MANAGING CORPORATE RISK IN THE FACE OF RADIATION EXPOSURE LAWSUITS

Neal R. Brendel*
John P. Englert*
Kirkpatrick & Lockhart LLP
Pittsburgh, Pennsylvania

ABSTRACT

Commercial licensees and government contractors alike have been targeted for lawsuits by a variety of claimants alleging injuries to person and property caused by emissions from operations involving radioactive materials. Activities at risk for such suits include nuclear fuel cycle operations, radiological research, environmental remediation, facility decommissioning and radioactive waste management. Entities that are sued can expect to incur substantial legal costs defending themselves against such claims, and risk being adjudged liable for massive compensatory and punitive damage awards. Fortunately, there are means available to effectively manage this risk, such as nuclear liability insurance and statutory and contractual indemnifications. Unfortunately, unless the appropriate steps are taken, both before a suit is filed and during litigation, these risk management strategies may be compromised. This paper examines the types of radiation exposure cases that have been filed and describes the issues that companies may encounter defending themselves against such claims. Also identified are steps that can be taken to manage the risks posed by such lawsuits and to insulate the company from economic loss.

INTRODUCTION

Risk is commonly defined as the product of probability and consequence. For members of the nuclear industry, both the probability of being sued for alleged exposures to radioactive materials and the consequences of such suits--regardless of their merits--have significantly increased over the past few years. Creative plaintiffs' attorneys are filing lawsuits over virtually every type of operation involving the handling of radioactive materials. Plaintiffs range from one or a few specific individuals to alleged classes potentially involving thousands of individuals, seeking damages into the millions, and most recently, billions of dollars. The defense costs alone for such claims can be tens of millions of dollars.

Congress and the insurance industry have long recognized the potential liabilities associated with the use of radioactive materials and have established programs to manage such risks. Early in the commercialization of nuclear power Congress passed the Price-Anderson Act (1) which established a system of private financial protection and government indemnification for those commercial nuclear facilities deemed to present the greatest potential threat for public liability, and also established requirements for private financial protection for other facilities where the potential nuclear liability is not as severe. At government owned facilities, contractors typically were indemnified by the government for most legal expenses arising out of their contract work. More recently, Congress extended the statutory indemnification available under Price-Anderson

to contractors of the Department of Energy ("DOE") (2). In addition, in certain circumstances, Congress has passed special legislation to provide compensation for certain groups exposed to radiation from activities not covered under any of these programs (3).

The current nuclear risk management programs provide substantial liability protection for some operations and against some types of claims, but the recent spate of radiation exposure suits has identified several potential shortcomings in the system. As a result, some companies may discover they have less protection than they thought, and they may be subject to greater financial risk than originally anticipated.

This paper addresses the financial risks created by the recent spate of radiation induced injury claims and suggests steps that can be taken to contain these risks. First, to impart a sense of the magnitude of the problem, the paper details the types of cases that recently have been filed and analyzes data on costs incurred to defend and settle such claims. Next, to provide necessary background and context, the paper describes the various programs that exist for managing nuclear liabilities. The paper then describes the problems that companies may encounter as a result of being named defendants in radiation litigation. Finally, the paper offers suggestions for addressing these problems to minimize their impact.

TYPES OF CASES

Radiation exposure lawsuits can be classified in several different ways, but for the purpose of describing the magnitude of economic risk posed by such suits they are best classified by parties and claims. The number and types of plaintiffs and defendants convey the potential size and complexity of the litigation and identify the types of operations that have captured the attention of plaintiffs' attorneys. The type of claims advanced in these lawsuits also provide insight into the complexity of the litigation, but more importantly, it determines whether the defendant will be able to access its insurance or indemnity coverage for the costs of defending and settling such claims.

Parties

There are basically two types of parties in any lawsuit - plaintiffs and defendants. In radiation exposure lawsuits, a plaintiff may be anyone who alleges that he or she has been exposed to radiation or radioactive materials from defendants' actions. Obviously, the defendants are those parties who are (or were) responsible for the radiation or radioactive materials to which plaintiffs were allegedly exposed.

Radiation exposure lawsuits have been filed by patients who received experimental radiological procedures; current and former workers at facilities where radioactive materials are (or were) present; persons living near operating facilities where radioactive materials are being handled; and persons living near sites that are being decontaminated and decommissioned. In some cases, individuals have been joined by environmental groups, unions, and other organizations.

Virtually no one in the nuclear industry is immune from being sued. Parties being sued have included the following: doctors; hospitals; universities; current and former employers; current and former nuclear fuel cycle facility owners and operators; and current and former government contractors. Although government agencies enjoy certain immunities that make it harder for them to be sued, they too have been named defendants.

Many radiation exposure lawsuits involve numerous plaintiffs and defendants. Where multiple plaintiffs are involved and their cases involve common questions of law or fact, their cases may be consolidated or they may be certified as a class. Where cases are consolidated, they may be managed together, but each case is resolved on its own merits. Conversely, where a class has been certified the claims of the entire class are treated as a single claim and are resolved as such, at least for certain purposes. The importance of this distinction is illustrated by recent rulings in lawsuits involving the DOE Hanford site and Three Mile Island ("TMI") (4, 5). Hanford is a class action suit where many claims were dismissed against an entire class. Conversely, TMI plaintiffs were consolidated, and certain claims were dismissed against plaintiffs whose claims were tried, but similar claims were not dismissed against plaintiffs whose cases have not yet been tried.

Plaintiffs typically name as many defendants as possible in order to increase their odds of success and to maximize their potential recovery. Thus, parties with only the most tenuous relations to an operation involving radioactivity may be named defendants.

Essentially any type of radioactive operation may be the subject of a lawsuit for alleged radiation exposures. Among the more obvious examples are DOE nuclear weapons complex sites (e.g. Hanford, Rocky Flats, Fernald) and power reactors such as TMI. There are, however, many more operations that have resulted in radiation exposure lawsuits. Examples include: medical research (6); rare earth processing (7); and uranium fuel fabrication and commercial plutonium processing facilities (8).

Claims

Radiation exposure lawsuits involve various types of claims. Most cases will include claims for bodily injury, property damage, and related claims. Bodily injury and related claims may include battery (intentional exposure), increased risk of incurring radiogenic diseases, emotional distress, and medical monitoring. Relatives of individuals who died from diseases allegedly caused by radiation exposure may bring survivor and wrongful death actions. Claims relating to property damage include: diminution of property value due to alleged contamination, so-called "stigma claims" (damages for merely being located near a nuclear facility), trespass, and nuisance.

In bringing these claims, plaintiffs typically allege that they have been injured as a result of defendants' actions or inactions, and that defendants are strictly liable because work involving radiation is an abnormally dangerous activity. In some cases, however, plaintiffs also allege that their injuries result from defendants' intentional acts or willful misconduct. Such allegations may be necessary to avoid certain defenses (such as when an employee sues his employer and seeks to avoid the statutory immunity conferred by most state worker's compensation statutes) or

to support claims for punitive damages. Claims of intentional acts are particularly troublesome to defendants, as insurers may argue that such claims are not covered by the applicable policy or because they may provide a basis for indemnitors to attempt to void certain indemnifications.

In addition to the typical claim brought in radiation exposure cases, there have recently been some unusual claims. In a case involving government contractors, class action plaintiffs seeking $10 billion in damages have brought claims of unjust enrichment (9). In another case involving the same facility, plaintiffs acting on behalf of the federal government have alleged that the contractors filed false claims with the federal agency (10). These claims allege, among other things, that DOE contractors submitted false information concerning their environmental, health, and safety performance to induce DOE to pay higher awards under the contract. The first case (9) also contained a claim for strict products liability against a company that supplied radioactive materials to another facility for processing.

Defense And Settlement Costs

The following examples provide information about the cost of defending and settling these types of cases and are evidence of the enormity of the economic risk.

- Three Mile Island - Since the reactor accident occurred in 1979, the insurer reportedly has paid approximately $70 million in legal defense costs and $14 million to settle 282 claims for emotional distress (11). Approximately 2,100 claims remain.

- Hanford - DOE reportedly has paid almost $57 million in legal fees to defend class action suits involving approximately 5,800 plaintiffs (12).

- Mound - DOE settled a radiation class action suit for $1.5 million (13).

- Fernald - DOE settled the *In re Fernald* litigation for $78 million (14).

- A jury in Massachusetts awarded $8 million in compensatory and punitive damages to 2 plaintiffs in a class action suit involving alleged experimental radiation procedures on terminally ill patients (15, see also 6).

- The U.S. District Court in Cincinnati approved a $5 million settlement of a class action lawsuit involving alleged military-sponsored radiation experiments in the 1960's and 1970's (16).

- Apollo, PA - A jury awarded $36.7 million in compensatory damages to 8 plaintiffs (in a consolidated action involving several hundred plaintiffs) for alleged exposures from a uranium fuel fabrication facility (17). This verdict was subsequently reversed and a new trial ordered (18).

In contrast to these examples, a summary of claims experience for the period 1957 - 1997 indicated that there were a total of 195 alleged nuclear incidents, including TMI, for which a total

of $131 million was paid for indemnity and defense costs (19). Removing TMI from this universe reduces the total indemnity and defense costs to $61 million for all remaining claims. Interestingly, of the 195 claims, only 6 involved mass tort actions (including TMI) and three of these were filed since 1994.

NUCLEAR RISK MANAGEMENT PROGRAMS

Nuclear risk management programs, as used in this paper, refers to the combination of nuclear liability insurance and government indemnification that may be available to companies in the nuclear industry. There are distinctively different programs for NRC licensed facilities as contrasted to those facilities owned or controlled by DOE. The available programs for each type of facility are described in the following sections.

NRC Licensed Facilities

The basic architecture for nuclear risk management programs applicable to NRC Licensees is provided by the Price-Anderson Act. The Act provides a combination of commercially available insurance and government indemnification for "public liability," which is defined as

> Any legal liability arising out of or resulting from a nuclear incident ... except for claims ... covered by workman's compensation, claims arising out of an act of war, or claims for loss of or damage to or loss of use of property located at the site ... where the nuclear incident occurs (Atomic Energy Act (AEA) § 11w).

The term "nuclear incident" is defined as

> any occurrence ... causing bodily injury, sickness, disease, or death, or loss of or damage to property, or loss of use of property, arising out of or resulting from the radioactive, toxic, explosive or other hazardous properties of source, special nuclear, or by product material ... (AEA § 11q)

The primary focus of Price-Anderson is on "production and utilization facilities", which includes nuclear reactors, fuel reprocessing plants, enrichment facilities, and, as of August 1, 1977, plutonium processing facilities. These facilities must provide private financial assurance, typically in the form of nuclear liability insurance, in certain amounts that are based on the type and size of facility, and NRC provides indemnification for an additional $500 million. (The level of indemnification is reduced by the amount of private insurance greater than $60 million) The levels of coverage for each type of production and utilization facility is as follows:

- **Commercial reactors larger than 100 MW** must provide the maximum amount of nuclear liability insurance available from private sources. Above this primary coverage is a secondary layer of coverage that is funded by retrospective premiums (i.e., premiums paid only if there is a nuclear incident resulting in damages greater than the primary layer of coverage). In the case of such an incident, each commercial reactor licensee would pay up to $83.9 million per incident. Presently the maximum

level of primary coverage is $200 million and the secondary layer of coverage would amount to over $9 billion.

- **Reactors under 100 MW** must provide private financial assurance at levels based on the size of the unit and the size of the population around the reactor. Reactors operated by federal agencies are not required to provide private financial assurance, but are covered by the government indemnity up to $500 million. Reactors operated by non-profit educational institutions must provide financial assurance up to $250,000 and are indemnified by NRC up to $500 million.

- **Plutonium processing and fuel fabrication facilities** are required to provide private financial assurance up to maximum amount available (currently $200 million). Because this level exceeds $60 million, the level of NRC indemnification is reduced accordingly to $360 million.

NRC is not required to indemnify other types of licensees. These other licensees may, however, purchase the same nuclear liability insurance that indemnified facilities are required to have. Since it first became available in 1957, the amount of nuclear liability insurance available has increased from $60 million to $200 million. The increases over this period are shown in Table 1.

Table 1
Maximum Limits of Nuclear Liability Insurance

Year	Limit ($ millions)
1957	60
1966	74
1969	82
1972	95
1974	110
1975	125
1977	140
1979	160
1988	200

(Source: Ref. 19)

Nuclear liability insurance is provided by pools of private insurers. The standard policy provides coverage for bodily injury or property damage caused during the policy period by the nuclear energy hazard. The nuclear energy hazard is defined as:

> the radioactive, toxic, explosive or other hazardous properties of nuclear material, but only if: (1) the nuclear material is at the facility or has been discharged or dispersed therefrom without intent to relinquish possession or custody thereof . . . or (2) the nuclear material is in an insured shipment. . . (see 10 CFR § 140.91).

Accordingly, nuclear liability insurance coverage includes damages caused by operations at, and radioactive emissions from, covered facilities.

The standard nuclear liability insurance policy differs from a standard commercial general liability ("CGL") policy in several respects. First, the definition of insured in the standard nuclear liability "facility form" policy is much broader than the standard CGL definition. Virtually anyone with liability arising out of the nuclear energy hazard with respect to an insured facility may be an insured under the facility form policy. Second, once issued, the policy remains in effect continuously until it is either cancelled or its limits are exhausted through the payment of defense costs and/or claims. Unlike the typical CGL policy, the costs for investigating and defending claims erode the policy limits. Thus, each dollar expended in defense reduces the available limits on all years of coverage under the facility form policy applicable to the facility at issue.

In summary, there are substantial levels of protection available for large commercial reactors and other facilities that are indemnified by NRC. Other licensees ("Nonindemnified Licensees"), however, may be dependent solely on available nuclear liability insurance (unless other private indemnity has been received). The insurance limits available in the earlier years of operation were relatively low in light of today's potential liabilities. Furthermore, these modest limits may be eroded by defense costs as well as the expansive definition of insured, which may allow multiple parties (other than the named insured/facility operator) to access the policy.

DOE Operations

Nuclear risk management programs available to contractors at DOE facilities are different from those available to NRC licenses. Historically, DOE operations were not covered by Price-Anderson until 1988. Prior to that, DOE contractors were provided indemnification via clauses in their contracts with DOE. Under the typical Management and Operating contract used by DOE and its predecessor agencies, DOE agreed to reimburse legal costs and court judgments incurred by contractors arising out of the performance of then contract work, subject to exceptions for bad faith or willful misconduct. (See Ref. 14). Under that regime, contractors were not required to procure separate nuclear liability insurance.

When Congress extended Price-Anderson to DOE operations, nuclear risk management programs similar to those for NRC indemnified facilities (other than commercial power reactors) became available to DOE contractors. These programs include DOE indemnifications to DOE prime contractors and their subcontractors, and requirements that contractors provide private financial assurance at levels determined by the Secretary of Energy.

Other Nuclear Risk Management Approaches

In addition to the risk management programs developed for NRC licensees and DOE contractors, there are two other risk management approaches that warrant brief discussion.

The first entails private contractual indemnification. This is a risk allocation method commonly used in commercial contracts. Although the value of such an indemnification is limited by the financial wherewithal of the indemnitor, it can nonetheless be an effective method for limiting risk--especially when the indemnitor has substantial resources.

The second encompasses legislative initiatives to compensate groups of persons allegedly injured by exposure to radiation from certain activities. An example of this is the Radiation Exposure Compensation Act of 1990, which provides for cash payments to qualifying persons who lived downwind from atmospheric nuclear test sites or who worked in underground uranium mines. Another example is the compensation program proposed by DOE for workers at the Paducah Gaseous Diffusion Plant (20). Such legislative programs are not typically considered risk management programs, but they might be considered by some to be economically viable alternatives to mass tort actions, especially when one considers the enormous costs to defend and settle such claims. The problem with such legislative initiatives, however, is that they are subject to the vagaries and delays of the political process; thus, facility operators cannot rely on them and factor them into their risk management programs.

ISSUES TO BE CONSIDERED IN DEFENDING RADIATION EXPOSURE CLAIMS

The current trend in radiation exposure litigation has engendered a number of issues that may not have been apparent to facility operators when national nuclear policy and risk management programs were initially implemented. These issues relate primarily to nuclear liability insurance, which is the initial layer of protection against public liability arising from nuclear incidents for government indemnified activities and the only protection for activities not indemnified by the federal government. In this section, we describe several of these issues.

Number And Timing Of Claims

Price-Anderson and the nuclear liability insurance program it fostered were conceived to encourage private sector participation in the nuclear industry by providing broad protection from the potentially enormous liability associated with nuclear issues (19). Under the current litigation trend, plaintiffs are seeking to recover for alleged cumulative radiological exposures that span many years. Thus, not only are defendants confronted with more claims, they must also deal with potential issues regarding which insurance limits are available for coverage (limits in earlier years tend to be lower than limits in later years).

Plaintiffs have seized upon the linear non-threshold dose response model in an attempt to justify their claims. This model is based on a very conservative hypothesis that even very low levels of radiation exposure may be directly related to increased risk of disease, and in the absence of definitive data to the contrary, has been used to establish regulatory radiation protection standards. Plaintiffs, however, argue that the linear non-threshold model is also the appropriate legal standard for causation, and use it to support the position that any exposure results in a significant (and compensable) increased risk of illness. Many of the recent mass tort actions involve plaintiffs who have cancer or other disease to which radiation has been linked as one of

the potential causative agents, and who allege only minor exposures to radiation or radioactive effluents from a defendant's activities.

The timing of claims may raise issues. For cancer and other radiogenic diseases, typically there is a latency period between the time an individual is first exposed and the time when the allegedly resulting disease manifests itself. (21). For statute of limitation purposes, some courts have pointed to this delay to justify application of the "discovery rule" such that the limitations period does not begin to run until a plaintiff's injury was first discoverable. In addition, information regarding many operations conducted in the early days of the nuclear industry was not readily available to the public, either for national security reasons or other reasons. Plaintiffs have argued that as a result of this circumstance, Plaintiffs were not able to discover the cause of their injuries and are entitled to an extension of time within which to file claims. (In the case of extraordinary nuclear occurrences, Price-Anderson provides for a waiver of defenses, including statute of limitations defenses provided that suit is filed within 3 years of when a claimant knew or should have known of his injury and its cause.) In either event, plaintiffs are advancing claims today relating to operations from decades ago.

In light of these circumstances, nuclear liability insurers may attempt to limit the insurance available for such claims to the (lower) limits of liability in effect in earlier years. Unfortunately for the insured, under the insurers potential view, the current costs for defending and settling such claims may well exceed the available policy limits. Insureds should be prepared to contest the insurers view on this issue and to maximize their coverage.

In addition, because of the recognized latency issues, defendants can not be sure that additional claimants will not appear in the future. This makes complete resolution of a case difficult.

Competition For Limited Insurance Resources

The design of the nuclear liability insurance program may create an environment of competition among parties covered under the same policy. As described earlier, facility form policies employ an expansive definition of insured. Problems can arise, however, when multiple defendants seek to access the same policy. The facility operator, who paid the premiums for the policy, may find its limits eroded by other defendants who may be independently responsible for the alleged incident. Additionally, the increased costs of defending multiple parties may accelerate erosion of the available limits. Because the nuclear liability facility form policy remains in effect over the life of the plant's license and because annual policy limits are not cumulative, the defense costs assessed against any annual limit reduce the available limits for all years, including those that may not otherwise be implicated in a particular suit.

Uncovered Claims

Another potential problems lies with the insurability of claims arising from alleged willful or outrageous conduct. Many radiation exposure suits contain such allegations in order to gain access to the broad remedies available in the tort system. If the plaintiff is an employee suing his employer for work related injuries (e.g., radiation exposures incurred while at work), such claims

typically would be subject to the worker's compensation program of the state where the facility is located. Certain states recognize an exception to the statutory immunity afforded to employers by the Workmen's Compensation Act in the event of willful misconduct. Thus, a plaintiff may allege willful misconduct in order to escape the caps typically placed on compensation benefits and to pursue potentially unlimited damages, including punitive damages, available in the civil tort system.

Although the standard nuclear liability facility form insurance policy (22) does not exclude coverage for damages resulting from willful misconduct or punitive damages, insurers may take the position that, as a matter of public policy, such liability is not insured. Furthermore, some indemnifications, including those between private parties and earlier (pre Price-Anderson) contractual indemnifications provided by DOE, may not cover losses arising from willful misconduct.

Since 1988, the Price-Anderson Amendments Act has prohibited courts from awarding punitive damages against persons on behalf of whom the federal government is obligated to make payments under an agreement of indemnification. However, interpretation of this prohibition remains somewhat unsettled. The Third Circuit Court of Appeals has held that punitive damages are available if the award would not be paid out of funds provided by the federal government under the nuclear hazards indemnification (23). Conversely, the U.S. District Court for the District of Colorado has held that awarding punitive damages is prohibited in any action against a person who is indemnified by DOE, regardless of the amount of actual damages or the source of payment (24).

STEPS TO MANAGE THE RISKS

Records Retention/Records Destruction

All companies should consider developing a comprehensive records management/records destruction program and should routinely audit implementation to ensure that all personnel are in compliance. Key elements of the program may include identification and retention of records that are required by law. Beyond that, careful consideration should be given to the types of records that are retained.

Typically, companies maintain many records that are neither required by law nor necessary for current operations. Examples of such "records" include employees' personal files, draft reports, and informal notes and memoranda. Such documents are typically prepared without the careful reflection and controls imposed on official records; therefore, the information they contain may be unreliable and misleading. Accordingly, a good records a management program would, in the absence of litigation, periodically purge such records or would only retain them for a limited time (to ensure that the author is likely to be around to explain the document, if necessary). Conversely, historical records of personnel exposures, environmental and effluent monitoring, and radiological surveys may be important to establishing defenses to claims and care should be taken to maintain a complete, accurate and permanent record of such information.

Insurance Policies/Indemnifications

Another important step that all companies should take as a matter of routine is to compile a complete historical record of its insurance program and any indemnifications. The objectives of this exercise are: (1) to compile all available information regarding current and historic risk management programs so that it is readily available when a suit is filed; and (2) to ensure that the conditions and limitations for accessing coverage or indemnification are understood and satisfied.

Insurance records should include copies of all insurance policies, both current and historical, as older policies may be accessed to provide coverage for historic events. The insurance record should include both nuclear liability policies (facility form and suppliers and transporters policies) and CGL policies because radiation exposure suits may include claims that implicate defense and indemnification obligations under CGL coverage (i.e., mixed chemical and nuclear waste exposures) as well as nuclear policies.

Indemnifications are typically found in contract documents, including government contracts and contracts between private parties. Where land or businesses have been acquired it is not uncommon for those transaction documents to include indemnification clauses. Also, contracts with vendors and customers may contain "upstream" indemnities that flow down to the company. Thus, all contracts containing indemnifications should be retained.

Excess Insurance

As described earlier, in view of the current trend in litigation, owners and operators of nuclear facilities can be exposed to liability well beyond the standard nuclear liability policy limits. Some insurance companies have recognized this opportunity and offer excess policies to insure this risk. Companies owning or operating facilities where the nuclear risks are covered only by the standard facility form nuclear liability insurance should thoroughly assess whether current limits of liability are sufficient.

Act Promptly When Sued

When served with a complaint in a radiation exposure lawsuit, companies should be prepared to act quickly. As an initial step, the nature of each of the claims should be carefully evaluated to determine whether it could possibly be covered by insurance or indemnification. Where any possibility exists, notice to the insurer or indemnitor should be provided promptly.

Independent Counsel

When faced with a lawsuit involving multiple defendants covered under the same insurance or indemnification, the insurer/indemnitor may attempt to impose a common counsel for all defendants. In the course of litigation, the situation may arise where defendants' interests diverge and common counsel is not able to adequately represent the parties' divergent interests. Under these circumstances, insureds should request the appointment of independent counsel to be paid from policy limits so that each individual insured's interests are adequately protected as required

by the policy. When appropriate, outside counsel may be retained to advise the insured on issues of policy interpretation and construction so that the insured receives the full benefit of the policy it purchased.

FOOTNOTES

[*] Neal R. Brendel and John P. Englert are attorneys at the Pittsburgh, Pennsylvania office of Kirkpatrick & Lockhart LLP. This article is not intended to convey legal advise applicable to any specific or general circumstances and the views expressed are the authors' own and should not be attributed to their firm or any of its clients.

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