of Difficulty Which the Manufacturer Has Had or Would Expect to Have in Obtaining Insurance

This manufacturer has had no difficulty in acquiring insurance because it is purchased for the entire corporation. Although it has no experience with the procurement of limited coverage for a particular FRA program, the interviewees stated that it would be difficult to purchase, unless one's regular carrier wrote it as an accommodation.

3. Equipment Manufacturer Number 3

This railroad equipment manufacturer is a very important producer of wheels. It is one of ten operating divisions of a corporation which manufactures products for railroads, general industry, and construction and building. Slightly over half of the corporation's sales are in the railroad products area. This wheel manufacturer is a significant portion of that business.

The information obtained for this report was collected from interviews with an executive with an engineering background in the company, an attorney for the corporation and a financial and insurance manager for the corporation.

a. Types of Liability With Which the Manufacturer Would Be Concerned When Performing R&D Projects Under FRA Contracts

This manufacturer has little direct experience with FRA R&D. It does conduct its own R&D, however, and is very concerned about the liability imposed upon it contractually by railroads when conducting R&D. In the course of several discussions, interviewees mentioned most of the types of liabilities discussed in the introduction to this Task Report. However, they repeatedly stated that poor track condition would be the most likely cause of an R&D accident. They stressed that testing is infrequent and closely monitored. They also

noted a great incentive for loss prevention, because failure of a prototype on a prospective customer's track would hurt future sales. They expressed the opinion that a railroad, protected by a total hold-harmless agreement, had no similar safety incentive connected to the activity. The company has never had an R&D liability loss or claim.

b. Types and Amounts of Insurance Needed To Protect Against These Liabilities

This manufacturer's representatives believed that a great deal of general liability coverage would be necessary to protect its stockholders fully in the case of a serious accident. Their feelings about the amounts of insurance necessary have been strongly influenced by this company's being named as a defendant in the Roseville, California, explosion of an ammunition train. Although this was far from a testing activity, it has made the manufacturer aware that tens of millions of dollars of coverage are necessary for any rail-related accident.

This manufacturer has never purchased a separate liability policy for a test program.

c. Types and Amounts of Insurance Carried by the Manufacturer

Until recently, this company carried primary coverage with a \$100,000 deductible. This coverage was provided by an American company. However, in the preceding policy year, its insurance costs increased by a factor of four. Because of this large increase, in a single policy year, it has decided to self-insure the first \$1 million of coverage. This is an unusual step for a rather conservative company with a great number of attachable assets in the form of manufacturing plants, throughout the country. The interviewees stressed that this was a significant departure from past policy, and was almost entirely caused by the product liability problem.

The company carries excess liability coverage up to \$10 million. It is a layered placement almost entirely in the London market. Interestingly, the lead London underwriter requires that this manufacturer hire a claims handling and adjustment service which is the subsidiary of a large American insurer. The London underwriter believes that its exposure is diminished if all claims are handled professionally. This manufacturer states that it has had a good experience with the claims-handling service, which charges it only for each claim actually handled.

d. Types of Indemnity Clauses Which Are Generally Used by the Manufacturer

This wheel manufacturer has seen a very significant change in the last few years in the railroads' attitude toward indemnities for testing. A search of its files showed an enormous difference between similar wheel tests conducted in 1975 and 1977. The 1975 test was conducted on the basis of a simple letter agreement with a charge for operating personnel, technical personnel, locomotive rental, the test car, incidentals, and per diem. At the bottom of the letter, it was stated, "As discussed verbally, [the manufacturer] is assumed liable for any damages that may result from the test wheels." This was the entire agreement for the allocation of liabilities in the event of loss.

For the 1977 test, the situation was entirely different. In addition to the invoice and scheduling information, the manufacturer was forced to enter into a very harsh 11-paragraph agreement.<sup>1</sup> The most onerous section of this agreement is its tenth paragraph, which is a total hold-harmless clause to the benefit of the railroad. In it, the manufacturer agreed to indemnify the railroad for liability from accidents caused by the sole negligence of the railroad. The tone and content of this entire agreement infuriated all the interviewees. Several comments were made that it would greatly inhibit new product development.

e. The Degree of Difficulty Which the Manufacturer Has Had or Would Expect to Have in Obtaining Insurance

The insurance manager of this corporation believed that it would be virtually impossible or absurdly expensive to purchase insurance in domestic or foreign markets for railroad R&D programs. He cited his experience in purchasing railroad equipment insurance and the indemnities now required by railroads. He did not believe that there was an insurance market with the underwriting expertise for the risk.

NOTE

1. The agreement, with the names deleted, provided:

THIS AGREEMENT, entered into in duplicate this \_\_\_\_\_ day of \_\_\_\_\_, 1977, by and between "X" RAILROAD COMPANY, a corporation, hereinafter called "X", and "X" INCORPORATED, a corporation, to be addressed as \_\_\_\_\_, hereinafter called "Y",  
WITNESSETH:

WHEREAS, Y desires to conduct certain road tests on CAR \_\_\_\_\_, hereinafter called "Test Car", to determine and evaluate truck characteristics of various freight car components, such test results to be recorded and measured by Y's Instrument Car \_\_\_\_\_, hereinafter called "Instrument Car", power for said Instrument Car to be furnished by Power Car \_\_\_\_\_, hereinafter called "Power Car";

WHEREAS, in order to conduct such tests, X will operate a train, hereinafter described and called "Test Train", and will provide necessary trackage, hereinafter called "Test Site", which will be on its \_\_\_\_\_ Sub-division between Mile Posts 9.4 and 41.7; and

WHEREAS, X is agreeable to performing services as outlined in the Y Test Procedure, which is incorporated herein by reference as to its applicable provisions as a part hereof, solely on the terms and conditions hereinafter set forth.

NOW, THEREFORE, in consideration of the premises and mutual covenants of the parties hereto, to be kept and performed, it is agreed:

1. X agrees to furnish for the proposed tests:

- (a) Test Site - X's trackage on its \_\_\_\_\_ Subdivision between Mile Posts 9.4 and 41.7;
- (b) necessary motive power, caboose and train and engine crews to handle Test Train;

(c) personnel and tools to make certain modifications to Test Car.

2. X shall perform necessary switching and operating of Test Train, consisting of motive power, caboose, Instrument Car, Power Car and Test Car, over Test Site at speed not to exceed forty (40) miles per hour.
3. Y's assigned representatives, officers, employees and invitees will be carried on Y's Instrument Car. X shall not be obligated to furnish food or water or provide any sanitary services for Y's representatives, officers, employees and invitees. Y's representatives, officers, employees and invitees will not exercise any control over movement of X's trains handling said cars and carrying Y's representatives, officers, employees and invitees.
4. Y shall have the right to receive, on Instrument Car's radio, messages transmitted on X's radio frequencies; however, it shall not have the right to transmit messages on Instrument Car's radio on X's frequencies. X shall furnish to Y a portable radio tuned to X's frequencies which may be used for transmissions but only in emergency.
5. X shall not be under any obligation to handle Y's said cars with any greater care or dispatch than required to safely move any other cars or any other train.
6. X's designated officer shall coordinate tests between X and Y.
7. Y shall furnish Instrument Car, \_\_\_\_\_, Power Car, \_\_\_\_\_, and Test Car \_\_\_\_\_, and all instrumentation for such cars and for truck components to be tested. Y shall also furnish personnel to install all test instruments, and to perform tests.
8. Y shall, on receipt of itemized bill therefor, promptly pay to X actual costs incurred by X in connection with or incident to said tests. Such costs shall include, but not be

limited to, wages of crews, and related fringe benefits, the cost of operating said Test Train, motive power and caboose rental at X's current rates, and the actual cost of all other labor and materials utilized in connection with said tests.

9. Amsted shall, at request of X, furnish to X a summary report of the Y products tested.
10. Y agrees, on behalf of itself and on behalf of any of its assigned representatives, officers, employees and invitees who may be on or about Test Site, Test Train, or any part or component thereof during any period while said Train or any of the above-listed cars are in the care, custody or control of X, to defend, indemnify and save harmless X and its officers, agents and employees from and against any liability, loss, claim, cost, expense (including attorneys' fees), suits or judgments arising out of or in any manner connected with, or incident to, the presence of said Test Train or any part or component thereof on X's property, or the operation and movement of said Test Train or any part or component thereof by X with its motive power or by X's switch engines, involving injury to or death of any person whomsoever, including but not limited to X's officers, agents, servants and employees and Y's representatives, officers, employees and invitees or loss or destruction of or damage to any property whosoever, including but not limited to said Test Train or any part or component thereof and X's other property or property in its care or custody, regardless of whether any such injury, death, loss, damage or destruction be caused or contributed to by the negligence of X, its officers, agents, servants or employees, and whether such negligence is sole, concurrent or otherwise.
11. Term hereof shall begin when said Test Car, Instrument Car and Power Car are delivered on behalf of Y to X's tracks at \_\_\_\_\_ and shall continue until said Test Car Instrument Car and Power Car are interchanged



off X's tracks to a connecting line at  
\_\_\_\_\_.

IN WITNESS WHEREOF, the parties hereto  
have caused this agreement duly to be  
executed the day and year first above  
written.

THE  
RESEARCH GROUP  
INCORPORATED

4. Equipment Manufacturer Number 4

This railroad equipment manufacturer makes railroad car products. Its primary products are open-top hopper cars, uninsulated box cars, flat cars and gondolas. It is one of the major producers in the country and has a long history in the business.

The information contained in this report was obtained from a corporate general counsel, an attorney in the litigation department, the risk manager and the assistant risk manager.

a. Types of Liability With Which the Manufacturer Would Be Concerned When Performing R&D Projects Under FRA Contracts

This company has not directly performed any FRA R&D. The interviewees stated, however, that the liabilities involved in such R&D would be simply those normally associated with train movement. They asserted that the testing of this company's equipment does not involve any unusual risks.

The company does conduct its own testing. Some is conducted on a test track owned by the company and adjacent to its largest manufacturing plant. Other tests are conducted on railroad property. This manufacturer's representatives stated that any liabilities arising during these tests are much more likely to be caused by railroad negligence than by test equipment failure or negligence in testing. The interviewees stressed that, from their point of view, the railroads created the possible liabilities. They referred to: (1) The railroad's failure to maintain equipment, (2) the railroad's failure to maintain rights-of-way, (3) the railroad's abuse of equipment, and (4) the high turnover in railroad crews, which results in inexperienced personnel's being involved in many operations.

This manufacturer's perception of third-party liability has been colored by the rapid increase in products liability suits. Its present volume of claims is 425 per year, of which 90% are

products liability claims. In the 1950's, the company had one or two product suits per year. Its exposure, with tens of thousands of cars, manufactured over the years, still in use, makes it very concerned about third-party liability. Even though an FRA R&D program would probably not involve any products liability exposure, the interviewees refused to separate the two and felt that, somehow, they would be held strictly liable. For this reason, they repeatedly stated that involvement in an FRA R&D program had absolutely no appeal to the company. Rather, they see such a program as having tremendous liability potential, merely because any plaintiffs injured during an equipment test would learn that the equipment was both experimental and funded by the federal government. They stated that the fixed fee and possible business advantages involved in FRA contracting did not offset the risk of significant corporate assets. These opinions were expressed even though this company has never had an R&D loss or claim and all interviewees believed that any R&D the company conducted would be much safer than normal train movement.

b. Types and Amounts of Insurance Needed to Protect Against These Liabilities

This manufacturer believed that a Comprehensive General Liability policy, with a contractual liability clause to cover any hold-harmless agreements, would be necessary if purchased separately. At the moment, the company does inform its normal primary insurance carrier when it conducts a test not on its own premises. The carrier then issues an endorsement which covers the described test and any contractual liability. The company, however, is not charged a premium for the endorsement, beyond a small fee for the ministerial task of preparing it. This is done as an accommodation

to the company. The interviewees believe, however, that if this coverage were to be requested frequently, eventually it would be refused.

Several interviewees speculated that \$50 million would not be too much to cover all liabilities. This opinion was influenced by the fact that this company is a named defendant in the Roseville, California, ammunition train accident. The liability arising from that accident is very substantial, but probably not as much as the \$200 million figure these interviewees mentioned. Even though some of them are directly involved in litigating the case, they have an extreme fear of jury awards.

c. Types and Amounts of Insurance Carried by the Manufacturer

This manufacturer presently carries \$50 million excess coverage over a \$1 million deductible. The primary coverage is provided by an American insurer and the excess umbrella is composed of both foreign and domestic layers. The rates and deductibles have recently increased tremendously. In fact, for two years in a row, both the premium and deductible have doubled.

The present premium is about \$6 million annually. This is about .3% of gross sales and 1.5% of net income. The interviewees agreed that this was unreasonably high. Because of the high deductibles, the insurance itself has only been called upon twice in the last two years, and in both of these instances, the insurers only had to pay small amounts.

d. Types of Indemnity Clauses Which Are Generally Used by the Manufacturer

This manufacturer's representatives stated that

it is always required to sign a total indemnity agreement with a railroad in order to be allowed to conduct testing on its right-of-way. Recent examples of these agreements were similar to the standard crossing license, in that they included indemnity for the sole negligence of the railroad. It is because of these agreements that the interviewees have concluded that the greatest liability exposure in an R&D program arises from the railroad's own negligence.

e. The Degree of Difficulty Which the Manufacturer Has Had or Would Expect to Have in Obtaining Insurance

This manufacturer has not actually had to purchase insurance for its testing activities. Both the risk manager and assistant risk manager felt that it would be virtually impossible to purchase insurance separately for a particular test program.

5. Equipment Manufacturer Number 5

This manufacturer is an operating division of a company involved in the manufacture of capital goods. This manufacturing division produces track components in several different plants. Railroad equipment accounts for about one-half of the entire company's gross sales.

The information contained in this report was obtained from interviews with the manufacturer's General Manager, the Manager-Sales, the Manager of Engineering and the parent company's Vice President involved with, among other things, the purchasing of insurance.

a. Types of Liability With Which the Manufacturer Would Be Concerned When Performing R&D Projects under FRA Contracts

This manufacturer's track components have been

involved in FRA R&D projects as part of a test track. The interviewees believe that the liability exposure involved in these projects is very low because of the constant monitoring. If there is any risk, it is of derailment caused by joint failure. Such a derailment was said to be extremely unlikely, however.

This manufacturer also conducts its own R&D. Most of this is on its own premises and does not involve any real third-party liability risks. However, an offshoot of its R&D has been the development of the technological means of measuring track stress in actual operating conditions. With this technology, this company has used a van with recording equipment to collect data on operating railroads. The van is stationary near a section of track and records stress within the track environment. Later, these stresses can be recreated to test track in the laboratory.

The interviewees stated that the liability possibilities arising from track stress measurement are almost nonexistent. As with all this manufacturer's activities, the risk associated with such measurement is stationary. Also, a small, constantly-monitored section of track is unlikely to fail without warning. The chance of something or someone being on the track is similarly small.

This manufacturer has been named in very few suits and has apparently never been held liable for track component failure. In cases where it has been sued, it has been able to collect the track component magnetically at the accident site and thereby to prove that there was no failure.

b. Types and Amounts of Insurance Needed to Protect Against These Liabilities

This company has never purchased special insurance for its R&D activities. For this reason, it was very difficult

for the interviewees to define the types and amounts of insurance needed for these activities. They were clearly torn between their belief that there is no real liability risk involved in the activities and the desire to protect corporate assets. In an FRA-financed test where their components were being used, they said that property damage coverage for the value of the train consist used in the test would be the only ascertainable measure of liability.

c. Types and Amount of Insurance Carried by the Manufacturer

This company carries \$1 million of primary Comprehensive General Liability coverage with a \$100,000 deductible. This is provided by an American insurer. There is also a layered excess umbrella up to \$10 million, nearly half of which is placed in London.

The annual premium for this coverage is about \$500,000. This is about .4% of gross sales and 8% of net income. The interviewees regarded this as excessive and unreasonable, commenting that there was absolutely no reason for such premiums. The company's premium had risen by a factor of seven in the previous three-year period. Moreover, although its excess coverage has never been touched, the manufacturer has had four cancellations in the excess. The company has been told that its premiums have skyrocketed because of the products liability risk, but there has never been a successful products liability suit against this manufacturer.

d. Types of Indemnity Clauses Which Are Generally Used by the Manufacturer

This company has had an easy time negotiating indemnities with railroads. It is thought that this is because the railroads can very readily see a benefit to them from research into track structures. Track components are not gen-

erally considered high-risk items, as compared to equipment with moving parts. Also, the tests this company performs always have a very specific geographical location. The risk, therefore, does not move through areas of greater and lesser potential liability, and therefore it creates no uncertainty as to exposure. Finally, the company has a long-term relationship with its relatively small number of customer railroads. This, of course, makes the entire negotiation process simpler.

The company has never been required to give a total hold-harmless agreement which would indemnify a railroad for all damages caused by its sole negligence. The company, however, does grant a release to a railroad upon which it conducts a test.<sup>1</sup> By this release, the company agrees to "assume all risk of personal injury or death, and loss of or damage to property in my custody or possession, which shall in any manner arise," including negligence of the railroad. Because this does not create any contractual liabilities, it does not require any additional insurance, as would an indemnity for other parties' property or personnel. It is, of course, much less burdensome than an unlimited hold-harmless agreement.

e. The Degree of Difficulty Which the Manufacturer Has Had or Would Expect to Have in Obtaining Insurance

This company has never purchased insurance for R&D. It has, however, had tremendous problems procuring its normal insurance. The interviewees observed that insurance for R&D would be even more difficult because of the lack of understanding on the part of brokers and insurers as to the nature of the risk. They noted that they had been relatively unsuccessful in conveying to brokers and insurers the nature of the risk in their normal business. It was expressed that there



was a lack of underwriting expertise and that this was reflected in the high premiums this manufacturer is charged, despite its very low losses.

Surprisingly, this manufacturer has not had trouble in maintaining a relatively low \$100,000 deductible. The interviewees therefore have concluded that a low deductible would be available if an R&D policy were available. They stated, however, that, if it were involved in FRA R&D, the company could not absorb the first \$100,000 of loss and that they would need governmental indemnity.

NOTE

1. The release, with the names deleted, provides:

I, \_\_\_\_\_, in consideration of the permission to be granted to me by X Railroad, Inc., hereinafter called "X," revocable as its will, to \_\_\_\_\_

do hereby assume all risk of personal injury or death, and loss of or damage to property in my custody or possession, which shall in any manner arise from or be caused by defects in tracks, roadbed, structures, trains, engines, cars, or other equipment or apparatus of any kind whatsoever, or by any accident of any kind whatsoever, however it may occur or be caused, whether due to the negligence of X or any of its subsidiary or affiliated companies, or the officers, agents, and employees, of said companies, or otherwise, in any manner arising or growing out of the above mentioned permission; and I hereby, for myself, my heirs, and legal representatives, release and forever discharge X and its subsidiary and affiliated companies, and the officers, agents, and employees of said companies, from all claims, liabilities, and costs of every kind by reason of any such injury, death, or loss or damage to property.

D.

## INTERVIEWS WITH R&D COMPANIES

### 1. R&D Company Number 1

This company is an operating division of a large national corporation. Among other activities, it is involved in the manufacture of rail transit vehicles. Its entry into this market was relatively recent and is the result of a corporate decision to diversify into an area which is believed to have a substantial future growth potential. In addition to manufacturing and demonstrating its own cars, it has supervised the demonstration of a transit vehicle, for which it approved the specifications but which was built by a now-defunct manufacturer.

The information discussed in this report was obtained from the General Counsel, the corporate Insurance Manager, engineering personnel at the division, and the division's Insurance Manager.

#### a. Types of Liability With Which the R&D Company Would Be Concerned When Performing R&D Projects Under FRA Contracts

This company has performed R&D contracts for UMTA and not for FRA. These projects have generally been demonstrations of transit vehicles in revenue service. Thus, they have presented extensive possibilities for third-party liability, because of the proximity of the public. All interviewees expressed the opinion that high levels of liability were not likely to result from any particular pattern of possible mechanical failures but, rather, from the certainty that a large number of plaintiffs would file personal injury claims in the event of any occurrence. Revenue service demonstrations are thus seen as very high risks.

The interviewees were very aware of the rate at which transit companies are sued and the costs of defending these suits. There were references to the "horror stories" of persons climbing onto transit cars after accidents in order to become plaintiffs in later litigation. It was mentioned that, in many UMTA demonstrations, this company's technical personnel are merely available to a transit company's employees who are actually operating the vehicle as required by union rules. Some of these demonstrations are planned to last for several months. Thus, even though there is no significant technological innovation in the vehicle, the lack of careful monitoring, normally associated with a true test, has created fears of incidents caused by transit company personnel unfamiliar with new equipment.

No interviewees mentioned property damage as a serious consideration. This company has never had a loss or a claim during a demonstration.

b. Types and Amounts of Insurance Needed to Protect Against These Liabilities

This company has been forced by transit companies to purchase many types of insurance in connection with UMTA demonstrations. The company's Insurance Manager felt that the types of insurance required by each city reflected the sophistication of transit company personnel and that the more sophisticated transit systems required more varieties of coverage. Also, over the last few years, cities have become more sophisticated and, correspondingly, more demanding. For example, Philadelphia required merely a total hold-harmless agreement in 1972-73. By 1976, however, it was requiring a Comprehensive General Liability policy to support the agreement.

This company has had a problem with its primary layer of Comprehensive General Liability insurance when applied to transit car demonstrations. Its primary insurer, a large American insurance company, simply refuses to include these very visible demonstrations in its \$2 million layer of coverage. However, this company's excess umbrella insurers do not exclude this risk, and the problem of general liability coverage to support hold-harmless agreements is limited to the first \$2 million. Above this, the umbrella protects the assets of the company, put at risk by contractual indemnity.

In addition to Comprehensive General Liability, one transit company required a \$5 million Railroad Protective policy, a commercial Automotive General Liability policy, and proof of Worker's Compensation coverage.<sup>1</sup> Another transit company required a \$2 million Owners and Contractors Protective Liability policy. This merely is another contingent liability form, similar to a Railroad Protective.

The insurance personnel at this company constantly stressed the extent to which the transit companies are self-insured. One large city's transit company, it was noted, has a self-insured retention of \$20 million. It should also be noted that, along with the trend to require evidence of more varieties of insurance, there appears to be a trend toward requiring higher limits of contingent liability coverage in connection with DOT activities. The \$2 million Owners and Contractors Protective Liability policy, for example, was first required in 1973, and the \$5 million Railroad Protective policy in 1975. This may be the result of a combination of greater concern over third-party liability and the precedents set in past demonstration projects.

c. Types and Amounts of Insurance Carried by the R&D Company

This company has first dollar Comprehensive General Liability coverage provided by an American insurer in a \$2 million primary layer. However, the first \$250,000 is reinsured by the corporation through its offshore captive insurance company. It is, therefore, not true insurance and does not really absorb loss. It is simply a method of retaining risk with tax savings. Above this primary layer is an excess umbrella up to \$100 million. A large part of this excess is a vertical placement which tends to increase capacity. This coverage is slightly more than half American, with the rest being placed in London.

The entire corporation is covered by this Comprehensive General Liability policy. It is, therefore, impossible to separate the premium costs attributable to this relatively small division. However, the Insurance Manager for the corporation stated that, in his negotiations, it became clear that the rail transit vehicles were the most difficult area for the underwriters. He believes that the exposure added much more to the corporation's premium rate, in proportion to sales, than other apparently extremely risky areas of the corporation's activity.

d. Types of Indemnity Clauses Which Are Generally Used by the R&D Company

This company has had to enter into total hold-harmless agreements in every city in which it has conducted a transit car demonstration. These agreements require indemnification for incidents arising from the negligence of the transit company.<sup>2</sup> Also, they frequently state that the insurance protection required by the contract in no way limits the responsibility to indemnify. In other words, the transit company receives a protective policy in which it is the named insured and then secures an unlimited hold-harmless agreement, which it requires proof of insurance to support.

The interviewees stated that they consider this situation very onerous but unavoidable. They maintain that they simply cannot negotiate with transit companies, which are typically both self-insured to a high limit and publicly visible in the community. Consonant with statements made at other companies, these interviewees stated that, from their experience, transit companies were more difficult to deal with than railroads. They also advanced a business-related reason for this problem. Transit cars are generally only purchased for a system once a generation. Thus, the people with whom they are negotiating now were not present when the last set of cars was purchased and will not be present when the next set is purchased. This is unlike the railroad situation, where the purchase and leasing of cars is an ongoing process, and it accordingly does not lead to the sort of negotiating rapport which characterizes railroad dealings.

e. The Degree of Difficulty Which the R&D Company Has Had or Would Expect to Have in Obtaining Insurance

This company has had a great deal of difficulty securing insurance coverage for UMTA R&D projects. It has had its broker literally go into the marketplace to look for coverage anywhere. These efforts have been generally unsuccessful and the company has had to prevail on its normal insurer to provide coverage. It essentially uses all its leverage as a good and large client to pry the special coverage out of its insurer, and the interviewees stated that this can probably only be done a limited number of times.

In addition to the unavailability of insurance, its price has recently increased significantly. In 1973, a \$2 million protective policy with no deductible was purchased for \$450. Although nothing exactly comparable in extent of demonstration has been purchased since then, it was speculated that

similar coverage would cost 10 to 50 times as much in 1977. In one demonstration in 1975, the transit company said that it would purchase the insurance itself and bill the manufacturer. It stated that a \$4,750 premium would be necessary for a \$2 million policy with a minimal deductible. However, the transit company suddenly could not get the insurance and shifted the burden to this company. After much searching, it prevailed on its own insurer to issue coverage. For the same demonstration, it acquired the \$2 million coverage for a \$36,000 premium and it had to go to a \$500,000 deductible to get this price.

The interviewees felt that part of the problem was that the underwriters had little understanding of the nature of the demonstration. There were many miscommunications in attempting to define the operations. As with most Railroad Protective policies, the contingent liability policies were generally written on an annual basis with the premium calculated on the length of the time period of the demonstration. The general liability was calculated on a per-day basis.<sup>3</sup> Because of expected changes in schedules, attempts were made to define the activities included and the resulting days to be counted,<sup>4</sup> It was agreed that the insurers required at least this definition.



NOTES

1. The clause in the agreement, with names deleted, provides:

X shall provide and furnish evidence of insurance to Y in the following forms: Workmen's Compensation covering X's employees, Comprehensive General Liability Insurance with a hold harmless indemnity agreement to protect the authority from any third party actions resulting from the operational demonstration, Automotive General Liability Insurance to protect the authority during the movement of any equipment on or off [its] property during the demonstration period, Railroad Protective Insurance naming Y as an insured to protect [it]. The coverage of the liability insurance shall be as mutually agreed to by X and Y.

2. The indemnity provision states:

X shall indemnify, keep and save harmless Y, and its agents, officials and employees, against all injuries, deaths, loss, damages, claims, patent claims, suits, liabilities, judgments, costs, and expenses, which may in anywise accrue against Y in consequence of the performance of this contract or which may in anywise result therefrom, whether or not it shall be alleged or determined that the act was caused through negligence or omission of X or his employees, of the subcontractor or his employees, if any, or Y or its employees; and X shall, at his own expense, appear, defend and pay all charges of attorneys and all costs and other expenses arising therefrom or incurred in connection therewith; and, if any judgment shall be rendered against Y in any action, X shall, at his own expense, satisfy and discharge the same. X expressly understands and agrees that insurance protection required by this contract, or otherwise provided by X, shall in no way limit the responsibility to indemnify, keep and save harmless and defend Y as herein provided.

3. A sample invoice stated:

Premium Cost for Railroad Protective Insurance Policy No.	\$ 8,200.00
General Liability Insurance Coverage at \$80.00 per day times 32 days	\$ 2,560.00
Total Cost for Insurance	<u>\$10,760.00</u>

4. The premium endorsement from the same policy provided:

It is understood and agreed that the premium for the insurance afforded by this policy shall be computed on the basis of flat premium charge per demonstration, such flat premium charge to be determined by applying a rate of \$80.00 Per Day times the number of days commencing the day after arrival of the Transit Cars at the premises of the Transit Authority and ending the day said Railroad Cars have been made ready for departure from such premises, but excluding any days in excess of four consecutive days during any part of which none of the following activities are occurring.

Activation Work

Acceptance Testing

Line Operational Testing and Car Clean-Up

VIP Runs

Static Display

Revenue Service Runs

Deactivation and Preparation for Shipment.

2. R&D Company Number 2

This company manufactures railroad component parts and sophisticated electronic equipment to measure and simulate train movement. It is a division of a large corporation and accounts for only about 6% of gross corporate sales. It is also relatively new to this line of business and has relied on corporate technological resources and significant R&D activity to develop its products.

The information discussed in this report was obtained from interviews with the Manager of R&D, the Manager of Insurance, an attorney, and the engineer heading a research group.

a. Types of Liability With Which the R&D Company Would Be Concerned When Performing R&D Projects Under FRA Contracts

In the development of its primary product, this company, between 1970 and 1973, did a great deal of R&D on railroad rights-of-way. At present, there is much less such testing. It now amounts to less than 500 miles per year. Their involvement with FRA R&D has always been less extensive and, at present, is minimal.

These interviewees stated that they were not particularly concerned about third-party liability when performing R&D for themselves or FRA. They stressed that any R&D on operating railroads was carefully monitored and only the last step in a systematic development process. They could not point to particular areas of liability but admitted that "anything can happen."

This company has never had any R&D losses. Indeed, it has had only one claim made for personal injury in its normal operations.

b. Types and Amounts of Insurance Needed to Protect Against These Liabilities

This company has never purchased separate insurance for any type of R&D activity. Even though it has frequently entered into contractual indemnity agreements, its basic liability insurance program covers these exposures. The company's representatives stated that they had no obligation to notify its insurers of test activity, but that they did so as a matter of course to avoid any future misunderstanding. The insurers, in turn, have never questioned them as to whether any unusual risks exist. This seems to indicate that the economic benefit of having this large corporation as a client outweighs concerns over any unusual but infrequent risks.

c. Types and Amounts of Insurance Carried by the R&D Company

This company is only a division of a large corporation involved in many diverse activities. Thus, all of its coverage is under the unified corporate insurance program. The corporation carries first dollar coverage, but it is not true insurance for the first \$250,000, inasmuch as this \$250,000 primary layer is supplied by an American insurance company owned by the corporation. It is on an unlimited retrospective plan and, therefore, losses are eventually all paid by the insured.

Above this is a \$4.75 million layer. The first \$500,000 of this layer is also on a swing plan, but it is somewhat limited. Excess insurance is purchased on a layered basis and is 60% American and 40% placed in London.

It was impossible to separate the cost of insurance allocable to the operations of this division. These operations are a miniscule portion of the corporate activity and the only one involved directly with the railroad industry.

d. Types of Indemnity Clauses Which Are Generally Used by the R&D Company

This company has always been forced to enter into a total hold-harmless agreement with any railroad in order to conduct rolling stock tests and demonstrations.<sup>1</sup> This agreement, which has appeared, in almost identical form, in agreements involving a number of railroads, requires the company to indemnify the railroad fully for its sole negligence. An attorney for the company stated that it had been rather unsuccessful in negotiating this point.

e. The Degree of Difficulty Which the R&D Company Has Had or Would Expect to Have in Obtaining Insurance

This company has had no experience in attempting to purchase insurance for its own or FRA R&D. Its representatives suggested, however, that such insurance would be difficult to procure. The interviewees felt that they were only insulated from dealing with deductibles by the insurance company the corporation owned. They imagined that the \$250,000 first level of coverage it provided was probably the type of deductible that insurers would demand for this type of activity.

NOTES

1. An agreement recently entered into, with names deleted, provided:

THIS AGREEMENT, entered into in duplicate this 20th day of February, 1976, by and between X RAILWAY COMPANY, a corporation, hereinafter called "X," and Y COMPANY, a corporation, to be addressed, hereinafter called "Y," WITNESSETH:

WHEREAS, Y desires to conduct certain road tests on two (2) 70-ton hopper cars and one (1) 100-ton box car on X railroad between \_\_\_\_\_ and \_\_\_\_\_, such test results to be recorded and measured by Y's Research Car, hereinafter called "Instrument Car"; and

WHEREAS, in order to conduct such tests, X is agreeable to handling, in regular-scheduled trains, the two hopper cars and one box car and Instrument Car solely on the terms and conditions hereinafter set forth.

NOW, THEREFORE, in consideration of the premises [sic] and mutual covenants of the parties hereto, to be kept and performed, it is agreed:

1. Y shall make tests on Cars \_\_\_\_\_, \_\_\_\_\_ and \_\_\_\_\_ hereinafter collectively called "Test Cars." X agrees to handle Test Cars and Instrument Car in one of its regular-scheduled freight trains between \_\_\_\_\_ and \_\_\_\_\_ and between \_\_\_\_\_ and \_\_\_\_\_, while tests are being conducted.

2. Y's assigned representative, officers, employees and invitees will be carried on Y's Instrument Car. X shall not be obligated to furnish food or water or provide any sanitary services for Y's representatives, officers, employees or invitees. Y's representatives, officers, employees or invitees will not exercise any control over movement of X's freight trains handling said Cars and carrying Y's representatives, officers, employees or invitees.

\* \* \*

4. Y shall have the right to receive, on Instrument Car's radio, messages transmitted on X's radio frequencies; however, it shall not have the

right to transmit messages on Instrument Car's radio on X's frequencies. X shall furnish to Y a portable radio tuned to X's frequencies which may be used for transmissions but only in emergency.

5. X shall not be under any obligation to handle Test Cars or Instrument Car with any greater care or dispatch than required to safely move other cars in the train.

6. X's designated officer shall coordinate tests between X and Y.

7. Y shall furnish Instrument Car and all instrumentation for Test Cars. Y shall also furnish personnel to install all test instruments, and to perform tests.

8. Y shall record tests, interpret test data, prepare a complete report of the tests and furnish X such report within sixty days of the completion of tests.

9. Y agrees, on behalf of itself and on behalf of any of its assigned representatives, officers, employees or invitees who may be on or about Test Cars and/or Instrument Car during any period while said Cars are in the care, custody or control of X, to defend, indemnify and save harmless X, and its officers, agents and employees, from and against any liability, loss, claim, cost, expense (including attorneys' fees), suits or judgments arising out of, caused by, or in any manner connected with, or incident to the presence or condition of said Test Cars and/or Instrument Car on property or the operation and movement of said Test Cars or Instrument Car by X engines, involving injury to or death of any person whomsoever, including but not limited to X's officers, agents, servants and employees and Y's representatives, officers, employees and invitees, or destruction of or damage to property whosoever, including but not limited to said Test Cars and Instrument Car and X's property or property in its care or custody, regardless of whether any such injury, death, damage or destruction be caused or contributed to by the negligence of X, its agents, servants or employees, and whether such negligence is sole, concurrent or otherwise.

10. Term hereof shall begin with the pre-test inspection of Test Cars at \_\_\_\_\_ by Y's representatives and shall continue until the prescribed tests have been completed and the Test Cars and Instrument Car are delivered to Y at \_\_\_\_\_.

IN WITNESS WHEREOF, the parties hereto have caused this agreement duly to be executed the day and year first above written.

THE  
RESEARCH GROUP  
INCORPORATED



### 3. R&D Company Number 3

As a representative research and development firm, this organization is involved in a tremendous variety of fields of research, including transportation. Starting with a concentration on metals and fuels research for industry nearly 50 years ago, it has, over the years, broadened its base, first in the physical sciences, then in life sciences, and finally in the social and behavioral sciences. Under ideal circumstances, it regards itself as well equipped to take the broadest possible view of a problem and offer innovative solutions based on a totally honest appraisal of the facts. Whenever it is possible to make a judgment as to which of several alternative solutions is the best from a purely technological point of view, it would like to be free to advocate vigorously the merit of that particular approach in its reports.

The interviews which resulted in the information discussed in this report were conducted with personnel in the organization's contracts department, including a person who actually conducts the negotiation of federal government R&D contracts on behalf of the organization.

#### a. Types of Liability With Which the R&D Company Would Be Concerned When Performing R&D Projects Under FRA Contracts

This organization has performed numerous R&D contracts for FRA. In doing so, the organization has concluded that it cannot take on the role of as vigorous an advocate of the merits of a particular approach to solving a particular problem for the government as it would like. The organization is concerned that, if it did this, it would be an easily visible target of plaintiffs subsequently injured by some unexpected failure of the approach which the R&D company advocated. For example, if the company were

under contract to perform R&D concerning which of several designs for a particular piece of railroad equipment was the safest, and it performed flawless research and strongly advocated the use of one particular design, that design might well be put into general use and, years later, cause an accident. If the R&D company were sued, the plaintiff would have no difficulty producing the report in which the design had been advocated. On these facts, this organization's representatives believe that it would have difficulty convincing a jury that its technology was flawless and that one of the other designs would not have prevented the accident. This is true, not only because of the lapse of time since the R&D was performed, but also because of the difficulty of explaining the technology to the average juror. Under this state of affairs, this R&D company is inclined to look for ways to avoid all types of liability.

This R&D organization emphasized that its third-party liability concerns do not arise out of fears that its research work is actually dangerous. Indeed, it will not submit a bid for any contract which the organization believes to be dangerous. Instead, the concern is over the fact that, in any R&D work performed outside its own research laboratories, almost any minor occurrence would certainly result in a large number of plaintiffs filing personal injury claims. Regardless of how frivolous such claims turn out to be, the costs of defense require that all R&D work performed outside a laboratory be regarded as involving risks which the R&D firm cannot afford to absorb.

b. Types and Amounts of Insurance Needed to Protect Against These Liabilities

This organization would like to have total indemnification from any party for whom it performs an R&D contract. Barring this possibility, it feels that it would need a

comprehensive general liability policy with coverage perhaps as high as \$50 million, with no deductible or a deductible as low as possible. It concedes that this type of policy would be extremely difficult to obtain, given the current state of the insurance market.

c. Types and Amounts of Insurance Carried by the R&D Company

The organization now has a \$25 million all-risk insurance policy which would be used for this type of liability. However, the deductible on this policy is \$1 million. For this protection it pays "astronomical" premiums. It had a history of being self-insured, but the purchase of its current policy was prompted by a loss it suffered a few years ago on an R&D project unrelated to railroads. Each year, it has faced difficulty in getting its current carrier to agree to continue its coverage, even conceding that it would pay a higher premium. Under the circumstances it is believed that it will lose its coverage entirely if it ever suffers another third-party loss. Thus, it believes that it must "protect" its current policy by obtaining total indemnification for as much of its R&D work as possible, or alternatively following the procedure it has used when performing work for FRA, which involves obtaining a special policy for each individual FRA R&D contract.

d. Types of Indemnity Clauses Which Are Generally Used by the R&D Company

In this type of R&D, the potential profits for the R&D company are in the range of 5-12%. Therefore, the potential third-party liabilities on any one project always far exceed the potential profits. Recognizing the dilemma this creates for an R&D company and recognizing the importance to industry of guaranteeing the continued existence of such firms, private industry is generally willing to

grant total indemnification to R&D companies of the highest reputation and greatest expertise.<sup>1</sup> In addition, this company includes in its proposals for research a disclaimer clause to the effect that:

The research and development company agrees to provide a high standard of professional service and will exert its best efforts within the time and funds available for this program. However, the results of this program will be advisory and/or experimental in nature. Therefore, in no event shall the research and development company or its employees and agents have any obligation or liability for damages, including, but not limited to, consequential damages, arising out of or in connection with the sponsor's use, or inability to use, the information, apparatus, method or process resulting from this project.

Of course, when the R&D companies perform work for FRA, they do not receive this total indemnification. FRA's promise of indemnification is limited, up to the amount of unexpended funds attributed to the contract. This R&D company would like to see this rule changed. Moreover, until it is changed, this R&D company will apparently go as far as it can to avoid making strong recommendations on matters of safety and reliability which might come back to haunt it. In fulfilling contract requirements, it will merely provide factual information, avoiding the next step of assimilating that information into a judgment or recommendation as to what should be done. The important point, which this R&D company's representatives emphasize in stating their case in favor of total indemnification by the government, is that, without indemnification, there is a

lower quality to the research which the government receives, because it lacks this final judgment on the part of the technical experts. This places the government at a distinct disadvantage when it tries to perform functions normally handled by private industry. In other words, in the opinion of this R&D company's representatives, the government cannot hope to run a railroad R&D program as effectively as private industry runs its R&D programs, unless it agrees to provide its R&D advisors the same indemnification which private industry provides.

e. The Degree of Difficulty Which the Manufacturer Has Had or Would Expect to Have in Obtaining Insurance

Because this organization has, in fact, performed R&D contracts for FRA, it has experience with the process of obtaining a special policy for an individual contract. Reliance on the use of this procedure is generally viewed as frustrating and unsatisfactory, however. Difficulties arise in defining the risk so that brokers and underwriters understand the nature of the coverage being sought. Actuarial data is almost always lacking. There is also the difficulty of an R&D company's having to put pressure on its relationship with its broker in order for it to obtain a quotation for the insurance in time to meet deadlines set by the government. In addition, there is some uneasiness about whether the coverage should be only for the period during which the R&D company actually performs its work, or whether instead there should be coverage to protect the company in later years in the event it is sued as a result of a safety recommendation.

In summary, the organization has had a great deal of difficulty obtaining insurance in either the domestic or foreign markets for work under FRA R&D contracts. This difficulty is present when coverage is sought either with or without deductible amounts.

NOTE

1. Under such an agreement, the sponsor agrees "to hold the R&D company harmless from any and all liability and consequences arising out of the performance of this contract, except for injury or damage directly resulting from the performance of the contract on premises owned by the R&D company." There is occasionally an additional specific statement that such indemnification includes the costs of defense.

4. R&D Company Number 4

This R&D company is an operating division of a large corporation which is, in turn, the subsidiary of a still larger corporation. The corporate activities involve many risk-causing areas, including the manufacture of aircraft components. The R&D company does research on transit vehicle propulsion systems.

The information contained in this report was obtained from interviews with the Contracts Manager with engineering responsibility, the Insurance Manager, and a Corporation Counsel.

a. Types of Liability With Which the R&D Company Would Be Concerned When Performing R&D Projects Under FRA Contracts

This company has performed several FRA R&D contracts. However, these have primarily been at the TTC, and have therefore not actually raised a substantial issue of third-party liability. The interviewees concurred that, because of the physical isolation of the tests, the company had never worried about third-party liability. They regarded such liability as extremely unlikely and almost impossible to arise out of the company's tests at the TTC.

The company has participated in some UMTA tests involving transit cars in revenue service. In one of these tests, a person was injured when he slipped off a station platform. The vehicle was stationary at the time and the accident was not causally connected to the test. However, the person injured was a transit company employee involved in the operation of the car. Although the accident appeared to be entirely fortuitous, this company's representatives stated that union rules often contribute to the risk in revenue service demonstrations by requiring a full crew on

every vehicle. This sometimes leads to the presence of unnecessary and unoccupied personnel who become third-party risks themselves.

b. Types and Amounts of Insurance Needed to Protect Against These Liabilities

This R&D company has never purchased any special insurance for a test activity for DOT. For its contracts with the FRA, it has been involved at the TTC, and its only involvement with insurance has been in compliance with clause 25 of the FRA P-3 contract "Insurance Liability to Third Persons." The company fulfills this requirement with its normal insurance program. It does not notify its insurer of particular tests, because it feels this activity falls within its normal coverage, especially because no contractual liability to other parties such as railroads is entered into.

Similarly, for its UMTA tests of transit vehicles in revenue service, no special insurance is purchased. However, in this case, this company is only supplying a component and is not sure whether some other company is purchasing insurance primarily for the benefit of a transit company.

c. Types and Amounts of Insurance Carried by the R&D Company

This R&D company is insured under its parent corporation's insurance program. There is \$1 million primary coverage with a \$250,000 deductible. This coverage is provided by an American insurer. Above this, there is a layered excess placement to \$50 million. The excess is primarily with American insurers. The premium costs relative to the rail vehicle activities are impossible to calculate. This R&D company is such a small part of the parent corporation that the insurers do not apparently look at it very closely



when establishing rates for the entire corporation. It produces a relatively small number of units, and these units are not even in the normal stream of commerce. Moreover, there are other activities of the corporation which are much more dangerous than those of this R&D division.

Corporate insurance premiums have increased dramatically recently, doubling in the last few years. There was even a problem with the \$24 million to \$25 million layer of the excess, which eventually had to be filled with a consortium of four insurers. However, these increases are believed to be caused by products liability and limited capacity and are entirely unrelated to railroad R&D.

d. Types of Indemnity Clauses Which Are Generally Used by the R&D Company

The representatives of this R&D company were unaware of ever having had to sign an indemnity agreement with a railroad or transit company. To be sure, this fact might have been expected for the FRA R&D contracts at the TTC, where the right-of-way being used is part of the federal leasehold. Surprisingly, however, it seems to be the case also for the UMTA revenue service demonstrations. Other persons were consulted and files searched, but no such agreements were discovered. Again, this may be because this company was only supply component parts.

The interviewees did express the opinion that transit companies were much more difficult to deal with than railroads. They noted that they frequently have difficult contractual negotiations with transit companies. On the other hand, the railroads appear to be very reasonable. They pointed to a contract they are about to enter into with five railroads to test a switching engine. The switching engine will be built by the R&D company and owned by one of

the railroads. It will be used in normal operation and the R&D company will have technicians present to monitor its performance. All the five railroads have agreed to accept their own liability during the operations. The interviewees considered this to be a good example of how railroads can be reasonable when they see the short-term benefits of use of the equipment and long-term benefits of technological advance.

e. The Degree of Difficulty Which the R&D Company Has Had or Would Expect to Have in Obtaining Insurance

Having never purchased any special insurance for testing, this company's representatives could only speculate as to its availability. This company has had some difficulty obtaining insurance, and the interviewees stated that purchasing insurance for testing activities would be extremely difficult. They expressed the opinion that the insurance industry did not have the technical experience to understand their activities and, therefore, could not properly underwrite them.

It was stated that, if insurance were available, it would certainly not start below \$250,000.

E.

## INTERVIEWS WITH ARCHITECTURAL AND ENGINEERING COMPANIES

### 1. A&E Company Number 1

This is a large company involved in a variety of engineering and construction activities. In 1976, 95% of its gross revenues were earned from these activities. As an offshoot of its construction activities, it has an operating division which does substantial repairs on railroad equipment. This division also does custom fabrication on railroad cars and manufactures one component part. A subsidiary company leases a small number of locomotives. Another subsidiary was formed in the last year to operate and rehabilitate a state-owned railroad.

The information discussed in this report was obtained from interviews with the Director of Insurance, the Director of Safety, and an operating division engineer.

#### a. Types of Liability With Which the A&E Company Would Be Concerned When Providing A&E Services Under FRA Contracts

This company has done architectural and engineering work directly for FRA. The interviewees had a strong notion that there is a wide range of possibilities for A&E liability. Although this company's loss experience for "pure" engineering has been minimal, there is a belief that liabilities may grow enormously in this area. Also, liability for construction supervision is nearly always a possibility.

It was also stated that there is the possibility of liability to contractors for design failure. This liability usually arises when the contractor is being sued by the owner for failure to perform, and the contractor brings suit against the A&E firm for design failures which have led to unexpected additional expenses. There is also the possibility of liability to the employee of a contractor for personal injury.

This possibility may arise when it is alleged that negligent design has led to dangerous working conditions. It was also expressed that there is the possibility of property damage suits by abutting landowners.

The interviewees stated that they have not had serious losses from the liabilities they mentioned. They agreed that the risk of loss was high because of the large exposure of people and property to a major construction project. They asserted that this exposure becomes even greater when a major federal project is involved. Governmental projects are more publicized and more visible than other projects, and it was speculated further that, when the entity ultimately responsible for a project is large, a plaintiff may hope for a correspondingly large recovery. The FRA may be an extreme case, because work on the railroad right-of-way is very visible and because the linear nature of railroads brings them close to many third parties.

Finally, exposure for construction supervision is enormous. Though this, too, may result from damage claims from contractors and third parties, the real threat is personal injury claims from other contractors' employees. These can reach astronomical sums.

All these considerations apply to what the interviewees considered to be the area of great potential liability—latent design defects. Thus, a completed operation's hazard can continue to result in liability exposure at any time, except in the few states that have a limitations period which runs from the time the work was completed. If a major disaster occurred on a federal rail or transit system, the A&E firm which worked on that system would almost certainly be sued and would have to expend great efforts in defense, even if its work was not at fault. Short of a disaster, any failure of performance in the system would be very visibly litigated. The interviewees were aware of litigation involving the BART system in San Francisco and were concerned about that type of situation's developing elsewhere.

b. Types and Amount of Insurance Needed to Protect Against These Liabilities

At present, this company is protected for design professional negligence by an Errors and Omissions Professional Liability policy. The coverage has a \$10,000 deductible and has excess layers up to \$20 million. The program is placed entirely in London. The company has had the same program for 17 years and is quite pleased with its long-term relationship with certain London underwriters.

This company has recently been seeking E&O insurance above \$20 million. Although it has been interested in this expanded coverage for all its normal operations, it was stated that coverage above \$20 million would especially be desirable prior to involvement in any major FRA A&E contract. The company's broker has been testing the market for E&O coverage and has found this coverage to be extremely expensive and in very limited supply. Therefore, this company is not presently expanding its E&O coverage because of the high cost it has been quoted.

c. Types and Amounts of Insurance Carried by the A&E Company

This engineering and construction company carries different types of liability insurance because of its different operations. The company does have a Comprehensive General Liability policy for all its operations, however. There is a \$1 million primary layer supplied by an American insurance company. Above this there are excess layers up to \$70 million. The excess is led by London underwriters, but there is 40% participation by American companies. This policy has a \$350,000 deductible per occurrence and a \$2 million annual aggregate deductible.

In addition to its Errors and Omissions Professional Liability policy, this company has purchased a number of Railroad Protective Liability policies when it has built highway bridges over railroad tracks. The interviewees believe,

however, that the premium cost for this coverage is usually high. An example was given of a policy purchased four years ago. The highway project had gross revenues to the company of \$25 million. The \$5 million Railroad Protective policy had a premium cost of \$400,000. It was thought that the premium would be significantly higher today.

Because this company operates a small state-owned railroad, it has also had to purchase railroad liability insurance. The Director of Insurance stated that the railroad insurance for this very small operation is the most difficult insurance problem the company has ever had. This railroad is only 90 miles long and its average of ten cars per day operate at only five to ten miles per hour. It goes through an entirely rural area and three towns of very low population. Nevertheless, this company's general liability primary insurer refused to have any involvement in this risk. To be sure, after considerable effort, the company's broker was able to secure coverage for this railroad. There is a primary layer of \$2 million with a \$50,000 deductible supplied by a small American insurer. Above this, there are excess layers, placed 80% in London, up to \$16 million. However, the company wants to increase its excess to \$25 million or \$30 million, but its broker has advised that London does not have this capacity. The premium for its present program is \$250,000.

This company has also been a named insured in several "wrap-up" policies for large governmental construction projects. These are coordinated insurance programs which insure all contractors and subcontractors at a job site. This company's representatives regarded this coverage as generally adequate, but added that it did not provide nearly as much security or servicing as their own program. Also, they were concerned that losses suffered under the wrap-up would damage their basic insurance program in London.

d. Types of Indemnity Clauses Which Are Generally Used by the A&E Company

This company has strenuously resisted agreeing to indemnify railroads for their negligence in any situation and has generally been successful in its resistance. It has, on occasion, been forced to purchase extremely expensive Railroad Protective policies to accomplish this result, however.

In nine cases out of ten, this company negotiates a limitation of liability agreement with the purchaser of its design and construction services. Liability is limited to either the amount of the fee or \$1 million. This, of course, does not affect any third parties.

e. The Degree of Difficulty Which the A&E Company Has Had or Would Expect to Have in Obtaining Insurance

The interviewees stated that, if this company were forced to purchase separate coverage for the A&E work on an FRA project, they would expect this coverage to be absurdly expensive, if it were even available. They gave examples of quotes they have received for coverage for A&E services. In 1973, this company attempted to purchase a separate policy for a single government project in Brazil. It only required \$1 million coverage, but the best price it could obtain was a \$750,000 premium with a \$250,000 deductible. The interviewees assume that, today, the premium with the same deductible would be at least \$1 million.

Another example involved the attempted purchase of a separate combined policy for one project. The coverage desired was a \$50 million limit with a \$250,000 deductible. The best quotation was a basic premium of \$12 million. This premium would be retrospectively rated with a minimum of \$7 million and a maximum of \$16 million.

2. A&E Company Number 2

This is a large company in the construction and engineering field. It has projects in many foreign countries and has been involved in many types of government construction projects, including projects involving transit systems. The company has performed work for the FRA.

The information discussed in this report was obtained from contact with a senior executive and interviews with persons in the legal and insurance departments.

a. Types of Liability With Which the Company Would Be Concerned When Providing A&E Services Under FRA Contracts

The interviewees stated that liabilities under an FRA contract would be the same as under any A&E contract. They agreed that, by far, the greatest liability flows from construction management and supervision. Most accidents are caused by unsafe working conditions. If a contractor is not working safely, it is not working in accordance with the specifications and conditions, and the construction manager has the right to stop work and make it conform. The injured employee of a contractor will always sue the construction manager if any work is not in exact conformance with specifications. Also, even when the work does conform with specifications, the A&E firm is very visible in its construction management role and will likely be sued for faulty design work. Evidentiary problems make these suits very difficult to defend.

Bodily injury third party liability was considered to be the greatest exposure in an FRA project. It was also noted that bodily injury to strangers to the job site is a much greater threat than property damage in FRA work. Even when a railroad passes through urban areas, the threat to train passengers is much greater in dollars than to abutting property. Perhaps the biggest exception to this is damage to heavy equipment owned or leased by contractors. Unlike a large



plant or building, a railroad right-of-way does not have all its value in one geographical location.

A great deal of concern was expressed about latent defects in design. It was pointed out that a completed operation's hazard is really the same as a products liability hazard. Indeed, the two were originally written as the same insurance coverage on one form. The interviewees were very concerned that there will be more suits based on latent defects in design in the future. They predict that courts may move toward an analysis like that used in products liability suits or that, at least, many lawyers will press such a theory.

b. Types and Amounts of Insurance Needed to Protect Against These Liabilities

The interviewees observed that it is impossible to distinguish the insurance necessary for any large A&E project from that required for a project sponsored by FRA. Accordingly, they described this company's method of insuring its A&E work on a large project. This insurance depends on the relationships this company has developed with essentially the same group of underwriters over a period of 30 years.

The varieties of policies required are Comprehensive General Liability, Errors & Omissions Professional Liability, and Builder's Risk. The company's first step, however, is to attempt to limit contractually its liability to the owner or client for failures in design which makes the structure less valuable or even entirely valueless. This is a negotiated matter, and this company has entered into such limitations of liability with FRA.<sup>1</sup> The amount of the contractor's liability usually is negotiated with the value and the profit of the contract in mind. This "pure" E&O exposure is insured against by a separate policy which is part of the company's worldwide master E&O program. Coverage is written by specialized under-

writers, over half in London, who have insured the company for 30 years. Because the company has a good spread of projects around the world, and the insurers in the master program are receiving premiums from all insured projects, the company can get a good rate on this insurance with a very small deductible. However, this insurance is still quite expensive and, on a number of occasions, the company has decided to self-insure the entire pure E&O risk because it was economically infeasible to add a policy to the master program.

The company also has Comprehensive General Liability coverage under another worldwide master program. Under this program, a separate policy is issued for each project. The key feature of this policy is that it merges resultant, third-party damage for E&O with general liability, in order to cover the largest possible exposure. This policy accomplishes this by deleting the standard CGL exclusion, which provides:

It is agreed that the insurance does not apply to bodily injury or property damage arising out of any professional services performed by or for the named insured, including

- (1) The preparation or approval of maps, plans, opinions, reports, surveys, designs or specifications and
- (2) Supervisory, inspection or engineering services.

With this exclusion deleted, this policy covers all third-party liability for professional services. Once again, this program is the result of a long-term relationship with a group of underwriters and a good spread of projects which produce premiums. These underwriters are not the same group that provide the E&O policy, but there is a good deal of

overlap between this group and the Workers' Compensation underwriters. Because Workers' Compensation coverage is a large expense for this large company, this relationship helps in premium negotiation on the CGL policy.

Finally, the company has a worldwide master Builder's Risk program which covers damage to the project and to the contractor's equipment. This is supplied by a different group of underwriters whose expertise is in property damage.

c. Types and Amount of Insurance Carried by the A&E Company

The interviewees were hesitant to give the exact limits of coverage. However, they did say that liability excess layers always went above \$30 million because the company had \$300-400 million in assets to protect. They stressed that the precise deductible on any of their CGL policies was irrelevant, because of retrospective rating. The point was made continually that there is no real insurance in the first \$10 million, because the company will be repaying the amount involved in retrospectively-rated premiums over three to five years. Thus, this layer is actually just a spreading device for the company's losses below \$10 million. It was stated that this arrangement is necessary because construction work is so high in risk.

d. Types of Indemnity Clauses Which Are Generally Used by the A&E Company

This company rarely if ever is involved in indemnity clauses. It does, however, frequently negotiate the limitation of liability agreements discussed supra.

e. The Degree of Difficulty Which the A&E Company Has Had or Would Expect to Have in Obtaining Insurance

This company's representatives believe that others would find it extremely difficult to acquire the type of A&E

insurance coverage it has. They conceded that markets for such coverage are available in London, but noted that they are very limited domestically. Part of the problem is that E&O is a quite specialized coverage and the world capacity is therefore correspondingly limited. This company has stayed with the same underwriters for 30 years to hold onto their coverage and even they are sometimes forced to self-insure for cost reasons. It was therefore concluded that a new company, without a good spread of risks, would have extreme difficulty procuring coverage, particularly in the first \$10 million.

NOTE

1. The clause of the contract provided:

Contractor's liability in the aggregate to Government arising out of or in connection with the Contract, from any cause, including Contractor's negligence, shall not exceed the fixed-fee received by Contractor hereunder, or \$500,000, whichever is less. Under no circumstances shall Contractor be liable to Government for any consequential or incidental damages, including those arising from Contractor's negligence, including, but not limited to, loss of use or loss of profit.



A.

## FEASIBILITY OF A BLANKET INSURANCE POLICY

### 1. Description of the Policy

A blanket insurance policy is typically issued when the nature of the property or risk which it covers can only be defined in general terms because it may change from day to day during the policy period. Normally, the subject matter of insurance must be very specifically identified. However, the nature of the property or the risks created in some situations may prevent such certainty. When this occurs, a policy can be written to cover all property or events within the more broadly defined changing conditions. Such a liability policy can be written for the FRA covering all the liabilities created by its research and development contractors. The parameters of such an insuring agreement would be redefined every time the FRA entered into a contract with an R&D firm to conduct testing activities.

In order to be useful to FRA, an R&D blanket policy would have to contain certain features. First, it would have to have a relatively small deductible to avoid appropriation and Anti-Deficiency Act problems.<sup>1</sup> Also, for similar appropriations reasons, it could not be entirely retrospectively rated and, to some extent, the premium would have to be predictable in advance.<sup>2</sup> The process of attaching a new R&D contractor to the policy would have to be administratively simple. This would be necessary because many railroads and other parties would require the issuance of a certificate from the insurer before permitting a test to proceed. Finally, and most importantly, the insurer would have to bind itself in some manner to insure all FRA R&D activities, with perhaps some very special exceptions. This last requirement is the key to the blanket policy. Without it, the insurer can refuse coverage on a particular test, perhaps for subjective judgmental reasons, and thereby return the FRA to its present position.

In light of these requirements, it seems clear from initial interviews with insurance representatives that it would be impossible to purchase such a policy on an advance fixed-premium basis. Interviews with FRA personnel and a review of its R&D program indicate that the predicted degree of exposure to peril would fluctuate during a yearly policy period. Even if all funded programs were conducted on schedule, there would necessarily be substantial fluctuations in exposure. The number of days required for a test, the number of persons involved in it, its exact date and time of day, and its geographical location may all change somewhat during a yearly policy period. Interviews with R&D personnel revealed, for example, that tests which had been planned to take several months occasionally were completed in only several days.<sup>3</sup> Moreover, an advance fixed premium would require that all funded programs be completed on schedule, a requirement this is not now being met. Indeed, the test and demonstration requirements of an R&D program change during a policy year. Therefore, the flexibility to respond to change is considered necessary by the R&D companies and should not be hindered by an insurance mechanism.

With this degree of uncertainty as to exposure, every insurer and broker interviewed stated unequivocally that an advanced fixed-premium policy would be impossible for the FRA to acquire.<sup>4</sup> Out of a number of discussions, it became clear that a blanket policy would have to be written with a deposit premium plus individual rating per test. Such a policy would have an initial flat charge as a minimum premium. This premium would not, in itself, provide any coverage, but instead would bind the insurer to provide coverage on each test for separately-rated premiums. The deposit premium would thus actually cover only administrative costs and overhead of the insurer.

Under this proposed policy, a rate schedule would be established to assess the premium for each individual test.



When a test was to be conducted, this schedule would be consulted and a premium paid to the insurer. The insurer would then issue a certificate of insurance for the particular activity, and this certificate could be sent to railroads and other interested parties.

On the basis of information obtained from the FRA and discussions with insurance representatives, it is at least feasible to posit such a rate schedule. The schedule would have to be based on easily identified criteria, to make premium assessment automatic, and avoid spending FRA administrative time on test-by-test negotiations. Presumably, a base rate per category of activity could be established. A list of the relevant categories might be: (1) tests at the TCC (lowest risk), (2) tests in non-revenue service, and (3) tests in revenue service (highest risk). These base rates could then be multiplied by some factor to arrive at a premium per test. This factor might be (1) the number of days of the test, (2) the dollar value of the demonstration phase of the contract, (3) the dollar value of the equipment in the test consist, or (4) a combination of these elements.<sup>5</sup> With this kind of schedule, rather accurate approximations of the insurance costs attributable to various programs could be made in advance of a contract's award. This would avoid the delays and contract modifications which have characterized FRA and UMTA R&D in the past.

The critical feature of the rate schedule, however, is that it is part of the guarantee of coverage. Without the rate schedule, the insurer's promise to cover every test is relatively worthless. An insurer can easily decide for subjective reasons that a particular test is too risky or that it is suffering too many losses on the rest of its books to cover a new risk. If it were free to refuse risks flatly, the FRA would be no better off than it is now. Similarly, if there were no previous schedule of rates, an insurer could effectively refuse

to cover a test by charging an unreasonably high premium. It would not take an insurer long to discover how high it must quote its premiums to place it beyond available appropriations. For these reasons, a blanket policy with scheduled premiums is necessary.

2. The Choice Between Contractor's General Liability and Railroad Protective Coverage

The proposed blanket policy can be written on either a contractor's general and contractual liability basis or a Railroad Protective basis. Interviews with insurance representatives, railroads, equipment manufacturers and R&D companies have led to the very firm belief that the Railroad Protective Liability policy is the better approach. Such a policy would name, by endorsement, the R&D contractor and the railroad as insureds and would, on a combined single limit basis, cover the legal liability of each party arising from an R&D test activity.

The alternative to this approach is a general liability blanket covering all FRA R&D contractors for their own liability and their contractually-assumed liability under hold-harmless agreements with railroads. All insurers interviewed expressed disinterest in writing such a policy. Insurers appear to agree that contractual liability coverage amounts to taking the contractual obligation—here the railroad hold-harmless agreement—and inserting it into the insuring agreements of the policy. All insurers appear to be aware of the extreme language of the typical railroad hold-harmless, which includes indemnification even for the railroad's sole negligence.<sup>6</sup> It is this contract liability aspect which makes the general liability approach most unattractive.

The other problem with general liability coverage is that insurance limits would have to be higher under that

approach. No railroads interviewed appeared to be willing to limit their hold-harmless requirements to a fixed limit, such as \$2 million or even \$5 million. Their representatives all stated that they want either to be named in an insurance policy or to get a hold-harmless agreement which is unlimited in amount. The general liability policy would, therefore, have to have high enough limits to protect the R&D contractors. The potential contractors interviewed indicated that even though the degree of risk involved in their work is extremely small, the amount of loss can easily be in the \$10 million to \$50 million range. Thus, they need to have their corporate assets protected to that extent. Purchasing a policy with these limits, however, is simply not feasible in today's market. The entire industry is going through a "capacity crunch,"<sup>7</sup> and the capacity for railroad insurance is therefore extremely limited.<sup>8</sup> The only way to expand this capacity is through a voluntary or involuntary pool, and neither of these appears to be feasible in the present context.<sup>9</sup> Finally, this approach would create an uneconomical doubling of existing contractor coverage, because all contractors' policies already cover their own non-contractual liability.<sup>10</sup>

The representatives of all railroads interviewed stated that they would accept a Railroad Protective policy in lieu of a hold-harmless agreement.<sup>11</sup> The only questions, then, become the limits and terms of that coverage. Railroads typically require Railroad Protective limits in the vicinity of their self-insured retention, and the highest such retention today appears to be \$5 million.<sup>12</sup> All railroads interviewed appeared to be willing to accept \$5 million or less in coverage, even if the R&D contractor were to receive some of the pay-out under a combined single limit policy.<sup>13</sup> As to terms, the railroads may not be willing to accept the AASHO form which excludes coverage for incidents arising from the railroad's sole negligence. Instead, they may require one of the existing forms which do not contain this exclusion.<sup>14</sup> However, interviews with insurance representatives indicate that this requirement,

in itself, would not make procurement of coverage much more difficult. Therefore, a blanket Railroad Protective policy probably should utilize something other than the AASHO form.

### 3. Problems in Purchasing the Described Blanket Policy

After many interviews with insurers, brokers, and insurance trade association representatives, it seems very likely that the blanket policy under discussion will be impossible to purchase. Of course, this cannot be stated with absolute certainty until a broker, authorized by the FRA to purchase a policy, has actually gone into the marketplace. Indeed, if the FRA is willing to spend enough in premiums, it is possible that some insurers will become more positive and consider writing the policy. However, the results of an extensive survey of the industry are not very encouraging.

Basically, it proved impossible to find any genuine interest in writing the first \$1 million to \$2 million of coverage. Indeed, large American insurers were uniformly very negative about the entire risk. The only exceptions to this view were expressed by executives at two major companies, who said that they would consider a proposal before absolutely refusing coverage. These statements were, to some extent, contradicted by underwriters at these same companies, however, and it is difficult to state that these somewhat positive responses were not tempered by a desire to avoid further tarnishing the insurance industry's public image. Other major companies would not even consider the risk.

Moreover, the smaller American companies were perhaps even less encouraging. Only one of the specialist railroad insurers expressed any interest in even seeing a proposal on a liability blanket. However, this same company insures a number of railroads, and its representatives stressed their

fears of doubling its limits in a serious accident. Moreover, this insurer relies very heavily on reinsurance in London and it would not be interested in the risk below \$1 million. Therefore, it seems a very unlikely source of coverage.

Discussions with the excess and surplus lines companies were also negative. Not one company expressed any interest in the risk below \$1 million. Above that figure, these companies would probably only be interested in providing coverage if there were a primary insurer below them.

Interviews with London underwriters and brokers revealed the same problem. There is certainly some guarded interest in London in such a policy, but again only in the levels above at least \$1 million. Interviewees stated that the lower, "buffer" layers were the real problem. They did indicate that they are sometimes willing to accept risks at much lower levels on a limited one-project Railroad Protective policy. However, they regard themselves as geographically too distant to insure that level of loss on an entire program that might generate more frequent incidents. Thus, Lloyds and the London companies are certainly a possibility for excess coverage, but they are very unlikely candidates as primary insurers. It would be possible to create primary coverage artificially through effective self-insurance or retrospective rating plans, but these will not fill the FRA's needs.<sup>15</sup>

It is perhaps difficult at first to understand why the global insurance industry is so disinterested in an FRA blanket liability policy. All persons interviewed in the railroad and railroad equipment industries agree that the degree of risk in railroad research and development is extremely small and much safer than normal railroad operations.<sup>16</sup>

Indeed, it appears that only one true railroad R&D accident has ever occurred on a railroad's right-of-way and this, in fact, did not occur in the United States, but in Canada.<sup>17</sup>

However, there are attributes of the FRA R&D program which make it very difficult to insure on a comprehensive basis.

Many insurers observed that the FRA R&D program does not have the essential requisites of an insurable risk. The attributes referred to most often were that: (1) there must be a large number of homogeneous units, and (2) the risk of loss must be calculable. Other requisites were also referred to frequently in defense of the negative responses given by insurers, but these two are arguably very accurate.

First, all the tests are, in fact, very different, and the exposures created are so widely disparate that it seems quite unreasonable to insure them under the same policy. There is simply nothing which the tests of the passenger, freight, and safety divisions have in common, other than that they are financed by FRA. In most cases the projects are exposed to entirely different perils, and the "law of large numbers" does not apply.

Second, the risk of loss is not calculable. It cannot be rated on a "loss" basis, because there are no historical records of loss. The only alternative, then, is an "exposure" basis, and this is probably not possible. A good railroad underwriter may theoretically be able to analyze and rate the exposures of one operation and one railroad's track system, crossings, and the like. However, under this policy, the exposures would occur on perhaps ten different track systems and railroads during the policy year. Moreover, this theoretical ability is quite irrelevant, since very little railroad underwriting expertise exists in the United States. The railroads' high self-insured retentions have eliminated much insurance, and what remains is primarily in London. The underwriters there are excess-coverage insurers and, therefore, must rate almost entirely on a "loss" basis. This is an effective method for a major railroad which has a number of accidents every year, but it is totally useless for the accident-free FRA R&D program.

Augmenting these inherent problems in the risk presented by the FRA R&D program are other important factors: (1) There is very limited capacity in the railroad insurance market. (2) Railroad insurance is seen as a specialized field that few have the expertise or desire to enter. (3) There is a "capacity crunch" in the American insurance industry. (4) A number of American insurers are hesitant to become involved in a risk related in this way to the government. All these factors were raised by various insurance industry representatives during the course of interviews.

The gross amount of reserves available to absorb railroad risks is very limited. Most of the market is in London, and there are only a few underwriters who will lead a participation in a railroad risk. Without these underwriters at the top of a "slip," it is virtually impossible for a London broker to get other underwriters to fill out the coverage. This is partly a result of the belief that railroads are a specialized risk. This belief also accounts for the lack of significant American participation in the market. The American companies that do participate in the railroad insurance market are uniformly secondary companies with limited reserves. They are willing to speculate more than their larger American brethren, but their limited reserves force them to rely on both automatic treaty and facultative reinsurance to increase their capacity.<sup>18</sup> However, this reinsurance must be purchased largely in London and therefore reduces the London market's railroad capacity.

The relatively small total amount of premiums supplied by the entire industry also limits capacity. The entire American railroad industry, with its high self-insured retentions, only produces \$40-42 million in premiums per year.<sup>19</sup> One of the railroads interviewed suffered almost this much in uninsured losses just last year,<sup>20</sup> and it would not take many large accidents to deplete this amount of premiums. It should also be

noted that this is essentially the entire premium volume worldwide, because most foreign railroads are nationalized. This prevents the London underwriters from spreading their risks beyond the United States and keeps other leading underwriters out of the market.

Closely related to the capacity problem is the general belief that railroads are a very specialized risk. American insurance executives consistently stated that railroad-related risks are very specialized, and that their companies did not have the technical underwriting expertise to write such insurance. It therefore appears that there is no railroad underwriting expertise in the large American insurance companies. Indeed, the train movement risk is an unusual transportation risk. The moving unit is unusually large and relies on careful maintenance of hundreds of miles of track. The dynamic interaction between the train and its track system can have serious consequences. The more knowledgeable underwriters at large companies realized that a 10,000-ton unit can cause very substantial damage while coming to rest. The less knowledgeable underwriters thought trains were powered by steam!

The history of the American railroad insurance industry makes clear the reason the expertise has disappeared. Starting at the turn of this century, most American railroad insurance was written by mutual companies, such as the Railway Insurance Association (RIA) in New York, the Railway Underwriters (RU) in Chicago, and the Transportation Mutual (TM) in Philadelphia. These companies were established precisely because railroads were seen as an unusual risk, even then. These companies primarily write property insurance and were not unsuccessful. However, starting in the early 1950's, London began to solicit this American business activity, and these companies were damaged as a result. In order to fight



this competition, the RIA and RU merged in 1957, as the Railroad Insurance Underwriters. In 1962, the RIU began writing extensive liability coverage because it was still losing its property business to London. During this period, the RIU essentially became a pool, as 12 of the major companies bought interests in the association. Almost all American railroad insurance was written through the RIU. Unfortunately, a rash of severe losses in 1970 forced the RIU to dissolve.

At this point, a new association was formed with the support of the railroad and insurance industries. Relying on the expertise of the former RIU underwriters, the Railroad Transportation Insurers was formed in 1971 to write property risks, with 19 of the largest American insurance companies participating. However, the RTI fell victim to rampant competition for premiums in the early 1970's. This was a period during which stock market investments could offset underwriting losses and rates were cut to increase premium flow. London participated in this price competition and had the advantage of having already recovered the RIU liability coverages. RTI premiums dropped significantly, and the member companies began to leave the pool. It stopped writing in 1974.

By 1975, none of the major American companies had written directly any significant railroad risks for over ten years. Instead, they had delegated all underwriting authority to the hired managers of the pools and, therefore, had lost this expertise. Nor did they choose to re-enter the railroad business. Not only had it been unprofitable, they knew, but the railroads had angered the companies by leaving the pool and going to London when the London underwriters cut rates.

This anger still exists today. Many of the interviewees made it clear that the relationship between railroads and insurance companies remains strained. The insurance companies believe that the railroads selected against insurance

by using high deductibles and by jumping to any insurer which would give them better rates. The end result, which has had an unfortunate negative impact on the FRA, is that railroads are the only major industry in the country with no genuine domestic insurance market.<sup>21</sup>

Every American insurer contacted referred to the "capacity crunch." The combination of underwriting and stock market losses in 1974-75 seriously reduced the surplus of all major insurers. This, of course, reduced the amount of insurance which could be written. Although 1976 and 1977 were good profit years for the industry, these profits have not added much to its capacity. As one insurance executive pointed out in an interview, the greatly increased premiums that the insurers have charged for the last year have actually kept the premium-to-surplus ratio down. This is the ratio at which accountants look, when calculating capacity, and the lessons of 1974-75 will certainly take at least a number of years more to forget. Therefore, the capacity that was lost in two years will take much longer to rebuild.

With this background, few insurers are seeking to cover new risks. Instead, the strong tendency is to consolidate their familiar and profitable coverages. One of the last things any underwriter wants to do today is to use his very limited surplus on an unfamiliar and unratable risk. This situation probably will not change in the near future. An FRA R&D blanket policy is just the type of risk that can expend surplus needlessly.

Senior executives of several large insurance companies stated that they did not want to write an insurance program that was essentially for a federal agency. Thus, the visible presence of the FRA is a serious disincentive for the private insurance industry. The reasons they gave for their reluctance were: (1) They thought there might be no long-term business

in the program. (2) They feared various forms of federal regulation. (3) They had had bad experiences with "patriotic" appeals to provide insurance in the past. Certainly, not all insurance companies or all executives mentioned these factors, but each issue arose quite often in the course of interviews. The general dislike of this kind of risk will surely constrict the market and make purchase of an FRA R&D blanket much more difficult.

A number of interviewees were concerned that a shift in federal policy could curtail FRA R&D and bring an end to the need for the type of policy at issue here. With an unusual risk, insurers need to know that they are getting involved in a long-term business relationship and that any initial losses can be spread over a number of years. Insurers believe that they can analyze a private business firm and make some judgment as to whether it will continue in business. They do not have the same view of a federal agency operation. The fear was voiced that a new administration can redirect federal spending and prevent any possibility of future premiums.

Several insurance executives flatly stated that they would not write any insurance that may lead to further federal regulation of their operations. They believed that writing an FRA R&D blanket policy would make them, to some extent, direct suppliers of services to the federal government. While it is difficult to ascertain exactly what regulations are feared, the Department of Labor was repeatedly mentioned in interviews as a possible source of "red tape." One insurer referred to its bad experience in administering D.O.L. compliance standards when it insured a federal pension fund.<sup>22</sup> A number of interviews indicated a general concern about any federal regulation in an industry which has traditionally been state-regulated.<sup>23</sup>

Finally, a number of insurers indicated that their interest in this type of program was limited because of their bad experiences in the past when they had heeded "patriotic" appeals from the federal government to come together and provide difficult insurance.<sup>24</sup> They stated that these ventures were never profitable and the industry is always cautious when the government comes to it with a new plan. While this concern seems irrelevant to the present situation, the atmosphere it creates is another small factor in making the proposed policy less feasible.

#### 4. Conclusion

It does not appear that any true blanket policy for the FRA R&D program is feasible. To be sure, this cannot be said with absolute certainty until an experienced broker has completely searched the market. However, even if a broker somehow managed to construct a blanket coverage, the policy could not be based on mass underwriting<sup>25</sup> and would necessarily rely on a gross overcharge of premium. As premiums approach the limit of coverage, the contract is no longer genuinely one of insurance. An extremely expensive blanket policy should not be considered a feasible solution to the FRA's problem.

## NOTES

1. See discussion of these problems in Task IV, part C and part C of this Task report.
2. Id.
3. See Task II, part D.
4. The only exceptions to this are in the higher excess layers. Certain Lloyds underwriters stated that it was at least a theoretical possibility that they would be willing to write part of an excess above \$2 million on such a basis. The availability of this coverage is questionable, however, and, even if it were available, it would grossly violate the requirement of a low deductible.
5. It would probably also be necessary to provide exclusions in the policy for certain activities. On the basis of conversations with insurers, it appears that the policy would have to exclude (1) destructive testing, and (2) test consists carrying hazardous materials.
6. See Task II, parts B and C.
7. The best recent treatment of this problem is found in "After the Crash," The Economist 41-51 (August 20, 1977).
8. Discussions with Carl Lyon, Association of American Railroads. A number of railroads have recently lost their upper excess layers. See Task II, part B. This capacity problem was also discussed at the annual Convention of Railroad Insurance Managers, Chicago, Illinois (November 11, 1977).
9. See parts D and F of this Task report.
10. See Task II, parts C and D. The only exceptions are the few contractors which have primary coverage that arguably does not cover a railroad R&D test. Even if coverage were successfully denied, however, this would not be a problem because the Railroad Protective policy proposed would cover the primary layer. Also, a blanket general liability policy for the R&D contractors would effectively make each contractor's normal CGL coverage secondary in an R&D test, and there would be no contribution from that policy until the entire blanket was exhausted.
11. See Task II, part B.

12. The self-insured retentions appear to vary from \$1.5 million to \$5 million. Railroad Protective limits vary from \$500,000 (for construction on secondary track) to \$16 million. However, interviewees at the railroad which had required this \$16 million stated there was no reason that \$5 million would not be sufficient for FRA R&D projects not unusually risky.
13. In some situations where both the R&D contractor and the railroad are negligent, there might be an uninsured gap between what the railroad received in pay-out from the Railroad Protective and the level at which its own excess insurance starts. The interviewees did not seem particularly concerned by this gap, however, and are much more worried about the first dollars of coverage.
14. See Task II, part B.
15. See parts C and E of this Task report.
16. See Task II, parts B and C.
17. On July 20, 1973, a rather serious accident occurred in Montreal on the Canadian National Railway. A train known as Amtrak Turbo Set No. 1, consisting of two power dome cars and two intermediate coach units, sideswiped and collided with a CNR freight train. The Turbo train was built for CNR in 1966 and was owned by United Aircraft. It was on acceptance tests for Amtrak when it failed to reduce speed, through a series of crossovers, in compliance with several signals. The result was a "cornering" collision causing serious damage.

Although the train was being operated by employees of the railroad, it carried on-board observers and technicians from United Aircraft, Amtrak, FRA, Milwaukee Roads and the Illinois Central and Gulf Railroad. The Turbo train derailed in an upright position. There was impact damage to the cars, but the real damage was caused by the resulting fire from the ruptured fuel cells. The fire inside the train exceeded the melting point of the aluminum alloy and damaged all four cars beyond repair. The exact dollar figure of bodily injury and property damage could not be ascertained, but it was certainly over \$500,000.

18. A small insurance company may increase its effective reserves and write more insurance by purchasing reinsurance. This is merely insurance, purchased from another company, to spread the first company's risk. Most

reinsurance is written on an automatic treaty basis. This is an agreement by which the reinsurer commits itself to reinsure automatically a certain portion of any of the specified risks of the insurer, upon receipt of a certain portion of the premium. The reinsurer itself will often have reinsurance treaties to spread its risks further.

During the course of interviews, it was determined that most automatic reinsurance treaties specifically exclude railroad risks. Even in the case of treaties that do not exclude railroads, many insurers' representatives stated that they would risk "burning" their treaties by using them for railroad risks that they did not understand. Automatic treaties are the end product of extensive negotiation and are not endangered unnecessarily.

The other variety of reinsurance is facultative reinsurance. This is negotiated and purchased on a case-by-case basis. Facultative reinsurance books are collections of the worst risks carried by the industry. They also involve the highest premiums. Unlike insurance companies, reinsurers' rates are totally beyond any form of regulation. Representatives of the facultative reinsurers interviewed admitted that their rates were usually totally subjective and reflected nothing more than what the market would bear. Any FRA R&D blanket policy would rely heavily on facultative reinsurance.

19. Annual Convention of Railroad Insurance Managers, supra note 8.
20. See Task II, part B.
21. This history of the railroad pools was assembled from a number of interviews. There does not appear to be any written history of the American railroad insurance market. An extensive search was made for material dealing with historical experience or current practice in the insurance of railroad liability risks, but this effort proved entirely unproductive. Bibliographic sources consulted included, for example, R.E. Thomas, Insurance Information Sources (1971) (for monographs); and the Special Library Association (Insurance Division) indexing service, printed as the Insurance Periodicals Index (1963-71) and, subsequently, appearing in Best's Review, Property/Liability Edition (1971-date). This lack of written treatment of a major industry buttresses the argument that there is very little American railroad insurance expertise and that it is regarded as a very unusual and specialized risk.

22. A related concern is that a federal insured might settle claims for political reasons that a private insured would contest. This also does not seem to be a very realistic fear, but two different underwriters posited the situation of their insuring an FRA R&D loss in an area where the local congressman could exert pressure on the FRA to pay his constituents' claims. A policy itself could certainly avoid this situation, but the fact that this fear was expressed indicates the concerns which might arise in some segments of the industry.
23. See proposed Federal Insurance Act of 1976, S.3884, 94th Cong., 2d Sess. (1976), and statements of Senator Brooke at 122 Cong. Rec. S.17836.
24. Most of these experiences involved pooling and are discussed in part D of this Task report.
25. See part D of this Task report.



B.

HIRING A SINGLE BROKER

In the American commercial casualty insurance business, a broker plays an important role which may not be fully appreciated or understood by those unfamiliar with the industry. It has been suggested by several insurers that many of the FRA's insurance problems in the R&D field would be solved, in large part, if the FRA were to hire its own broker for all its insurance requirements.

Under the existing pattern of events, the FRA has consistently relied on its R&D contractors to utilize their own brokers to obtain the kind of insurance coverage required for any particular test. This, in itself, may be a source of delays and unnecessarily high costs. While the FRA's utilization of its own broker will not eliminate the need to obtain a separate insurance policy for each R&D project, as would a blanket policy, it may well be an important improvement over the FRA's existing insurance situation. Moreover, the federal government's hiring a broker appears to be permissible under existing law.<sup>1</sup>

For purposes of definitional clarity, it may be said that an insurance broker is an independent middleman who brings together the insured and the insurer into a commercial relationship. Because he solicits insurance business from the general public—large commercial entities, in particular—and is not in the employment of any single insurance carrier, he places orders with whatever company is selected by the insured. In the absence of such a selection, he himself selects a company, based on his knowledge of the industry. Thus, he is distinguished from an insurance agent, who sustains a fixed employment by, or a relation to, a particular carrier.

An insurance broker is initially the agent of the first person who employs him—the prospective insured—as to matters connected with the procurement of the insurance. Any representations or warranties made by the broker at this stage to the prospective insured cannot be imputed to the insurer. Absent some special circumstances, a broker is not the agent of the insurer and may not be converted into an agent of the insurer without some action on the part of the insurer. Thus, the broker ordinarily continues to act solely as the agent of the insured in performing such functions as obtaining receipts from the insurer, cancelling a policy, receiving the return of the unearned premium on a cancelled policy, or obtaining a renewal of a policy.

However, the broker is not the agent of the insured for all purposes. Generally, he is regarded as the agent of the insurer for the purpose of collecting and remitting the premiums to the insurer and delivering the policy. Any other act which the insurer authorizes the broker to perform on its behalf is, of course, performed in the capacity of an agent of the insurer. Although a broker is not required to render any technical service beyond placing the business, many brokers consent to perform technical insurance services for the prospective insureds they represent.<sup>2</sup>

The manner in which insurance is currently procured for FRA R&D activities results in a great deal of duplication and wasted effort, inasmuch as new brokers for each R&D contractor must be repeatedly briefed on the nature of the insurance coverage required for a particular test and on the loss experience of FRA's R&D program as a whole. Several brokers have indicated in conversations that procuring this coverage in a satisfactory manner requires a relatively complete understanding of the entire project to be insured, in order for them to be able to explain the risk to an underwriter convincingly and confidently. This often involves the preparation of written

materials and visual displays and always requires substantial time investments. Yet, once coverage for a particular test has been obtained, the broker involved may never again be called upon to produce similar coverage for another FRA R&D test. Instead, a subsequent R&D contractor will utilize the broker upon whom it relies to meet its normal insurance needs. This broker may have no experience whatever with placing a very unusual risk of this type.

If the FRA were to hire its own broker for the policies necessary for its R&D programs, it would immediately improve its representation in the insurance market. The selected broker could be made familiar with the general liabilities involved in R&D work on railroad rights-of-way and would, therefore, have an acceptable understanding of the entire program and its history. Of course, he would still have to learn some of the technical details of each individual test, but these details constitute the particular aspect of the R&D work in which the insurers seem least interested when they agree to provide coverage. The insurers interviewed indicated that they do not want to know the exact detailed nature of the equipment being tested, but rather the broader picture of the personnel involved in the test, its geographical location, the number of days of testing, and the procedures for administering the test consist movement. A broker who has insured a number of FRA projects probably has the best chance of understanding and explaining the exposures involved in a new project.

The most important reason for hiring one broker, however, is that he can assist in developing a market for the risk for which he will be seeking coverage. The major American insurers are not likely to provide this market, at least initially.<sup>3</sup> Thus, any coverage for this risk will probably rely heavily on secondary American insurers and London underwriters. Finding these sources should become progressively easier with

each project that is insured. More importantly, the broker can explain the entire FRA R&D program when he attempts to place one particular test. Therefore, he can essentially develop a group of underwriters who understand the general nature of the risk and comprehend that it will continue to produce future business for them. Although it must be concluded that none of these underwriters will insure more than one project on a single policy, each should become more receptive to FRA R&D risks over a period of time. Eventually, these risks may well be seen as a way to earn a profit. By remaining with the same underwriters, the broker can create an informal master program to purchase FRA R&D policies.

This approach can be expected not only to reduce costs but also to help prevent delays. Interviews indicated that many delays are caused by difficulties in finding a market, rather than by lengthy negotiations over price. Typically, risks of this type appear to be rejected flatly until the proper market is found. Under the unified approach of a single broker, at least the best market would already be identified.<sup>4</sup>

The choice of a broker may, of course, involve some trial and error. After all, brokers are salesmen, and their talents vary. Moreover, some brokers happen to know the correct underwriters. Thus, interviews identified specific occasions where one broker was unsuccessful in procuring a policy for an FRA R&D project and another broker later secured a policy for the same project from an underwriter who had rejected the first broker.

Clearly, this is an approach which will eventually lead to some reduction in the total cost of the FRA's insurance premiums. However, there are probably limits on these savings. In interviews with representatives of the insurance industry, it has been reiterated that the cost of insurance premiums which the FRA has been paying and is currently paying

may not be particularly excessive, given the large exposures to third-party liability which railroad R&D entails. Whether or not these fears of railroad liability exposure and testing in general are exaggerated, they will color any private insurance industry mechanism used by the FRA in the future. It is unfortunately true that, in some instances, the premium costs of a liability insurance policy may exceed the combined costs of all other aspects of an R&D test. The achievement of major savings by changing the current procedure is not guaranteed. The hiring of a broker may prove to be the most satisfactory improvement available to the FRA, short of Congressional action allowing indemnification of these risks without specifically appropriated funds.

The final advantage of this approach is its simplicity. Among all the options considered in this report, this is the easiest to implement. It can be accomplished fairly quickly and will not disrupt the patterns that already exist. Although it will show its best results on a railroad protective and no hold-harmless basis, it at least does not require extensive negotiations between many different parties in order to succeed.

NOTES

1. The Supreme Court has found nothing unlawful about the government's hiring a broker. See discussion in Task IV, part B, citing Muschany v. United States, 324 U.S. 49 (1945).
2. See Osborn v. Ozlin, 310 U.S. 53, 64 n.4 (1940), listing sources of information on the service of the broker to the insured in the liability insurance field. These include ascertainment of what exposures the insured's activities include, doublechecking of the accuracy of the carrier's rating procedure, and advice on loss prevention.
3. See part A of the present Task report.
4. This, of course, will not prevent rejection in every case.

C.

SELF-INSURANCE ADMINISTERED BY A SELF-  
INSURANCE SERVICE ORGANIZATION

A new development in the American insurance industry during the past ten years is the increased reliance by major corporations on the concept of self-insurance to cover the primary layer of losses which the insured is financially able to pay, with excess insurance for the remainder. During the last decade, over 50 self-insurance service organizations have been formed to assist these self-insurers.<sup>1</sup> While the concept of self-insurance is relatively simple, there are situations when claims handling, settlements, and the demands of the duty to exercise good faith toward one's excess insurer can be complex. The handling of these matters has become the specialty of the self-insurance service organizations.

The reputation for expertise which these organizations have developed is so great that excess insurers have unquestionably come to look upon requests for excess insurance with much more favor if the self-insurance program of the party requesting it is administered by a self-insurance service organization. Many insurance representatives stated this in interviews. Under these circumstances, one possible solution to FRA's insurance problems is to adopt a self-insurance program, administered by a self-insurance service organization.<sup>2</sup>

A self-insurance program to handle the primary layer of losses for FRA R&D would be far from a radical measure, given the emphasis which the federal government has traditionally placed on self-insurance.<sup>3</sup> Indeed, the logic of the government's acting as a self-insurer—because it is so large and is engaged in such diverse activities that it can spread its own losses—is as applicable to the primary layer of exposure to noncatastrophic tort liability risks arising out of activities paid for by the government, but implemented by contractors, as it is to activities actually implemented by government employees.<sup>4</sup>

In addition, one must consider the fact that the FRA's R&D undertakings are quite far from traditional governmental functions and are very similar to American private industry's activities. Therefore, it seems particularly appropriate to examine a self-insurance approach comparable to that many private entities have adopted to combat the climbing costs of insurance coverage at the primary level.

The basic tenet of self-insurance is that some amount of loss is normal and the cost of bearing normal losses through self-insurance is less than the cost of utilizing an insurance carrier. However, unexpected or abnormal losses cannot be self-insured economically. Therefore, the utilization of a self-insured retention layer must be combined with excess insurance to cover abnormal, unexpected losses. Of course, the delineation of the range of normal losses must be on the basis of the losses which might arise out of one occurrence, rather than the cumulative losses on an annual or bi-annual basis. Even so, excess insurance can be purchased for a small fraction of the cost of the premiums which would have to be paid to obtain a policy providing both primary and excess coverage.

The chief advantage to a government agency of utilizing a self-insurance service organization in connection with a self-insurance program is that it would facilitate the procurement of excess insurance. There are a number of other advantages as well, however. These include:

- An expectation of savings in net costs, when compared to the cost of purchasing primary insurance coverage,<sup>5</sup>
- Management of the self-insured retention layer by an organization experienced in providing service to major private American corporations,



- ° Elimination of the unpredictable increases in premiums for primary insurance from one year to the next,
- ° Little, if any, greater effort on the part of the insured to manage its safety program,
- ° Expert estimates of the future liability expected to accrue on the basis of all open cases, where claims have been made but final judgments or settlements have not been reached,
- ° Expert analysis of any losses which occur with advice on how to prevent recurrences, and
- ° No burden on government employees to perform administrative insurance functions of claims handling.

The cost of utilizing a self-insurance service organization is determined with full consideration of the unique circumstances of the self-insuring entity, with particular attention to its claims and loss experience in recent years. Given the record of the FRA's R&D program, which has had neither claims nor losses, a low cost can be anticipated. The cost is generally a combination of a fixed fee plus an additional fee for each claim after a certain number. The self-insurance service organization's non-staff expenses connected with claims handling are not included in this fee, however, and would have to be borne by the FRA. These include such things as court costs, attorney fees, and costs of experts and professionals whose advice or testimony would be needed.

Contacts with the nation's largest administrator of self-insurance indicate that, from its point of view, there is nothing about a government program, such as FRA's R&D work, which precludes it from being able to utilize the services of a self-insurance service organization. The fact that an FRA

self-insurance program would be administered for the benefit of all the contractors performing R&D work at any given time would not be an insurmountable problem.

The most unattractive aspect of a self-insurance program for FRA R&D is the way in which it would have to be reconciled with the budgetary rules that have been legislatively enacted and administratively interpreted over the years.<sup>6</sup> These rules indicate that an attempt by the FRA to self-insure against the third-party liabilities of its R&D contractors would encounter serious legal difficulties. To be sure, a program to have FRA self-insure against the primary layer of its R&D contractors' exposure to third-party liability differs from a simple promise by FRA to indemnify its contractors against all liabilities arising from their work under contract with the government. However, it appears that this difference is not substantial enough to allow the conclusion that a self-insurance program can be implemented without statutory change.

Unlike a simple indemnification of contractors, a self-insurance plan would enable the government to purchase excess insurance coverage for losses above the primary layer, especially if the self-insurance program were administered by a self-insurance service organization. Alternatively, there might be no need for excess insurance coverage if the railroads were to stop requiring a hold-harmless agreement from R&D contractors and instead were to accept a government promise in every way comparable to a railroad protective liability policy, purchased in their behalf, to cover just the primary layer of exposure—the first several million dollars, which is ordinarily the railroads' self-insured retention.<sup>7</sup> This would effectively be an FRA promise to indemnify both the R&D contractor and the railroad on a combined single limit basis to a fixed amount. In this alternative case, the government's self-insurance program would be designed on the model of an insurer, established solely to provide this type of railroad protective liability coverage.<sup>8</sup> In either of

these cases, the government treasury's exposure to losses would not be an indeterminate amount. Nevertheless, the same legal standard would probably apply to this type of self-insurance program as applies to an indemnification which is subject to a ceiling amount.

A self-insurance program can conceivably be set up to utilize no-year funds or a reserve. However, the Comptroller General has ruled on the use of indemnification which is subject to a ceiling amount and is payable from no-year funds in such a way that it seems unlikely that any significant number of FRA R&D contractors would accept this arrangement as an alternative.<sup>9</sup> The contract in which the government made this type of self-insurance available to the R&D contractor would have to state that: (1) the loss payable out of government funds cannot exceed the no-year appropriations on hand at the time of the loss—although presumably an excess policy can be written so that this does not affect the excess insurer's commitment to pay that portion of the loss falling within the coverage of the excess policy, and (2) nothing in the contract can be taken to imply that Congress had an obligation to appropriate funds sufficient to pay any deficiency.<sup>10</sup>

The use of an indemnification which is subject to a ceiling amount and is payable from a reserve would probably be more palatable to R&D contractors, since they would have at least somewhat greater assurance that, notwithstanding the availability-of-funds clause in their contract, the government would pay its self-insured retention. In other words, the FRA would be setting aside funds of the Department of Transportation in a sufficient amount to cover potential liabilities at the primary layer of exposure.<sup>11</sup> However, such a reserve would have to be reported to Congress annually under § 101 of the Impoundment Control Act,<sup>12</sup> at which time Congress could disapprove of it. Perhaps some R&D contractors would be willing to accept an FRA self-insurance program of this type, but there would remain a great deal of uncertainty.<sup>13</sup>

Furthermore, there is some question as to the amount of funds which would have to be set aside in such a reserve. To be certain of liability protection, each R&D contractor would want to be able to point to a separate reserve fund that covers only its own exposure, rather than to one fund that covers the potential exposure of several different R&D contractors. If this occurs, it means that much larger sums would have to be set aside, and the entire concept of setting up such a reserve would become even more impractical.

## NOTES

1. Many of these are, in fact, subsidiaries of insurance companies, brokerage houses, and insured corporations. Daenzer, "Critical Considerations in Self-Insurance Programs," 78 Best's Review No. 1 at 28, 98 (Property/Casualty ed. May, 1977).
2. A self-insurance program to cover FRA's R&D testing could apparently be accomplished without violating the Anti-Deficiency Act by having appropriated funds set aside in the amount of the total self-insured retention. For a full discussion of the Anti-Deficiency Act as it affects this problem, see part C of the Task IV Report.

As to the amount of the self-insured retention, various possibilities exist. Presumably, something in the range of \$2 million would be feasible, given the existing conditions of the insurance market. Within the insurance industry, it is generally agreed that the amount set aside for self-insurance is inversely related to the premium level for each dollar of excess insurance.

3. See part B of the Task IV Report, notes 17, 18 & 19, and part C of that Report, note 63. See also the amendment to the Federal Procurement Regulations, Title 41, chapter 1, §1-1.330-1, proposed by the Federal Supply Service, General Services Administration, to clarify the government's role as a self-insurer of its property.
4. The fact that the government self-insures against these activities is obvious from the fact that it does not carry liability insurance to cover the losses it pays under the Tort Claims Act.
5. A number of interviewees who have used or are using this type of service commented favorably on its cost-efficiency.
6. A full discussion of the ramifications of the problem in light of the Anti-Deficiency Act, the Anti-Impoundment Act, the decisions of the Comptroller General, and other relevant material is found in Task IV, part C.
7. For further discussion of the important effect that would result if the railroads stopped requiring a hold-harmless agreement and instead accepted a railroad protective liability policy in connection with FRA R&D work, see Task III, part A.

8. For the most part, a self-insurance service organization can provide the necessary advice on how the government can set up such a program. One complication involves the fact that a contractual relationship between the railroad and the government would have to be created, where none now exists. As the situation is presently handled, contractual relations only exist between the railroad and the R&D contractor and the FRA on the other. However, the use of a railroad protective liability policy requires that both the R&D contractor and the railroad be named insureds, so that they are both in a contractual relationship with the insurer. Thus, if the government were to design a self-insurance program, casting itself in the role of an insurer providing railroad protective liability coverage, it would get the railroad to agree contractually that this coverage is acceptable. This contract can cause procurement complications, but these are probably not insurmountable. In effect, the FRA would have to enter into direct procurement negotiations with each railroad whose track was used.
9. See Task IV, part C at text accompanying notes 56-60.
10. Id.
11. This is the alternative listed as Potential Solution B in the Statement of Work of the present contract.
12. 31 U.S.C. § 1403 (1976). See the discussion of this statute in Task IV, part C, text accompanying note 59.
13. For example, the R&D contractor could not be assured of indemnification under the self-insurance fund merely because the reserve existed at the time it entered the contract, at the time it performed the R&D test, or even at the time an accident occurred during the R&D test. The key time for the contractor would be the time when the damage caused by the accident is reduced to a judgment or settlement against it. This could be years after an accident. Indeed, in an interview with one of the major underwriters of railroad insurance in the United States, this point was heavily emphasized. In 1977, there were still some unsettled claims arising out of the 1969 railroad disaster in Laurel, Mississippi, and nearly all the claims from the 1973 railroad disaster in Roseville, California, remained unsettled.

D.

#### VOLUNTARY INSURANCE POOLING MECHANISMS

In several interviews with representatives of the American insurance industry, these representatives expressed the opinion that the exposure involved in the FRA's R&D program can only be handled by a pool of insurers, given the current state of their industry. The program's risks were viewed in these interviews as simply too great for any one carrier to assume individually. The type of mass underwriting provided by a pool is a mechanism used to provide insurance to an otherwise uninsurable risk.

On the basis of further consideration, however, these and other representatives of the insurance industry have concluded that there is little likelihood that a voluntary pool to handle the FRA's R&D risks would be formed at any time in the near future. This study can report nothing to contradict that conclusion. Indeed, the conclusion is not changed, regardless of whether one is thinking of a pool to handle a blanket policy or one which handles policies for individual test programs. It makes no difference whether the contemplated coverage is in the form of comprehensive coverage for the R&D contractors.

It must be noted that there is no strict legal definition of a "pool" or "joint venture" when those terms are used in the present context. While pools entered into by independent companies share a number of common characteristics, there are many possible variations in the structure of the agreement and in the scope of its operations, particularly as to participant autonomy, division of market shares, number of participants, and duration.

It has been said that a pool or joint venture can be an arrangement or agreement between two or more independent entities to combine their resources to create a "single, integrated, unitary, cooperative enterprise in order to provide a service. . . ." <sup>1</sup> The enterprise is controlled by those having a common purpose and community of interest, <sup>2</sup> and the participants in the pool contribute property, money, efforts, skill or knowledge, and share in the profits and losses. <sup>3</sup> The contributions of the parties to the pool need not be equal, nor is it required that they share equally in the profits and losses. <sup>4</sup>

With all these considerations in mind, the type of pool envisioned as a possible solution for the FRA's R&D insurance problem is one in which several large carriers share equally in premiums and losses, with the exception of one of them, which would be designated as the servicing carrier and would be compensated for providing administrative services and claims handling. The contribution of the non-servicing participants would thus be limited to the one essential ingredient—capacity. <sup>5</sup>

In discussing insurance pools as an option for solving the FRA's problem here under consideration, attempts were made in the interviews to draw parallels to a number of other voluntary insurance pools which have been created to facilitate the operation of other government activities or private endeavors which the government has encouraged. <sup>6</sup> However, in each case, the differences far outweighed any similarities which could be found.

The reasons for concluding that there is little likelihood of forming a pool may be summarized briefly. First, the amount of premium which can be generated by the FRA R&D program is simply not large enough to justify the costs of creating a pool. Second, the one major effort by American insurers (in the 20th century) to underwrite railroad liability risks on a pool basis dissolved because of excessive losses. <sup>7</sup> Third, there is a growing disinclination on the part of the carriers to participate in any pools designed to assist government projects, because



of the inevitable red tape and the danger that political pressure would be used to influence claims handling. Fourth, the extent to which American railroads have not utilized the services of the American insurance industry has produced several effects:

- No American insurance carrier has personnel who are familiar with providing broad railroad liability coverage and, thus, no carrier is a readily apparent choice to service a pool,
- The railroad loss statistics which exist are not in a form which can be readily used by the insurance industry,
- There is no business rapport between the American insurance industry and American railroads.

Fifth, there is little likelihood that political pressure or patriotic arguments can persuade the carriers to form and participate in a pool for FRA R&D coverage.<sup>8</sup> Sixth, there is some concern that formation of this type of pool would be complicated by the antitrust laws.<sup>9</sup>

Of these six considerations, this study was only able to produce information refuting one—the concern over the anti-trust laws. An analysis of federal regulation of insurance, as well as the application of the antitrust laws to other pools and joint ventures, indicate that a carefully drafted and implemented plan can readily avoid any potential antitrust difficulties.

Until 1944, insurance was thought not to be commerce and therefore not subject to federal regulation under the Commerce Clause. In that year, the United States Supreme Court held the Sherman Act applicable to a fire insurance company which conducted a substantial interstate business.<sup>10</sup> In 1945, however, Congress passed the McCarran-Ferguson Act<sup>11</sup> to clarify the roles of the

federal and state governments in the regulation of the insurance industry. The Act stated that the regulation and taxation of the business of insurance by the states was in the public interest, and that silence by the Congress should not be viewed as an obstacle to regulation by the states. The Act basically provides that the antitrust laws are applicable to the business of insurance to the extent such business is not subject to state regulation. It also provides that the antitrust laws apply to any agreement to boycott, coerce, or intimidate, or to any act of boycott, coercion, or intimidation.

It is well settled under the federal antitrust laws that independent companies may form a pool or agree to a joint venture, as long as the purpose or effect of the agreement is not to unreasonably restrain trade.<sup>13</sup> However, it has also been held that merely labeling an agreement a pool or joint venture will not protect it from an antitrust challenge, if the agreement is designed to promote an anticompetitive scheme.<sup>14</sup> Courts will look to the substance and not the form of the agreement. If its purpose or effect is to restrict competition, the agreement may be attacked as an unreasonable restraint of trade.

Three basic antitrust issues are raised by any pool or joint venture:

- Does the existence of the pool eliminate significant competition between the parties?
- Does the pool produce any unreasonable collateral restraints?
- Are other competing entities provided reasonable access to the pool on non-discriminatory terms?<sup>15</sup>

Since the purpose of the federal antitrust laws is to promote competition, the threshold question in considering a pool or joint venture is whether the combination of entities

will enhance or inhibit competition.<sup>16</sup> In this regard, it appears that a pool of insurers to provide R&D insurance will have little effect on competition. Little R&D insurance is presently available. Thus, a pool to provide such insurance, rather than limiting competition, will offer a service which individual companies are presently reluctant to sell at any price.

To challenge successfully a pool of insurers' providing R&D insurance under the antitrust laws, a showing must be made that the members of the pool are competitors or that the pool is operating in restraint of trade.<sup>17</sup> At the present time, the foreseeable members of a pool to underwrite R&D insurance are not in actual competition, although it is possible that they may be competitors some time in the future. Nor is there an apparent restraint of trade, since R&D insurance is not widely available. If anything, trade will be enhanced as the R&D process is expedited.

Assuming that a pool of insurers to provide R&D insurance is determined to serve a valid business purpose, and no showing is made that the agreement substantially inhibits competition, individual aspects of the agreement may still be open to antitrust challenge under the doctrine of "ancillary" restraints. One court, in analyzing this doctrine, has concluded:

Where challenged conduct is subservient or ancillary to a transaction which is itself legitimate, the decision is not determined by a per se rule. The doctrine of ancillary restraints is to be applied. It permits, as reasonable, a restraint which (1) is reasonably necessary to the legitimate primary purpose of the arrangement, and of no broader scope than reasonably necessary; (2) does not unreasonably affect competition in the marketplace; and (3) is not imposed by a party or parties with monopoly power.<sup>18</sup>

This means, for example, that members of the proposed insurance pool could not condition the purchase of R&D insurance upon the purchase of other insurance which is otherwise readily available in the marketplace, such as property insurance.

Finally, it is possible that, after the initial policies are written, the members of the pool writing R&D insurance may find their participation to be profitable, particularly if the loss experience is limited. A likely consequence of profitable participation is that other insurers will seek to join the pool. If this occurs, potential members must be given reasonable access to the pool, or an antitrust challenge will lie.<sup>19</sup>

One case is particularly relevant to the insurance situation. In United States v. United States Aviation Underwriters, Inc.,<sup>20</sup> a pool of insurers provided property and third party insurance to aviation companies. An antitrust action was brought, but was settled prior to trial by a consent decree. The decree provided that non-member companies should have greater access to the pool. In the future, all companies meeting the financial responsibility requirements of the pool were to be permitted to join. The decree also provided that new members joining the pool, as well as old members, were to be allowed to underwrite many of the risks already underwritten by the pool. In short, greater competition was encouraged.<sup>21</sup>

To summarize, it appears that the formation of an insurance pool to provide certain types of insurance will not violate the antitrust laws, particularly where the insurance to be provided is not presently available. However, there remain the other reasons that a voluntary pool for FRA R&D coverage is not likely to be formed. Thus, until at least several of those concerns can be overcome, there is no reason to recommend this alternative.

## NOTES

1. United States v. Morgan, 118 F. Supp. 621, 690 (S.D. N.Y. 1953). See also United States v. Penn-Olin Co., 378 U.S. 158, 170 (1964).
2. Shell Oil Co. v. Prestidge, 249 F.2d 413, 415-16 (9th Cir. 1957).
3. Id.
4. Palmer v. Howard, 493 F.2d 830, 834-35 (10th Cir. 1974); William v. McDaniel, 119 F. Supp. 247 (D. Nev. 1953).
5. See discussion of the "capacity crunch" in part A of this Task report.
6. For example, the considerations which led the private insurance industry to participate in national flood insurance and nuclear energy liability insurance are obviously quite different from the considerations relevant to an FRA R&D insurance program. However, the pools formed in those two cases were discussed.

Under the National Flood Insurance Act of 1968, 42 U.S.C. §§ 4001 et seq., private insurance companies participating in the program on a risk-sharing basis commit risk capital to the National Flood Insurance Association (NFIA), a voluntary pool. The pool absorbs a share of the losses and expenses of the entire federal program. The federal government then makes premium equalization payments to the pool, defraying approximately 90% of the cost for every policy sold. The government also provides reinsurance coverage to the pool for excessively high losses, for which the insurance companies in the pool pay a reinsurance premium to the government in years of low flood losses.

The Price-Anderson Act, 42 U.S.C. § 2210, provides federal excess insurance up to a limit of \$560 million over a voluntary pool of private carriers. The legislation was designed to encourage private public utilities to enter the nuclear energy field since, without it, the utilities could not procure adequate insurance protection from the private carriers. The lower layers of insurance are provided by the Nuclear Energy Liability Property Insurance Association (NELPIA), a voluntary pool comprised of approximately 115 domestic and more than 200 foreign carriers. NELPIA presently has a capacity of \$125 million for liability insurance and \$175 million for property insurance.

One encounters similar problems in finding any analogy between a hypothetical FRA R&D insurance pool and the Foreign Credit Insurance Agency (FCIA) or the pool involving the Overseas Private Investment Corporation (OPIC). FCIA is a voluntary pool which issues property insurance policies on export goods. It is reinsured by the Export-Import Bank, which acts under the authority of 12 U.S.C. § 635. In 1969, Congress enacted legislation creating OPIC and gave it authority to insure Americans with investments abroad against the political risks of expropriation, inconvertibility of local currency holdings, and damage from war, revolution or insurrection. 22 U.S.C. §§ 2191 et seq. A voluntary pool was formed which included OPIC and a few insurance carriers. Congress apparently envisioned that the private sector would eventually assume the entire risk, if given this initial assistance of government participation in absorbing losses. However, on the contrary, the pool arrangement has been found unsatisfactory, and OPIC will probably soon abandon its use in favor of underwriting the risks directly. The private sector will then be utilized solely for reinsurance. Telephone interview with Felton Johnston, Office of Insurance, Overseas Private Investment Corporation (November 2, 1977).

7. See discussion of the Railroad Insurance Underwriters (RIU) contained in part A of this Task report.
8. Some interviewees expressed the view that the participation of carriers in programs such as national flood insurance, supra note 6, was only attained through political pressure and patriotic arguments.
9. Sherman Act, 15 U.S.C. §§ 1 et seq.; Clayton Act, 15 U.S.C. §§ 12 et seq.
10. United States v. Mitchell, 322 U.S. 65, rehearing denied, 322 U.S. 770 (1944).
11. Section 2 of the Act states:

(a) The business of insurance, and every person engaged therein, shall be subject to the laws of the several States which relate to the regulation or taxation of such business.

(b) No Act of Congress shall be construed to invalidate, impair, or supersede any law enacted by any State for the purpose of regulating the business of insurance, or which imposes a fee or tax upon such business, unless

such Act specifically relates to the business of insurance: Provided, That after June 30, 1948, the Act of July 2, 1890, as amended, known as the Sherman Act [15 U.S.C. §§ 1 et seq.], and the Act of October 15, 1914, as amended, known as the Clayton Act [15 U.S.C. §§ 12 et seq.; 29 U.S.C. §§ 52, 53], and the Act of September 26, 1914, known as the Federal Trade Commission Act, as amended [15 U.S.C. §§ 41 et seq.], shall be applicable to the business of insurance to the extent that such business is not regulated by State law.

15 U.S.C. § 1012.

12. 15 U.S.C. § 1013(b). See also Annot., "Conditioning grant of mortgage loan upon purchase of life insurance as constituting 'business of insurance' under § 2 of McCarran-Ferguson Act (15 U.S.C. § 1012), whereby business of insurance is left to state regulation," 33 A.L.R. Fed. 608 (1977).

13. United States v. Morgan, supra note 1, at 689; United States v. E.I. DuPont de Nemours & Co., 118 F. Supp. 41, 219-20 (D. Del. 1951).

14. United States v. Morgan, supra note 1, at 689. See also United States v. Sealy, Inc., 388 U.S. 350, 354 (1967); Timken v. United States, 341 U.S. 593, 598 (1951).

15. See generally Pricing and Marketing of Insurance: A Report of the Department of Justice to the Task Group on Antitrust Immunities (hereinafter cited as D.O.J. Report) 1, 119-45 (G.P.O. 027000004776).

16. Where joint venture is necessary to the conduct of business such that the participants could not or would not offer the product or service individually, there is no restraint on competition because the participants are not actual or potential competitors.

Id. at 122-23, citing United States v. Morgan, supra note 1, 118 F. Supp. at 689, 690; United States v. Pan American World Airways, Inc., 193 F. Supp. 18, 27-31 (S.D.N.Y. 1961), rev'd on other grounds, 371 U.S. 296 (1963).

17. [W]here the participants are actual or potential competitors, the formation of a joint venture may, under certain circumstances, constitute an unreasonable restraint of trade. A

narrow reading of Sherman Section 1 would suggest that any joint venture between actual or potential competitors is an unreasonable restraint of trade, regardless of the business purpose or the substantiality of the restraint on competition. However, the federal antitrust laws generally have not been applied to joint ventures or mergers in such a narrow way, although there have been no decisions squarely addressing the issue of the applicability of the "substantiality" test to joint ventures under Section 1 of the Sherman Act.

Several cases analyzing joint ventures suggest strongly that a broad analysis of the effect of the venture on competition is necessary in order to determine whether the ventures will be permitted to perform a given function collectively. In [United States v.] Topco [Associates], 405 U.S. 596, 612 (1972)], the Court acknowledged that the joint venture had an effect on potential competition, but rested its decision on its finding that the purpose of the arrangement was to divide the market. The lower court in Morgan [supra note 1], 118 F. Supp. at 689-90] appears to have adopted a substantiality test in evaluating the present competitive restraints imposed by the investment banking syndicate. It held, as dictum, that the syndicate arrangement was reasonable because it was limited in size, duration, and scope of activities, and because it had evolved over time to serve a legitimate business purpose. These are some of the same criteria established by the Supreme Court in [United States v.] Penn-Olin [Co.], 378 U.S. 156, 177 (1964)], for determining the probability that a joint venture will substantially lessen competition.

Similar standards have been adopted by the Court in determining the reasonableness of a merger under Section 1 of the Sherman Act, with respect to both actual and potential competition.

D.O.J. Report, supra note 15 at 123-27 (footnotes omitted).

18. United States v. Columbia Pictures Corp., 189 F. Supp. 153, 178 (S.D.N.Y. 1960).



19. The combination of the resources of a number of competitors to create a competitive pool may lessen competition if it gives those competitors an advantage which is substantial and practically unduplicatable. In such situations, the antitrust laws require access to this "essential facility" on reasonable and nondiscriminatory terms.

\* \* \*

[A] joint venture formed out of business necessity because the participants could not or would not provide the product or service individually does not constitute a restraint of trade under Section 1 of the Sherman Act. The same is true of a joint venture established to provide a support function in a line of business in which the participants are not actual or potential competitors.

However, where the joint venture is formed to provide a service or product in line of business in which the participants are actual or potential competitors, the arrangement may be prohibited by Section 1. If the court views the joint venture as a mere subterfuge to fix prices or divide the market, the joint venture activities may be held illegal per se. On the other hand, if the activities are viewed as a quasi-merger of the assets of competing companies for a legitimate business purpose, the activities may be permitted, provided that they do not substantially lessen competition.

D.O.J. Report, supra note 15, at 131, 133 (footnote omitted).

20. 1968 CCH Trade Cas. ¶ 72,571 (S.D.N.Y.).
21. Id. See also the discussion of the Morgan case, supra note 1, in D.O.J. Report, supra note 15, at 140-44.

E.

#### PURE RETROSPECTIVELY-RATED PRIMARY INSURANCE

In several interviews with representatives of the insurance industry, consideration was given to the feasibility of a retrospective rating plan, to be used by FRA as an alternative to a blanket insurance policy. This retrospective plan would supply the primary layer of insurance—perhaps first dollar or a small deductible up to \$2 million or a somewhat higher figure. Many insurers observed that excess layered coverage could be readily purchased once such a primary layer was in place.

A retrospective rating plan would be similar to a blanket policy approach to the present problem, in that it would provide a unified way to handle all of FRA's insurance needs for its research and development programs. However, it would be unlike a blanket policy in the extent to which it would, in effect, require FRA to self-insure a great proportion, if not all, of its casualty losses, without realizing much in the way of savings in the total cost of its insurance. Upon considering the type of retrospective rating plan which the insurance companies interviewed would be willing to offer, one realizes that this is probably not a course of action to be recommended, at least as long as the other alternative approaches considered in the present study remain available.

In meeting the insurance needs of American industry, the use of retrospective rating plans is neither new nor radical. This is particularly true with respect to the calculation of liability insurance rates for certain large exposures. The key element of a retrospective rating approach is that the premium which the insured must pay under its current policy is not determined until well after the close of the policy year. In this way, it can be adjusted upward or downward to reflect the claims and losses arising during the current policy year. Definite minimum and maximum premium figures are usually agreed upon at

the outset. However, between these figures, there is a great deal of flexibility. Of course, this is unlike the average insurance policy, which utilizes prospective rating, meaning that the premium is calculated at the beginning of the policy term and cannot be changed, regardless of what losses actually arise.

Theoretically, the type of flexibility embodied in the retrospective rating plan should be well suited to the insurance of an exposure such as the FRA's R&D program. There has never been a loss, or even a claim, arising out of the FRA's R&D program. At the same time, however, some of its tests involve very large exposure to third party liability. If the claims record of FRA's tests continues to be good, it seems reasonable to expect that it will be paying minimal amounts in premiums. Alternatively, if its record suddenly takes a turn for the worse or a single occurrence produces a large exposure, it appears that the FRA will pay much higher premiums after the fact.

In the negotiation of a typical retrospective rating plan, the amount of coverage and deductible, if any, must first be established. The insurer then calculates the "basic premium," on the basis of what it would charge the insured if the premium were being computed prospectively. The minimum and maximum premium figures are then usually set by some agreed-upon formula. For example, 65% of the basic premium may be set as the minimum—in the event the insured suffers no losses—and 175% of the basic premium may be set as the maximum—regardless of how disastrous the insured's losses turn out to be. Various additional agreements may be entered into by the parties as well. For example, a loss limitation may be agreed upon to place a limit on the maximum amount of any one loss to be included in the retrospective formula. Alternatively, a plan can be designed to permit the insured to bear a higher proportion of losses as the year progresses in order to facilitate obtaining coverage for the following year. Further variables have been introduced in particular retrospective plans to accommodate the parties who have agreed to utilize them.

Against this background, a number of insurance industry representatives who were interviewed suggested that some type of retrospective rating plan may be useful for FRA. However, in more detailed discussions of the maximum premium determination, these representatives tended to doubt that any maximum could be set below the level of the full primary coverage which FRA would require.<sup>1</sup> They pointed to the same fact which makes retroactively-rated plans an attractive option for the FRA R&D program—that the program has had no loss or claims experience—as a basis for asserting that no "basic premium" can be accurately hypothesized. Thus, they concluded, there is no way to say that 175% of the "basic premium" would be the maximum that FRA would have to pay. Instead, these insurance representatives thought that the best that FRA can hope for is an agreement whereby FRA would pay a premium calculated as the sum of any losses which occur, plus the carrier's servicing costs. Under this formula, for every loss which occurs, the premium would be retrospectively adjusted upward.

As a minimum premium, the interviewees suggested that the factor currently used as an estimate of the insurer's costs of servicing and broker's commissions of this type of liability policy is about 22% of the premium. But because there is no "basic premium" which can be hypothesized here, the interviewees thought that FRA would be asked to pay 22% of the entire primary layer of coverage. Therefore, assuming that FRA obtained excess coverage beginning at \$2 million, and even assuming that FRA incurred no losses during the policy year, the most economical retrospective plan which FRA could obtain might still cost \$440,000 per year with no losses and therefore no claims-handling costs. To be sure, this figure might conceivably be negotiated downward. Nevertheless, it must be regarded as the minimum premium.

In addition to this \$440,000 figure, FRA must take into account the Anti-Deficiency Act ramifications of this approach. Since a commitment to pay a retrospectively-

rated premium would amount to government liability in an indeterminate amount, it appears that the Act would require appropriated funds to be set aside in the amount of the maximum conceivable figure which the government would have to pay. Here, that amount would be the full primary insurance coverage.<sup>2</sup> Depending on the size of the primary chosen, this would be \$2-5 million. Tying up such a large amount of appropriated funds seriously decreases the attractiveness of this approach as an alternative.

In conclusion, it appears that a retrospective rating plan for primary coverage with excess layers purchased above it cannot be recommended. While such a plan would eliminate the need for lead-time involved in procuring separate policies for each separate test program, it would not be the most economical way to proceed. By comparison, the use of self-insurance with the assistance of a self-insurance service organization appears to be preferable, simply because it would be less costly and would involve a mechanism designed specifically to assist with problems unusual to self-insurance. In all other important respects, the ultimate bearing of losses would be the same in both a self-insurance plan and a retrospective rating plan with no maximum premium.

NOTES

1. "Full primary coverage" is the layer of coverage below whatever excess coverage FRA might obtain. This presumably would have to be in the range of \$2-5 million. For further discussion of this point, see part A of the present Task report.
2. For further discussion of the Anti-Deficiency Act, see Task IV, part C.

F.

MANDATORY RESIDUAL MARKET MECHANISMS FOR  
THE PROVISION OF INSURANCE

It is possible to conceive of a mandatory residual market mechanism which could be enacted by Congress to force major insurance companies in this country to underwrite the third-party liability risks involved in the FRA R&D program. However, there are serious constitutional and political hurdles which would have to be overcome in order to bring such a concept into reality. Although there seems to be very little basis for expecting any mandatory mechanism to be enacted as a solution to FRA's current insurance problems, an assessment of this approach is appropriate here to make the record complete and to point out the reasons that it does not appear to be a viable alternative.

Assigned risk plans and joint underwriting associations are the two major approaches which have been taken in this country to implement a mandatory mechanism to force insurance companies to underwrite risks which would otherwise not be insured because they have been rejected by the voluntary market. Upon rejection by a designated number of insurers, the risk is placed with the assigned risk plan or the joint underwriting association.

Under an assigned risk plan, the otherwise rejected risk is randomly assigned to an individual carrier which is required to participate in the plan in order to continue doing insurance business in that jurisdiction. If a loss occurs, it is borne solely by the carrier to which that risk was assigned, as opposed to being borne collectively by all the carriers participating in the assigned risk plan. As a matter of theory, the assigned risk plan works best when all of the risks being assigned under it are relatively equal.

When this is so, the randomness of the assignment should have the effect of spreading losses equally among all of the carriers participating in the plan. At the same time, the carrier also has a 100% interest in encouraging insureds who have been assigned to it to adopt loss prevention techniques, since the carrier will bear 100% of the loss.

Assigned risk plans have been used most widely in the area of automobile insurance. With the advent of financial responsibility laws requiring all automobile owners to carry insurance, a means of assuring the availability of automobile liability insurance to the less desirable risks became essential. The assigned risk plan was the approach adopted initially by most states with such laws. It is also important to note that assigned risk plans have, in the past, been enacted exclusively at the state level, and never at the federal.

If an assigned risk plan were used in an effort to solve the FRA's current insurance problems, a federal statute would have to be passed by Congress and the administration of the plan would necessarily take place at the federal level. Under the plan, presumably, when a contract was awarded on an R&D project, the contractor would initially have the same options it has now: assuming the third-party liability risks itself as part of its regular insurance program or seeking a special policy in the private insurance market. If the contractor were rejected by a designated number of insurers, however, the assigned risk mechanism would come into play.

One major difficulty standing in the way of conceptualizing a rational assigned risk plan to provide insurance for the FRA R&D program involves setting the criteria as to which insurance carriers would be required to participate in the plan and calculating the proportionate number of risks which would be assigned to each. Under the state automobile



plans, all insurance carriers writing automobile liability insurance in that state are required to participate. The number of risks assigned to a particular company is determined by the ratio of automobile business written by that company in the state to the total automobile business of all insurance carriers in the state.

In an assigned risk plan for the FRA R&D program, however, it would not be easy to identify the carriers which would be required to participate. Even if the plan were to require the participation of all American insurance carriers currently writing liability insurance for railroad research and development in this country, it would involve very few companies. However, there would be difficult international ramifications if there were any attempt to include companies of the London market. Moreover, the creation of a plan involving those who currently are writing this type of coverage may fairly be regarded as poor treatment of the companies which have been cooperative in insuring FRA R&D tests in the past few years. As an alternative, one may look to all of the nation's commercial casualty insurance companies and require them to participate in an assigned risk plan in proportion to the total amount of commercial casualty business which each underwrites. However, this scheme suffers from the fact that a certain amount of expertise must be developed in order for a company to underwrite intelligently. Most frequently, this involves the development of loss control and claims administration services. Forcing all commercial casualty companies to underwrite railroad research and development could result in massive confusion in this entire branch of the industry. The high cost of developing expertise in this field within each commercial casualty company in the country would also have to be reflected in the premiums which the government would pay.

However, perhaps the chief practical failing of an assigned risk plan being applied to solve the FRA's problem arises out of the fact that the various R&D tests which would be insured under it do not involve relatively equal risks. The tests which FRA contemplates are highly diverse in terms of their exposure to third parties. They involve one-day tests performed at the Transportation Test Center in Colorado, where there is little third-party exposure, as well as 30-day tests on passenger trains running between Boston and Washington, where population densities on the property bordering the route are, at times, very great. Given the randomness of the assigned risk plan approach, a test with a very high risk potential could well be assigned to a small company which simply did not have the capacity to insure it.<sup>1</sup> Thus, as a purely practical matter, the assigned risk plan does not appear to be an effective solution to the FRA's insurance problems.

The joint underwriting association is the other mandatory mechanism which may be legislatively enacted to force insurance companies to provide coverage for FRA R&D programs. Under this mechanism, the otherwise rejected risk is placed with the association itself, as opposed to being placed with an individual established carrier. In the event of a loss, each carrier which has been required to participate in the JUA as a condition for its continuing to do any insurance business in that jurisdiction shares the loss. Operating expenses are also shared. Theoretically, then, the JUA overcomes the assigned risk plan's problem of allocating risks of an unequal nature to companies of unequal size and capacity.

The JUA handles the problem of servicing by designating only one—or a few—of the participating carriers as a servicing carrier, responsible for marketing, administration, loss control and claims handling. Because only one carrier must develop this expertise, there are fewer of the duplication problems of an assigned risk plan.

Thus, the JUA and the assigned risk plan are markedly different. The JUA pools premiums so that losses or profits are spread in accordance with the proportionate formula decided upon when the association is established. The assigned risk plan only pools insureds, in an attempt to spread risks equitably and randomly among the participants in the plan. Moreover, losses or profits are shared in a JUA, but not in an assigned risk plan. However, JUA's share with assigned risk plans the problem of identifying the carriers which would be required to participate in a mandatory mechanism.

Carriers have also expressed the opinion that the JUA approach is undesirable because it eliminates the primary motivation to encourage insureds to adopt loss prevention techniques. These carriers are, in the final analysis, in the business of risk-taking, and their business interests are therefore best served when each individual company knows that it will either bear 100% of the loss or 100% of the profit on any particular risk in its portfolio.

The constitutionality of legislation forcing insurance companies to participate in either an assigned risk plan or a joint underwriting association to cover the FRA R&D program is a complex question. The resolution of this question requires an analysis of the powers which Congress would be exercising in enacting such a program. It also involves determining whether the enactment would be unconstitutional as a violation of the due process clause, as a taking or as a displacement of traditional state sovereignty.

Even though most of the federal government's efforts in the FRA's railroad research and development program can be viewed as an exercise of the national power to spend money in aid of the general welfare, the spending power alone does not appear broad enough to encompass the legislation which would be necessary to implement an assigned risk plan or a joint

underwriting association as a mandatory mechanism. This legislation would presumably provide that insurance companies now writing any commercial casualty business in the United States would be required to participate as a condition to writing any future business. It appears, therefore, that the source of such Congressional power would have to be found in the commerce clause of the U.S. Constitution, if it is to be found at all.

The scope of the power of Congress over commerce is undoubtedly broad. That authority is, in the words of Chief Justice John Marshall, "the power to regulate; that is, to prescribe the rule by which commerce is to be governed."<sup>2</sup> The Court has also spoken in terms of the power of Congress to regulate "activity even if not regarded as commerce . . . if it exerts substantial economic effect on interstate commerce."<sup>3</sup> When considering the validity of asserted applications of this power to wholly private activity, the Court has made it clear that:

Even activity that is purely intrastate in character may be regulated by Congress, where the activity, combined with like conduct by others similarly situated, affects commerce among the States or with foreign nations.<sup>4</sup>

Congressional power, even when its exercise may pre-empt express state law determinations contrary to the result which has commended itself to the collective wisdom of Congress, may be said to be limited only by the requirement that the means be reasonably adapted to the end and that no violation of any other constitutional doctrine be involved.<sup>5</sup> The plenary nature of the commerce power enables Congress not only to promote, but also to prohibit, certain transactions in commerce, or to allow them only after certain conditions are met.<sup>6</sup>

It is well established that the insurance industry is a part of commerce, notwithstanding that it may be built upon contracts which are local in nature.<sup>7</sup> Thus, if the legislation forcing companies to provide insurance for FRA R&D were to be found unconstitutional, it would not be due to the commerce clause, but instead to judicial concepts of due process, taking, or state sovereignty.

The case of National League of Cities v. Usery, 426 U.S. 833 (1976), exemplifies the state sovereignty line of argument which can be used to attack the contemplated legislation. In that case, the Court held that Congress may not exercise its power to regulate commerce so as to force directly upon the states its choices as to how essential decisions regarding the conduct of integral, traditional state functions are to be made. It can be argued that the regulation of insurance is such a traditional state function, and that the tenth amendment therefore bars Congress from exercising its commerce power to stop insurers from doing business when they refuse to participate in the federal program. However, this argument expands the rationale of the National League of Cities decision far beyond its current scope. Initially, it is not at all clear that the regulation of insurance would be regarded as a "traditional state function," as that term is used in the case. In addition, there is the very substantial difficulty of equating a program which forces the states themselves to participate in it with one which forces insurers to participate. The fact that insurers have long been regulated by the states seems to be insufficient to justify such an equation. Any objection to the mandatory participation of insurers in a federal insurance program on this ground, therefore, seems unlikely to prevail.

The mandatory mechanism may also be attacked, however, as an unconstitutional taking of the insurer's property without

just compensation. This type of challenge involves a rather delicate question of judicial balancing. While property may be regulated to a certain extent, if regulation goes too far, it will be recognized as a taking.<sup>8</sup> However, in upholding a state automobile assigned risk plan which forced the liability insurance business to accept undesirable risks, the Supreme Court made it clear that the insurers would, at most, be suffering a diminution in the value of their business. Such a diminution, the Court asserted, has never amounted to a taking in the constitutional sense.<sup>9</sup> The standard for determining what constitutes a taking is the same whether it is applied to state or federal action. Therefore, it may be presumed that federal legislation mandating the insurance business to accept certain risks would survive the challenge that it was a taking.

Perhaps the closest constitutional question as to a federally-mandated mechanism of this kind arises under the due process clause. A challenge of the legislation on this ground would have to invoke what has been characterized as "the antiquated if not moribund theory of 'substantive due process,' [which] appears to have continuing validity in this area, at least on the state level."<sup>10</sup> On the basis of Hartford Accident & Indemnity Co. v. Ingram, 290 N.C. 457, 226 S.E.2d 498 (1976), the argument can be made that any government-imposed obligation to offer a particular insurance policy through participation in a government plan unconstitutionally forces the insurer into an entirely new line of business. This could be in violation of due process since, arguably, the right to do business cannot be conditioned on the obligation to enter into an entirely new line of business. There is little federal constitutional authority to support this argument, however. Therefore, it may merely reflect a rule of a state constitutional law in some states. Any federal legislation effecting a mandatory insurance

mechanism for FRA could not be struck down on state constitutional grounds, of course, because of the supremacy clause. However, even if a federal constitutional principle is embodied in the Ingram case, it appears that the legislation discussed here would not be invalidated. The legislation here would probably be viewed as more in the nature of requiring insurers to extend an existing business. The federal courts have explicitly approved such requirements.<sup>11</sup>

In the final analysis, the problem with contemplating a solution to the FRA's insurance mechanism arises not as much out of constitutional difficulties as out of political realities. One can readily anticipate that any mandatory mechanism would be vigorously opposed by the private insurance industry, and possibly by state insurance commissioners as well. Further, the lack of any genuine precedent for such legislation on the federal level suggests that it might involve complications which cannot be anticipated at this stage. Given the availability of other courses of action outlined in this report, the option of pursuing a mandatory market mechanism is not recommended.

## NOTES

1. Some attempt might be made at juggling the different risks in a more equitable manner, so that they were only assigned to carriers with adequate capacity. Nevertheless, the lack of any actuarial statistics in the field of liability arising out of railroad R&D and the fact that the risks would rarely be similar from one test program to the next would make the attainment of equity a labyrinthine task.

Another possibility would be to establish a reinsurance mechanism as part of the assigned risk plan. The funding for the losses to be paid out of the reinsurance fund could conceivably come out of the federal treasury or from the participating insurers themselves, with provision for recoument over a certain number of years. Under such a plan, a company which did not have the capacity to bear a large loss could cede it to the reinsurance facility. However, several commentators have noted that any modification of the basic concept of the assigned risk plan to allow for juggling risks or pooling major losses eliminates the distinctive characteristics of the assigned risk plan. In that event, one may as well forthrightly adopt a joint underwriting association approach, which pools losses automatically and consistently. See, e.g., Hearings Before the President's National Advisory Panel on Insurance in Riot-Affected Areas at 80 (Nov. 8 & 9, 1967) (testimony of David Dykhouse, Insurance Commissioner of Michigan). Cf. Vanderbeek & Reinmuth, "The Reinsurance Facility: A New Approach to the Residual Auto Insurance Market Problem," 22 Drake L. Rev. 768 (1973).

2. Gibbons v. Ogden, 9 Wheat. 1, 196 (1824).
3. Wickard v. Filburn, 317 U.S. 111, 125 (1942).
4. Fry v. United States, 421 U.S. 542, 547 (1975).
5. National League of Cities v. Usery, 426 U.S. 833 (1976).
6. See, e.g., United States v. Darby, 312 U.S. 100 (1941); Hoke v. United States, 227 U.S. 308 (1913); Hipolite Egg Co. v. United States, 220 U.S. 45 (1911); Champion v. Ames, 188 U.S. 321 (1903).
7. United States v. South-Eastern Underwriters Ass'n, 322 U.S. 533 (1944). The McCarran Act, 15 U.S.C. § 1011 et seq., was enacted by Congress in 1945 to alter the impact of the South-Eastern Underwriters case, but it did not alter the underlying conclusion of the decision that insurance is commerce. Instead, the Act merely provides, in pertinent part:



Congress declares that the continued regulation and taxation by the several States of the business of insurance is in the public interest, and that silence on the part of the Congress shall not be construed to impose any barrier to the regulation or taxation of such business by the several States.

\* \* \*

(a) The business of insurance, and every person engaged therein, shall be subject to the laws of the several States which relate to the regulation or taxation of such business.

(b) No Act of Congress shall be construed to invalidate, impair, or supersede any law enacted by any State for the purpose of regulating the business of insurance, or which imposes a fee or tax upon such business, unless such Act specifically relates to the business of insurance.

15 U.S.C. §§ 1011-12. See also Prudential Ins. Co. v. Benjamin, 328 U.S. 408 (1946).

8. Pennsylvania Coal Co. v. Mahon, 260 U.S. 393 (1922).
9. California State Automobile Ass'n Inter-Insurance Bureau v. Maloney, 341 U.S. 105 (1951).
10. Insurers' Action Council, Inc. v. Heaton, 423 F. Supp. 921, 923 (D. Minn. 1976).
11. California State Automobile Ass'n Inter-Insurance Bureau v. Maloney, supra note 9. Cf. Insurers' Action Council, Inc. v. Heaton, supra note 10, 423 F. Supp. at 925.



A.

THE GOVERNMENT'S LEGAL AUTHORITY TO REIMBURSE  
ITS CONTRACTORS FOR LIABILITY INSURANCE COSTS  
WHICH THEY INCUR IN CONNECTION WITH THEIR  
WORK ON GOVERNMENT PROJECTS

Because the question of governmental authority to pay for the liability insurance coverage of government contractors turns as much on business custom as on more traditional sources of power—statutes and regulations—it is appropriate to consider the question in terms of the development of that custom. The starting point for such an exercise may appropriately be the 1880's, when liability insurance was first sold in the United States.<sup>1</sup> At that time, most government procurement was done under advertised, fixed-price contracts,<sup>2</sup> so that contractors' liability insurance costs were calculated in the bid price, rather than separately reimbursed as a pass-through cost.

The general requirement of fixed-price contracts did not, however, bar the inclusion in such contracts of "extras" or "changes" clauses, under which the contractor agreed in advance to do work not called for under the original contract specification in return for added compensation to be fixed by negotiation or by a pre-agreed formula.<sup>3</sup> If such a formula was based on the contractor's actual costs of doing the extra work, the propriety of reimbursement for liability insurance costs could come before the comptrolling officials of the Treasury Department, in connection with their audit and settlement of the accounts to be charged with such expenses.<sup>4</sup>

Apparently, the earliest reported decision of the comptrolling officials on the issue here under discussion was that rendered by Assistant Comptroller Mitchell on November 14, 1907, in regard to the appeal by the Secretary of the Interior from the decision of the Auditor of the Interior Department in

settlement of the accounts of W.D. Lovell. Lovell was a contractor doing construction work for the Interior Department's Reclamation Service, under a fixed-price contract with an "extras" clause, providing for payment to Lovell of his "actual necessary costs" of any extra work ordered, plus 15% profit. Lovell's contract provided for installment payments by the government during the progress of the work. In his certificate of work done, prepared after the completion of some "extra" work, Lovell billed the government for his direct labor and materials costs, plus 15%, and was paid in accordance with his certificate.

When the project was finished, Lovell submitted an additional claim for further reimbursement for the same extra work. This new claim—which the Interior Department approved—comprised various indirect and overhead charges apportioned to the extra work, including the employer's liability insurance premiums computed on the basis of the wages paid on connection with that work. This additional claim was disallowed by the Auditor of the Interior Department, on the ground that Lovell, by failing to include these costs in the installment certificate prepared after the extra work had been completed, had waived any right to reimbursement for them. The Assistant Comptroller's decision affirmed the reasoning of the auditor but added that, even apart from such a waiver, Lovell was not entitled to recover his liability insurance premium costs because, as a matter of proper construction of the language of the contract, the phrase "actual necessary costs" meant direct labor and materials costs and not such indirect overhead costs as insurance or depreciation. Neither the auditor nor the assistant comptroller expressed any legal doubts as to the authority of the government to bind itself to pay insurance costs, if it so chose.

Lovell then brought suit in the Court of Claims for breach of contract. That court, in the reported decision in Lovell v. United States, 46 Ct. Cl. 318 (1911), awarded him the insurance premiums he had demanded, holding that the contract language "actual necessary cost" should be construed to embrace

the cost of employer's liability insurance premiums, whenever the purchase of such insurance, "under the custom prevailing," was normal in the contractor's industry.<sup>5</sup> Nothing in the court's opinion intimates any doubts as to the legal propriety of reimbursement of insurance costs. As in the comptroller's decision, this appeared to be taken for granted, while inquiry focused on the intent of the parties, as expressed in the contract language.

Such a treatment of the issue is what one would expect from the general principle—true then as now—that:

[T]he United States being a party politic, may, within the sphere of the constitutional powers confided to it, and through the instrumentality of the proper departments to which those powers are confided, enter into contracts not prohibited by law, and appropriate to the just exercise of those powers.<sup>6</sup>

To this rule must be added the corollary that:

Where there is no prohibition of a particular type of contract and no direction to use a particular type, the contracting officers are free to follow business practices.<sup>7</sup>

The Lovell case preceded the vast number of cost-plus contracts that were entered into during World War I, under the pressure of wartime price fluctuations, design innovations and supply scarcities that, for some industries and some products, made fixed-price procurement impractical.<sup>8</sup> The Comptroller of the Treasury, in passing on these wartime contracts, was frequently presented with contractor demands for reimbursement for the costs of public and employer's liability insurance. Generally, following the Lovell decision, he approved such demands,<sup>9</sup> although he sometimes found, under particular contract language, that the parties to the contract had not intended such

reimbursement.<sup>10</sup> This focus on the parties' intent appears to explain the inconsistent conclusions he reached in two cases involving self-insured contractors' demands for reimbursement for workmen's compensation insurance reserves paid to themselves for protection against possible, but unrealized, liabilities arising out of cost-plus government work.<sup>11</sup> However, in two World War I cases in which the Comptroller of the Treasury actually disapproved reimbursement for liability insurance premiums, based apparently on doubt as to whether the contracting officer had authorized the insurance, the contractors concerned brought suit successfully for such reimbursement in the Court of Claims.<sup>12</sup>

The Budget and Accounting Act of 1921, 42 Stat. 20, codified at 31 U.S.C. § 1 et seq. (1976), transferred the controlling functions of the Treasury Department to the General Accounting Office, headed by the Comptroller General. That officer in numerous decisions up to the present date, has reaffirmed the propriety of reimbursement of contractor liability insurance costs, under cost-reimbursement-type contracts, in a variety of factual circumstances.<sup>13</sup> He has, for example, approved reimbursement of premium costs under mutual insurance policies, despite the assessment feature of such policies,<sup>14</sup> and, under policies insuring against the negligence of the contractor himself, as well as the negligence of employees and others for whose torts the contractor might be vicariously liable.<sup>15</sup> He also has approved contract forms which require—rather than merely authorize—the contractor to purchase such insurance.<sup>16</sup> On the other hand, the Comptroller General has refused to sanction a contract form requiring the contractor to carry insurance which would give third persons injured by project-related accidents rights of recovery greater or different in nature from those which they would have enjoyed, under applicable local law, in a tort suit against the contractor himself.<sup>17</sup>

At the present time, most procurement by civilian federal agencies, including the FRA, is done under the Federal

Property and Administrative Services Act of 1949.<sup>18</sup> That act expressly authorizes cost-plus-fixed-fee contracts. Cf. 41 U.S.C. § 254(b) (1965). No other federal legislation presently in effect appears either to approve or prohibit reimbursement of insurance costs in FRA procurement. On the principle, then, that the government may contract on such terms as it chooses, except as prohibited by statute,<sup>19</sup> it appears that the FRA's right, under the 1949 Act, to reimburse its cost-basis contractors' insurance costs is undeniable, in the absence of any evidence that the word "cost," as used in that Act, bears a restrictive or technical meaning that would exclude liability insurance premiums from its scope.

The Act itself contains no statutory definition of "cost," and the legislative history of the Act is devoid of any evidence that its draftsmen intended that word to bear any special or restrictive sense.<sup>20</sup> The administrative regulations promulgated under the Act, by the GSA, by DOT, and by numerous other agencies, all provide for reimbursement of liability insurance costs in cost-type contracts.<sup>21</sup> Such regulations, unless clearly inconsistent with the statute that they implement, have the force of law and will be followed by the courts.<sup>22</sup>

In short, then, there is no doubt whatever, under current law, of the propriety of the FRA's reimbursement, of cost-type contractors' liability insurance premium costs, as long as the coverage purchased is indeed liability insurance (as opposed to accident insurance for the benefit of third persons<sup>23</sup>) and as long as the party whose liability is being insured is the contractor, rather than the government itself.<sup>24</sup>

NOTES

1. Cf. Employers' Liability Assur. Corp., Ltd. v. Merrill, 155 Mass. 404, 29 N.E. 529 (1892); 44 C.J.S. "Insurance" § 22 (1945); Crobaugh & Redding, Casualty Insurance 395-96 (1928).
2. Under R.S. § 3709.
3. 1 Comp. Dec. 481 (1895); 21 Op. Att'y Gen. 207 (1895).
4. R.S. § 236; in force, as amended, 31 U.S.C. § 71 (1976).
5. 46 Ct. Cl. at 334 (finding VII), 342.
6. United States v. Tingey, 5 Pet. 115, 128 (1831).
7. Kern-Limerick, Inc. v. Scurlock, 347 U.S. 110, 116 (1954).
8. Graske, War Contract Claims §§ 44, 65 (1945). Approximately 25% of all War Department procurement during World War I was on a CPPC basis, according to testimony before the Nye Committee. Cf. 73d Cong., 2d Sess., Senate, Hearings Before the Special Committee Investigating the Munitions Industry at 4169, 3936, 2919 (1935).
9. See, e.g., 26 Comp. Dec. 1 (1919); 22 Comp. Dec. 261 (1915).
10. Cf. 26 Comp. Dec. 167 (1919); 24 Comp. Dec. 643 (1918); 20 Comp. Dec. 656 (1914).
11. Compare 24 Comp. Dec. 485 (1918) with 24 Comp. Dec. 652 (1918).
12. Mason & Hauger Co. v. United States, 56 Ct. Cl. 238 (1921), aff'd on other grounds (no appeal taken on this point), 260 U.S. 323 (1922), aff'd on reargument, 261 U.S. 610 (1923); Bates & Rogers Construction Co. v. United States, 58 Ct. Cl. 392 (1923).
13. See, e.g., 39 Comp. Gen. 793 (1960); 22 Comp. Gen. 910 (1943); 22 Comp. Gen. 740 (1943); 18 Comp. Gen. 285 (1938).
14. 20 Comp. Gen. 196 (1940).
15. 22 Comp. Gen. 892, 895 (1943).
16. 16 Comp. Gen. 748 (1937).
17. 10 Comp. Gen. 512 (1931) (a requirement that contractor procure such a policy would be a diversion, for the purpose of furthering public welfare, of sums appropriated, not for welfare, but for the necessary costs of constructing the public work in question).



18. 63 St. 378; the pertinent provisions of the Act are codified in 40 U.S.C. ch. 10 (1969) and 41 U.S.C. ch. 4 (1965).
19. Cf. note 7, supra.
20. See 81st Cong., 1st Sess., 5 Rep. Nos. 338, 475 and H.R. Rep. No. 670. Because Title III of the Armed Services Procurement Act of 1947, see also S. Rep. 571, H.R. Rep. 109, 80th Cong., 2d Sess., and the Hearings before the Committee on Armed Services of the House of Representatives on Sundry Legislation . . . 1947, [No. 51] 421-654; 719-734.
21. See, e.g., 41 C.F.R. §§ 1-10.500 et seq.; 1-7.205-5; 1-7.409-9; 12-7.5001-20; 12-7.5201-22.
22. Paul v. United States, 371 U.S. 245, 255 (1963) (ASPR); Farmer v. Philadelphia Electric Co., 329 F.2d 3 (3d Cir. 1964) (FPR).
23. Cf. Note 17 supra.
24. Or, at least as long as extending coverage to the government as an additional insured results in no additional cost. 22 Comp. Gen. 740 (1943). Compare 35 Comp. Gen. 391 (1956).

B.

THE FEDERAL RAILROAD ADMINISTRATION'S LEGAL AUTHORITY TO PURCHASE, BY DIRECT CONTRACT WITH A PRIVATE INSURANCE COMPANY, A "BLANKET" LIABILITY INSURANCE POLICY PROTECTING ALL ITS RESEARCH AND DEVELOPMENT CONTRACTORS FROM TORT LIABILITY TO THIRD PERSONS

The general question of governmental authority to purchase insurance appears to have been raised originally by federal officials who desired to insure government property under the care of their departments and necessary to the carrying out of programs for which they were responsible. Primarily, these officials were concerned with accidental loss incurred in shipment or by reason of fire or similar casualty.

The earliest reported decision of the comptrolling officers of the Treasury, in connection with the direct purchase of insurance by the government, appears to be that of Assistant Comptroller Mitchell, on May 10, 1907, in reply to a letter from the Secretary of the Interior who was seeking an advisory opinion.<sup>1</sup> The decision concerned the propriety of paying, out of an appropriation for the education of Alaskan natives, the cost of insurance on the shipment of school supplies to that Territory. 13 Comp. Dec. 779 (1907). The Comptroller reasoned that the appropriation was not available for insurance purposes, because: (1) buying insurance does not, in fact, increase the probability that the supplies will escape loss and so be available for use in the activity which the appropriation was designed to further; and (2) if loss should occur, the proceeds of the insurance policy could not be used for the purposes of the appropriation, but would have to be paid over by the official receiving them, into the general funds of the Treasury.<sup>2</sup> The Comptroller also referred to a consensus, among the federal departments, not to insure

government property against loss. He cited an unpublished Comptroller's decision of 1896 discouraging such insurance and, as evidence of a Congressional intent not to expend appropriations for insurance on government property, noted the Congressional practice, in the District of Columbia appropriations acts, of forbidding the expenditure of funds for that purpose.

After the 1907 decision, the comptrolling officers continued to affirm their position that appropriations were ordinarily not available for the purchase of insurance against the risk of loss or damage to government property.<sup>3</sup> When the General Accounting Office was created,<sup>4</sup> the Comptroller General followed these decisions in numerous rulings of his own.<sup>5</sup> Thus, the principles that the government is normally a self-insurer of its own risks, and the corollary that no appropriation may be expended to insure against such risks in the absence of express Congressional consent,<sup>6</sup> appear today to be widely accepted, despite the absence of any statutory support for them.<sup>7</sup>

The question of government insurance against its own tort liability risks is one which, in the nature of things, could not readily arise prior to the enactment of the Federal Tort Claims Act, 60 Stat. 842 ff.; see 28 U.S.C. §§ 1346(b), 2671-80. Until that time, the government had not consented to be sued for the torts of its agents.<sup>8</sup> However, the Tort Claims Act, from its inception, provided for the payment of tort judgments out of standing or special appropriations made especially for the particular purposes of the Act<sup>9</sup>—and hence, by implication, ruled out their payment out of other funds.<sup>10</sup> For this reason, and because insurance proceeds would go to the Treasury,<sup>11</sup> and not to the tort victim, even the Act's passage apparently did not prompt federal agencies to purchase liability insurance on the government's own behalf.<sup>12</sup>

The question of insurance against governmental tort

liability did arise, however, in connection with federally-created "sue-and-be-sued corporations," during the period commencing with Supreme Court decisions holding such corporations liable in tort for negligence,<sup>13</sup> and ending with the passage of the Tort Claims Act, which, of course, provided that the sole remedy for torts committed by such corporations is a suit against the United States, and not an action against the corporations themselves.<sup>14</sup> In 1938, the Attorney General ruled that the United States Housing Authority, a corporation created pursuant to the United States Housing Act of 1937, 50 Stat. 888, 42 U.S.C. §§ 1401 et seq. (1937), could, in light of its statutory authority to "sue and be sued," be subjected to tort liability arising out of its activities. Since the corporation was also authorized by statute to "procure insurance against any loss in connection with its property and other assets," it was, in the Attorney General's opinion, empowered to buy liability insurance to protect itself against such risks.<sup>15</sup>

In 1940, the same question was posed by the Federal Housing Administrator, in a request to the Comptroller General for a ruling on the FHA's power to buy insurance against its possible tort liabilities. In this instance, however, the Comptroller General, disagreeing with an earlier informal opinion in the same matter by the Attorney General, denied the Administrator's power to buy liability insurance. The Comptroller General conceded that Title I of the National Housing Act of 1934, 48 Stat. 1246, 12 U.S.C. §§ 371 et seq. (1934), gave the Administrator authority to "make such expenditures . . . as are necessary to carry out the provisions [of the Act] . . . without regard to any other provisions of law governing the expenditure of public funds." He also noted that the Administrator was expressly authorized to buy property insurance on real estate which he acquired in the performance of his functions.<sup>16</sup> Still, he concluded, the "settled policy of the

United States to assume its own risks" applied, logically, to tort liability risks as well as property loss risks. For this reason, because there was no basis for a finding that the purchase of liability insurance was, in the statute's words, "necessary to carry out" the provisions of the National Housing Act, no such insurance could be purchased. 19 Comp. Gen. 798 (1940).

The question of government purchases of liability insurance for the benefit of its contractors—rather than for its own benefit—appears, logically, to have nothing in common with the matter at issue in the decisions cited above. The desirability of self-insurance for the government's own risks, in light of its enormous loss-spreading abilities,<sup>17</sup> and the probable ultimate swings which may be derived from avoiding insurance company profit and commission costs,<sup>18</sup> may justify the Comptroller General's rule against commercial insurance of government risks. This is particularly true in light of the statutory requirement that funds received from insurance proceeds, to which the government is beneficially entitled, be returned to the Treasury.<sup>19</sup> Clearly, though, this policy has no application to the private contractor's need for insurance protection, in light of his own limited loss-spreading abilities, and in light of the limited ability of the Government to indemnify him directly against third-party tort claims.<sup>20</sup> Moreover, since the purpose of the government's purchase of insurance for contractors would be to induce them to perform R&D work—and not merely to reimburse the United States for a financial loss—it cannot be said that the purchase of such insurance fails to further the activity for which the appropriation to be charged was made available.<sup>21</sup>

Similarly, the argument that it is, in the long run, cheaper for the government to insure its own risks than to pay insurance company profits and commissions is inapplicable to the purchase of insurance for the benefit of government

contractors, since the other practical means of securing the contractors' services is government reimbursement for the contractors' own insurance purchases. This means is likely to be equally or more costly to the government than direct purchases of such policies.<sup>22</sup> Nevertheless, the general ban on government purchases of insurance for its own benefit has carried over, by a process of semantic drift, into discussions involving the government's purchase of insurance for the benefit of third persons.

During World War I, the Alien Property Custodian inquired of the Comptroller of the Treasury regarding the availability of his office's appropriation for the purchase of liability insurance to protect himself—not the Government—against possible tort liability to third persons arising out of his own activities and those of his subordinates. The Comptroller reasoned that such insurance would constitute additional compensation to the officer involved, and was therefore prohibited, since it would amount to paying him more than Congress had voted in its salary appropriation. The Comptroller also argued, however, that, since the government did not insure its own risks, it could not purchase insurance for the benefit of another. The Comptroller noted that such insurance was of more remote utility to the government than would be insurance for its own benefit. 24 Comp. Dec. 301 (1917).

A similar question arose in 1959, when the Agricultural Research Service wished to buy automobile liability insurance for the cars which its employees drove in certain foreign countries, where severe penal sanctions applied to drivers of uninsured vehicles. Because the Federal Tort Claims Act is inapplicable to accidents in foreign jurisdictions,<sup>23</sup> the Service's employees had been obliged to buy insurance with their own funds, for fear of falling afoul of the financial responsibility acts of the nations in which they drove government cars. The Comptroller General, however, held that the Agricultural Research Service was without authority to buy such

insurance. 39 Comp. Gen. 145 (1959). He rested his decision, in part, on the legislative authority expressly granted to the State Department and the Foreign Agricultural Service to buy such insurance and the lack of such express authorization in the case of the Agricultural Research Service. Basically, however, he treated the question as one falling within the general government policy against procuring insurance:

[I]t is the settled policy of the United States . . . to assume its own risks of loss. Hence, appropriated monies of the United States generally are not available, in the absence of specific statutory authorization, for payment of insurance premiums.<sup>24</sup>

In contrast to the Comptroller's 1917 decision, the Comptroller General's 1959 decision did not explicitly rest on the fact that the beneficiaries of the insurance were federal employees, whose remuneration was set by Congress, and who should not be given a raise by way of an insurance fringe benefit, without authorization from Congress.

Standing alone, the 1959 Comptroller General's decision, although perhaps not notably persuasive in its reasoning, nevertheless suggests that he, at least, would not approve the government's direct expenditure of funds for the purchase of liability insurance protection for its contractors. Other decisions of the Comptroller General, however, provide a strong basis for concluding that this is not, in fact, the case.

In at least two instances, the Comptroller General has held that the general ban on the purchase of insurance against the government's own risks does not prohibit the use of government funds to insure against loss of the property of private persons, entrusted to the government's possession.

Thus, in one decision, the government was permitted to insure against loss in shipment of private property sent to it on approval-or-return.<sup>25</sup> In another instance, it was allowed to insure, against loss by casualty, private property loaned to the government for purposes of exhibition.<sup>26</sup> In both of these decisions, the policy of the self-insurance rule was explicitly recognized and acknowledged to be inapplicable, where the loss to be insured against would, in the absence of insurance, be borne by a party other than the government itself. Similarly, in a decision involving the government's authority to purchase liability insurance for the protection of the owner of a school building in which the government, as lessee, wished to conduct a civil service examination, the Comptroller General held that, if the lessor demanded such coverage as a condition to using the building, the general policy of self-insurance did not forbid the government's purchase of coverage. The basis for this holding was that the loss to be insured against was that of the lessor, and not that of the Government itself.<sup>27</sup>

Because there seems to be no difference in principle between the government's purchase of liability insurance for a lessor who demands such protection and its purchase of such insurance for an R&D contractor who makes a similar demand, it is difficult to believe that the General Accounting Office would object to an FRA proposal to purchase a blanket insurance on the ground of the general policy of self-insurance of government risks. The argument that Congress is aware of the "no-insurance" rule and, therefore, presumably wishes it to apply whenever it fails to pass legislation expressly contravening it<sup>28</sup> is, of course, irrelevant, when the question is not whether to apply the rule, but whether or not to extend it to a domain in which its rationale is inapplicable.

The conclusion of the foregoing discussion is that the "no-insurance" rule is inapplicable to the issue presented here. Moreover, there is apparently no federal



statute or regulation that either authorizes or forbids the FRA to buy liability insurance for the protection of its CPFF contractors. From these two facts, it follows that the FRA may purchase such insurance, under the general rule that the United States has the same powers of contract as any other juridical person, except insofar as these powers are limited by statute or other legal authority.<sup>29</sup>

This conclusion, however, does not mean that there are no restrictions on the manner in which the FRA may procure such insurance, or on the terms of FRA's contract for it. On the contrary, a contract of insurance is a "contract for property or services" within the meaning of § 302(a) of Title II of the Federal Property and Administrative Services Act of 1949, 41 U.S.C. § 252(a) (1965), as amended (1977 P.P. at 62). It will be subject to that Act.

To be sure, there is nothing in the text of the Act which indicates that it was intended either to embrace or to exclude government purchases of insurance. Nor is the Act's legislative history illuminating on this point.<sup>30</sup> The GAO, however, on several occasions prior to the enactment of this legislation, ruled that a policy of insurance purchased by the government was indeed a "contract for . . . services" within the meaning of R.S. § 3709<sup>31</sup> which, with certain exceptions, requires that all government procurement for supplies and services be by advertisement. Thus, it has been held that, under the statute, insurance must be obtained by advertisement,<sup>32</sup> that a broker may not be hired to negotiate a purchase of insurance,<sup>33</sup> and that an insurer which is already insuring risks in a single state cannot be given the right to underwrite risks in all states without a fresh advertisement for bids.<sup>34</sup>

Because there is no apparent basis for concluding otherwise, it seems reasonable to state that an insurance policy,

which is treated as a contract for services under R.S. § 3709, is also to be regarded as a contract for services under the 1949 Act.<sup>35</sup> If this conclusion is correct, it follows<sup>36</sup> that the FRA's purchase of a blanket liability policy would not be subject to the advertising requirements of R.S. § 3709 or to the requirement that the terms of the contract not exceed a year's duration.<sup>37</sup> It also follows, however, that a negotiated insurance policy would be lawful only under the conditions, and subject to the administrative determinations, prescribed by 41 U.S.C. § 252 (as amended 1977 Supp.).

Furthermore, since normal insurance practice calls for payment of premiums prior to the full rendition of insurance services by the carrier, a question could conceivably arise as to the government's authority to pay for its contractors' coverage prior to the insurer's full rendering of the contractual obligations placed on it by the policy.<sup>38</sup> As to procurements not covered by the 1949 Act, advance payments are clearly proscribed.<sup>39</sup> Apparently, in the only opinion in which the issue of whether prepayment of an insurance premium is an "advance," for the purposes of that law, was discussed, it was held that it was not.<sup>40</sup>

Under the 1949 Act, advance payments are permissible, though only if made "upon adequate security."<sup>41</sup> While the Federal Procurement Regulations governing advances were manifestly not drafted with an insurance contract in mind,<sup>42</sup> they would, even if held applicable, permit the FRA to deposit premiums in a bank account, for which payment could be made to the insurer on a periodic or need basis.<sup>43</sup> If the government's contract with the R&D contractor were so written as to place the risk of insurer nonperformance entirely on the contractor, it would seem reasonable to deem the insurer's services to FRA completed by the time the insured R&D work was completed, so that the insurer could be fully paid at that time.

To say that the contemplated FRA blanket policy is a contract for services covered by the 1949 Act is also to say that the Federal Procurement Regulations, insofar as applicable, will govern its procurement. These regulations, as enacted by the Office of Federal Procurement Policy, by GSA and by DOT, are binding on federal civilian procuring activities.<sup>44</sup>

Presumably, the type of blanket policy most desirable for the FRA would be one which provides, in its major document, a description of risks covered, limits of liability, and schedules or premium rates as percentages of payroll or contract price, and provides also for its amendment, by specific riders, for each of the future R&D contracts to be covered under it, with appropriate fixing, in each case, of the rates and coverage applicable to that particular project. A blanket policy of such a form would be an indefinite quantity contract, a requirements contract, or a basic agreement within the meaning of these terms as described in 41 C.F.R. §§ 1-3.409 and 1-3.410 (1976). None of these sections appears to contain requirements which would be incompatible with such a policy.

The FPR do not attempt to regulate the "break-out" decisions of civilian procuring activities, and an FRA decision to purchase insurance for its contractors—rather than reimbursing them for insurance which they purchased themselves—is, conceptually, merely an unusual instance of a break-out decision. Such decisions, in the absence of controlling regulation, have been said to be entirely within agency discretion,<sup>45</sup> and break-out of services is specifically encouraged for DOT agencies.<sup>46</sup>

The FPR provisions governing insurance in cost-reimbursement-type contracts<sup>47</sup> do not explicitly require that insurance coverage be purchased by the contractor himself, but merely specify that such coverage in fact must exist.<sup>48</sup> Hence

these provisions do not, in themselves, forbid a blanket policy of the type here under discussion. The standard "Insurance—liability of third persons" clause, however, does specifically require that: "The Contractor shall procure and . . . maintain . . . insurance. . . ." <sup>49</sup> It therefore appears that FRA R&D contracts providing that insurance has been procured by the FRA for the contractor, and setting out rights with respect to such insurance, would have to be processed as deviations. <sup>50</sup>

No FPR provisions apparently relate specifically to government purchases of insurance. However, there may be a variety of FPR clauses arguably required to be included in the contemplated FRA policy and, before such a policy is executed, a search for such possibly-applicable clauses would have to be made and deviations from them processed as such. <sup>51</sup>

Finally, the FRA may wish, in accordance with a normal insurance industry practice, to procure its policy through a broker, who would receive as his fee—payable by the insurer—a percentage of the total premium cost of the policy. No precedent was found discussing the legal authority for government purchase of insurance in this manner. However, the Supreme Court has approved the purchase of land through a government-hired broker to be paid a percentage commission by the land vendors, <sup>52</sup> and did so on grounds which apparently are not weakened by any subsequent legislation, and which appear to be applicable to the purchase of insurance, as well as other goods and services. The Court has also affirmed the legality of a delegation, to one not himself a government employee, of the power to make purchases on the government's behalf. <sup>53</sup>

There remains the question of whether a contract between FRA and an insurance broker would be deemed one for expert or consultant services, within 5 U.S.C. § 3109 (1977),

so as to require the broker's fee to be paid only with government monies appropriated by Congress for expenditure under that statute, rather than out of monies appropriated for R&D work generally. The compensation limitations in the statute would clearly not be applicable, however, since the broker would be working as an independent contractor paid for an end-product, and not an employee paid on a per diem basis.<sup>54</sup>

In conclusion, then, there appears to be no insurmountable legal barrier to an FRA policy of breaking out the liability insurance "component" of its R&D work and procuring such insurance under a blanket policy of the desired type. This conclusion assumes, however, that the FRA's premium costs would be contractually fixed, or at least subject to ceilings such as those in policies for GOCO plants under the National Defense Projects Rating Plan.<sup>55</sup> A pure experience-rated insurance policy, without such ceilings, would simply be an undertaking by FRA to indemnify its contractors—through the subrogated insurer—for all liability costs and claims-settlement costs, and would be subject to serious legal problems.<sup>56</sup>

NOTES

1. Pursuant to 31 U.S.C. § 74, ¶ 4 (1976).
2. Pursuant to R.S. § 3617, which, as then in effect, provided:

The gross amount of all monies received from whatever source for the use of the United States, except as otherwise provided in the next section [i.e., R.S. § 3618, not here applicable] shall be paid by the officer or agent receiving the same into the Treasury, at as early a day as practicable, without any abatement or reduction whatever on account of salary, fee, costs, charges, expenses or claim of any description whatever. But nothing herein shall affect any provision relating to the revenues of the Post Office Department.

This provision, essentially unchanged, is today 31 U.S.C. § 484 (1976). For the present text of R.S. § 3618, see 31 U.S.C. § 487 (1976).

3. See, e.g., 24 Comp. Dec. 569 (1918); 23 Comp. Dec. 439 (1917); 23 Comp. Dec. 269 (1916); 22 Comp. Dec. 674 (1916); 14 Comp. Dec. 836 (1908).
4. By the Budget & Accounting Act of 1921, 42 Stat. 20, codified at 31 U.S.C. § 1 et seq. (1976).
5. See, e.g., 15 Comp. Gen. 293 (1935); 14 Comp. Gen. 326 (1934); 11 Comp. Gen. 59 (1931); 7 Comp. Gen. 105 (1927).
6. 16 Comp. Gen. 453 (1936).
7. Cf. 41 C.F.R. § 1-10.301 (1976). Clearly, there will be no general desire by federal agencies to insure risks arising in their activities, unless the proceeds of the insurance are available for expenditure by them. However, with certain exceptions, cf. 48 Comp. Gen. 209 (1968), 22 Comp. Gen. 1133 (1943), it remains true that such proceeds must be paid into the Treasury as miscellaneous receipts, rather than credited to an appropriation of the agency which bought the insurance. 31 U.S.C. § 484.

8. With certain exceptions, such as in the case of admiralty claims. See generally Commissioners of the State Insurance Fund v. United States, 72 F. Supp. 549 (S.D.N.Y. 1947).
9. F.T.C.A. § 411, 60 Stat. 844. See, now, 28 U.S.C. § 2414 (1965); 31 U.S.C. § 274a (1976); 31 C.F.R. § 256.1 (1976).
10. Compare 5 Comp. Gen. 203 (1925) with 37 Comp. Gen. 691 (1957). When claims are relatively small and administratively settled, their payment out of agency appropriations is allowed under 28 U.S.C. § 2672 (as amended 1977 Supp.). See also 28 C.F.R. § 14.10 (1976).
11. Under 31 U.S.C. § 474.
12. A search of the reported Comptroller General's decisions and of the case law, 1946 to date, disclosed no instance of such insurance, for appropriated-fund activities.
13. See Kiefer & Kiefer v. R.F.C., 306 U.S. 381 (1939), and earlier authorities discussed in 39 Op. Att'y Gen. 559 (1938).
14. 28 U.S.C. § 2679(a) (1965).
15. 39 Op. Att'y Gen. 559 (1938).
16. 52 Stat. 21, 12 U.S.C. §§ 1712-15 (1938).
17. Cf. 19 Comp. Gen. 798, 800 (1940).
18. Cf. 23 Comp. Dec. 269 (1916).
19. 31 U.S.C. § 474 (1976).
20. See discussion of this point in Part C of the present Task.
21. Cf. 4 Comp. Gen. 690 (1925); 23 Comp. Dec. 297 (1916).
22. A third solution—indemnification—is presently impractical, for reasons discussed in Part C of the present Task.
23. 28 U.S.C. § 2680(k)
24. 39 Comp. Gen. at 147.
25. 3 Comp. Gen. 786 (1924).
26. 17 Comp. Gen. 55 (1937).

27. 42 Comp. Gen. 392 (1963).
28. Cf. 15 Comp. Gen. 293 (1935).
29. See discussion of this point in Part A of the present Task. In at least one case involving the government's contractual commitment to insure property for the benefit of a contractor, the court assumed without discussion that such a commitment was lawful and enforceable. Newport News Shipbuilding & Dry Dock Co. v. United States, 34 F.2d 100 (4th Cir.), cert. denied, 280 U.S. 599 (1929).
30. See S. Rep. No. 338, 475 and H.R. Rep. No. 670, 81st Cong., 1st Sess., because Title III of the 1949 Act was derived largely from the Armed Services Procurement Act of 1947, see also S. Rep. No. 571 and H.R. Rep. 109, 80th Cong., 2d Sess., and the Hearings Before the Committee on Armed Services of the House of Representatives on Sundry Legislation . . . 1947 [No. 51] 421-654, 719-34.
31. Presently codified, in amended form, as 41 U.S.C. § 5 (as amended 1977 Supp.).
32. 1 Comp. Gen. 21 (1921).
33. 2 Comp. Gen. 544 (1923).
34. 19 Comp. Gen. 211 (1939).
35. The Armed Services Procurement Act of 1947, on which Title III of the 1949 Act was modeled, was intended to give the word "services," as used therein, as broad a meaning as the same term had under R.S. § 3709. Cf. Hearings, supra, note 30, at 631.
36. Under 41 U.S.C. § 260 (as amended 1977 Supp.).
37. Cf. 51 U.S.C. § 13 (1965).
38. In support of the view that this objection is not as frivolous as it at first appears, one may note that advance payment of subscriptions to periodicals has been felt to require specific statutory authorization. See 31 U.S.C. § 531(a) (1976).
39. 31 U.S.C. § 529 (1976).
40. See 41 Comp. Dec. 836 (1908).
41. 41 U.S.C. § 255 (1965).



42. See generally 41 C.F.R. §§ 1-30.400 et seq.
43. Cf. 41 C.F.R. § 1-30.414-2.
44. Cf. 41 U.S.C. §§ 405, 409 (1977 Supp.); 40 U.S.C. § 481 (1969) (as amended 1977 Supp.); 40 U.S.C. § 486(c) (1969); 41 C.F.R. § 1-1.004 (1976).
45. Cf. B-174259, 17 CCH Cont. Cases Fed. ¶ 81,037 (Comp. Gen. 1972).
46. 41 C.F.R. § 12-1.301-1 (1976). A more elaborate discussion of factors to be considered in component break-out decisions has been formulated, for the military agencies, in 32 C.F.R. § 1-326 (1975).
47. 41 C.F.R. §§ 1-10.500 et seq. (1976).
48. Mandatory under 41 C.F.R. §§ 1-7.404-9 and 1-7.204-5 (1976).
49. (Emphasis added.)
50. Under 41 C.F.R. §§ 1-1.009 and 12-1.009.
51. See, e.g., 41 C.F.R. § 12-16.501, 41 C.F.R. § 1-16.501(b), 41 C.F.R. § 1-16.101. As to the possible applicability of 41 C.F.R. §§ 12-1.5500 et seq., governing multi-year procurement of "supplies," see 46 Comp. Gen. 849 (1967), in which the Comptroller General held that a multi-year services contract was unauthorized under ASPR regulations which—prior to their amendment, subsequent to this decision—provided for multi-year procurement of "supplies," but not of "services."
52. Muschany v. United States, 324 U.S. 49 (1945).
53. Kern-Lemerick v. Scurlock, 347 U.S. 110 (1954).
54. See 42 Comp. Gen. 395 (1963); 28 Comp. Gen. 50 (1948); 26 Comp. Gen. 188 (1946); cf. B-155365, 9 CCH Cont. Cases Fed. ¶ 72,802 (Comp. Gen. 1964).
55. Cf. 32 C.F.R. § 10-600 (1975).
56. These are discussed in Part C of the present Task.

C.

THE LEGAL LIMITS ON THE RIGHT OF  
THE FRA TO INDEMNIFY ITS RESEARCH  
AND DEVELOPMENT CONTRACTORS AGAINST  
THE TORT CLAIMS OF THIRD PERSONS  
ARISING OUT OF FRA PROJECTS

Under the United States Constitution, art. I,  
§ 9, ¶ 4:

No money shall be drawn from the Treasury,  
but in consequence of Appropriations made  
by Law . . . .

As far as actual disbursements of government funds are concerned, this congressional power of the purse is well protected: It is legally impossible to compel the Treasury to make a payment before Congress has itself appropriated monies for it.<sup>1</sup>

The procurement of supplies and services for the government by contract, however, raises special problems. If executive agencies can pledge the credit of the United States by entering into contracts that are legally binding on the government, and so commit it to the payment of enormous sums for services or goods not approved in advance by Congress, then the "power of the purse strings" can be exercised only by dishonoring the nation's legal obligations. On occasion, this has been done,<sup>2</sup> and the power of Congress to dishonor lawful claims by refusing to appropriate funds for their payment is not doubted.<sup>3</sup> More important, however, for the present inquiry, is the fact that officers of the United States cannot bind it by contract unless acting within the scope of their lawful authority.<sup>4</sup> Indeed, legislation has been enacted to

prevent the executive branch from binding the United States by contracts for purposes, or in amounts, not previously approved by Congress.

Clearly, a contract calling on the United States to indemnify a contractor against third-party tort claims, without any ceiling on the amount of indemnity to be offered, challenges the congressional power of the purse strings in a peculiarly dramatic way. Just as clearly, however, such indemnification may be indispensable, in a nation with a large private sector and in an era of high tort damage awards, if private business firms are to be induced to undertake hazardous and uninsurable activities on the government's behalf. It is therefore not surprising that, from World War II on, the question of indemnification of government contractors has frequently been raised in Congress and in the executive agencies.

There are two statutory provisions by which Congress chiefly restricts the ability of the executive branch to pledge the government's credit for the payment of obligations not approved in advance by Congress. These are the Anti-Deficiency Act, 31 U.S.C. § 665 (1976),<sup>5</sup> and 41 U.S.C. § 11 (as amended 1977 Supp.).<sup>6</sup> These statutes, originating in the second half of the last century,<sup>7</sup> were successors to yet earlier legislation going back at least as far as 1820.<sup>8</sup>

Under these laws and their predecessors, government contracts were frequently struck down, as involving obligations in excess of available appropriations,<sup>9</sup> or as creating obligations for future fiscal years, when Congress had not, at the time of contracting, yet passed any appropriation for such years.<sup>10</sup> The specific application of these statutes to the issue of indemnification, however, does not appear to antedate the present century.

In 1909, the Secretary of Commerce asked the Comptroller of the Treasury for an advance ruling<sup>11</sup> on the question of whether the Coast and Geodetic Survey could lawfully contract with a railroad, upon whose tracks the Survey was running a velocipede, to indemnify the railroad against property losses arising out of the Survey's activities. The Comptroller ruled that such a contract was unlawful under the Anti-Deficiency Act because it involved the government in an obligation which was uncertain in amount, and which could possibly turn out to be greater than the appropriations then available to the Survey. 15 Comp. Dec. 405 (1909).

A second basis for the decision was also stated: The Comptroller noted that at the time, the United States was not liable for the torts of its agents.<sup>12</sup> He observed further that no officer of the United States had the authority to waive this sovereign immunity by contractually binding the government to pay for such torts.<sup>13</sup> Therefore, he concluded, the proposed indemnity contract would have been unlawful, even in the absence of the Anti-Deficiency Act.

This second ground of decision was also employed in a Comptroller's ruling declaring illegal a contract by which the War Department and a railroad gave each other reciprocal operating rights on each other's rights-of-way. The government was also given the use of the railroad's rolling stock and promised to indemnify the railroad for loss of injury to such borrowed equipment, subject to a maximum liability of \$3,000. 16 Comp. Dec. 38 (1909). In this case, it should be noted, no question of illegality under the Anti-Deficiency Act or under 41 U.S.C. § 11 arose, because of the ceiling set by the contract on the potential liability of the government.

Similarly, in 1928, both the government's immunity from tort liability and 41 U.S.C. § 11 were cited by the Comptroller General as authority for declaring illegal a contract with a utility company for electric service at an Army base. In that contract, the government pledged to indemnify the power company for liabilities to third parties arising out of government negligence. 7 Comp. Gen. 507 (1928).

In 1937, another decision involved a licensing agreement between the Interior Department and a railroad for the laying of government telegraph lines on the railroad right-of-way. Under the contract, the government promised to indemnify the railroad against all third-party tort liabilities arising out of the construction and maintenance of the telegraph lines. The Comptroller General again declared such indemnification unlawful for the same two reasons given in the earlier decisions. To these, however, a third reason was added: Such indemnification, to be effective, would require a liquidation of the government's liability for tort damages. However, the fixing of these damages could not, in the Comptroller General's opinion, be done by any court or government officer, without an express grant of jurisdiction from Congress. 16 Comp. Gen. 803 (1937).

In one case involving a cost-plus contract from World War I,<sup>14</sup> and in several involving such contracts during World War II,<sup>15</sup> however, the Comptroller General upheld the validity of contract clauses obligating the government to reimburse the cost-plus contractor for the latter's own tort liabilities to third parties, insofar as these were not covered by insurance. In these cases—in which there was no issue of the government's own tort liability, but only of its right to reimburse contractors for liabilities incurred by them—the Comptroller's decisions, taken together, stand for two

propositions: (1) The grant of legal authority to enter into cost-basis contracts, in and of itself, empowers the agency having that authority to agree to indemnify its contractors for their legal liabilities to third persons arising out of the contract work.<sup>16</sup> (2) The Anti-Deficiency Act and 41 U.S.C. § 11 still govern such contracts and, therefore, any government promise to indemnify must be limited by other contractual language—such as a limitation-of-cost clause or an availability-of-funds clause—that will ensure that the maximum legal liability of the government will not exceed the appropriations available to pay for the contract work.<sup>17</sup>

More recent decisions of the Comptroller General have reiterated these two points. Thus, it has been held that the government, as lessee, may not, consistent with the Anti-Deficiency Act and 41 U.S.C. § 11, promise to indemnify the lessor, without any limitation as to amount, for the latter's tort liability to third persons arising out of the government's use of the leased premises.<sup>18</sup> It has also been held that the FAA, as lessee of airplanes, may—in lieu of paying costly flight insurance—promise to indemnify the lessor against loss or damage to the leased airplane.<sup>19</sup> Finally, the Comptroller General has held that the Navy may agree to indemnify a contractor for losses to contractor-owned property arising during work on a government project, as long as the indemnity provision stipulated: (1) that the government will not be obliged to pay losses which exceed in amount the appropriations available at the time of loss, and (2) that Congress will have no obligation to appropriate funds to pay for that portion of any loss as may exceed the funds available to pay it.<sup>20</sup>

These conclusions of the Comptroller General, with respect to the illegality of unlimited indemnification agreements,

are shared by the Court of Claims. That court, in 1971, was asked, by a corporate landowner, to reform a contract under which the corporation had agreed to allow the Army to use its land for maneuvers. The corporation sought to insert in the contract a promise by the government, which had been informally made to it during negotiations, to indemnify it for third-party liability claims arising out of the government's use of the land. The court held that no such reformation would be possible, even if the alleged indemnification promise had been made to the landowner, and omitted by inadvertence from the written contract. The court held that the Anti-Deficiency Act would make such a contractual provision illegal. California-Pacific Utilities Co. v. United States, 194 Ct. Cl. 703 (1971).

The conclusions of the Comptroller General and the Court of Claims apparently have not been contradicted by the published decisions of any other court or administrative body. Nevertheless, it must be noted that the standard "Insurance—Liability to Third Persons" clause, used in cost-reimbursement type supply contracts by the armed forces and by many civilian agencies, contains provisions which are entirely inconsistent with the Comptroller General's position. For example, ¶ (c) of this clause, as prescribed by 41 C.F.R. § 1-7.204-5 (1976), provides:

The contractor shall be reimbursed . . . without regard to and as an exception to the "Limitation of Cost" or the "Limitation of Funds" clause of this contract, for liabilities to third persons for loss of or damage to property . . . or for death or bodily injury, not compensated by insurance or otherwise, arising out of the performance of this contract . . . .<sup>21</sup>

This language apparently purports to bind the government to reimburse the contractors whose contracts contain this clause, for any tort liabilities in excess of their insurance coverage, regardless of the possible amount of such liabilities, and regardless of whether the contracting agency has sufficient funds, at the time of loss, from which such reimbursement can be made.

The inconsistency of this clause with the views of the Comptroller General and the Court of Claims of the limits on contracting powers imposed by the Anti-Deficiency Act has not gone unnoticed. Several agencies have, apparently, called GSA's attention to this problem, and the clause is now under review.<sup>22</sup> Indeed, DOT itself has apparently decided that the unlimited indemnification offered in the above clause is illegal, for it has, in its own procurement regulations, prescribed a modified version of the FPR clause. DOT's clause explicitly limits indemnification by subordinating the indemnity promise to the "Limitations-of-Cost" or "Limitations-of-Funds" clauses of the contract.<sup>23</sup> Thus, for FRA at least, any open-ended promise to indemnify an R&D contractor would have to be processed as a deviation from the standard DOT indemnification language.<sup>24</sup>

Conceivably, one might argue that the GSA and the other agencies promulgating regulations under the Federal Property and Administrative Services Act of 1949 can issue rules authorizing indemnification without regard to the restrictions of the Anti-Deficiency Act, by virtue of § 602 (formerly § 502) of the Act, 40 U.S.C. § 474 (as amended 1977 Supp.), which provides:

The authority conferred by this Act shall be . . . paramount to any authority conferred



by any other law and shall not be subject to the provisions of any law inconsistent herewith. . . . <sup>25</sup>

Sections 201 and 205 of the Act<sup>26</sup> authorize the issuance of regulations governing procurement, and these regulations presumably can implement the language of § 304 of the Act, 41 U.S.C. § 254(a) (1965), that, with particular exceptions:

[C]ontracts negotiated pursuant to [41 U.S.C.] section 252(c) . . . may be of any type which in the opinion of the agency head will promote the best interests of the government.

If one regarded an open-ended indemnity contract as a "type" of contract within the meaning of this section, the FPR could, arguably, authorize its use.

Such a view of the Act—for which, or indeed against which, there is no apparent authority—is, however, a strained one. The Act in several places explicitly refers to statutes pertaining to contracting or fiscal matters, in exempting activities under that Act from such statutes. Such references would be unnecessary if the "paramountcy" of the rule-making authority given by the Act were itself a sufficient basis for disregarding the statutes so referred to. Similarly, to say that a contract for an unlimited amount of indemnity is permitted as one "type" of contract seems unreasonable, particularly since the "types" of contract explicitly forbidden,<sup>27</sup> suggests that the word "type" is used in section 254(a) to mean "form."

It appears probable that the unlimited-indemnity feature of the standard "Insurance—Liability to Third Persons" clause exists not because of the above argument, or any similar one, but merely for historical reasons. Contract language of

this type was used by the military services at least as early as 1942<sup>28</sup> and was simply carried over into the ASPRs and, later, into the FPR. In the Navy, during the 1940's, some authorities were of the opinion that mere legal authority of government agencies to enter into contracts was, in and of itself, a sufficient authority for unlimited promises to indemnify, although this view was not shared by counsel for the private firms doing business with it nor by legal officers of the other military services.<sup>29</sup>

The question of the legal validity of the objections of the Comptroller General and the Court of Claims to unlimited indemnity clauses is further complicated by the usual inclusion, in government contracts, of "Disputes" clauses. Under these clauses, the contracting officer's decision on points of dispute arising under a contract is binding on both parties to the agreement, unless reversed by the pertinent Contract Appeals Board.<sup>30</sup> Under the Wunderlich Act,<sup>31</sup> the Supreme Court has held that the government may not refuse to pay to a contractor sums which the BCA or the contracting officer have awarded him under the disputes clause of the contract.<sup>32</sup> Since a request for indemnity can properly be treated as a dispute to be resolved under that clause,<sup>33</sup> it appears to follow that a contractor who has been awarded an indemnity by the contracting officer or BCA can sue in the Court of Claims and win a judgment for the sum so awarded him, whether or not the Court of Claims itself considers the unlimited-indemnity clause to be legally valid. If the contracting agency pays the indemnity as fixed under the disputes clause, without suit in the Court of Claims, the Comptroller General, it is true, can surcharge the account of the disbursing officer who paid the sum and recommend that the disbursing officer, the certifying officer, and the payee be sued for its recovery. However, any such suit

may be brought only if the Attorney General concurs in the Comptroller General's decision.<sup>34</sup> It seems highly unlikely that the courts could permit recovery from the payee-contractor.<sup>35</sup>

After judgment in the Court of Claims in favor of the contractor, it would still be possible for the Comptroller General to surcharge the disbursing officer's account and recommend civil suit against him and the certifying officer. Again, however, actual prosecution of such actions would require the concurrence of the Attorney General. The Comptroller General could also recommend to Congress that it not appropriate funds to pay the Court of Claims judgment, and indeed, Congress has—on rare occasions—refused to pay such judgments.<sup>36</sup>

Some FRA R&D contractors, considering the authorities discussed supra, may be willing to take their chances on a contract provision calling for complete indemnity to them, notwithstanding the view of the Comptroller General and Court of Claims that such indemnification is improper, as long as the indemnity provision is authorized by all necessary DOT authorities, and the enforcement of the provision by DOT CAB appears likely. It seems probable, however, that some, if not all, contractors would refuse to rely on such an indemnity promise, in the absence of a clear statutory basis for it. These refusals are even more likely, in light of the fact that Congress has specifically authorized indemnification in certain specified classes of contracts. That such authorization was felt necessary, by the agencies asking for it and by the Congress, is itself a strong suggestion that unlimited indemnity, in all other cases, is not a legally permissible practice.

Thus, the Departments of the Army, Navy, and Air Force have been granted specific authority to include indemnification

agreements in military R&D contracts, against third party tort claims, arising "from a risk that the contract defines as unusually hazardous."<sup>37</sup> In asking for this legislation, the witnesses representing the armed forces indicated to Congress that, absent such authority, their ability lawfully to promise indemnification to their contractors was highly uncertain.<sup>38</sup> Other examples of indemnification authority include the Price-Anderson Act<sup>39</sup> and the authority given to the Veterans Administration to indemnify contractors in connection with the development and testing of prosthetic devices.<sup>40</sup> In approving the latter legislation, a Senate committee report explicitly noted its view that the VA—an agency, like the FRA, subject to the 1949 Property Act—would have no authority so to indemnify its contractors, in the absence of special legislation.<sup>41</sup>

Indemnification authority, however, has not been granted to all agencies that requested it. NASA, for example, tried unsuccessfully for several years to obtain it.<sup>42</sup> It failed, apparently, because of Congressional fears of the potential costs to the government, reluctance to indemnify foreign nationals injured by U.S. space activities, and—most importantly for present purposes—sympathy to the opposition to such legislation by the private insurance industry. The industry clearly feared that first-dollar indemnity would rob it of business its members were ready and willing to pursue.<sup>43</sup>

Neither has indemnification authority, when granted, always taken the form of permanent legislation passed by the standing Congressional committees with jurisdiction over the pertinent agency. While both House and Senate rules prohibit the enactment or provisions in general appropriation bills that change existing law or fund expenditures not already authorized by law,<sup>44</sup> general appropriation acts have, in the past, granted indemnification authority to the Public Health

Service<sup>45</sup> and the United States Information Agency.<sup>46</sup> Presumably, such authority can also be granted to the FRA, so as to bind the United States to indemnify at least up to the "authorized to be appropriated" maximum for the R&D work to which the indemnity contract pertains.

Only one provision of existing legislation even arguably permits the FRA to agree to indemnify its contractors for potential liabilities in excess of available appropriations. Public Law 85-804, 50 U.S.C. §§ 1431 et seq. (as amended 1977 Supp.).<sup>47</sup> This Act is the successor to Title II of the first War Powers Act of 1941, 55 Stat. 839, which had language quite similar to it. The earlier legislation, although it made no more mention of indemnification than does the present law, was used as authority for indemnification, with Congressional approval.<sup>48</sup> The present law, enacted in order to avoid the need for periodic extensions of the earlier one, is effective only during a national emergency.<sup>49</sup> Since the Korean War, of course, such an emergency has continually existed,<sup>50</sup> and the President has authorized various agencies to enter into indemnity contracts without regard to available appropriations when, in the opinion of the appropriate Secretary, these contracts would facilitate the national defense.<sup>51</sup> Originally, the FAA was one of the agencies delegated the power to contract under P.L. 85-804. However, upon the creation of the Department of Transportation, the reference to the FAA was deleted from the Executive Order in question and replaced by a reference to DOT.<sup>52</sup>

It is, therefore, by no means certain that the FRA was ever contemplated as being among the agencies authorized by this Act, and the Executive Orders implementing it, to indemnify its contractors. However, even if the FRA did validly have such authority under the Executive Orders, it—or rather the DOT CAB, acting in its behalf<sup>53</sup>—could bind the government

to indemnify in excess of available appropriations only as to losses resulting "from risks that the contract defines as unusually hazardous or nuclear in nature."<sup>54</sup> It appears that few, if any, FRA R&D activity tort liability risks fit comfortably within such a rubric.<sup>55</sup> However, even if the FRA itself took an expansive view of its indemnification authority under P.L. 85-804 and found a "facilitation of the national defense" and an "unusually hazardous risk" in every one of its R&D contracts, it seems quite unlikely that the FRA could persuade its R&D contractors to be equally sanguine. Uncertainty on the contractors' part, as a practical matter, would bar use of this Act.

Rather than attempt unlimited indemnification, the FRA may wish to indemnify its contractors subject to a contractually-set ceiling—for example, \$5 million—on the government's potential obligations. Indemnification subject to such a ceiling, even if not satisfactory to all FRA R&D contractors, would, at least, fill the needs of those who carry their own general liability coverage, subject to a high deductible. Entering into such a contract would not require the obligation of \$5 million of FRA's appropriations, because such merely contingent liabilities cannot be treated as "obligations" for fund-accounting purposes.<sup>56</sup> If it were legally permissible for the FRA to enter into such a contract, the indemnitee would be able to recover judgment in the Court of Claims if it should turn out that, at the time of loss, the agency's available appropriations were insufficient to pay him.<sup>57</sup>

Unfortunately, however, the Comptroller General has held that, even where indemnification is subject to a ceiling and is payable from no-year funds, it is necessary to provide in the contract that: (1) the loss payable cannot exceed the

no-year appropriations on hand at time of loss; and (2) Congress shall have no obligation to appropriate funds sufficient to pay any deficiency in such appropriations.<sup>58</sup> It seems unlikely that any significant number of FRA R&D contractors would accept indemnification agreement in lieu of private insurance coverage, if such indemnification were subject to the restrictions demanded by the Comptroller General, and not protected by the creation of a suitable reserve fund.

The FRA may be able to satisfy both its contractors and the Comptroller General, by agreeing to indemnify—subject both to a ceiling and to the availability of funds—and then by creating a reserve of several million dollars to provide a source of payment of these obligations, so as to assure the contractors that, notwithstanding the availability-of-funds clause, there would be a high probability that the indemnification would be effective. Such a reserve, however, although authorized under 31 U.S.C. § 665(c)(1,2) (1976), would have to be reported to Congress annually under § 101 of the Impoundment Control Act.<sup>59</sup> Therefore, the R&D contractor could never be sure that Congress, in a future fiscal year, would not refuse to approve of the reserve.

Thus, there appears to be no fully satisfactory means of indemnifying the FRA's R&D contractors under present law, even if the cost-savings from such indemnification made it a desirable practice under current policies governing the procurement of services from government sources.<sup>60</sup>

Neither does it appear that prompt legislative relief will be forthcoming, absent new initiatives by the FRA or agencies with similar problems. Current proposals for expanded indemnification authority have concentrated on the problems of the potential multi-billion dollar catastrophe.<sup>61</sup> Indeed, there is

no sign that the reasoning behind government self-insurance of its property risks<sup>62</sup> will be extended—as, logically, it ought to be<sup>63</sup>—to the problem of first-dollar insurance against noncatastrophic tort liability risks arising out of government-paid, but contractor-implemented, activities.



NOTES

1. Reeside v. Walker, 11 Howard (52 U.S.) 272, 290 (1850).
2. See discussion of this question in Glidden v. Zdanok, 370 U.S. 530 (1962); Note, 46 Harv. L. Rev. 677, 685-86 n.63 (1934).
3. Glidden v. Zdanok, supra note 2, 370 U.S. at 568-70; cf. Blanchette v. Connecticut General Insurance Corp., 419 U.S. 102, 148 n.35 (1974); id. 419 U.S. at 179-80 (Douglas, J., dissenting).
4. The Floyd Acceptances, 7 Wall. (74 U.S.) 666 (1868).
5. This act provides, in part:

(a) No officer or employee of the United States shall make or authorize an expenditure from or create or authorize an obligation under any appropriation or fund in excess of the amount available therein; nor shall any such officer or employee involve the Government in any contract or other obligation, for the payment of money for any purpose, in advance of appropriations made for such purpose, unless such contract or obligation is authorized by law.

\* \* \*

(c) (1) Except as otherwise provided in this section, all appropriations or funds available for obligation for a definite period of time shall be so apportioned as to prevent obligation or expenditure thereof in a manner which would indicate a necessity for deficiency or supplemental appropriations for such period; and all appropriations or funds not limited to a definite period of time, and all authorizations to create obligations by contract in advance of appropriations, shall be so apportioned as to achieve the most effective and economical use thereof. As used hereafter in this section, the term "appropriation" means appropriations, funds, and authorizations to create obligations by contract in advance of appropriations.

\* \* \*

(h) No officer or employee of the United States shall authorize or create any obligation or make any expenditure (A) in excess of an apportionment or reapportionment, or (B) in excess of the amount permitted by regulations prescribed pursuant to subsection (g) of this section.

(i)(1) In addition to any penalty or liability under other law, any officer or employee of the United States who shall violate subsections (a), (b), or (h) of this section shall be subjected to appropriate administrative discipline, including, when circumstances warrant, suspension from duty without pay or removal from office; and any officer or employee of the United States who shall knowingly and willfully violate subsections (a), (b), or (h) of this section shall, upon conviction, be fined not more than \$5,000 or imprisoned for not more than two years, or both.

(2) In the case of a violation of subsections (a), (b), or (h) of this section by an officer or employee of an agency, or of the District of Columbia, the head of the agency concerned or the Commissioner of the District of Columbia, shall immediately report to the President, through the Director of the Office of Management and Budget, and to the Congress all pertinent facts together with a statement of the action taken thereon.

6. This act provides:

(a) No contract or purchase on behalf of the United States shall be made, unless the same is authorized by law or is under an appropriation adequate to its fulfillment, except in the Departments of the Army, Navy, and Air Force, for clothing, subsistence, forage, fuel, quarters, transportation, or medical and hospital supplies, which, however, shall not exceed the necessities of the current year.

(b) The Secretary of Defense shall immediately advise the Congress of the exercise of the authority granted in subsection (a) of this section, and shall report quarterly on the estimated obligations incurred pursuant to the authority granted in subsection (a) of this section.

7. Cf. Act of March 2, 1861, ch. 84, § 10, 12 Stat. 220; Act of July 12, 1870, ch. 251, § 7, 16 Stat. 251.
8. See, e.g., Act of May 1, 1820, 16th Cong., 1st Sess., ch. 52 § 6, 3 Stat. 568, construed and applied in 4 Op. Att'y Gen. 490 (1846) and 4 Op. Att'y Gen. 600 (1847).
9. See, e.g., Bradley v. United States, 98 U.S. 104 (1878).
10. See, e.g., Gay Street Corp. v. United States, 127 F. Supp. 585 (Ct. Cl. 1955), and authorities cited therein.
11. Pursuant to 31 U.S.C. § 74, ¶ 4.
12. See Task IV part B at n.8.
13. Bigby v. United States, 188 U.S. 400, 410 (1903), was cited as authority for this proposition. See also 18 Comp. Dec. 252 (1911); 16 Comp. Dec. 38 (1909).
14. 25 Comp. Dec. 222 (1918).
15. See, e.g., 22 Comp. Gen. 892 (1943).
16. Because such liabilities are merely one of the "costs" for which the agency is authorized to reimburse its contractors. 20 Comp. Gen. 632 (1941).
17. See supra note 15.
18. 35 Comp. Gen. 85 (1955).
19. Since the maximum potential liability of the government is fixed at the value of the plane itself, no open-ended liability is created by such an agreement, and the Anti-Deficiency Act is not violated. 42 Comp. Gen. 708 (1963). But see 54 Comp. Gen. 824 (1975).
20. The mere fact that the losses will be limited, in any case, to the value of the contractor's property is not in itself sufficient to satisfy the requirements of the Anti-Deficiency Act and 41 U.S.C. § 11, for such losses—even though there is a natural ceiling on them—might, nevertheless, be so large as to exceed the available appropriations. 54 Comp. Gen. 824 (1975).
21. (Emphasis added). Military cost-type supply contracts have a similar clause, see 32 C.F.R. § 7-203.22 (1975), as do both civilian and military R&D contracts. See 32 C.F.R. § 7-402.26 (1975); 41 C.F.R. § 1-7.404-9 (1976).

22. 41 Fed. Reg. 22816 (June 7, 1976).
23. 41 C.F.R. § 12-7.5001-20; id. § 12-7.5201-22 (1976).
24. 41 C.F.R. § 12-1.008(c), (d); id. § 12-1-009 (1976).
25. (Emphasis added).
26. 40 U.S.C. § 481(a)(1) (as amended 1977 supp.); and 40 U.S.C. § 486(c) (1969).
27. In 41 U.S.C. § 254(b).
28. General Dynamics Corp., Quincy Shipbuilding Division, 73-1 BCA ¶ 9770 (ASBCA 1972).
29. See 82d Cong., 1st Sess., "Hearings Before the Committee on Armed Services of the House of Representatives on Sundry Legislation Affecting the Naval & Military Establishments, 1951," [No. 51], 624 (1951); compare 80th Cong., 2d Sess., "Research & Development by the War & Navy Departments; Hearing Before a Sub-committee of the Committee on Armed Services, United States Senate . . . on S. 1560, . . . March 12, 1948," 23-25 (1948).
30. 41 C.F.R. § 1-7.102-12; id. § 1-7.202-12; id. § 1-7.402.11 (1976); 41 C.F.R. § 12-7.5001-12, id. § 12-7.5201-12 (1976).
31. 41 U.S.C. §§ 321-22 (1965).
32. Mason & Hangar Co. v. United States, 260 U.S. 323 (1922); S&E Contractors, Inc. v. United States, 406 U.S. 1 (1972).
33. See In re Robertson Aircraft Corp., 4 CCH Cont. Cases Fed. ¶ 60,608 (Dep't of the Army BCA 1948); the BCA's have resolved numerous disputes between contracting officers and contractors involving indemnification. See, e.g., In re Farrell Lines, Inc., 73-2 BCA ¶ 10,177 (ASBCA 1973); In re McDonnell-Douglas Corp., 68-1 BCA ¶ 7021 (NASA BCA 1968).
34. See generally 31 U.S.C. §§ 71, 74, 82(b,c,d,f), 93, 505 (1976); Mansfield, The Comptroller General, 107-09 (1939); Exec. Order No. 6166 § 5, 5 U.S.C. § 901, note, at 274 (1977).
35. The decision in S&E Contractors, Inc., supra note 32, seems to forbid such a result.

36. Supra note 2.
37. 10 U.S.C. § 2554 (1975); cf. 10 U.S.C. § 101(7) (1975).
38. See, e.g., Hearings, 82d Cong., 1st Sess, supra note 29, at 616, 622.
39. 42 U.S.C. § 2210 (as amended 1977 supp.).
40. 38 U.S.C. § 4101(c) (1977 supp.).
41. S. Rep. No. 1297, 88th Cong., 2d Sess. (1964).
42. See H.R. Rep. No. 12049, 9675, 86th Cong., 2d Sess.; H.R. Rep. No. 8095, 7115, 87th Cong. 1st Sess.; 87th Cong., 1st Sess., "To Amend the N.A.S.A. Act of 1958; Hearings Before the Committee on Science & Astronautics & The Special Committee on Indemnification, H. of R. . . . on H.R. No. 7115 and H.R. No. 8095, June 5, 6, 12, 13; July 10, 11 and 13, 1961," [No. 15] (1961).
43. See Hearings, supra note 32, and 87th Cong., 1st Sess., "Amending Various Sections of the NASA Act of 1958; Hearings Before the Committee on Aeronautical & Space Sciences, U.S. Senate, on S. 1857 . . . May 16 and June 2, 1961," (1961) for the legislators' attitudes. Private insurance industry representatives were responsible for the inclusion, in the Price-Anderson Act and in the VA prosthetics-indemnification law, of provisions encouraging the use of private insurance and insurance industry claims-handling services. See 88th Cong., 2d Sess., "Miscellaneous Veterans Bills; Hearing Before the Subcommittee on Veterans' Affairs of the Committee on Labor & Public Welfare, U.S. Senate, . . . on . . . H.R. 8611 . . . May 28, 1964," at 9-18 (1964).
44. Cf. 93d Cong., 2d Sess., H. Doc. No. 384, "Constitution, Jefferson's Manual: Rules of the House of Representatives . . .," House Rule XXI cl. 2, 465 (1973); 93d Cong., 1st Sess., S. Doc. No. 93-1, "Senate Manual," Sen. Rule XVI, cl. (1,2), 17 (1973).
45. See, e.g., P.L. 87-290, I U.S. Code Cong. & Admin. News (1961) at 675; P.L. 88-136; [1963] U.S. Code Cong. & Admin. News at 263; P.L. 85-67, I U.S. Code Cong. & Admin. News (1957) at 231.
46. See, e.g., P.L. 94-12, 89 Stat. 639 (1975); for earlier appropriations acts with comparable provisions, see 22 U.S.C.A. § 14616 and note thereto (1964).

47. That section provides:

The President may authorize any department or agency of the Government which exercises functions in connection with the national defense, acting in accordance with regulations prescribed by the President for the protection of the Government, to enter into contracts . . . without regard to other provisions of law relating to the making, performance, amendment, or modification of contracts, whenever he deems that such action would facilitate the national defense. . . . The authority conferred by this section may not be utilized to obligate the United States in any amount in excess of \$25,000,000 unless the Committees on Armed Forces of the Senate and the House of Representatives have been notified in writing of such proposed obligation and 60 days of continuous session of Congress have expired . . . and neither House of Congress has adopted, within such 60-day period, a resolution disapproving such obligation. . . .

The need for Congressional acquiescence in commitments exceeding \$25,000,000 might be thought to apply to all unlimited indemnification agreements, since any of these could obligate the United States in excess of that amount. The relevant legislative history does not suggest, however, that indemnification contracts were considered when this portion of the Act was adopted, see P.L. 93-115: 119 Cong. Reg. 30872-30881 (1973), and the D.O.D. has not construed this language as applicable to indemnification. 32 C.F.R. § 17-205.1(b)(iv) (1975).

48. 85th Cong., 2d Sess., "Authority for certain actions relating to Defense Contracts; Hearings Before Subcommittee No. 4 of the Committee on the Judiciary, H. of R. . . . on H.R. 12894, . . . June 19 & 20, 1958 . . . ," at 5-6, 12 (1958).
49. And for six months thereafter, unless sooner terminated by Congress. 50 U.S.C. § 1435 (1977 supp.).
50. Presidential Proclamation 2914, 15 F.R. 9029 (Dec. 16, 1950).
51. Exec. Order No. 10789, as amended by E.O. No. 11051, E.O. No. 11382, and E.O. No. 11610, set out at 50 U.S.C. § 1431, note (1977 supp.). Indemnification is treated in section 1A of the Order.

52. Exec. Order No. 11382, Nov. 28, 1967, 32 Fed. Reg. 16247.
53. The authority of the Secretary of Transportation to exercise P.L. 85-804 powers has been delegated by him to DOT BCA. 41 C.F.R. § 12-17.101 (1976).
54. It is only such risks which, under section 1A of the Executive Order, may be indemnified against without regard to available appropriations.
55. Prior to the promulgation of Executive Order No. 11610, 36 F.R. 13755 (July 22, 1971), which added § 1A to the original Order, the ASPR already restricted indemnification to "unusually hazardous" and nuclear risks. This was, however, not required by the Act itself. See Jansen, "Public Law 85-804 and Extraordinary Contractual Relief," 55 Geo. L.J. 959, 1006 (1967). Under the current language of the Order, of course, no agency below the President may indemnify under § 1A, except in accordance with the Order's restrictions.
56. 31 U.S.C. § 200 (1976). Cf. 42 Comp. Gen. 708 (1963); 51 Comp. Gen. 631 (1972).
57. Where authority to contract is given, the fact that appropriations are not available for payment when the time for payment arises does not constitute a defense to the contractor's claim. Dougherty v. United States, 18 Ct. Cl. 496 (1883).
58. 54 Comp. Gen. 824 (1975).
59. 31 U.S.C. § 1403 (1976).
60. See OMB Circular A-76 (CCH Gov't Contracts Reporter § 990) In re "new starts." Indemnification would, under this circular, require a demonstration that even after probable losses and claims handling expenses are considered, indemnity would be cheaper than insurance.
61. In 1969, Congress enacted P.L. 91-129, 83 Stat. 269, establishing a Commission on Government Procurement to "study and investigate" existing statutes, regulations, procedures and policies governing procurement, and to "determine to what extent these facilitate the policy" of Congress "to promote economy, efficiency, and effectiveness in the procurement of goods, services and facilities by and for the executive branch of the Government." Id. §§ 1, 4(a). The Commission so established published a four-volume Report of the Commission on Government Procurement (Wash. D.C.,

1972), which, in "Part H—Selected Issues of Liability: Government Property and Catastrophic Accidents," urged that the public (and government contractors) be protected against catastrophic accidents arising in the course of government contracts, by enactment of legislation permitting government agencies to indemnify contractors against potential liabilities so huge as to be uninsurable in the private insurance market. IV, Report, supra, chapters 3, 99 et seq. The Commission's recommendation led to the establishment of an executive branch Task Group, which has drafted, for O.F.P.P., a proposed bill to permit indemnification of government contractors against liability arising out of catastrophic losses. For text of proposed bill, see BNA F.C.R. No. 666 at E-1 (Jan. 31, 1977). The proposed bill does not, however, provide for indemnification against non-catastrophic risks, when private insurance, though available, is so costly as to be uneconomical. This proposed legislation is currently being redrafted and, in its new version, will permit indemnification of contractors whenever the potential liability exposure exceeds \$60 million. Where the risk is less, indemnification could still be permitted, but only with the ad hoc approval of the O.F.P.P. Telephone interview with Charles Goodwin, Assistant Administrator for Procurement Law, O.F.P.P. (Nov. 22, 1977). Routine substitution of indemnity for expensive, but available, private liability insurance is not under consideration because support for such a proposal, it is felt, could not be expected from Congress. Id.

62. See Part B of Task IV, notes 17, 18 & 19.
63. So long as the government is bearing the full cost of a project, there seems to be no reason that the tort-liability costs of contractor-performed work should be treated differently from those of work performed for it by its agents and employees. The latter work is self-insured, in effect, under the Tort Claims Act and was, even before that Act, regarded as subject to the self-insurance rule, 17 Comp. Gen. 798 (1940).



D.

THE FEDERAL RAILROAD ADMINISTRATION'S  
POTENTIAL LIABILITY FOR THE TORTIOUS  
ACTIONS OF ITS INDEPENDENT CONTRACTORS

The present study involved substantial uncertainty concerning the total dollar amount of liability on the part of testing companies which would be covered by an FRA blanket insurance policy, if one were procured. In attempting to predict this amount, it may be helpful to know whether the damages suffered by an injured party as a result of the testing company's negligence would, of necessity, only be collectible by means of an action against the testing company or whether they might also be collectible by means of an action brought directly against the government under the Tort Claims Act. 28 U.S.C. §§ 1346(b) and 2671 et seq. Recent case law suggests that, where the government is employing an independent contractor which has its own safety personnel to operate a test site or to perform a test, the government may nevertheless be held liable for its own failure to exercise care to see that the contractor takes precautions to protect those who might sustain injury from the work.

As a practical matter, this result suggests that any blanket insurance policy or fund, set aside for the purpose of paying damages which the testing companies become legally obligated to pay, would not necessarily be tapped to cover the total damages suffered in an FRA test. Instead, an injured plaintiff would be free to recover damages from the government directly and thereby tap the fund out of which judgments under the Tort Claims Act are paid. Obviously, however, whether or not the plaintiff brings an action against the government, the ultimate financial burden is going to be placed on the government treasury. The question addressed

here, then, is whether that ultimate burden must be borne by an appropriation designated for FRA, such as a blanket insurance policy or other fund, or whether the tort claims fund already in existence in the budget of the Treasury Department can be expected to bear part of it.<sup>1</sup>

The decision which most clearly indicates that a person injured by a contractor's negligence in a federally-sponsored test can recover directly from the government under the Tort Claims Act is McGarry v. United States, 549 F.2d 587 (9th Cir. 1976), cert. denied, 434 U.S. 922 (1977).

That case involved the Atomic Energy Commission and the use of its Nevada Test Site as an outdoor laboratory. The Commission—like the FRA in its use of TTC—did not carry out experiments on the site itself, but instead contracted for such work with research and development organizations. The Commission did not involve itself in the details of any particular research program, but approved the program objectives only in a general sense. In addition, the Commission awarded a contract to an electrical and engineering company to manage, operate, and maintain the test site. This contract provided that the contractor would take all reasonable precautions to perform the work under the contract safely. In the event that the contractor failed to comply with safety regulations or requirements of the Commission, the contracting officer was empowered to stop any or all of the work. The Commission also retained the right to inspect the work of the contractor. The contract further provided that employees of the contractor should not be deemed employees of the Commission or the government.

Because the Commission carried out its functions at the test site primarily through independent contractors, it had only about 30 people employed there. Similarly, DOT only has about 35 employees at the TTC out of the 600 to 700 people usually working on the site. Only four of the AEC employees

had duties primarily concerned with safety. Moreover, even these four were involved, not in a day-to-day appraisal of the contractor on a job, but rather in a review of the contractor's safety activities program. In contrast, 18 to 20 of the operation and maintenance contractor's 7000 employees at the test site engaged in safety work. These employees included both safety inspectors and engineers.

The damages which gave rise to the McGarry suit took place when an employee of the operation and maintenance contractor was engaged in drilling, using a portadrill rig, as part of an effort to ascertain the geology of the test site. The employee was electrocuted when he touched the drilling rig at a time when it was in contact with live electrical wires overhead at the test site. The Commission safety office had received no notification of the drilling, even though the Commission had given the project approval. The power dispatcher at the dispatch office operated by the operation and maintenance contractor had not been notified that anyone was working in the area, despite a Commission safety rule that operations adjacent to overhead lines should not be initiated until appropriate authorities had been notified. If the dispatcher had been so notified, he could have de-energized the line.

The federal district court found that the operations and maintenance contractor had been negligent in failing to give notice to its dispatcher, so that the line could be de-energized. The government contended that it could not, under the Tort Claims Act, be held liable for injuries resulting from the negligence of its independent contractor since, under the Act, the United States has waived immunity only in cases where injury results from negligence of a government employee. However, the court rejected that argument and held that there was a sufficient basis for recovery against the government under the Act.

This holding rests, in part, on state tort law. California case law indicates that, when an independent contractor is employed to engage in work that is "extra dangerous,"<sup>2</sup> the employer of that contractor has a duty to exercise reasonable care to see that the contractor takes proper precautions to protect those who might sustain injury from the work.<sup>3</sup> If, under the applicable state law, such a duty is imposed upon a private person, it is imposed equally upon the United States under the Tort Claims Act.<sup>4</sup>

The court in McGarry held that the California standard would be adopted into the governing tort law of Nevada, in an appropriate case. It also ruled, on the facts before it, that the duty existed, because of the extra dangerous nature of using drilling equipment in the vicinity of dangerous transmission lines. It then concluded that the Commission breached its duty to exercise reasonable care to see that the contractor took proper safety precautions.

The court observed that this holding did not, as a matter of law, require the presence of a Commission safety inspector on each occasion when work is performed in the vicinity of a power line or under other potentially dangerous circumstances. It suggested, rather, that regular examinations to ascertain the safety practices of contractors might fulfill the Commission's duty, if they indicated that appropriate guidelines were being followed. However, because the Commission had, in fact, done absolutely nothing to ascertain whether its contractor was fulfilling safety obligations, liability was appropriate.

Finally, the court held that the "discretionary function" exception<sup>5</sup> to liability under the Tort Claims Act did not preclude a judgment against the United States. The court noted that the discretionary function exception is limited to decisions made at the planning rather than at the operational level.<sup>6</sup> The government had contended that it

had delegated all responsibility for safety precautions to the contractor, retaining no duties as to safety, and that this was done as a matter of policy, thereby falling within the discretionary function exception. However, the court held that the Commission had not disassociated itself from all safety matters, pointing out that it had reserved the right to inspection and to stop work if the contractor failed to comply with safety requirements. The court also noted the Commission's four safety employees at the test site. Thus, it found that the Commission had retained some minimal responsibility over safety and concluded that the meeting of that responsibility was an operational function, not within the discretionary function exception.

The question which immediately arises in the wake of the McGarry decision is the extent to which its authority would allow injured parties to sue the government under the Tort Claims Act for injuries arising out of tests conducted by FRA R&D contractors, both at TTC in Colorado and elsewhere within the United States.

To the extent that the McGarry decision is based on state law, results in analogous suits arising out of FRA R&D accidents will vary depending on the state in which an accident occurred. However, the state rule upon which the McGarry decision is based is taken from the Restatement (Second) of Torts § 416, a widely respected authority. In any state which has not recently considered the rule imposing liability on the employer of an independent contractor where the work is highly dangerous, it would therefore be likely that a court would adopt the formulation in the Restatement.<sup>7</sup>

Because of the location of TTC in Colorado, the law of that state with respect to this issue is of particular interest. It appears that the result reached in the McGarry case—based on Nevada and California law—would be no different

if based on Colorado law. There, the leading decision is Garden of the Gods Village v. Hellman, 133 Colo. 286, 294 P.2d 597 (1956), where the court stated:

When work to be done is dangerous in itself, or if of a character inherently dangerous unless proper precautions are taken, an employer cannot evade liability by engaging an independent contractor to do such work.<sup>8</sup>

Thus, the Colorado courts have clearly recognized this exception to the general rule that one who hires an independent contractor is not liable for the tortious acts of that contractor.<sup>9</sup> Stated another way, the rule absolving the employer of liability for an independent contractor's negligence does not prevail where the work by the contractor is intrinsically dangerous or where the contract specifies that the work shall be done in a particular way, which itself constitutes negligence.<sup>10</sup>

The blasting involved in Garden of the Gods Village seems to be the type of activity unquestionably regarded as highly dangerous or a peculiar risk.<sup>11</sup> In contrast, it is not altogether obvious that the sort of R&D test which the FRA engages contractors to perform falls within that category. However, the case law which has developed suggests that the category is very broad and could encompass a great deal of railroad activity.<sup>12</sup> It seems clear that the courts are willing to take an expansive view in defining the concept of a peculiar risk for the purpose of imposing this type of liability on the employer of an independent contractor. The mere fact that an FRA R&D test is conducted on roadbeds which have not received very good care in recent years may well be enough to cause the court to conclude that this type of work was dangerous in the absence of special precautions. If it is, the type of liability recognized in the McGarry case could be imposed on the United States under the Tort Claims Act.

Moreover, an alternate legal theory may exist to produce the same or a similar result, in an even wider range of contexts. Under the circumstances presented by the FRA R&D program, the independent contractor may itself be regarded as a government employee for the purpose of holding that the contractor's own negligence is the basis for government liability under the Tort Claims Act.

In general, the Supreme Court has made it clear that the Tort Claims Act does not act to waive the government's sovereign immunity as to any liability for the acts or omissions of an independent contractor.<sup>13</sup> The test for determining whether a party is an employee or an independent contractor is not simply a matter of looking to the label which the party used when performing the work, however. Instead, a critical element in distinguishing an employee of a federal agency from an employee of an independent contractor is the authority of the federal government to control the detailed physical performance of the contractor.<sup>14</sup> The question is not whether the contractor received federal money and must comply with federal standards and regulations or even whether, by withholding funding, the federal government can require the contractor to reorganize itself, but whether the federal government supervises the day-to-day operations of the contractor.<sup>15</sup>

Thus, in one recent case,<sup>16</sup> the Supreme Court held that employees of a federally-funded community action agency were neither federal employees nor employees of a federal agency. This result came despite the lower court's conclusion that, by withholding funding, the federal government had required the selection of a new chairperson of the community action agency to reorganize it. Similarly, in another case,<sup>17</sup> it was held that employees of a county jail that housed federal prisoners pursuant to a contract with the Federal Bureau of Prisons were not federal employees or employees of a federal agency. Although the contract required the jail to comply

with federal rules and regulations prescribing standards of treatment, and although the United States reserved the right to inspect the jail to determine its compliance with the contract, the court concluded that this did not amount to an authorization of the United States to supervise the jail's employees physically. Under these circumstances, the United States was held not liable for their torts. A number of other courts have also made it clear, under a wide variety of circumstances, that the government's retention of the right to inspect and stop a contractor's work if it does not comply with the government standards does not transform the contractor's employees into employees of a federal agency for purposes of the Tort Claims Act.<sup>18</sup>

To be sure, there have been a few cases where a combination of special circumstances apparently impelled the courts to find Tort Claims Act liability on the part of the government, where injuries arose out of acts or omissions of contractors acting somewhat independently. In Witt v. United States, 462 F.2d 1261 (2d Cir. 1972), and Close v. United States, 397 F.2d 686 (D.C. Cir. 1968), for example, the courts held that the United States was liable for injuries suffered by federal prisoners who were in the custody of persons under contract with the government. These cases are based on the reasoning that, since the Congress has committed the custody of federal prisoners to the Attorney General, anyone rightfully given custody of such prisoners must be regarded as the Attorney General's employee, over whom the Attorney General must have some degree of power, commensurate with his continuing responsibility. Similarly, in Rosario v. American Export-Isbrandtsen Lines, Inc., 395 F. Supp. 1192 (E.D. Pa. 1975), the court held the United States liable for injuries suffered by a Public Health Service Act beneficiary, when he was treated by a private hospital which was under contract with the U.S. Public Health Service to provide medical care



to such beneficiaries. Under this contract, the Public Health Service retained the complete right to control the treatment of its beneficiaries at the private hospital. It was this right of control, not whether the agency ever actually exercised it, which the court found decisive in its holding that the employees of the private hospital had to be viewed as employees of the federal government for Tort Claims Act purposes.

Despite the fact that none of the cases reviewed here are very analogous factually to the test situations of FRA R&D contractors, they do provide the relevant guidelines for determining how far the FRA would have to go in retaining day-to-day control over the activities of its contractors before their employees would be considered government employees under the Tort Claims Act. In the typical FRA R&D test currently being conducted, it seems that FRA does not always retain this degree of control. However, the possibilities of Tort Claims Act liability, arising out of the FRA R&D work carried out by independent contractors, must be judged according to the standards described here, with the circumstances of the individual case controlling the result.

## NOTES

1. See Part B of the present Task report, especially text accompanying notes 34 and 35.
2. Defined as any work which is dangerous in the absence of special precautions. Van Arsdale v. Hollinger, 68 Cal. 2d 245, 66 Cal. Rptr. 20, 437 P.2d 508 (1968).
3. Id.
4. 28 U.S.C. § 1346(b). See Thorne v. United States, 479 F.2d 804 (9th Cir. 1973).
5. The Act does not apply to a claim "based upon the exercise or performance or the failure to exercise or perform a discretionary function or duty on the part of a federal agency or an employee of the Government, whether or not the discretion involved be abused." 28 U.S.C. § 2680(a).
6. Driscoll v. United States, 525 F.2d 136 (9th Cir. 1975); Seaboard Coast Line R.R. v. United States, 473 F.2d 714 (5th Cir. 1973); Dalehite v. United States, 346 U.S. 15 (1953).
7. That formulation states:

One who employs an independent contractor to do work which the employer should recognize as likely to create during its progress a peculiar risk of physical harm to others unless special precautions are taken, is subject to liability for physical harm caused to them by the failure of the contractor to exercise reasonable care to take such precautions, even though the employer has provided for such precautions in the contract or otherwise.

Restatement (Second) of Torts § 416. In addition to California, there are several other states where the courts have adopted § 416 as a statement of their common law. Welker v. Kennecott Copper Co., 1 Ariz. App. 395, 403 P.2d 330 (1965); Giarranto v. Weitz Co., 259 Iowa 1292, 147 N.W.2d 824 (1967); New Mexico Electric Service Co. v. Montanez, 89 N.M. 278, 551 P.2d 634 (1976); Norfolk & Western Ry. v. Johnson, 207 Va. 980, 154 S.E.2d 134 (1967). In addition, the nearly identical formulation of this rule, found in § 416 of the first Restatement of Torts, was adopted in a number of other states. Stubblefield v. Federal Reserve Bank, 356 Mo. 1018, 204 S.W.2d

718 (1947); Mayer v. Fairlawn Jewish Center, 38 N.J. 549, 186 A.2d 274 (1962); Hanley v. Central Savings Bank, 255 App. Div. 542, 8 N.Y.S.2d 371 (1938); Blancher v. Bank of California, 47 Wash. 2d 1, 286 P.2d 92 (1955).

8. 294 P.2d at 602.
9. Sevit, Inc. v. Western Stock Center, Inc., 559 P.2d 1118 (Colo. App. 1976).
10. The Sevit decision, supra note 9, specifically mentions the Restatement (Second) of Torts § 416 as additional authority for the rule which prevails in Colorado.
11. The "peculiar risk" which must exist under the Restatement formulation of the rule is defined in Comment (d) to § 416:

In order for the rule stated in this Section to apply, it is not essential that the work which the contractor is employed to do be in itself an extra-hazardous or abnormally dangerous activity, or that it involve a very high degree of risk to those in the vicinity. It is sufficient that it is likely to involve a peculiar risk of physical harm unless special precautions are taken, even though the risk is not abnormally great. A "peculiar risk" is a risk differing from the common risks to which persons in general are commonly subjected by the ordinary forms of negligence which are usual in the community. It must involve some special hazard resulting from the nature of the work done, which calls for special precautions. (See § 413, Comment b.) Thus if a contractor is employed to transport the employer's goods by truck over the public highway, the employer is not liable for the contractor's failure to inspect the brakes on his truck, or for his driving in excess of the speed limit, because the risk is in no way a peculiar one, and only an ordinary precaution is called for. But if the contractor is employed to transport giant logs weighing several tons over the highway, the employer will be subject to liability for the contractor's failure to take special precautions to anchor them on his trucks.

Comment (e) further explains:

It is not essential that the peculiar risk be

one which will necessarily and inevitably arise in the course of the work, no matter how it is done. It is sufficient that it is a risk which the employer should recognize as likely to arise in the course of the ordinary and usual method of doing the work, or the particular method which the employer knows that the contractor will adopt.

The commentary to § 416 also provides an illustration:

A employs an independent contractor to lay a concrete foundation for pavement in the public street. As A knows when he employs the contractor, the customary method of doing such work involves dumping piles of gravel into the street for use in mixing concrete, although it is possible to avoid this by hauling the gravel in small quantities as needed. A also knows that such piles of gravel will involve a peculiar risk to automobile drivers using the street at night unless red lanterns are placed upon them as a warning. The contractor fails to take this precaution. B, driving an automobile down the street at night, runs into a pile of gravel and is injured. A is subject to liability to B.

12. The determination of whether the contractor's activity is highly dangerous or involves a peculiar risk will depend on the unique facts and circumstances of the particular cas. See, e.g., Thorne v. United States, supra note 4 (peculiar risk found to exist in trenching, where special precaution of anchoring sides of trench was not taken); Van Arsdale v. Hollinger, supra note 2 (peculiar risk found to exist in eradication of painted lines on partially closed highway, where special precaution of providing flagman was not taken); McDonald v. City of Oakland, 255 Cal. App. 2d 816, 63 Cal. Rptr. 593 (1967) (peculiar risk found to exist in painting interior of water tank, where special precaution of providing adequate ventilation was not taken); West v. Guy F. Atkinson Construction Co., 251 Cal. App. 2d 296, 59 Cal. Rptr. 286 (1967) (no peculiar risk found to exist in installation of girders to a bridge while positioned on a hanging scaffolding); Sevit, Inc. v. Western Stock Center, Inc., supra note 9 (inherently dangerous risk found to exist in using torches inside wooden building); McDonough v. United States Steel Corp., 228 Pa. Super. 268, 324 A.2d 546 (1974) (peculiar risk found to exist in use of stockpiling machinery near the edge of a pile of ore at night, where special precaution

of adequate artificial lighting was not taken).

13. United States v. Orleans, 425 U.S. 807 (1976), citing 28 U.S.C. § 2671.
14. Id.; Logue v. United States, 412 U.S. 521 (1973).
15. United States v. Orleans, supra note 13.
16. Id.
17. Logue v. United States, supra note 14.
18. Gowdy v. United States, 412 F.2d 525 (6th Cir. 1969), cert. denied, 396 U.S. 1063 (1970); Wright v. United States, 404 F.2d 244 (7th Cir. 1968); Lipka v. United States, 369 F.2d 288 (2d Cir. 1966), cert. denied, 387 U.S. 935 (1967); United States v. Page, 350 F.2d 28 (10th Cir. 1965), cert. denied, 382 U.S. 979 (1966).

E.

PROPOSED LEGISLATION TO AUTHORIZE  
INDEMNIFICATION OF CONTRACTORS AGAINST  
THIRD-PARTY TORT CLAIMS ARISING OUT OF  
FRA RESEARCH AND DEVELOPMENT PROJECTS

A BILL

To facilitate the procurement of property and services by the Government, by providing in certain cases for the indemnification of the liability risks of government contractors arising out of their performance of government contracts, and for other purposes.

Be it enacted by the Senate and the House of Representatives of the United States of America in Congress assembled, that:

Section 1. Section 302(c) of the Federal Property and Administrative Services Act of 1949 (63 Stat. 393) as amended (41 U.S.C. § 252(c)), is amended further—

- (a) by striking out from paragraph (14) the word "or" which immediately follows the semicolon;
- (b) by inserting, immediately following paragraph (14) (as amended by subsection (a) of this Section), a new paragraph (15) to read as follows: "(15) for claims-servicing, pursuant to Section 302-1 of this Title; or"; and
- (c) by redesignating former paragraph (15) as paragraph (16).

Section 2. Title III of the Federal Property and Administrative Services Act of 1949 (63 Stat. 393), as amended (41 U.S.C. ch. 4), is amended further by inserting therein, immediately following Section 302, a new Section 302-1,

to read as follows:

(a) As used in this Section—

(1) the term "negotiated contract" means, with respect to any agency, a contract entered into by that agency pursuant to Section 302(c) of this Act, for the supply to the government of property or services (including research, or development, or both).

(2) the term "contractor" means, with respect to any agency, a person who is a party to, or a subcontractor of, any tier under a negotiated contract entered into by that agency.

(3) the term "liability claims" means, with respect to any negotiated contract—

(A) claims by third persons, including employees of the contractor, against the contractor, for death, bodily injury, or loss or damage to real or personal tangible property, arising out of the direct performance of the negotiated contract;

(B) claims against the contractor by subrogees of third persons having claims under subparagraph A of this paragraph, to the extent of such subrogation;

(C) claims against the contractor arising out of the direct performance of the negotiated contract, for which the contractor is liable solely by reason of his contractual assumption of such liability, but only to the extent specifically provided for in the contractor's indemnity agreement with the agency; and

(D) the contractor's reasonable expenses of settlement of litigation of claims under subparagraphs A through C of this paragraph.

(4) the term "indemnity agreement" means a

provision in writing, within and part of a negotiated contract, under which the agency agrees to indemnify the contractor, in whole or in part, against some or all liability claims.

- (5) the term "claims-servicing contract" means a contract between an agency and any person under which the latter undertakes to provide some or all of the following services with respect to liability claims against one or more of the agency's contractors, whenever such liability claims may give rise to an obligation of the United States to indemnify the contractor, by virtue of an indemnity agreement executed by the agency:
- (A) the investigation of such liability claims;
  - (B) the settlement thereof (subject to prior agency approval);
  - (C) the legal defense of the contractor in litigation arising under liability claims;
  - (D) the payment of liability claims (subject to prior agency approval).
- (6) the term "claims-servicer" means a person who undertakes, pursuant to a contract with an agency, to perform any of the services described in paragraph (5) of this subsection.
- (7) the term "agency concerned" means
- (A) the agency executing a negotiated contract, with respect to contracts for the sole benefit of such agency;



(B) the agency for whose benefit a negotiated contract is executed, with respect to contracts executed by one agency, for the benefit of another, or for that of itself and another.

- (b) Any executive agency may include in any negotiated contract executed by it an indemnity agreement, wherever the agency head determines, with respect to the liability risks to be indemnified against, the private-sector insurance of such risks—
- (1) is unavailable from domestic sources on commercially reasonable terms;
  - (2) Cannot be obtained without substantial delays that would hinder the program or activity that the contract was intended to further; or
  - (3) is unreasonably expensive in comparison with the expected costs of indemnification (including claims-handling and litigation costs).
- (c) A negotiated contract containing an indemnity agreement must also provide for—
- (1) notice to the United States, or its designee, of any liability claim or suit against the contractor for which the United States may be obligated, under the indemnity agreement, to indemnify the contractor;
  - (2) the right, at the election of the United States, the United States or its designee to control or assist in the defense of any such liability claim or suit, and
  - (3) a ceiling on the maximum dollar amount of the total, cumulative liability of each

contractor to third persons, for which the United States may become liable under the indemnity agreement contained within such contract; this ceiling may in no event exceed \$100 million, exclusive of interest and costs.

- (d) The indemnification authority provided by subsection (b) of this Section may be employed by or on behalf of any executive agency only to such extent, or in such amounts, as may hereafter be provided in appropriation acts for that agency.
- (e) Any executive agency which has entered into indemnity agreements under Subsection (b) of this Section, or which proposes to enter into one or more such agreement, may also enter into claims-servicing contracts with private insurance companies or other persons.
- (f) No liability claim for payment of which the United States may be responsible under any indemnity agreement may be paid or settled by the United States, or by anyone acting in its behalf, unless the head of the agency concerned, or an officer or official of the United States designated by him, certified that the amount of the payment or settlement is just and reasonable.
- (g) Upon approval of the head of the agency concerned, or an officer or official of the United States designated by him, payments under an indemnity agreement may be made from—
  - (1) funds obligated by the agency concerned for the performance of the negotiated contract containing the indemnity agreement;
  - (2) funds available in the appropriation of the

agency concerned from which the negotiated contract was funded, and which are not otherwise obligated; or

(3) funds appropriated for those payments.

(h) The authority to indemnify contractors under this Section does not create any rights in third persons which would not otherwise exist by law.

Section 3. Section 307(c) of the Federal Property and Administrative Services Act of 1949 (63 Stat. 396), as amended (41 U.S.C. § 257(c)), is amended further by inserting, immediately following the words "of section 302(c)," the new language, "by section 302-1,".

Section 4. Nothing in this Act shall be construed as repealing, altering or amending any existing provisions of law pertaining to—

- (a) the authority of any executive department or independent establishment of the Government, or any bureau or office thereof, to obtain by contract materials, supplies, equipment, work or services, for any other department, establishment, bureau or office,<sup>1</sup>
- (b) the recording of any amount as an obligation of the Government of the United States,<sup>2</sup>
- (c) the authority of any agency of the Government to establish reserves or defer any budget authority,<sup>3</sup> or
- (d) the indemnification of government contractors.

## DISCUSSION

A private liability insurance policy procures for the insured at least three distinct services. The insurer (1) assumes the risk of loss, (2) processes claims and defends actions brought against the insured, and—sometimes—(3) uses its expertise on accident etiology to police the safety practices of the insured and so reduce the likelihood of loss.<sup>4</sup>

When an insured's liquid assets are large in comparison with the expected losses from its activities, it can—and often does—economize by buying only the second and third of the liability insurer's services. Under unlimited retrospectively-rated policies, premiums are sometimes set so as to cover fully claims payouts while also paying the insurer a service fee for claims handling, legal defense, and any other services provided by it under the "insurance" contract. Because the federal government's financial resources exceed those of even the largest private insured, there seems to be no good reason why it should not itself assume the tort liability risks of its contractors, whenever (1) the cost of contractor indemnification by private insurance would be ultimately borne by the government, and (2) indemnification would be economically advantageous to the government.<sup>5</sup>

As previously noted, the government already self-insures almost all its property risks, as well as the tort risks (under the Tort Claims Act) arising from the actions of its agents and employees. Indeed, as to the latter, the government not only assumes the risk but also processes the third-party claims and defends the litigation arising from such claims. That the government does not presently self-insure its contractors' liability risks (with few exceptions<sup>6</sup>) is therefore anomalous.

It is true that the present practice of private insurance of such risks (1) makes use of the private insurance industry's claims-handling facilities and expertise, and (2) preserves congressional control over federal expenditures, by establishing in advance the liability-protection costs to the government under each contract. But, the claims-handling facilities of the insurance industry could be purchased without also buying the "tie-in" risk-assuming services of that industry,<sup>7</sup> and congressional control over self-insurance costs could be obtained by other means than the purchase of private insurance.<sup>8</sup>

It therefore seems defensible, and perhaps not totally politically impracticable, to propose to Congress legislation that would (1) permit federal indemnification of government contractors against tort liability risks arising under their contracts; (2) preserve congressional control over the creation of federal obligations arising under indemnity agreements, by limiting the amounts of indemnification "coverage" to be written by any agency to the ceilings to be set for that agency by Congress, in its appropriation acts; (3) encourage agencies that indemnify contractors to avail themselves of the claims-handling services of the private insurance industry; and (4) maintain the current system of private insurance in those cases where indemnification would not result in significant economies.

Legislation of this type could, of course, be drafted for the use of just DOT or FRA. It seems more reasonable, however, in light of Congress's desire for the rationalization and unification of procurement policy, as expressed in the Office of Federal Procurement Policy Act, 88 Stat. 796, 41 U.S.C. §§ 401 et seq. (1977 PP at 137), to draft it in a form generally applicable to federal civilian procurement under the Federal Property and Administrative Services Act of 1949.

While indemnification such as that suggested in the above draft could reduce costs by avoiding some excessive insurance charges, many of the elements which go into high private insurance rates would continue to be covered by the government under indemnification. Thus, there would still be lengthy and expensive legal battles between counsel for the tort claimant and those for the contractor-indemnitee, over the issues of fault and damages.<sup>9</sup>

Similarly, there would still be the uncertainties of jury trials and the possibility of unreasonable and excessive jury awards against the contractor, which the government would have to pay. It is possible that the mere presence of the government might increase awards.

There would even be a potential for new areas of legal dispute, involving the validity of an indemnification agreement, or its applicability to a given loss, or the government's wrongful refusal to settle a claim against the contractor within the limits fixed by the indemnity agreement. These new possibilities, however, would merely replace those which exist under the present private insurance system between contractor and insurer. At present, the contractor's legal costs in disputes with his insurer can be charged to the government under the "Insurance-Liability to Third Persons" clause. Cf. Farrell Lines, Inc., 73-2 BCA ¶ 10,177 (ASBCA 1973).

Whatever the savings in insurance premiums because of indemnification, it is certainly arguable that even greater savings could be realized if Congress rejected indemnification and, instead, authorized the immunization of government contractors from all private tort liability arising out of their contract activities, and granted the victims of contractor torts a cause of action against the United States under the Tort Claims Act.<sup>10</sup>

There are models for an "immunity" solution in the Federal Drivers Act, 28 U.S.C. § 2679 (b-e) (1965), as amended

(1977 PP at 126), the National Swine Flu Immunization Program of 1976, 90 Stat. 1113; 42 U.S.C. §§ 201 note, 247b, and 247b note (1977 PP at 16, 33-38), the Suits in Admiralty Act § 5; 46 U.S.C. § 745 (1975); 28 U.S.C. § 1498 (1973),<sup>11</sup> which immunize government-employed physicians against malpractice claims arising out of acts or omissions in the course of their employment, and provide for tort claims against the United States in lieu thereof.<sup>12</sup>

In some ways immunization of the contractor is the neater solution. By restricting the tort claimant to his non-jury action against the United States, cf. 28 U.S.C. § 2402 (1965), it avoids the vagaries and expenses of jury trials over contested claims. In the case of the tort claimant who asserts one cause of action against the United States, and another against the contractor (and yet others, perhaps, against other parties), all arising from the same incident, it avoids the possibility of separate lawsuits and inconsistent judgments.

Furthermore, from the viewpoint of the federal agency doing the contracting, it reduces the cost of contract work and shifts much of the responsibility of settling claims onto the shoulders of the Justice Department.<sup>13</sup>

From Congress's point of view, however, there are some drawbacks to immunization. In the first place, it would be difficult for Congress to control the liability costs of contract programs because none of the judgment costs, only part of the settlement costs, and little of the claims-handling costs would appear in the contracting agency's accounts or budget requests. From the agency's standpoint, such costs would be externalized, and it could be argued that there would be little motivation to estimate them accurately or to keep them down. Further, while indemnification is not inconsistent with a substantial role for the insurance industry (through retrospectively related policies, or claims-servicing contracts), immunization

would entirely replace private insurance.<sup>14</sup> Though the private insurance industry seems particularly disinterested in the FRA R&D risk, it might oppose vigorously a broader immunization statute and it might find some support in Congress.

Immunization would also, if widely practiced, require substantial new funding and manpower for the Justice Department—as suggested by that Department's need for supplemental appropriations to deal with claims under the Swine Flu Program. Cf. 95th Cong., 1st Sess., H. of R., "Supplemental Appropriations for Fiscal Year 1977; Hearings Before Sub-Committees of the Committee on Appropriations. . . ." 547, 571-73 (1977). How much cheaper immunization would prove, in the light of such costs, and of increased federal court caseloads, would have to be carefully studied.<sup>15</sup> Though DOT R&D would presumably never create anywhere near the number of claimants generated by the Swine Flu Program, Congress has had an unfortunate recent lesson in the possible unexpected costs of immunization legislation.



## NOTES

1. Cf. Economy Act § 602, 31 U.S.C. § 686; 52 Comp. Gen. 128 (1972).
2. Cf. 31 U.S.C. §§ 200(a), 701.
3. Cf. 31 U.S.C. §§ 665, 1403.
4. Cf. Denenberg, "Products liability insurance: Impact on safety and implication for the consumer," III Supplemental Studies to Final Report, National Commission on Product Safety, 269 et seq. (1970); Whitford, "Products Liability," id. at 221 et seq.
5. Even in a high-volume, competitive liability insurance field such as an automobile liability, loss payments amount to only 55% or 60% of the premium dollar. Cf. N.Y. (State) Ins. Dep't, Automobile Insurance—For Whose Benefit?, 34-35 (1970); 94th Cong., 1st Sess., Hearings Before the Subcommittee on Interstate & Foreign Commerce, H. of R. . . . on . . . Bills to Require No-Fault Motor Vehicle Insurance . . ., 683 at 695 (1975). This leaves 40% to 45% of the premium to cover legal, claims-handling and overhead expenses, commissions and profit. In workers' compensation (a no-fault scheme), payouts rise to 60% to 70% of premiums. Report of the National Commission on State Workmen's Compensation Laws, 112-13 (1972); Reede, Adequacy of Workmen's Compensation 250 (1974); Best's Aggregates & Averages, Property-Liability (1974); III, Supplemental Studies for the National Commission on State Workmen's Compensation Laws 239 (1973). For fields in which insurers quote premiums based on adequate loss experience, the potential savings from indemnification must be found in the 30-45% of premiums not used for payouts (less, of course, the net federal tax revenues which would be generated out of private insurance). But, for unusual risks, or in tight insurance markets, payouts may constitute a smaller percentage of the premium dollar, and the potential savings from indemnification could be proportionately greater.
6. I.e., indemnification under P.L. 85-804, 50 U.S.C. § 1431; under 10 U.S.C. § 2354, 38 U.S.C. § 4101, under the Swine Flu Program, 42 U.S.C. § 247b, under the Price-Anderson Act, 42 U.S.C. § 2210, and under various other laws covering miscellaneous special situations, e.g., indemnification for certain military contractors under the War Hazards Compensation Act, 42 U.S.C. § 1704.

7. As is already provided for in some existing indemnification legislation. See, e.g., 42 U.S.C. § 2210(g), 38 U.S.C. § 4101(c)(3)(F).
8. Such control must be provided for, if the objectives of recent budget legislation (to curtail "back-door" spending) are to be met. See Congressional Budget Act of 1974, 31 U.S.C. § 1301.
9. It is these costs which have prompted many to support no-fault reparations schemes for automobile accident victims. The plaintiff's legal expenses consume, on the average, perhaps 10% of the automobile liability premium, see O'Connell, "An Alternative to Abandoning Tort Liability . . .," 60 Minn. L. Rev. 501, 504-05 (1976), and perhaps 5% of the workers' compensation premium. Report, supra note 5, at 109. While these costs are not borne directly by defendants or their insurers, there is widespread suspicion that juries inflate awards to compensate plaintiffs for their legal costs. The defendant, of course, also incurs substantial legal costs, which the insurer (or underwriter) must cover.
10. Congress, in adopting the Federal Drivers Act, 28 U.S.C. § 2679 (b-e), rejected an alternative indemnification scheme as likely to prove more costly. See Sen. Rep. No. 736, 87th Cong., 1st Sess. (1961), in II U.S. Code Cong. & Adm. News (1961), 2784 at 2785-86.
11. Immunity for contractors against patent, copyright, and propriety rights in plant-variety claims.
12. Cf. 42 U.S.C. § 233 (1974); 38 U.S.C. § 4116 (as amended 1977 supp.); 22 U.S.C. § 817 (as amended 1977 supp.); 10 U.S.C. § 1089 (as amended 1977 supp.); 32 U.S.C. § 334 (as amended 1977 supp.); 42 U.S.C. § 2458a (as amended 1977 supp.).
13. It is true, of course, that initial evaluation of a claim and settlement of smaller claims is handled by the agency under the Tort Claims Act. Cf. 28 U.S.C. §§ 2672-73, 2675.
14. Suits against the United States must be defended by the Justice Department, cf. 5 U.S.C. § 3106, 28 U.S.C. § 516; while claims-handling services short of litigation could be contracted out to private companies, this would probably not be done, because of the established practice of self-administration of Tort Claims Act claims.

15. The experience under the Service Flu Program has not been encouraging. See New York Times, July 10, 1977, at 22, col. 6 (GAO report estimating up to \$1 billion in swine flu claims will be made against the United States).



A.

## INTRODUCTION

The goal of Task V initially was to determine, for the benefit of the Northeast Corridor Improvement Project (NECIP), the loss experience of the railroad industry for the types of maintenance of way and construction activities to be performed in the Northeast Corridor Improvement Project (NECIP). After further refinement of ideas, it was decided that the real need was to determine this loss experience solely with respect to the types of maintenance-of-way and construction activities which Amtrak itself will be performing in the NECIP.

The Federal Railroad Administration (FRA) supplied The Research Group, Inc. (TRG) with information and plans formulated by DeLeuw, Cather/Parsons & Associates (DCP), the architect/engineer contractor for the NECIP, as to the types of maintenance of way and construction activities which Amtrak will be performing in the NECIP, the costs which Amtrak will be incurring in its participation, and the geographic locations of its activities.

On the basis of this information, data has been developed from appropriate sources to give a reasonable projection of the loss which may be expected to arise in the form of third-party liability<sup>1</sup> in each major category of activity which Amtrak will be performing for the NECIP. This includes liability to third parties for both personal injury and property damage.

During the course of a number of interviews with knowledgeable sources, TRG collected as much statistical information as appears to be available in relation to the questions presented by this task. This included interviews with appropriate officials of railroad companies, insurance companies, construction companies, a maintenance of way company, and an engineering design firm.

These interviews were conducted with the Insurance Manager or a comparable official at each facility. Consistently, this approach produced good general background information but little in the way of concrete statistics categorized in terms of the types of maintenance of way and construction activities to be performed by Amtrak or NECIP. Indeed, responsible officials in the majority of these companies were of the opinion that such statistics were not in existence, apart from the extent to which they are calculable using the insurance industry's manual rates.

Extensive research revealed that very little relevant data could be obtained from sources other than the insurance industry's rate-making organizations, which publish authoritative rate manuals for a wide range of industrial and commercial activities. TRG, after many consultations with its insurance advisers for this project from Mather and Company, has developed a methodology<sup>2</sup> for using these figures to formulate answers to the problems raised by this task.

## NOTES

1. It has become widely accepted to refer to an insured who pays a premium as a "first party," with the premium collector and loss payer—the insurance company—being referred to as the "second party." When the law imposes upon a person liability to compensate another for a loss, the person being compensated is referred to as the "third party." For example, this may be the case where the first party has acted negligently toward the third party, if that negligence is the proximate cause of an injury to the third party. In customary practice, if the first party is found liable and was insured against such liability, the insurer will pay the loss directly to the third party, rather than compel the insured to pay first and obtain reimbursement later. Manufacturers' product liability insurance, hospitals' and physicians' medical malpractice insurance, attorneys' malpractice insurance, and automobile liability insurance are all familiar examples of third-party liability coverage.
  
2. Research was performed to investigate whether there have been previous studies sponsored by the United States Government to determine the loss experience of activities similar to those being evaluated in this study. No such studies were revealed.

Methodologies developed over the past several years by the Department of Defense and the National Aeronautics and Space Administration, which received a great deal of public attention when used in the Nuclear Regulatory Commission's Reactor Safety Study ("An Assessment of Accident Risks in U.S. Commercial Nuclear Power Plants," also known as the Rasmussen Report or WASH-1400) did not appear to be relevant. These methodologies involved the use of techniques known as fault trees and event trees to define potential accident patterns and their likelihood of occurrence.

An event tree stems from a single initial failure and determines the possible courses of events which might flow from that failure, depending upon the success or failure of the various systems intended to prevent an ultimate loss from occurring. Event trees can be used to define thousands of potential accident paths and to assist in determining their likelihood of occurrence, along with the likelihood of an ultimate loss.

Fault trees can be used to determine the likelihood of failure of the various systems identified in the event tree accident paths. A fault tree starts with the definition of an undesired event, such as the failure of a system to operate, and then determines, using engineering and mathematical logic, the ways in which the system can fail. See Nuclear Regulatory Commission, Reactor Safety Study: An Assessment of Accident Risks in U.S. Commercial Nuclear Power Plants Appendix I, pp. I-1 to I-2 (1975).

It was determined that such methodologies would not be appropriate for use in the current study due to two factors:

(1) This study is concerned with maintenance-of-way and construction activities to be performed in the NECIP, which are not necessarily likely to generate greater losses than the corresponding construction activities performed under non-railroad-related circumstances. For example, bridge construction over rivers for the purpose of a railroad is probably not going to generate losses which are significantly different from bridge construction over rivers for the purpose of a highway. Installation of cables in duct lines along a railroad right-of-way is probably not going to generate losses which are significantly different from installation of cables in duct lines along a highway. The available actuarial data for these activities are not broken down in terms of whether or not the activity is being performed in connection with railroad construction. Nevertheless, these data are presumably acceptable as adequate indicators of the losses to be expected by Amtrak participation in the NECIP. Therefore, the decision was made to use these figures and estimate the losses to be expected by Amtrak on a purely actuarial basis, rather than by the more complex use of event trees and fault trees.

(2) The use of event trees and fault trees is probably more appropriate where the goal is to estimate the risk of a single ultimate loss, given a large number of possible initial failures which can give rise to that ultimate loss. This was certainly the concern of the Reactor Safety Study, where the focus was on the likelihood of a single ultimate loss—the release of radioactivity from U.S. commercial nuclear power plants causing significant personal injury or property damage. The present study, on the other hand, is concerned with a much larger number of ultimate losses, given the wider variety of events which may take place along the railroad right of way in the Northeast Corridor.



B.

SOURCES OF INFORMATION WHICH DID NOT PROVE  
TO BE OF VALUE IN ARRIVING AT CONCRETE  
DATA

When work on this contract began, it was believed that there were no actuarial figures which would be of value in determining the loss of experience of the railroad industry for the types of work Amtrak is to perform for the NECIP. Because the major railroads in American private industry generally self-insure as to the first \$2 million to \$5 million of loss per occurrence, the loss experience of such railroads is only ascertainable from the railroads' own files and personnel. No organization has pooled the information of all the major railroads to develop comprehensive actuarial figures which reveal the true loss experience at this first \$2-million-to-\$5-million layer and break it down according to specific work elements. It would be quite a task to do this, requiring not only expertise on the part of the investigators, but also cooperation on the part of the railroad industry. Even if the task were undertaken, several factors stand in the way of the belief that it would produce satisfactory actuarial figures. For one thing, the files of some of the railroads regarding this type of information do not go back far enough in time to provide an adequate data base. Most major railroad construction or rejuvenation projects were completed 50 years ago. Records from that time are not available for the railroads interviewed and, even if they were, they would be of questionable value because of such a different legal, economic, and social atmosphere. Also, the railroads which have kept this information do not appear to have broken it down into work elements which are as specific as the NECIP breakdown of the various work elements which Amtrak will be performing. For example, the railroads might include all losses resulting from any sort of

maintenance-of-way or construction activity in one single category, rather than distinguishing between those resulting from bridge construction and those resulting from tunnel construction.

As part of the performance of this contract, TRG was required to interview various companies which the NECIP believed would provide information of value in arriving at the concrete data needed for a projection of the losses which Amtrak may experience in the NECIP. What follows is a summary of the results of those interviews.

1. Maintenance-of-Way Company

This is a major company which performs extensive work in the fields of ballast cleaning and rail grinding for many of the nation's major railroads. It is the subsidiary of a much larger corporation. The business which it performs does not amount to a major proportion of the total business performed by the parent corporation and its other subsidiaries.

The information discussed in this report was obtained from interviews with several people in the insurance department of the parent corporation. These interviewees were useful in supplying general information as to their company's loss experience in the categories of ballast cleaning and rail grinding.

With regard to ballast cleaning, the likelihood of experiencing losses is rather small. The vehicle which performs the ballast cleaning is a relatively safe, self-contained mechanism which eliminates many of the dangers which used to be present when individual employees performed ballast cleaning by manual labor. Two sources of potential losses do exist, however. The ballast cleaning vehicle moves along the railroad track at about two miles per hour. Occasionally, a switching error causes a train to be placed on the same track as the ballast cleaning vehicle. When this happens, the train

can collide with the ballast-cleaning vehicle.

The other source of potential loss arises from the fact that the ballast cleaning vehicle is designed with a conveyor belt and boom going off to one side, through which the dirt and tailings are emitted. When the ballast cleaning vehicle is on a track which is very close to a parallel track, the conveyor and boom may be hit by a train on the parallel track.

With regard to its rail grinding operations, there are two other sources of potential losses. Of concern as a source of both personal injury and property damage is the danger of the rail grinding wheel's falling apart, flying off the machine and hitting someone or something in its range. This particular problem has occurred in at least two recent incidents.

The other source of potential loss due to rail grinding is the danger that sparks from the grinder will start fires in the grass on land adjacent to the tracks. Most such fires, when they do occur, are merely spot fires causing a minimal amount of damage with no claims being filed. The largest fire caused by the rail grinder involved only 10-15 acres. However, the possibility of larger property losses and even personal injury from such fires obviously exists.

The company does not have any data or figures which would assist in projecting the loss experience which may be expected for the NECIP in the categories of either ballast cleaning or rail grinding. Its officials did not know of any sources which project such information in the form of \$X of loss per annum to be expected per \$Y of ballast cleaning or rail grinding. The losses are simply too small and too rare to warrant keeping separate records in such a form. Their best estimate was that there might be \$ .0005 loss to be expected per \$1 of ballast cleaning or rail grinding. Of course, this

figure can only be regarded as an educated guess in the absence of supporting statistical data.

Supporting statistical data is unavailable not only within the company's own files, but also from the company's liability insurer. Liability insurance is purchased for all of the operations of the parent corporation and its subsidiaries under a single policy. The ballast-cleaning and rail-grinding operations of this one subsidiary are not separately rated and have never been a source of special concern to the corporation's liability insurer.

## 2. Railroad Electrification Design Company

This is the engineering construction subsidiary of a large and highly diversified parent corporation which, among other things, serves as a major multinational engineering and construction organization serving such markets as mining, metals, electric power, chemicals, paper and pulp, food processing, and petroleum. Its sole experience with railroads has been with regard to design work for rapid transit, mass transportation, and railroad electrification. The information discussed here was obtained through interviews with a senior executive of the subsidiary company.

In all of the design work which this company has done for rapid transit, mass transportation, and railroad electrification, it has experienced no claims and no losses as to third party liability. Thus, for example, there have been no claims of negligent design.

The company is not involved in any aspect of on-site construction, installation or maintenance, and therefore is not exposed to the dangers associated with such activities. If, for any reason, one of its personnel finds it necessary to go onto a site as part of the company's design work, he is covered by the railroad as to any injuries to him.

Because the company accounts for only a minor portion of the activities of its parent corporation, and because a single policy covers the activities of the parent corporation and all of its subsidiaries, with no special attention being paid to its railroad-related activities, this company was unable to provide any data as to how much of its total insurance costs are attributable to its work in railroad-related activities.

### 3. Data From the FRA Office of Safety

The categorization of railroad accidents by the federal government for safety purposes is another source of information which proved to be unhelpful in compiling relevant statistics on loss experience for this report. All railroads engaged in interstate commerce are required by federal law, 45 U.S.C. § 38, to report major accidents to the government. This information is compiled and issued to the public and the industry in the form of annual accident bulletins. Originally compiled by the Interstate Commerce Commission, these accident bulletins are not prepared by the Office of Safety of the FRA.

The reason these proved to be unhelpful is that this information is not broken down into the same sort of work elements as the NECIP breakdown of the various work elements which Amtrak will be performing. Instead, the Office of Safety's breakdown of accidents is in terms of such elements as getting on or off trains, stumbling and slipping, coupling and uncoupling, flying objects, burns, operating switches, and operating hand brakes. There are no data breaking down these accidents in terms of whether or not they occurred in the course of a particular type of railroad construction project.

TRG made inquiries with various officials in the Office of Safety to determine whether there was a way in which their data could be recategorized in terms of the work elements

which are being used in the NECIP, but these officials were unanimous in expressing the opinion that this could not be done.

C.

#### DEVELOPMENT OF METHODOLOGY

Once the specific nature of the work elements to be performed by Amtrak on the NECIP was made known to the people working on this contract, it became clear that there are actuarial figures within the insurance industry which could be made to correspond roughly with the work elements as they have been categorized by the NECIP. The use of these figures appears to be the best way to ascertain a statistical projection of the losses attributable to the work which Amtrak will perform on the NECIP, given the lack of concrete data available from other sources.

The usefulness of these figures as a part of this report can best be understood when one has an initial understanding of their commercial use within the insurance industry. Casualty insurance, or third-party liability insurance, is designed to provide insurance protection for the kind of losses relevant to this report. Casualty insurance lines are generally class-rated, meaning that the premium charged in most cases is not subject to modification on the basis of whether the individual insured has had good or bad loss experience in the past. Classification in most liability lines is based on the business of the insured, taken as a whole.

By hypothesizing the amount of premiums which Amtrak would pay to a private insurer, if it were a company which was engaged in the business of performing the type of construction activities which Amtrak will be performing for the NECIP, one can develop some data with which to project the losses which Amtrak may incur. The rate base associated with the type of comprehensive general liability insurance which this hypothetical company would need to procure is \$100 of payroll.<sup>1</sup> Therefore, it is necessary to have some estimates of the payroll for all

of the Amtrak employees who will be engaged in the work which Amtrak will perform for the NECIP.

Early on during the course of performing this contract, TRG therefore requested information from FRA indicating estimates of the payrolls of all Amtrak employees who will be employed in the maintenance-of-way and construction activities to be performed in the NECIP. In this context, "payrolls" was meant to include the entire remuneration, whether paid in money or a substitute for money, for services rendered by employees.<sup>2</sup> Unfortunately, such information was not available at the time of this study.<sup>3</sup>

Without some estimates of these payrolls, the only available source of data for projecting the losses which Amtrak may incur would be rendered useless. Thus, TRG set out to ascertain what percentage of the total allocation earmarked for a particular railroad maintenance-of-way or construction project typically ends up being spent on payrolls. A number of interviews with people in private industry were conducted for this purpose. The general consensus was that between 30% and 40% of the total expenditures which a private industry puts into a railroad construction or maintenance-of-way project goes toward payrolls for labor. In addition, it was generally agreed that it would be safe to use an estimate of 35% consistently throughout this study. Therefore, that is the figure used. It must be noted that this 35% figure is only an estimate for the immediate purposes of this study. It is urged that all the figures in this study be adjusted accordingly if, at a later date, new data becomes available as to what will be the payrolls of all Amtrak employees who will be employed in the activities with which this study is concerned.

The source of the actuarial figures used in this report is the Manufacturers and Contractors Rating Manual. This manual is put out by the Insurance Services Office, the insurance industry's principal rate-making organization. The



manual contains the rules, classifications and rates governing the writing of Manufacturers and Contractors Bodily Injury and Property Damage Liability Insurance.

Under the manual rating method, if a risk includes construction work, as is the case with respect to Amtrak's risk of loss associated with the NECIP, then there is supposed to be a division of payroll for each separate and distinct type of construction which is specifically described by a manual classification. As noted above, actual payroll estimates are not available for use in this study. However, separate figures are available as to the total expenditures anticipated for each separate and distinct type of construction. By consistently taking 35% of these figures, it is possible to simulate a division of payroll for each separate type of construction which is specifically described by a manual classification. This has been done as part of the methodology of this report.

Another feature of the manual-rating method is that rates vary according to the geographic location where the work is to take place. Thus, as part of the methodology of this report, it was necessary to break down the figures given as total expenditures anticipated for each work element to be performed by Amtrak according to geographic location.

Of course, it must be recognized that this methodology is designed to arrive at the ultimate totals of premiums which a hypothetical company, engaged in the work which Amtrak intends to perform on the NECIP, can expect to pay for insurance against its third-party liability. Because insurance depends upon the law of large numbers, it cannot be expected to serve as a genuine forecast of how much a particular company which is insured will suffer in losses. Instead, insurance is merely designed to distribute the risk so that, regardless of whether an individual insured suffers large losses or no loss at all, the premiums of all the insureds provide a pool big enough to cover everyone's insured losses. Given a large enough class

of random events, it can be predicted with considerable accuracy that certain events will happen with an average frequency and an average severity. However, the limitations of actuarial data as a means of projecting the losses which a particular entity such as Amtrak may expect in its work for the NECIP must be borne in mind.

Furthermore, the methodology used here does not attempt to adjust the purely objective figures by means of any "judgment factor." In the private insurance industry, subjective underwriting judgments play a major role in determining what a particular company will ultimately be charged as a premium, even when experience rating is not expressly being employed. The Stanford Research Institute, in a study commissioned by a number of stock and mutual insurance companies, concluded that subjective underwriting has never yet been outperformed by purely objective methods.<sup>4</sup> Thus, it is conceivable that further adjustment of the figures arrived at by this study would be performed if Amtrak were a private company applying for insurance for these risks on the private insurance market.

The final caveat in the use of this methodology as an indicator of the losses which Amtrak can expect to incur relates to the distinction between the amount which the private insurance industry charges as premiums and the amount which actually goes to pay losses. The companies which collect premiums must collect more than simply what is needed to cover the anticipated losses. They must also collect the expenses of acquiring, handling and disbursing the money, as well as the costs of advertising their services and the payments made to agents or brokers who bring business to them. Moreover, of course, part of the premium must go toward profit. In the private insurance industry, the total of losses incurred amounts to only about 55% to 65% of the premiums earned in those lines of insurance which correspond to the kind of losses with which this study is concerned.<sup>5</sup>

Accordingly, if one desires a bottom-line figure which reflects only what Amtrak's losses may be expected to be, assuming they are going to be of average frequency and severity, the figures arrived at in this study must be adjusted downward, taking 55% to 65% of the figures listed in the premium column. However, at least some of the expenses of handling and disbursing the money to cover Amtrak's losses arising out of the NECIP are likely to be the same, or possibly greater, than those which the private insurance industry incurs. Therefore, caution is necessary before assuming that the figures arrived at here can be adjusted downward on this basis.

NOTES

1. It is readily admitted in the insurance industry that such a measure of exposure is not always going to make the rates an accurate or equitable guide to the relative hazards involved. For example, if two companies engaged in the same type of work in the same geographic location using the same number of employees, one would expect that they would be exposed to the same relative hazards and would therefore be charged the same in premiums, all other things being equal. However, if one company paid its employees twice as much per hour, the use of payroll as the measure of exposure means that it would be charged twice as much in premiums. Nevertheless, the insurance industry has adopted the use of payroll as the rate base for this type of insurance because it believes that this is the most expedient and practical of the alternatives. See Mehr & Commack, Principles of Insurance 810 (4th ed. 1966).
2. "Payrolls" is so defined in the Manufacturers and Contractors Rating Manual put out by the Insurance Services Office.
3. This fact was communicated to TRG in a letter from S. Mark Lindsey, Assistant Chief Counsel of the FRA, dated May 19, 1978.
4. Stanford Research Institute, The Role of Risk Classification in Property and Casualty Insurance (1976).
5. For the year 1975, the key financial and operating results of the capital stock segment of the private insurance industry in the United States indicate that the loss ratios—the ratios of losses and adjuster's expenses incurred to premiums earned—were:

Commercial Multiple Peril	57.7%
Miscellaneous Liability	63.6%
All Lines	77.4%

A.M. Best Co., Best's Aggregates and Averages: Property-Casualty 34 (1976). The commercial multiple peril and the miscellaneous liability lines are those which correspond to the types of liability coverage which Amtrak would hypothetically need if it sought insurance to cover the risks of its work on the NECIP.

D.

THE DATA

The following charts illustrate the statistical projection of the third-party liability losses attributable to the maintenance-of-way and construction work which Amtrak will perform on the NECIP, by use of the actuarial figures contained in the insurance industry's rate manual. The figures are based on the projections contained in the three-volume document titled, "Amtrak Participation in NECIP: Statement of Work," authored by DeLeuw, Cather/Parsons & Associates, and dated January, 1978.

TOTALS FOR ALL WORK ELEMENTS:

BA	MOVABLE BRIDGE WORK	\$ 5,900.40
BB	UNDERGRADE BRIDGE WORK:	
	PORTION WHERE AMTRAK WILL DO 100%	189,136.70
	PORTION WHERE AMTRAK WILL DO LESS THAN 100%	35,566.40
BC	OVERHEAD BRIDGE WORK	3,740.60
CA	CABLES:	
	REHABILITATION OF CABLE TERMINATIONS	5,855.50
	CONVENTIONAL CABLE INSTALLATION	7,038.20
CB	COAXIAL CABLE INSTALLATION	6,398.10
CC	MICROWAVE COMMUNICATIONS	293.80
CD	MULTIPLEX COMMUNICATIONS	205.10
CE	TELEPHONE SWITCHING EQUIPMENT	279.70
CF	TELEPHONE TERMINAL EQUIPMENT	2,913.70
CI	TWO-WAY AUDIO FACILITIES	5,391.90
EA	CATENARY SYSTEM REHABILITATION	369,333.40
EB & EF	CATENARY FOUNDATION WORK & TRACTION SUBSTATION SUPPLY CONSTRUCTION	421.60
FA, FB, FD & FE	FENCING	7,366.00
GB	PRIVATE GRADE CROSSING REMOVAL	1,389.20
LA & LE	STATION & BUILDING CONSTRUCTION	11,512.90
LV	COMMUTER STATION CONSTRUCTION	18.00
RF	SITE WORK	1,506.50
SA, SB, SC & SE	SIGNALING & TRAFFIC CONTROL	148,166.60
TB-TF	TUNNELS	76,575.50
UA-UD, UG, UJ-UN, UP, UR, UT, UU, UX-UY	TRACK STRUCTURES	1,036,077.90
UV	SPRAYING	30,219.30
YA-YK	CONSTRUCTION OF BUILDINGS	<u>1,971.00</u>
	TOTAL FOR ALL WORK ELEMENTS	\$1,947,208.00

TOTALS FOR ALL WORK: SUMMARY

BA-BC	BRIDGES	\$ 234,344.10
CA-CI	COMMUNICATIONS	28,376.00
EA-EF	CATENARY WORK	369,755.00
FA-FE	FENCING	7,366.00
GA-GB	GRADE CROSSINGS	1,389.20
LA-LV	STATION CONSTRUCTION	11,530.90
RA-RF	SITE WORK	1,506.50
SA-SE	SIGNALING & TRAFFIC CONTROL	148,166.60
TA-TF	TUNNELS	76,575.50
UA-UY	TRACK STRUCTURES	1,066,227.20
YA-YK	CONSTRUCTION OF SERVICE FACILITIES	1,971.00
TOTAL FOR ALL WORK		<u>\$1,947,208.00</u>

WORK ELEMENT: MOVABLE BRIDGE WORK

APPLICABLE RATE MANUAL CODE NO.: 16215X

CODE: BA

<u>TOTAL AMTRAK COST BY STATE:</u>		<u>PAYROLL ÷ 100:</u>	<u>RATES:</u>	<u>PREMIUM SUBTOTALS:</u>	<u>PREMIUM TOTALS:</u>
D.C.	---	X .0035 =	X	=	---
MD.	765,800	X .0035 =	X .32	= 857.7	1527.8
			X .25	= 670.1	
DEL.	---	X .0035 =	X	=	---
PHILA., PA.	---	X .0035 =	X	=	---
OTHER PA.	---	X .0035 =	X	=	---
N.J.	328,800	X .0035 =	X .97	= 1116.3	1392.5
			X .24	= 276.2	
N.Y.C.	59,280	X .0035 =	X 3.20	= 664.0	792.7
			X .62	= 128.7	
OUTSIDE N.Y.C.	---	X .0035 =	X	=	---
CT.	726,710	X .0035 =	X .57	= 1449.8	2187.4
			X .29	= 737.6	
R.I.	---	X .0035 =	X	=	---
MA.	---	X .0035 =	X	=	---

PREMIUM TOTAL FOR THIS WORK ELEMENT: 5900.4

V-20



WORK ELEMENT: UNDERGRADE BRIDGE WORK 100%

APPLICABLE RATE MANUAL CODE NO.: 16275

CODE: BB

<u>TOTAL AMTRAK COST BY STATE:</u>		<u>PAYROLL ÷ 100:</u>	<u>RATES:</u>	<u>PREMIUM SUBTOTALS:</u>	<u>PREMIUM TOTALS:</u>
D.C.	<u>14,000</u>	X .0035 = <u>49.0</u>	X .95 = <u>46.55</u>	}	<u>164.2</u>
			X 2.40 = <u>117.6</u>		
MD.	<u>1,195,000</u>	X .0035 = <u>4182.5</u>	X 1.00 = <u>4182.5</u>	}	<u>12,965.8</u>
			X 2.10 = <u>8783.25</u>		
DEL.	<u>1,582,000</u>	X .0035 = <u>5537.0</u>	X .96 = <u>5315.52</u>	}	<u>13,621.0</u>
			X 1.50 = <u>8305.50</u>		
PHILA., PA.	<u>1,721,000</u>	X .0035 = <u>6023.5</u>	X 2.20 = <u>13251.7</u>	}	<u>22,287.0</u>
			X 1.50 = <u>9035.25</u>		
OTHER PA.	<u>2,416,000</u>	X .0035 = <u>8456.0</u>	X 1.50 = <u>12684.0</u>	}	<u>25,368.0</u>
			X 1.50 = <u>12684.0</u>		
N.J.	<u>3,317,000</u>	X .0035 = <u>11609.5</u>	X 1.90 = <u>22058.05</u>	}	<u>46,438.0</u>
			X 2.10 = <u>24379.95</u>		
N.Y.C.	<u>415,000</u>	X .0035 = <u>1452.5</u>	X 4.00 = <u>5810.0</u>	}	<u>10,022.3</u>
			X 2.90 = <u>4212.25</u>		
OUTSIDE N.Y.C.	<u>144,000</u>	X .0035 = <u>504.0</u>	X 2.00 = <u>1008.0</u>	}	<u>1,915.2</u>
			X 1.80 = <u>907.2</u>		
CT.	<u>3,032,000</u>	X .0035 = <u>10612.0</u>	X .99 = <u>10505.9</u>	}	<u>35,974.7</u>
			X 2.40 = <u>25468.8</u>		
R.I.	<u>935,000</u>	X .0035 = <u>3272.5</u>	X 1.80 = <u>5890.5</u>	}	<u>16,362.5</u>
			X 3.20 = <u>10472.0</u>		
MA.	<u>205,000</u>	X .0035 = <u>717.5</u>	X 1.80 = <u>1291.5</u>	}	<u>4,018.0</u>
			X 3.80 = <u>2726.5</u>		

PREMIUM TOTAL FOR THIS WORK ELEMENT: 189,136.7

V-21

WORK ELEMENT: UNDERGRADE BRIDGE WORK UNDER 100%

APPLICABLE RATE MANUAL CODE NO.: 16215X

CODE: BB

V-22

<u>TOTAL AMTRAK COST BY STATE:</u>		<u>PAYROLL ÷ 100:</u>	<u>RATES:</u>	<u>PREMIUM SUBTOTALS:</u>	<u>PREMIUM TOTALS:</u>
D.C.	---	X .0035 =	X	=	---
MD.	<u>1,927,950</u>	X .0035 =	X .32	= 2159.3	3,846.3
			X .25	= 1687.0	
DEL.	<u>1,343,380</u>	X .0035 =	X .39	= 1833.7	2,633.0
			X .17	= 799.3	
PHILA., PA.	<u>1,310,310</u>	X .0035 =	X .74	= 3393.7	4,356.8
			X .21	= 963.1	
OTHER PA.	<u>853,610</u>	X .0035 =	X .44	= 3514.56	5,351.7
			X .23	= 1837.16	
N.J.	<u>3,705,870</u>	X .0035 =	X .97	= 12581.43	15,694.4
			X .24	= 3112.93	
N.Y.C.	<u>41,020</u>	X .0035 =	X 3.20	= 459.42	548.4
			X .62	= 89.0	
OUTSIDE N.Y.C.	<u>14,500</u>	X .0035 =	X .91	= 46.18	65.5
			X .38	= 19.29	
CT.	<u>416,150</u>	X .0035 =	X .57	= 830.2	1,252.6
			X .29	= 422.4	
R.I.	<u>561,240</u>	X .0035 =	X .66	= 1296.5	1,650.1
			X .18	= 353.6	
MA.	<u>61,400</u>	X .0035 =	X .53	= 113.9	167.6
			X .25	= 53.7	
PREMIUM TOTAL FOR THIS WORK ELEMENT:					<u>35,566.4</u>

WORK ELEMENT: OVERHEAD BRIDGE WORK

APPLICABLE RATE MANUAL CODE NO.: 16215X

CODE: BC

<u>TOTAL AMTRAK COST BY STATE:</u>		<u>PAYROLL ÷ 100:</u>	<u>RATES:</u>	<u>PREMIUM SUBTOTALS:</u>	<u>PREMIUM TOTALS:</u>
D.C.	---	X .0035 =	X	=	}
			X	=	
MD.	---	X .0035 =	X	=	
			X	=	
DEL.	---	X .0035 =	X	=	
			X	=	
PHILA., PA.	---	X .0035 =	X	=	
			X	=	
OTHER PA.	---	X .0035 =	X	=	
			X	=	
N.J.	---	X .0035 =	X	=	
			X	=	
N.Y.C.	---	X .0035 =	X	=	
			X	=	
OUTSIDE N.Y.C.	---	X .0035 =	X	=	
			X	=	
CT.	147,500	X .0035 =	516.25	X .57 = 294.3	}
				X .29 = 149.7	
R.I.	92,650	X .0035 =	324.3	X .66 = 214.0	}
				X .18 = 58.4	
MA.	1,107,800	X .0035 =	3877.3	X .53 = 2054.9	}
				X .25 = 969.3	

PREMIUM TOTAL FOR THIS WORK ELEMENT: 3,740.6

V-23

CONVENTIONAL CABLE INSTALLATION:  
 WORK ELEMENT: IN BUILDINGS

CODE: CA

APPLICABLE RATE MANUAL CODE NO.: 17313

V-24

<u>TOTAL AMTRAK COST BY STATE:</u>		<u>PAYROLL ÷ 100:</u>	<u>RATES:</u>	<u>PREMIUM SUBTOTALS:</u>	<u>PREMIUM TOTALS:</u>
D.C.	<u>1,312</u>	X .0035 = <u>4.6</u>	X <u>.27</u> =	<u>1.2</u>	<u>2.4</u>
			X <u>.26</u> =	<u>1.2</u>	
MD.	<u>3,221</u>	X .0035 = <u>11.3</u>	X <u>.25</u> =	<u>2.8</u>	<u>6.3</u>
			X <u>.31</u> =	<u>3.5</u>	
DEL.	<u>332</u>	X .0035 = <u>1.2</u>	X <u>.24</u> =	<u>0.3</u>	<u>0.6</u>
			X <u>.21</u> =	<u>0.3</u>	
PHILA., PA.	<u>1,645</u>	X .0035 = <u>5.8</u>	X <u>.62</u> =	<u>3.6</u>	<u>4.8</u>
			X <u>.21</u> =	<u>1.2</u>	
OTHER PA.	<u>1,161</u>	X .0035 = <u>4.1</u>	X <u>.37</u> =	<u>1.5</u>	<u>2.4</u>
			X <u>.22</u> =	<u>0.9</u>	
N.J.	<u>1,102</u>	X .0035 = <u>3.9</u>	X <u>.54</u> =	<u>2.1</u>	<u>3.0</u>
			X <u>.24</u> =	<u>0.9</u>	
N.Y.C.	<u>1,759</u>	X .0035 = <u>6.2</u>	X <u>1.00</u> =	<u>6.2</u>	<u>8.7</u>
			X <u>.41</u> =	<u>2.5</u>	
OUTSIDE N.Y.C.	<u>---</u>	X .0035 =	X	=	
			X	=	
CT.	<u>1,225</u>	X .0035 = <u>4.3</u>	X <u>.33</u> =	<u>1.4</u>	<u>3.1</u>
			X <u>.40</u> =	<u>1.7</u>	
R.I.	<u>1,064</u>	X .0035 = <u>3.7</u>	X <u>.51</u> =	<u>1.9</u>	<u>3.2</u>
			X <u>.36</u> =	<u>1.3</u>	
MA.	<u>1,645</u>	X .0035 = <u>5.8</u>	X <u>.51</u> =	<u>2.9</u>	<u>5.4</u>
			X <u>.43</u> =	<u>2.5</u>	
PREMIUM TOTAL FOR THIS WORK ELEMENT:					<u>39.9</u>

CONVENTIONAL CABLE INSTALLATION:

WORK ELEMENT: 1/2 DIRECT BURIAL

APPLICABLE RATE MANUAL CODE NO.: 16285XCU

CODE: CA

TOTAL AMTRAK COST BY STATE:

PAYROLL ÷ 100:

RATES:

PREMIUM  
SUBTOTALS:

PREMIUM TOTALS:

D.C.	---	X .0035 =	---	X	---	=	---	}	---
				X		=	---		
MD.	---	X .0035 =	---	X	---	=	---		
				X		=	---		
DEL.	---	X .0035 =	---	X	---	=	---		
				X		=	---		
PHILA., PA.	---	X .0035 =	---	X	---	=	---		
				X		=	---		
OTHER PA.	---	X .0035 =	---	X	---	=	---		
				X		=	---		
N.J.	4,066	X .0035 =	14.2	X	1.40	=	19.9	}	27.6
				X	.54	=	7.7		
N.Y.C.	---	X .0035 =	---	X	---	=	---	}	---
				X		=	---		
OUTSIDE N.Y.C.	---	X .0035 =	---	X	---	=	---		
				X		=	---	}	---
CT.	94,717	X .0035 =	331.5	X	1.20	=	397.8		
				X	.34	=	112.7	}	510.5
R.I.	70,350	X .0035 =	246.2	X	1.00	=	246.2		
				X	.66	=	162.5	}	408.7
MA.	48,692	X .0035 =	170.4	X	1.00	=	170.4		
				X	.47	=	80.1	}	250.5
						=	---		

PREMIUM TOTAL FOR THIS WORK ELEMENT:

1,197.3

CONVENTIONAL CABLE INSTALLATION:

WORK ELEMENT: IN DUCT LINE, BY DIRECT BURIAL-

APPLICABLE RATE MANUAL CODE NO.: 17314

CODE: CA (1/2 COST), TERMINATE

<u>TOTAL AMTRAK COST BY STATE:</u>		<u>PAYROLL ÷ 100:</u>		<u>RATES:</u>		<u>PREMIUM SUBTOTALS:</u>		<u>PREMIUM TOTALS:</u>
D.C.	<u>18,370</u>	X .0035 =	<u>64.3</u>	X .87 =	<u>55.9</u>	}	<u>95.8</u>	
				X .62 =	<u>39.9</u>			
MD.	<u>225,832</u>	X .0035 =	<u>790.4</u>	X .68 =	<u>537.5</u>	}	<u>924.8</u>	
				X .49 =	<u>387.3</u>			
DEL.	<u>53,366</u>	X .0035 =	<u>186.8</u>	X .83 =	<u>155.0</u>	}	<u>218.5</u>	
				X .34 =	<u>63.5</u>			
PHILA., PA.	<u>50,548</u>	X .0035 =	<u>176.9</u>	X 1.60 =	<u>283.0</u>	}	<u>357.3</u>	
				X .42 =	<u>74.3</u>			
OTHER PA.	<u>75,416</u>	X .0035 =	<u>264.0</u>	X .92 =	<u>242.9</u>	}	<u>361.7</u>	
				X .45 =	<u>118.8</u>			
N.J.	<u>245,579</u>	X .0035 =	<u>859.5</u>	X 1.90 =	<u>1633.0</u>	}	<u>2,243.2</u>	
				X .71 =	<u>610.2</u>			
N.Y.C.	<u>9,849</u>	X .0035 =	<u>34.5</u>	X 2.80 =	<u>96.6</u>	}	<u>131.1</u>	
				X 1.00 =	<u>34.5</u>			
OUTSIDE N.Y.C.	<u>---</u>	X .0035 =	<u>---</u>	X	<u>---</u>	}	<u>---</u>	
				X	<u>---</u>			
CT.	<u>112,092</u>	X .0035 =	<u>392.3</u>	X .93 =	<u>364.9</u>	}	<u>561.1</u>	
				X .50 =	<u>196.2</u>			
R.I.	<u>83,225</u>	X .0035 =	<u>291.3</u>	X 1.30 =	<u>378.7</u>	}	<u>533.1</u>	
				X .53 =	<u>154.4</u>			
MA.	<u>57,817</u>	X .0035 =	<u>202.4</u>	X 1.10 =	<u>222.6</u>	}	<u>374.4</u>	
				X .75 =	<u>151.8</u>			
PREMIUM TOTAL FOR THIS WORK ELEMENT:								<u>5,801.0</u>

V-26

WORK ELEMENT: REHABILITATE CABLE TERMINATIONS

APPLICABLE RATE MANUAL CODE NO.: 17314

CODE: CA

<u>TOTAL AMTRAK COST BY STATE:</u>			<u>PAYROLL ÷ 100:</u>	<u>RATES:</u>	<u>PREMIUM SUBTOTALS:</u>	<u>PREMIUM TOTALS:</u>
D.C.	<u>100,000</u>	X .0035 =	<u>350</u>	X .87 =	<u>304.5</u>	} <u>521.5</u>
				X .62 =	<u>217.0</u>	
MD.	<u>100,000</u>	X .0035 =	<u>350</u>	X .68 =	<u>238.0</u>	} <u>409.5</u>
				X .49 =	<u>171.5</u>	
DEL.	<u>---</u>	X .0035 =	<u>---</u>	X	<u>---</u>	} <u>---</u>
				X	<u>---</u>	
PHILA., PA.	<u>250,000</u>	X .0035 =	<u>875</u>	X 1.60 =	<u>1400.0</u>	} <u>1,767.5</u>
				X .42 =	<u>367.5</u>	
OTHER PA.	<u>---</u>	X .0035 =	<u>---</u>	X	<u>---</u>	} <u>---</u>
				X	<u>---</u>	
N.J.	<u>200,000</u>	X .0035 =	<u>700</u>	X 1.90 =	<u>1330.0</u>	} <u>1,827.0</u>
				X .71 =	<u>497.0</u>	
N.Y.C.	<u>100,000</u>	X .0035 =	<u>350</u>	X 2.80 =	<u>980.0</u>	} <u>1,330.0</u>
				X 1.00 =	<u>350.0</u>	
OUTSIDE N.Y.C.	<u>---</u>	X .0035 =	<u>---</u>	X	<u>---</u>	} <u>---</u>
				X	<u>---</u>	
CT.	<u>---</u>	X .0035 =	<u>---</u>	X	<u>---</u>	} <u>---</u>
				X	<u>---</u>	
R.I.	<u>---</u>	X .0035 =	<u>---</u>	X	<u>---</u>	} <u>---</u>
				X	<u>---</u>	
MA.	<u>---</u>	X .0035 =	<u>---</u>	X	<u>---</u>	} <u>---</u>
				X	<u>---</u>	

PREMIUM TOTAL FOR THIS WORK ELEMENT: 5,855.5

V-27

COAXIAL CABLE INSTALLATION:

WORK ELEMENT: DIRECT BURIAL (1/2 COST)

APPLICABLE RATE MANUAL CODE NO.: 16285XCU

CODE: CB

<u>TOTAL AMTRAK COST BY STATE:</u>	<u>PAYROLL ÷ 100:</u>	<u>RATES:</u>	<u>PREMIUM SUBTOTALS:</u>	<u>PREMIUM TOTALS:</u>
D.C.            ---	X .0035 =	X	=	}
		X	=	
MD.            ---	X .0035 =	X	=	
		X	=	
DEL.           ---	X .0035 =	X	=	
		X	=	
PHILA., PA.            ---	X .0035 =	X	=	
		X	=	
OTHER PA.            ---	X .0035 =	X	=	
		X	=	
N.J.            10,260	X .0035 = 36.0	X 1.40	= 50.3	}
		X .54	= 19.4	
N.Y.C.        57,530	X .0035 = 201.4	X 1.50	= 302.0	
OUTSIDE N.Y.C.        ---	X .0035 =	X .72	= 145.0	}
		X	=	
CT.            ---	X .0035 =	X	=	}
		X	=	
R.I.            ---	X .0035 =	X	=	}
		X	=	
MA.            ---	X .0035 =	X	=	}
		X	=	

V-28

PREMIUM TOTAL FOR THIS WORK ELEMENT: 516.7



COAXIAL CABLE INSTALLATION:

WORK ELEMENT: IN DUCT LINE, 1/2 DIRECT BURIAL COST APPLICABLE RATE MANUAL CODE NO.: 17314

CODE: CB

<u>TOTAL AMTRAK COST BY STATE:</u>	<u>PAYROLL ÷ 100:</u>	<u>RATES:</u>	<u>PREMIUM SUBTOTALS:</u>	<u>PREMIUM TOTALS:</u>
D.C.            ---	X .0035 =	X	=	}
		X	=	
MD.            ---	X .0035 =	X	=	
		X	=	
DEL.           ---	X .0035 =	X	=	
		X	=	
PHILA., PA.            67,635	X .0035 = 236.7	X 1.60	= 378.7	
		X .42	= 99.4	
OTHER PA.            147,058	X .0035 = 514.7	X .92	= 473.5	
		X .45	= 231.6	
N.J.            388,703	X .0035 = 1360.5	X 1.90	= 2585.0	
		X .71	= 966.0	
N.Y.C.        86,234	X .0035 = 301.9	X 2.80	= 845.3	
		X 1.00	= 301.9	
OUTSIDE N.Y.C.        ---	X .0035 =	X	=	
		X	=	
CT.            ---	X .0035 =	X	=	
		X	=	
R.I.            ---	X .0035 =	X	=	
		X	=	
MA.            ---	X .0035 =	X	=	
		X	=	

PREMIUM TOTAL FOR THIS WORK ELEMENT: 5,881.4

V-29

WORK ELEMENT: MICROWAVE COMMUNICATIONS

APPLICABLE RATE MANUAL CODE NO.: 15122

CODE: CC

<u>TOTAL AMTRAK COST BY STATE:</u>		<u>PAYROLL ÷ 100:</u>	<u>RATES:</u>	<u>PREMIUM SUBTOTALS:</u>	<u>PREMIUM TOTALS:</u>
D.C.	<u>2,900</u>	X .0035 = <u>10.1</u>	X <u>.38</u> =	<u>3.86</u>	} <u>7.2</u>
			X <u>.33</u> =	<u>3.9</u>	
MD.	<u>22,435</u>	X .0035 = <u>78.5</u>	X <u>.35</u> =	<u>27.4</u>	} <u>57.2</u>
			X <u>.38</u> =	<u>29.8</u>	
DEL.	<u>5,915</u>	X .0035 = <u>20.7</u>	X <u>.34</u> =	<u>7.0</u>	} <u>12.6</u>
			X <u>.27</u> =	<u>5.6</u>	
PHILA., PA.	<u>2,900</u>	X .0035 = <u>10.1</u>	X <u>.87</u> =	<u>8.8</u>	} <u>11.5</u>
OTHER PA.	<u>---</u>	X .0035 =	X <u>.26</u> =	<u>2.7</u>	
			X	=	} <u>2.3</u>
N.J.	<u>625</u>	X .0035 = <u>2.2</u>	X <u>.76</u> =	<u>1.7</u>	
			X <u>.29</u> =	<u>0.6</u>	
N.Y.C.	<u>---</u>	X .0035 =	X	=	} <u>16.6</u>
			X	=	
OUTSIDE N.Y.C.	<u>4,505</u>	X .0035 = <u>15.8</u>	X <u>.72</u> =	<u>11.4</u>	
			X <u>.33</u> =	<u>5.2</u>	
CT.	<u>24,420</u>	X .0035 = <u>85.5</u>	X <u>.45</u> =	<u>38.5</u>	} <u>79.5</u>
			X <u>.48</u> =	<u>41.0</u>	
R.I.	<u>16,710</u>	X .0035 = <u>58.5</u>	X <u>.72</u> =	<u>42.1</u>	} <u>67.8</u>
			X <u>.44</u> =	<u>25.7</u>	
MA.	<u>9,005</u>	X .0035 = <u>31.5</u>	X <u>.71</u> =	<u>22.4</u>	} <u>39.1</u>
			X <u>.53</u> =	<u>16.7</u>	
PREMIUM TOTAL FOR THIS WORK ELEMENT:					<u>293.8</u>

V-30

WORK ELEMENT: MULTIPLEX COMMUNICATIONS

APPLICABLE RATE MANUAL CODE NO.: 17313

CODE: CD

V-31

<u>TOTAL AMTRAK COST BY STATE:</u>		<u>PAYROLL ÷ 100:</u>	<u>RATES:</u>	<u>PREMIUM SUBTOTALS:</u>	<u>PREMIUM TOTALS:</u>
D.C.	<u>2,650</u>	X .0035 = <u>9.3</u>	X .27 =	<u>2.5</u>	} <u>4.9</u>
			X .26 =	<u>2.4</u>	
MD.	<u>9,500</u>	X .0035 = <u>33.3</u>	X .25 =	<u>8.3</u>	} <u>18.6</u>
			X .31 =	<u>10.3</u>	
DEL.	<u>3,200</u>	X .0035 = <u>11.2</u>	X .24 =	<u>2.7</u>	} <u>5.1</u>
			X .21 =	<u>2.4</u>	
PHILA., PA.	<u>19,800</u>	X .0035 = <u>69.3</u>	X .62 =	<u>43.0</u>	} <u>57.5</u>
			X .21 =	<u>14.5</u>	
OTHER PA.	<u>900</u>	X .0035 = <u>3.2</u>	X .37 =	<u>1.2</u>	} <u>1.9</u>
			X .22 =	<u>0.7</u>	
N.J.	<u>11,150</u>	X .0035 = <u>39.0</u>	X .54 =	<u>21.1</u>	} <u>30.5</u>
			X .24 =	<u>9.4</u>	
N.Y.C.	<u>6,950</u>	X .0035 = <u>24.3</u>	X 1.00 =	<u>24.3</u>	} <u>34.3</u>
			X .41 =	<u>10.0</u>	
OUTSIDE N.Y.C.	<u>300</u>	X .0035 = <u>1.1</u>	X .52 =	<u>0.6</u>	} <u>0.9</u>
			X .26 =	<u>0.3</u>	
CT.	<u>11,050</u>	X .0035 = <u>38.7</u>	X .33 =	<u>12.8</u>	} <u>28.3</u>
			X .40 =	<u>15.5</u>	
R.I.	<u>4,150</u>	X .0035 = <u>14.5</u>	X .54 =	<u>7.4</u>	} <u>12.6</u>
			X .36 =	<u>5.1</u>	
MA.	<u>3,200</u>	X .0035 = <u>11.2</u>	X .51 =	<u>5.7</u>	} <u>10.5</u>
			X .43 =	<u>4.8</u>	

PREMIUM TOTAL FOR THIS WORK ELEMENT: 205.1

WORK ELEMENT: TELEPHONE SWITCHING EQUIPMENT

APPLICABLE RATE MANUAL CODE NO.: 48110U

CODE: CE

TOTAL AMTRAK COST BY STATE:

PAYROLL ÷ 100:

RATES:

PREMIUM SUBTOTALS:

PREMIUM TOTALS:

D.C.	<u>2,000</u>	X .0035 =	<u>7.0</u>	X	<u>.15</u>	=	<u>1.1</u>	}	<u>1.8</u>
				X	<u>.10</u>	=	<u>0.7</u>		
MD.	<u>7,950</u>	X .0035 =	<u>27.8</u>	X	<u>.13</u>	=	<u>3.6</u>	}	<u>7.5</u>
				X	<u>.14</u>	=	<u>3.9</u>		
DEL.	<u>8,067</u>	X .0035 =	<u>28.2</u>	X	<u>.20</u>	=	<u>5.7</u>	}	<u>7.7</u>
				X	<u>.07</u>	=	<u>2.0</u>		
PHILA., PA.	<u>41,068</u>	X .0035 =	<u>143.7</u>	X	<u>.25</u>	=	<u>35.9</u>	}	<u>47.4</u>
				X	<u>.08</u>	=	<u>11.5</u>		
OTHER PA.	<u>3,950</u>	X .0035 =	<u>13.8</u>	X	<u>.17</u>	=	<u>2.3</u>	}	<u>3.4</u>
				X	<u>.08</u>	=	<u>1.1</u>		
N.J.	<u>4,170</u>	X .0035 =	<u>14.6</u>	X	<u>.28</u>	=	<u>4.1</u>	}	<u>5.4</u>
				X	<u>.09</u>	=	<u>1.3</u>		
N.Y.C.	<u>32,988</u>	X .0035 =	<u>115.5</u>	X	<u>.62</u>	=	<u>71.6</u>	}	<u>92.4</u>
				X	<u>.18</u>	=	<u>20.8</u>		
OUTSIDE N.Y.C.	<u>---</u>	X .0035 =	<u>---</u>	X	<u>---</u>	=	<u>---</u>	}	<u>---</u>
				X	<u>---</u>	=	<u>---</u>		
CT.	<u>67,900</u>	X .0035 =	<u>237.7</u>	X	<u>.26</u>	=	<u>61.8</u>	}	<u>102.2</u>
				X	<u>.17</u>	=	<u>40.4</u>		
R.I.	<u>4,201</u>	X .0035 =	<u>14.7</u>	X	<u>.21</u>	=	<u>3.1</u>	}	<u>4.6</u>
				X	<u>.10</u>	=	<u>1.5</u>		
MA.	<u>6,335</u>	X .0035 =	<u>22.2</u>	X	<u>.23</u>	=	<u>5.1</u>	}	<u>7.3</u>
				X	<u>.10</u>	=	<u>2.2</u>		

PREMIUM TOTAL FOR THIS WORK ELEMENT:

279.7

WORK ELEMENT: TELEPHONE TERMINAL EQUIPMENT

APPLICABLE RATE MANUAL CODE NO.: 16245XCU

CODE: CF

V-33

<u>TOTAL AMTRAK COST BY STATE:</u>			<u>PAYROLL ÷ 100:</u>	<u>RATES:</u>	<u>PREMIUM SUBTOTALS:</u>	<u>PREMIUM TOTALS:</u>
D.C.	<u>1,765</u>	X .0035 =	<u>6.2</u>	X .76 =	<u>4.7</u>	} <u>9.0</u>
				X .69 =	<u>4.3</u>	
MD.	<u>100,540</u>	X .0035 =	<u>351.9</u>	X .56 =	<u>197.1</u>	} <u>390.6</u>
				X .55 =	<u>193.5</u>	
DEL.	<u>18,420</u>	X .0035 =	<u>64.5</u>	X .69 =	<u>44.5</u>	} <u>69.0</u>
				X .38 =	<u>24.5</u>	
PHILA., PA.	<u>28,010</u>	X .0035 =	<u>98.0</u>	X 1.30 =	<u>127.4</u>	} <u>173.5</u>
				X .47 =	<u>46.1</u>	
OTHER PA.	<u>15,183</u>	X .0035 =	<u>53.1</u>	X .77 =	<u>40.9</u>	} <u>67.5</u>
				X .50 =	<u>26.6</u>	
N.J.	<u>51,242</u>	X .0035 =	<u>179.3</u>	X 1.70 =	<u>304.8</u>	} <u>446.4</u>
				X .79 =	<u>141.6</u>	
N.Y.C.	<u>56,304</u>	X .0035 =	<u>197.1</u>	X 5.60 =	<u>1103.8</u>	} <u>1,289.1</u>
				X .94 =	<u>185.3</u>	
OUTSIDE N.Y.C.	<u>---</u>	X .0035 =		X	=	
				X	=	
CT.	<u>39,610</u>	X .0035 =	<u>138.6</u>	X .93 =	<u>128.9</u>	} <u>217.6</u>
				X .64 =	<u>88.7</u>	
R.I.	<u>27,478</u>	X .0035 =	<u>96.2</u>	X 1.20 =	<u>115.4</u>	} <u>172.2</u>
				X .59 =	<u>56.8</u>	
MA.	<u>12,719</u>	X .0035 =	<u>44.5</u>	X .93 =	<u>41.4</u>	} <u>78.8</u>
				X .84 =	<u>37.4</u>	

PREMIUM TOTAL FOR THIS WORK ELEMENT: 2,913.7

WORK ELEMENT: TWO-WAY AUDIO FACILITIES

APPLICABLE RATE MANUAL CODE NO.: 17313

CODE: CI

<u>TOTAL AMTRAK COST BY STATE:</u>		<u>PAYROLL ÷ 100:</u>	<u>RATES:</u>	<u>PREMIUM SUBTOTALS:</u>	<u>PREMIUM TOTALS:</u>
D.C.	<u>12,310</u>	X .0035 = <u>43.1</u>	X .27 =	<u>11.6</u>	} <u>22.8</u>
			X .26 =	<u>11.2</u>	
MD.	<u>399,990</u>	X .0035 = <u>1400.0</u>	X .25 =	<u>350.0</u>	} <u>784.0</u>
			X .31 =	<u>434.0</u>	
DEL.	<u>109,750</u>	X .0035 = <u>384.1</u>	X .24 =	<u>92.1</u>	} <u>172.8</u>
			X .21 =	<u>80.7</u>	
PHILA., PA.	<u>157,950</u>	X .0035 = <u>552.9</u>	X .62 =	<u>342.8</u>	} <u>458.9</u>
			X .21 =	<u>116.1</u>	
OTHER PA.	<u>73,860</u>	X .0035 = <u>258.5</u>	X .37 =	<u>95.6</u>	} <u>152.5</u>
			X .22 =	<u>56.9</u>	
N.J.	<u>297,520</u>	X .0035 = <u>1041.3</u>	X .54 =	<u>562.3</u>	} <u>812.2</u>
			X .24 =	<u>249.9</u>	
N.Y.C.	<u>92,240</u>	X .0035 = <u>322.8</u>	X 1.00 =	<u>322.8</u>	} <u>455.1</u>
			X .41 =	<u>132.3</u>	
OUTSIDE N.Y.C.	<u>24,620</u>	X .0035 = <u>86.2</u>	X .52 =	<u>44.8</u>	} <u>67.2</u>
			X .26 =	<u>22.4</u>	
CT.	<u>404,150</u>	X .0035 = <u>1414.5</u>	X .33 =	<u>466.8</u>	} <u>1,131.6</u>
			X .40 =	<u>565.8</u>	
R.I.	<u>253,310</u>	X .0035 = <u>886.6</u>	X .51 =	<u>452.2</u>	} <u>771.3</u>
			X .36 =	<u>319.1</u>	
MA.	<u>171,300</u>	X .0035 = <u>599.5</u>	X .51 =	<u>305.7</u>	} <u>563.5</u>
			X .43 =	<u>257.8</u>	
PREMIUM TOTAL FOR THIS WORK ELEMENT:					<u>5,391.9</u>

V-34

WORK ELEMENT: CATENARY SYSTEM REHABILITATION

APPLICABLE RATE MANUAL CODE NO.: 16245XCU

CODE: EA

<u>TOTAL AMTRAK COST BY STATE:</u>		<u>PAYROLL ÷ 100:</u>	<u>RATES:</u>	<u>PREMIUM SUBTOTALS:</u>	<u>PREMIUM TOTALS:</u>
D.C.	<u>---</u>	X .0035 = <u>---</u>	X <u>---</u>	= <u>---</u>	<u>---</u>
			X <u>---</u>	= <u>---</u>	
MD.	<u>1,375,297</u>	X .0035 = <u>4,813.5</u>	X <u>.56</u>	= <u>2,695.6</u>	<u>5,343.0</u>
			X <u>.55</u>	= <u>2,647.4</u>	
DEL.	<u>298,111</u>	X .0035 = <u>1,043.4</u>	X <u>.69</u>	= <u>720.0</u>	<u>1,116.5</u>
			X <u>.38</u>	= <u>396.5</u>	
PHILA., PA.	<u>79,158</u>	X .0035 = <u>277.0</u>	X <u>1.30</u>	= <u>360.1</u>	<u>490.3</u>
			X <u>.47</u>	= <u>130.2</u>	
OTHER PA.	<u>83,104</u>	X .0035 = <u>290.5</u>	X <u>.77</u>	= <u>223.7</u>	<u>369.0</u>
			X <u>.50</u>	= <u>145.3</u>	
N.J.	<u>132,501</u>	X .0035 = <u>463.8</u>	X <u>1.70</u>	= <u>788.5</u>	<u>1,154.9</u>
			X <u>.79</u>	= <u>366.4</u>	
N.Y.C.	<u>324,441</u>	X .0035 = <u>1,135.4</u>	X <u>5.60</u>	= <u>6,358.2</u>	<u>7,425.5</u>
			X <u>.94</u>	= <u>1,067.3</u>	
OUTSIDE N.Y.C.	<u>143,570</u>	X .0035 = <u>502.5</u>	X <u>1.10</u>	= <u>552.8</u>	<u>904.6</u>
			X <u>.70</u>	= <u>351.8</u>	
CT.	<u>23,171,221</u>	X .0035 = <u>81,099.3</u>	X <u>.93</u>	= <u>75,422.3</u>	<u>127,325.9</u>
			X <u>.64</u>	= <u>51,903.6</u>	
R.I.	<u>18,368,740</u>	X .0035 = <u>64,290.6</u>	X <u>1.20</u>	= <u>77,148.7</u>	<u>115,080.2</u>
			X <u>.59</u>	= <u>37,931.5</u>	
MA.	<u>17,776,200</u>	X .0035 = <u>62,216.7</u>	X <u>.93</u>	= <u>57,861.5</u>	<u>110,123.5</u>
			X <u>.84</u>	= <u>52,262.0</u>	

PREMIUM TOTAL FOR THIS WORK ELEMENT: 369,333.4

V-35

CATENARY FOUNDATION WORK,

WORK ELEMENT: TRACTION SUBSTATION SUPPLY CONST.

APPLICABLE RATE MANUAL CODE NO.: 16215X

CODE: EB, EF

93-36

<u>TOTAL AMTRAK COST BY STATE:</u>		<u>PAYROLL ÷ 100:</u>	<u>RATES:</u>	<u>PREMIUM SUBTOTALS:</u>	<u>PREMIUM TOTALS:</u>
D.C.	---	X .0035 =	X	=	
MD.	60,807	X .0035 =	X .32	= 68.1	121.3
			X .25	= 53.2	
DEL.	11,281	X .0035 =	X .39	= 15.4	22.1
			X .17	= 6.7	
PHILA., PA.	8,546	X .0035 =	X .74	= 22.1	28.4
			X .21	= 6.3	
OTHER PA.	25,611	X .0035 =	X .44	= 39.4	60.1
			X .23	= 20.7	
N.J.	20,909	X .0035 =	X .97	= 71.0	88.6
			X .24	= 17.6	
N.Y.C.	3,768	X .0035 =	X 3.20	= 42.2	50.4
			X .62	= 8.2	
OUTSIDE N.Y.C.	---	X .0035 =	X	=	
CT.	9,989	X .0035 =	X .57	= 20.0	30.2
			X .29	= 10.2	
R.I.	3,492	X .0035 =	X .66	= 8.1	10.3
			X .18	= 2.2	
MA.	3,700	X .0035 =	X .53	= 6.9	10.2
			X .25	= 3.3	
PREMIUM TOTAL FOR THIS WORK ELEMENT:					421.6



WORK ELEMENT: FENCING

APPLICABLE RATE MANUAL CODE NO.: 16215X

CODE: FA, FB, FD, FE

V-37

<u>TOTAL AMTRAK COST BY STATE:</u>			<u>PAYROLL ÷ 100:</u>	<u>RATES:</u>	<u>PREMIUM SUBTOTALS:</u>	<u>PREMIUM TOTALS:</u>
D. C.	---	X .0035 =		X	=	
MD.	263,592	X .0035 =	922.6	X	.32 =	295.2
DEL.	34,655	X .0035 =	121.3	X	.25 =	230.7
PHILA., PA.	369,436	X .0035 =	1,293.0	X	.39 =	47.3
OTHER PA.	176,980	X .0035 =	619.4	X	.17 =	20.6
N. J.	237,789	X .0035 =	832.3	X	.74 =	956.8
N. Y. C.	228,873	X .0035 =	801.1	X	.21 =	271.5
OUTSIDE N. Y. C.	15,187	X .0035 =	53.2	X	.44 =	272.5
CT.	123,888	X .0035 =	433.6	X	.23 =	142.5
R. I.	44,729	X .0035 =	156.6	X	.97 =	807.3
MA.	178,883	X .0035 =	626.1	X	.24 =	199.8
				X	3.20 =	2563.6
				X	.62 =	496.7
				X	.91 =	48.4
				X	.38 =	20.2
				X	.57 =	247.2
				X	.29 =	125.7
				X	.66 =	103.4
				X	.18 =	28.2
				X	.53 =	331.8
				X	.25 =	156.6
PREMIUM TOTAL FOR THIS WORK ELEMENT:						7,366.0

WORK ELEMENT: PRIVATE GRADE CROSSING REMOVAL

APPLICABLE RATE MANUAL CODE NO.: 16215X

CODE: GB

V-38

<u>TOTAL AMTRAK COST BY STATE:</u>		<u>PAYROLL ÷ 100:</u>	<u>RATES:</u>	<u>PREMIUM SUBTOTALS:</u>	<u>PREMIUM TOTALS:</u>
D.C.	---	X .0035 =	X	=	}
			X	=	
MD.	---	X .0035 =	X	=	
			X	=	
DEL.	---	X .0035 =	X	=	
			X	=	
PHILA., PA.	---	X .0035 =	X	=	
			X	=	
OTHER PA.	---	X .0035 =	X	=	
			X	=	
N.J.	---	X .0035 =	X	=	
			X	=	
N.Y.C.	---	X .0035 =	X	=	
			X	=	
OUTSIDE N.Y.C.	---	X .0035 =	X	=	
			X	=	
CT.	431,900	X .0035 = 1,511.7	X .57	= 861.6	}
			X .29	= 438.4	
R.I.	17,300	X .0035 = 60.6	X .66	= 40.0	}
			X .18	= 10.9	
MA.	14,000	X .0035 = 49.0	X .53	= 26.0	}
			X .25	= 12.3	

PREMIUM TOTAL FOR THIS WORK ELEMENT: 1,389.2

WORK ELEMENT: STATION & BUILDING CONSTRUCTION

APPLICABLE RATE MANUAL CODE NO.: 17741

CODE: LA, LE

<u>TOTAL AMTRAK COST BY STATE:</u>		<u>PAYROLL ÷ 100:</u>	<u>RATES:</u>	<u>PREMIUM SUBTOTALS:</u>	<u>PREMIUM TOTALS:</u>
D.C.	<u>937,000</u>	X .0035 = <u>3279.5</u>	X .18 =	<u>590.31</u>	<u>1,082.24</u>
			X .15 =	<u>491.93</u>	
MD.	<u>576,000</u>	X .0035 = <u>2016.0</u>	X .15 =	<u>302.4</u>	<u>564.5</u>
			X .13 =	<u>262.1</u>	
DEL.	<u>244,000</u>	X .0035 = <u>835.0</u>	X .18 =	<u>150.3</u>	<u>267.2</u>
			X .14 =	<u>116.9</u>	
PHILA., PA.	<u>261,500</u>	X .0035 = <u>915.3</u>	X .44 =	<u>402.73</u>	<u>530.87</u>
			X .14 =	<u>128.14</u>	
OTHER PA.	<u>---</u>	X .0035 = <u>---</u>	X	<u>---</u>	
N.J.	<u>602,000</u>	X .0035 = <u>2107.0</u>	X .49 =	<u>1032.43</u>	<u>1,348.48</u>
			X .15 =	<u>316.05</u>	
N.Y.C.	<u>66,000</u>	X .0035 = <u>231.0</u>	X 1.30 =	<u>300.3</u>	<u>358.05</u>
			X .25 =	<u>57.75</u>	
OUTSIDE N.Y.C.	<u>---</u>	X .0035 = <u>---</u>	X	<u>---</u>	
CT.	<u>712,000</u>	X .0035 = <u>2492.0</u>	X .39 =	<u>971.88</u>	<u>1,495.2</u>
			X .21 =	<u>523.32</u>	
R.I.	<u>354,500</u>	X .0035 = <u>1240.8</u>	X .33 =	<u>409.46</u>	<u>4,583.17</u>
			X .14 =	<u>173.71</u>	
MA.	<u>797,000</u>	X .0035 = <u>2789.5</u>	X .32 =	<u>892.64</u>	<u>1,283.17</u>
			X .14 =	<u>390.53</u>	
PREMIUM TOTAL FOR THIS WORK ELEMENT:					<u>11,512.9</u>

V-39

WORK ELEMENT: COMMUTER STATION CONSTRUCTION

APPLICABLE RATE MANUAL CODE NO.: 16215X

CODE: LV

V-40

<u>TOTAL AMTRAK COST BY STATE:</u>		<u>PAYROLL ÷ 100:</u>	<u>RATES:</u>	<u>PREMIUM SUBTOTALS:</u>	<u>PREMIUM TOTALS:</u>
D.C.	---	X .0035 =	X	=	
			X	=	
MD.	525	X .0035 =	X .32	= 0.6	1.1
			X .25	= 0.5	
DEL.	295	X .0035 =	X .39	= 0.4	0.6
			X .17	= 0.2	
PHILA., PA.	865	X .0035 =	X .74	= 2.2	2.8
			X .21	= 0.6	
OTHER PA.	4,925	X .0035 =	X .44	= 7.6	11.6
			X .23	= 4.0	
N.J.	---	X .0035 =	X	=	
			X	=	
N.Y.C.	---	X .0035 =	X	=	
			X	=	
OUTSIDE N.Y.C.	---	X .0035 =	X	=	
			X	=	
CT.	---	X .0035 =	X	=	
			X	=	
R.I.	---	X .0035 =	X	=	
			X	=	
MA.	690	X .0035 =	X .53	= 1.3	1.9
			X .25	= 0.6	
<b>PREMIUM TOTAL FOR THIS WORK ELEMENT:</b>					<b>18.0</b>

WORK ELEMENT: SITE WORK

APPLICABLE RATE MANUAL CODE NO.: 16215X

CODE: RF

<u>TOTAL AMTRAK COST BY STATE:</u>		<u>PAYROLL ÷ 100:</u>	<u>RATES:</u>	<u>PREMIUM SUBTOTALS:</u>	<u>PREMIUM TOTALS:</u>
D.C.	---	X .0035 =	X	=	
MD.	20,530	X .0035 =	X	=	
			X .32 =	23.0	41.0
			X .25 =	18.0	
DEL.	2,919	X .0035 =	X .39 =	4.0	5.7
PHILA., PA.	2,440	X .0035 =	X .17 =	1.7	
			X .74 =	6.3	8.1
OTHER PA.	2,314	X .0035 =	X .21 =	1.8	
			X .44 =	3.6	5.5
			X .23 =	1.9	
N.J.	5,083	X .0035 =	X .97 =	17.3	21.6
			X .24 =	4.3	
N.Y.C.	2,351	X .0035 =	X 3.20 =	26.2	31.3
OUTSIDE N.Y.C.	93	X .0035 =	X .62 =	5.1	
			X .91 =	0.3	0.4
			X .38 =	0.1	
CT.	460,153	X .0035 =	X .57 =	918.0	1,385.0
			X .29 =	467.0	
R.I.	741	X .0035 =	X .66 =	1.7	2.2
			X .18 =	0.5	
MA.	2,090	X .0035 =	X .53 =	3.9	5.7
			X .25 =	1.8	

PREMIUM TOTAL FOR THIS WORK ELEMENT: 1,506.5

V-41

WORK ELEMENT: SIGNALING & TRAFFIC CONTROL

APPLICABLE RATE MANUAL CODE NO.: 17313

CODE: SA-SC, SE

V-42

<u>TOTAL AMTRAK COST BY STATE:</u>			<u>PAYROLL ÷ 100:</u>	<u>RATES:</u>	<u>PREMIUM SUBTOTALS:</u>	<u>PREMIUM TOTALS:</u>
D.C.	<u>225,092</u>	X .0035 =	<u>787.8</u>	X .27 =	<u>212.7</u>	} <u>417.5</u>
				X .26 =	<u>204.8</u>	
MD.	<u>15,857,384</u>	X .0035 =	<u>55,500.8</u>	X .25 =	<u>13,875.2</u>	} <u>31,080.4</u>
				X .31 =	<u>17,205.2</u>	
DEL.	<u>3,565,070</u>	X .0035 =	<u>12,477.7</u>	X .24 =	<u>2,994.6</u>	} <u>5,614.9</u>
				X .21 =	<u>2,620.3</u>	
PHILA., PA.	<u>5,631,078</u>	X .0035 =	<u>19,708.8</u>	X .62 =	<u>12,219.5</u>	} <u>16,358.3</u>
				X .21 =	<u>4,138.8</u>	
OTHER PA.	<u>2,463,756</u>	X .0035 =	<u>8,623.1</u>	X .37 =	<u>3,057.3</u>	} <u>4,954.4</u>
				X .22 =	<u>1,897.1</u>	
N.J.	<u>6,583,482</u>	X .0035 =	<u>23,042.2</u>	X .54 =	<u>12,442.8</u>	} <u>17,972.9</u>
				X .24 =	<u>5,530.1</u>	
N.Y.C.	<u>4,543,202</u>	X .0035 =	<u>15,901.2</u>	X 1.00 =	<u>15,901.2</u>	} <u>22,420.7</u>
				X .41 =	<u>6,519.5</u>	
OUTSIDE N.Y.C.	<u>674,797</u>	X .0035 =	<u>2,361.8</u>	X .52 =	<u>1,228.1</u>	} <u>1,842.2</u>
				X .26 =	<u>614.1</u>	
CT.	<u>8,058,219</u>	X .0035 =	<u>28,203.8</u>	X .33 =	<u>9,307.3</u>	} <u>20,588.8</u>
				X .40 =	<u>11,281.5</u>	
R.I.	<u>5,600,349</u>	X .0035 =	<u>19,601.2</u>	X .51 =	<u>9,996.6</u>	} <u>17,052.0</u>
				X .36 =	<u>7,056.4</u>	
MA.	<u>2,998,322</u>	X .0035 =	<u>10,494.1</u>	X .51 =	<u>5,352.0</u>	} <u>9,864.5</u>
				X .43 =	<u>4,512.5</u>	

PREMIUM TOTAL FOR THIS WORK ELEMENT: 148,166.6

WORK ELEMENT: TUNNELS

APPLICABLE RATE MANUAL CODE NO.: 16215X

CODE: TB-TF

<u>TOTAL AMTRAK COST BY STATE:</u>		<u>PAYROLL ÷ 100:</u>	<u>RATES:</u>	<u>PREMIUM SUBTOTALS:</u>	<u>PREMIUM TOTALS:</u>
D.C.	---	X .0035 =			
MD.	5,519,000	X .0035 = 19,316.5	.32	6181.3	11,010.4
DEL.	---	X .0035 =	.25	4829.1	
PHILA., PA.	---	X .0035 =			
OTHER PA.	---	X .0035 =			
N.J.	2,062,000	X .0035 = 7,217.0	.97	7000.5	8,732.6
N.Y.C.	4,180,900	X .0035 = 14,633.2	3.20	46826.2	55,898.8
OUTSIDE N.Y.C.	---	X .0035 =	.62	9072.6	
CT.	310,200	X .0035 = 1085.7	.57	618.8	933.7
R.I.	---	X .0035 =			
MA.	---	X .0035 =			

PREMIUM TOTAL FOR THIS WORK ELEMENT: 76,575.5

WORK ELEMENT: TRACK STRUCTURES

APPLICABLE RATE MANUAL CODE NO.: 16215X

CODE: UA-UD, UG, UJ-UN, UP, UR, UT, UU, UX, UY

<u>TOTAL AMTRAK COST BY STATE:</u>		<u>PAYROLL ÷ 100:</u>		<u>RATES:</u>		<u>PREMIUM</u>	<u>SUBTOTALS:</u>	<u>PREMIUM TOTALS:</u>
D.C.	<u>4,300,858</u>	X .0035 =	<u>15,053.0</u>	X	.44 =	<u>6623.3</u>	}	<u>9,784.4</u>
				X	.21 =	<u>3161.1</u>		
MD.	<u>64,993,180</u>	X .0035 =	<u>227,476.1</u>	X	.32 =	<u>72792.4</u>	}	<u>161,508.1</u>
				X	.25 =	<u>88715.7</u>		
DEL.	<u>14,590,030</u>	X .0035 =	<u>51,065.1</u>	X	.39 =	<u>19915.4</u>	}	<u>28,596.5</u>
				X	.17 =	<u>8681.1</u>		
PHILA., PA.	<u>14,355,483</u>	X .0035 =	<u>50,244.2</u>	X	.74 =	<u>37180.7</u>	}	<u>47,732.0</u>
				X	.21 =	<u>10551.3</u>		
OTHER PA.	<u>16,201,480</u>	X .0035 =	<u>56,705.2</u>	X	.44 =	<u>24950.3</u>	}	<u>37,992.5</u>
				X	.23 =	<u>13042.2</u>		
N.J.	<u>41,446,367</u>	X .0035 =	<u>145,062.3</u>	X	.97 =	<u>140710.4</u>	}	<u>175,525.4</u>
				X	.24 =	<u>34815.0</u>		
N.Y.C.	<u>19,332,388</u>	X .0035 =	<u>67,663.4</u>	X	3.20 =	<u>216522.9</u>	}	<u>258,474.2</u>
				X	.62 =	<u>41951.3</u>		
OUTSIDE N.Y.C.	<u>1,480,194</u>	X .0035 =	<u>5,180.7</u>	X	.91 =	<u>4714.4</u>	}	<u>6,683.1</u>
				X	.38 =	<u>1968.7</u>		
CT.	<u>47,198,510</u>	X .0035 =	<u>165,194.8</u>	X	.57 =	<u>94161.0</u>	}	<u>142,067.5</u>
				X	.29 =	<u>47906.5</u>		
R.I.	<u>38,323,888</u>	X .0035 =	<u>134,133.6</u>	X	.66 =	<u>88528.2</u>	}	<u>112,672.2</u>
				X	.18 =	<u>24144.0</u>		
MA.	<u>20,136,265</u>	X .0035 =	<u>70,476.9</u>	X	.53 =	<u>37352.8</u>	}	<u>54,972.0</u>
				X	.25 =	<u>17619.2</u>		

PREMIUM TOTAL FOR THIS WORK ELEMENT: 1,036,007.9

V-44



WORK ELEMENT: SPRAYING  
 CODE: UV

APPLICABLE RATE MANUAL CODE NO.: 07312

<u>TOTAL AMTRAK COST BY STATE:</u>		<u>PAYROLL ÷ 100:</u>	<u>RATES:</u>	<u>PREMIUM SUBTOTALS:</u>	<u>PREMIUM TOTALS:</u>
D.C.	<u>51,074</u>	X .0035 = <u>178.8</u>	X .35 = <u>62.6</u>	}	<u>277.2</u>
			X 1.20 = <u>214.6</u>		
MD.	<u>970,406</u>	X .0035 = <u>3396.4</u>	X .34 = <u>1154.8</u>	}	<u>4,890.8</u>
			X 1.10 = <u>3736.0</u>		
DEL.	<u>255,370</u>	X .0035 = <u>893.8</u>	X .27 = <u>241.3</u>	}	<u>1,403.2</u>
			X 1.30 = <u>1161.9</u>		
PHILA., PA.	<u>255,370</u>	X .0035 = <u>893.8</u>	X .58 = <u>518.4</u>	}	<u>1,072.6</u>
			X .62 = <u>554.2</u>		
OTHER PA.	<u>306,444</u>	X .0035 = <u>1072.6</u>	X .37 = <u>396.9</u>	}	<u>1,147.7</u>
			X .70 = <u>750.8</u>		
N.J.	<u>612,888</u>	X .0035 = <u>2145.1</u>	X .67 = <u>1437.2</u>	}	<u>3,410.7</u>
			X .92 = <u>1973.5</u>		
N.Y.C.	<u>204,296</u>	X .0035 = <u>715.0</u>	X .75 = <u>536.3</u>	}	<u>1,251.3</u>
			X 1.00 = <u>715.0</u>		
OUTSIDE N.Y.C.	<u>102,148</u>	X .0035 = <u>357.5</u>	X .53 = <u>189.5</u>	}	<u>507.7</u>
			X .89 = <u>318.2</u>		
CT.	<u>1,276,850</u>	X .0035 = <u>4469.0</u>	X .89 = <u>3977.4</u>	}	<u>10,234.0</u>
			X 1.40 = <u>6256.6</u>		
R.I.	<u>561,814</u>	X .0035 = <u>1966.3</u>	X .40 = <u>786.5</u>	}	<u>2,949.4</u>
			X 1.10 = <u>2162.9</u>		
MA.	<u>510,740</u>	X .0035 = <u>1787.6</u>	X .52 = <u>929.6</u>	}	<u>3,074.7</u>
			X 1.20 = <u>2145.1</u>		

PREMIUM TOTAL FOR THIS WORK ELEMENT: 30,219.3

V-45

WORK ELEMENT: CONSTRUCTION OF BUILDINGS

APPLICABLE RATE MANUAL CODE NO.: 17741

CODE: YA-YK

<u>TOTAL AMTRAK COST BY STATE:</u>		<u>PAYROLL ÷ 100:</u>		<u>RATES:</u>		<u>PREMIUM SUBTOTALS:</u>		<u>PREMIUM TOTALS:</u>
D.C.	<u>34,000</u>	X .0035 =	<u>119.00</u>	X .18 =	<u>21.42</u>	}	<u>39.27</u>	
				X .15 =	<u>17.85</u>			
MD.	<u>58,731</u>	X .0035 =	<u>205.56</u>	X .15 =	<u>30.83</u>	}	<u>57.55</u>	
				X .13 =	<u>26.72</u>			
DEL.	<u>293,160</u>	X .0035 =	<u>1026.06</u>	X .18 =	<u>184.69</u>	}	<u>328.34</u>	
				X .14 =	<u>143.65</u>			
PHILA., PA.	<u>69,305</u>	X .0035 =	<u>242.57</u>	X .44 =	<u>106.73</u>	}	<u>140.69</u>	
				X .14 =	<u>33.96</u>			
OTHER PA.	<u>15,653</u>	X .0035 =	<u>54.79</u>	X .28 =	<u>15.34</u>	}	<u>24.11</u>	
				X .16 =	<u>8.77</u>			
N.J.	<u>34,397</u>	X .0035 =	<u>120.39</u>	X .49 =	<u>58.99</u>	}	<u>77.05</u>	
				X .15 =	<u>18.06</u>			
N.Y.C.	<u>158,472</u>	X .0035 =	<u>554.65</u>	X 1.30 =	<u>721.05</u>	}	<u>859.71</u>	
				X .25 =	<u>138.66</u>			
OUTSIDE N.Y.C.	<u>---</u>	X .0035 =	<u>---</u>	X =	<u>---</u>	}	<u>---</u>	
				X =	<u>---</u>			
CT.	<u>53,813</u>	X .0035 =	<u>188.35</u>	X .39 =	<u>73.46</u>	}	<u>113.01</u>	
				X .21 =	<u>39.55</u>			
R.I.	<u>21,407</u>	X .0035 =	<u>74.92</u>	X .33 =	<u>24.72</u>	}	<u>35.21</u>	
				X .14 =	<u>10.49</u>			
MA.	<u>183,897</u>	X .0035 =	<u>643.64</u>	X .32 =	<u>205.96</u>	}	<u>296.07</u>	
				X .14 =	<u>90.11</u>			

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PREMIUM TOTAL FOR THIS WORK ELEMENT: 1,971.01