Can We Insure Against Liability From Nuclear Incidents?

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The peacetime development of the atom was made possible by the Atomic Energy Act of 1954. Since then a whole new industry has sprung up, creating new types of hazards and a consequent need for insurance in unprecedented amounts. Private insurance has responded already to the needs of this infant industry. At present fabricators of nuclear fuel elements, operators of reactors, transporters of new and used nuclear fuel elements and business concerns engaged in the disposal of radioactive waste are insured against the nuclear energy hazard. Where requested, this protection has been afforded in vast amounts, far in excess of any limits ever before offered by private insurers. This paper will put forth some of the principal problems confronting the liability and property insurers and the program which has been developed to meet these problems.

THE PROBLEMS

Unknown Hazard

Never before in the history of insurance has a change occurred which presented problems equal to those created by the advent of atomic energy. Normally, great industrial changes take place over a period of years; it took some time for steam, electricity, the motor car and even aviation to reach full development. In contrast, atomic energy has literally burst upon us in full maturity, making it necessary for insurers to provide against entirely new and, in some cases, imperfectly known hazards without the benefit of accumulated experience or the opportunity to employ the trial and error procedure which underlies so many segments of the insurance business.¹

Catastrophe Hazard

In addition, the catastrophe hazard has profoundly influenced the thinking of the insurance industry. Although remote, a major disaster must always be recognized as a possibility. One only need remember the mid-air collision of the two large passenger airplanes over the Grand Canyon and the tragedy of the *Andrea Doria* to realize the truth of the axiom that if

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¹ For an excellent treatment of this problem and a penetrating analysis of the hazards involved see Silversides, *Atomic Energy and Insurance*, paper presented to the Chartered Insurance Institute in England.

you write catastrophe insurance you must expect to pay catastrophe losses.² The amount of offsite damage caused by a major nuclear incident will be dependent on many variables, although some estimates in dollar amounts have been made. For instance, the Atomic Energy Commission in a hearing on the indemnity legislation in May, 1956, presented figures indicating that property damage in the event of a runaway reactor and consequent release of 100% of the fission products could conceivably run as high as \$900,000,000.³ Of course, personal injuries would cause this figure to swell considerably. Such high estimates are based on the possible necessity of evacuating large cities or major watershed areas and the like.

Other Problems

In addition to this spectre of virtually unlimited damage, the insurance companies are also aware of the possibility that courts may impose liability on insureds even in the absence of fault. In addition, insurers traditionally spread risks over a broad base of exposure. In the near future the number of nuclear installations will be limited. Consequently the spread of risk is absent, in large measure. The task of the insurers has been further complicated by the conflicting statements by technical experts in the nuclear energy field, changes created by the rapid progress in nuclear science and most important the lack of reliable loss experience statistics.

INSURANCE PROGRAMS

Liability Insurers

Despite these problems, the nuclear energy liability insurance program has proceeded rapidly and many risks already have been found. Liability for loss caused by the nuclear energy hazard must necessarily be written through insurance pools because of the high limits of liability requested, the catastrophic hazard involved and the underwriting limitations of the individual companies. The stock companies have formed the Nuclear Energy Liability Insurance Association, commonly known as NELIA. The mutual companies have formed a pool known as the Mutual Atomic Energy Reinsurance Pool, generally referred to as MAERP. All domestic stock and mutual companies, except small companies with limited capacity, have been invited to participate by one or the other of the pools. These pools are expected to develop the capacity of approximately \$60,000,000 per risk, of

² For a superb analysis of the insurer's problem see St. Clair, *Legal and Insurance Aspects [of Atomic Energy]*, REPORT OF THE TWENTY-FIRST ANNUAL MEETING OF THE INDUSTRIAL HYGIENE INSTITUTE 145, 148 (1957).

³ For an excellent treatment of the entire problem coupled with excellent annotations see COLUMBIA UNIVERSITY LEGISLATIVE RESEARCH FUND, FINANCIAL PROTECTION AGAINST ATOMIC HAZARDS (January, 1957) (prepared as an independent research project for Atomic Industrial Forum, Inc.).

which about 80% will be furnished by the stock companies and the remainder by the mutual companies. This figure would include the extent of expected participation by the reinsurance market. The members of these pools have developed uniform standards for underwriting the risks offered and for engineering and inspection services. Procedures are being set up to handle claims in accordance with uniform standards. Committees have been formed and are presently engaged in preparing plans for the handling of catastrophe losses.

The Nuclear Energy Liability Policy

The members of the two pools have dovetailed their efforts and will issue identical policies under a reciprocal arrangement that will permit maximum use of their underwriting capacities. The policy provides coverage for loss and expense resulting from liability because of bodily injury or property damage caused by the nuclear energy hazard. The policy defines the "nuclear energy hazard" as "the radioactive, toxic, explosive or other hazardous properties of source material, special nuclear material or by-product material" but only while such materials are at the facility, or with some limitations, being transported from or to the facility. Consequently, an owner or operator of an insured facility must buy usual liability coverages to protect himself against the ordinary hazards since no such coverage will be afforded by the pool policies. Unlike usual liability policies, the Nuclear Energy Liability Policy does not afford separate limits of liability for bodily injury and property damage. Rather, it contains a single aggregate limit of liability for all losses and loss expenses arising during the policy period for bodily injury or property damage. Thus, it has been made abundantly clear that each loss or expense payment will reduce the amount provided by the policy. By this provision the insurance companies have limited the amount of money at risk under any one policy and have avoided situations which might arise in which the liability of the companies might exceed their capacity.

The policy affords protection not only to the operator of a nuclear facility but also to any other person or organization who may be liable for injury or damage caused by the nuclear energy hazard. Thus, virtually everyone—including those who supply services, materials, parts or equipment to a facility—will be afforded protection under the policy. The designation of this broad group of insureds permits the issuance of one rather than several nuclear energy liability policies to a facility. Since only one policy will be issued to a nuclear facility, the danger of more than one nuclear energy liability policy applying to nuclear incidents arising at a nuclear facility is avoided.

Another novel feature of the policy is that it will be continuous rather

than for the usual term of a brief period of years. The nature of the radiation hazard—damage to persons might be inflicted only after a series of exposures over a long period and damage from a single exposure might not appear for many years—makes a continuous policy necessary.

As pointed out earlier, development of premium rates has been hindered by unfamiliarity with the hazard involved, the lack of a broad base of exposure to spread the risk and the lack of loss experience statistics. The problem has been solved by the institution of a program of retrospective premium adjustment and return which, in the light of experience over a fixed period of time, will produce an equitable insurance cost.

This rating program, known as the Industry Credit Rating Plan, is designed to cause a major retroactive downward effect on the prices NELIA and MAERP are now quoting if public liability losses from the nuclear energy hazard turn out to be non-existent or negligible. In the presence of perfect experience, the prices now being quoted to risks seeking liability protection would be reduced between two-thirds and three-quarters. The plan is designed to apply over a moving ten-year period to the experience of the insured nuclear energy industry as a whole; it does not apply to individual risk experience. Hence, when premium returns develop they will be made to risks that have had losses as well as those which have not. The premium earned by the pools for the first ten years of operation will be accumulated. From these premiums actual incurred losses and loss adjustment expenses will be deducted. A specified provision for expenses and long-term reserves will also be deducted. The balance of the ten-year premiums will be placed in a special reserve. During the eleventh year of operation a procedure of gradual refund of this reserve will begin. The portion of the reserve to be returned in the eleventh year will be that percentage of it which corresponds to the relationship of the first year premiums to the accumulated ten-year premiums. Thus, if the premiums earned by the pools are equal in each of the ten years, one-tenth of the reserve will be returned in the eleventh year. This return will be made to the insureds who paid premiums in the first year of operation and will be divided among those insureds according to the proportion which each one's premium bears to the total premium earned in the first year. The same procedure will be followed every year thereafter.

In addition to the pool policies available to the operators of nuclear facilities, products liability coverage for the atomic hazard is also available to suppliers of services or materials through the liability pools. Even though such suppliers become insureds under a nuclear facility policy it is possible that operators of nuclear facilities might elect either to self-insure or to purchase inadequate limits. This coverage is designed to provide against such contingencies. Transportation of nuclear materials involves similar

problems and special coverage can be purchased with respect to the transportation hazard. Provisions have been made to avoid pyramiding of limits between these special coverages and policies issued to facilities.

The question of whether the syndicates will be able to afford coverage to American principals constructing or operating nuclear facilities in foreign countries or to American manufacturers of materials or parts sold for use in reactors outside the United States is also under study. It is expected that satisfactory solutions to these problems will be reached in the near future.

Liability insurers also must deal with the usual liability policies now being written generally throughout the country. These policies do not exclude the nuclear energy hazard and consequently, unless the hazard is excluded or in some way limited, an intolerable accumulation of liability between such policies and nuclear energy liability policies could ensue. The two principal casualty insurance rating bureaus, the National Bureau of Casualty Underwriters and the Mutual Insurance Rating Bureau, at present are actively engaged in a program designed to eliminate the possibility of such pyramiding of limits.

The Government Indemnity Program

No discussion of the problems of a liability insurer in this field would be complete without consideration of the Anderson-Price Act⁴ which became effective September 2, 1957. From the outset, public utilities and other industries interested in the peacetime development of atomic energy have taken the position that they need protection against the liability hazard in amounts much greater than those which can be furnished through private insurance. The Anderson-Price Act is designed not only to afford such protection to industry, but also to protect the public against loss occasioned by a catastrophic disaster.

The act provides indemnity to a licensee and anyone else who may be liable in an amount not in excess of 500,000,000 dollars per nuclear incident over and above the security required by the Atomic Energy Commission as a condition for a license to operate a reactor.⁵ The act contemplates that the amount of "financial protection" required by the Commission shall be the amount of liability insurance available from private sources or such lesser amounts as the Atomic Energy Commission may establish based on certain criteria set forth in the bill. This "financial protection" can be furnished by the licensee through private insurance, private contractual indemnities, self-insurance or other proof of financial responsibility or a combination of such measures.⁶ The Government's indemnification is to be made for the benefit of anyone found liable for a nuclear incident.

⁴ 71 STAT. 576, 42 U.S.C.A. §§ 2012, 2014, 2039, 2073, 2210, 2232 (Supp. 1957).

⁵ *Id.* 577, 42 U.S.C.A. § 2210(c) (Supp. 1957).

⁶ *Ibid.*, 42 U.S.C.A. § 2210(b) (Supp. 1957).

It was originally, and still is, contemplated by the insurance industry that workmen's compensation insurance will be handled through the usual procedures. However, the government program has raised some problems in this respect. Although claims under state or federal workmen's compensation acts by employees of persons indemnified who are employed at the site and in connection with the activity where the incident occurs are excluded, the act does provide that workmen's compensation carriers, whether insurance companies or self-insurers, who cover employees who are not employed in connection with a facility or activity, are entitled to be indemnified for any compensation losses resulting from a nuclear incident.⁷ The Committee report bases this position on the ground that workmen's compensation premiums will not include an extra charge for the nuclear hazard if the employees are not employed at the site of a nuclear facility, but an extra charge will be made by carriers when employees are working at a facility and in connection with the activity. It is therefore contended in the Committee reports that there is a real and fair basis for permitting carriers of such employees to have their claims included within the government indemnity. Both pools are now giving every attention to this provision in the bill and expect to provide a solution whereby similar coverage will be afforded in nuclear energy liability policies furnished to operators of licensed facilities.

Perhaps the most novel concept contained in the new law is the extension of the government indemnity to include damage to the property of a person or organization legally liable for a nuclear incident, with the exception of property located at the site of and used in connection with the activity where the nuclear incident occurs.⁸ Thus, for example, an operator of a facility would not only be protected against liability for damage to property of others located away from the nuclear facility but would also be entitled to indemnification for damage to his own offsite property even though he himself were responsible for the nuclear incident which caused the damage. Apparently, it was the feeling of the Joint Atomic Energy Committee that the inclusion of such claims within the indemnity was only fair since property insurance is not generally available against such a hazard. However, the bill also provides that the indemnity will be available only if similar coverage is provided under the required "financial protection."⁹ Since the inclusion of such claims under a liability policy is completely foreign to liability insurance practices, the latter has posed a very difficult problem

⁷ *Ibid.*, 42 U.S.C.A. § 2014(r)(u) (Supp. 1957); see S. REP. NO. 296, 85th Cong., 1st Sess. (1957); U.S. CODE CONG. & ADM. NEWS 3172-73 (1957).

⁸ 71 STAT. 577, 42 U.S.C.A. § 2014(r)(u) (Supp. 1957); see S. REP. NO. 296, 85th Cong., 1st Sess. (1957); U.S. CODE CONG. & ADM. NEWS 3173-74 (1957).

⁹ 71 STAT. 577, 42 U.S.C.A. § 2014(r)(u) (Supp. 1957); see S. REP. NO. 296, 85th Cong., 1st Sess. (1957); U.S. CODE CONG. & ADM. NEWS 3174 (1957).

for the liability pools. Nevertheless, both liability pools have prepared an endorsement designed to afford the protection needed by the industry.

One other feature of the bill is worthy of notice. That is the provision providing procedures to limit the liability of anyone liable for a nuclear incident to the sum of the "financial protection" required plus the \$500,000,000 governmental indemnity.¹⁰ Under these provisions, the Commission or any person indemnified may apply to the appropriate federal district court having venue in bankruptcy matters over the site of the nuclear incident and the district court is authorized to issue orders declaring the liability limited and staying the payment of claims and the execution of court judgments; it is also authorized to prorate the available funds among all those to whom liability is owed. Congress could appropriate more monies after further authorization hearings before the Joint Committee if this seemed desirable at the time.

Property Insurers

As in the case of the liability insurers, the property insurers have been called upon to furnish large amounts of coverage against property damage to nuclear facilities.¹¹ Further, they are faced with the same problems with respect to unfamiliarity with the hazard and the lack of reliable loss experience statistics. Consequently, they too have decided to write this coverage by means of the pool device.

The majority of stock property insurers have formed an organization known as the Nuclear Energy Property Insurance Association, commonly referred to as NEPIA, with a capacity of about \$56,500,000 per risk. A mutual syndicate has also been set up to write such property coverage with a capacity of about \$8,500,000 per risk. It is contemplated that identical policy forms will be used by both pools. The joint capacity of the two pools is expected to be about \$65,000,000 per installation including the use of available reinsurance. This capacity will afford sufficient protection to owners of nuclear facilities and no supplemental government indemnity will be needed. The policy is to be of an "all risk" character, subject to specified exclusions. It will include not only protection against damage to property caused by the nuclear energy hazard but also the protection afforded by standard fire, extended coverage, and boiler and machinery insurance. The policy is limited to direct physical damage and does not include coverage for loss of use.

¹⁰ 71 STAT. 577, 42 U.S.C.A. § 2210(e) (Supp. 1957); see also U.S. CODE CONG. & ADM. NEWS 3177 (1957).

¹¹ See Johnson, *Nuclear Energy Liability and Property Insurance—The Initial Phase*, address delivered before the Section of Insurance at the 1957 annual meeting of the American Bar Association in New York.

The property insurers also have a problem in connection with the exclusion of the nuclear hazard in their usual property insurance policies. This problem is under active consideration and as yet no definite conclusions have been reached.

CONCLUSION

From the foregoing it is clear that the insurance industry has constructed a framework capable of dealing with the insurance problem created by atomic energy even though the hazard is to a large extent unpredictable. Needless to say, new problems of which we are presently unaware will arise in this field. Nevertheless, as in the past, not too many years will pass before coverage for the nuclear energy hazards will be offered with the same inatter-of-factness with which we deal with our normal insurance problems.