Models of Government-Led Brownfield Insurance Programs

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Executive Summary

Brownfield cleanup and redevelopment efforts have become an accepted part of the economic revitalization of cities and states, towns and counties across the United States. Recognition of the exceptional risks associated with brownfield real estate projects has led to growing interest in the potential value of environmental insurance products designed specifically for these sites.

The overall intent of this report is to present and assess the viability of various models of government-led insurance programs for multiple brownfield sites. It is the culmination of a Cooperative Agreement between the Office of Solid Waste and Emergency Response of the Environmental Protection Agency and Northern Kentucky University with its partner, the Center for Environmental Policy and Management of the University of Louisville. The Agreement, initiated in 1998, produced two earlier reports on insurance and brownfields, *Environmental Insurance Products Available for Brownfields Redevelopment, 1999*, and, *Environmental Insurance and Public-Sector Brownfields Programs: Factors Affecting Pursuit of Insurance as a Redevelopment Tool*.

The findings reported here are derived from an electronic focus group involving an array of professionals involved with brownfield programs and insurance. The focus group data were augmented by in-depth, open-ended interviews with insurance industry and public sector representatives and by field notes on the use of brownfields insurance taken at a number of conferences and meetings. Professionals from whom observations were drawn include representatives of state and local economic development units and environmental agencies, insurance carriers and brokers, independent risk management consultants, administrators of self-insuring public entity pools, attorneys involved with brownfields redevelopment, and independent analysts.

Coverages. Five different types of environmental insurance programs may be useful for public sector brownfield redevelopment efforts:

- Pollution Liability (PL) policies provide protection for the costs of 'third party' claims arising from a pollution condition, 'first party' cleanup costs and other expenses related to a pollution problem and legal defense costs associated with the first two components.

- Cost Cap (CC) policies protect against cost overruns that arise in the performance of a remediation plan.

- Finite Risk (FR) programs cap the cost of remediation, are pre-funded, and usually involve a profit-sharing arrangement between the insurer and the insured on the returns earned by investment of the cleanup funds.

- Secured Lender (SL) policies provide reimbursement to a lender in the event that a borrower defaults and the default is accompanied by a pollution condition.

- Long-Term Stewardship policies, the newest to be developed in the brownfields arena, offer coverages for the safeguarding of engineering and institutional controls at brownfields where contamination has been left in place.

Since 1999, the market has become 'hard' – a seller's market characterized by rising premiums and decreased carrier capacity. This is due, in large part, to a fall in the security market returns on invested premiums that are available to insurance companies. This hardening has had observable effects on coverage availability and cost:

- PL policies have lower maximum policy dollar limits, shorter policy periods, and, to some degree, higher deductibles and premium costs.

- CC policy coverages have become inaccessible and/or cost-inefficient for individual small-scale projects with cleanups of less than $1 to $2 million. New requirements for more thorough site assessments and monitoring of cleanup processes have been imposed, and premium costs have risen.

Challenges in Developing Government-Led Insurance Programs. Research has uncovered a set of impediments to the development of local government brownfield insurance programs. The barriers include:

- the complexities of the insurance coupled with limited public sector insurance expertise;
- the special problems posed by small-scale brownfields; and,
- a shortage of experienced brokers willing to work with public entities.

Suggested approaches to overcoming some of these difficulties include:

- issuing a Request for Qualifications for brokerage or insurance advisory services rather than a Request for Proposals for insurance coverage on a specific project; and,
- paying qualified environmental insurance specialists a fee, rather than a commission alone.

Local Insurance Programs for Multiple Sites and Multiple Insureds. Three local public sector brownfields insurance models were explored in this study.

- ***Portfolio policies for multiple sites with unrelated owners,*** an approach suggested by government representatives, was found to be untenable. In such a program, all the insured would share one aggregate insurance policy limit. Explorations of this scenario with carriers and brokers identified problems regarding uncertain legality, unwillingness of private parties to share risks and aggregate insurance policy limits, and administrative complexities associated with creating and managing such a pool. These issues suggest that the approach is not likely to be productive.

- ***Portfolio policies for multiple publically owned, scattered sites*** are feasible since there is one owner of the properties. Despite differences of opinion among insurers with regard to the cost savings achieved by portfolio policies, there is a general consensus that they can lower the costs of insurance per site. Regardless of the savings that might be achieved, creating a pool makes it possible to purchase CC and FR coverage for small-scale brownfields. One FR program model is specifically intended for smaller cleanups and does not require deductibles, co-insurance, or a minimum program duration. The carrier will consider combining smaller cleanups to reach its minimum cleanup cost threshold of $1 million. Implementing such a program requires that the funds for the cleanup, transaction costs, taxes, and premium be paid at the outset, so local public borrowing is likely to be necessary.

- ***Site assembly and parceling*** also is a promising approach. Here, either a municipality's economic development organization or a private master developer acquires contiguous brownfield sites that can be remediated as a single site. A FR program could be used to cap the cost of the cleanup and assure project completion. Since the sellers, as potentially responsible parties, could be added to the developer's PL policy, the program may increase their willingness to put their sites on the real estate market whereas, previously, they may have been afraid to sell.

The Alternative Market for Risk Management. This market consists of non-traditional methods of risk management that entail significant self-insuring mechanisms. Two organizational forms were explored.

- ***'Self-insuring public entity pools (PEPs)'*** are not-for-profit associations of government entities that share risks to provide a variety of coverages. The conclusion was reached that PEPs are not ready to provide brownfields insurance due to lack of existing actuarial data, the unpredictable nature of brownfield risks, and current lack of knowledge among PEP administrators about brownfield risk exposures. However, PEP personnel may be useful in arranging the purchase of insurance from commercial carriers.

- ***'Captives,'*** or insurance companies owned by the entities they insure, also are not a viable option at this time. Considerable time, effort, and money would be needed to establish a captive and, like PEPs, they lack actuarial data. However, they might prove useful in the future, given municipal willingness to provide start-up capital, and development of a standardized reporting system that would allow accumulation of cleanup cost data for various types of brownfields.

State Brownfield Insurance Programs. The only insurance programs created so far that are of use to independent private parties are those developed at the state level. More states have begun to actively pursue insurance as a brownfields regeneration tool. Four programs were examined in this study.

- ***Massachusetts***, with the oldest program dating to 1999, relies on a state contract with a single insurance provider, standardized pre-negotiated coverage packages for developers and for lenders, and offers a 50% state subsidy for premium costs.

- ***California*** is implementing a similar approach, but may authorize multiple insurance providers and offer more flexibility in the subsidies offered.

- ***Connecticut*** also provides subsidies but does not pre-negotiate coverages, using the personnel of its Department of Economic and Community Development to assist brownfield redevelopers and reduce the transaction cost burden of policy negotiations.

- ***Wisconsin***, unlike the other states, insures its own environmental agency, not redevelopers, so that it can grant Certificates of Completion to mitigations using natural attenuation of groundwater and permit redevelopment without having to set aside its own funds to pay for further remediation if the attenuation fails at some future date.

Principles for Developing Public Sector Brownfield Insurance Programs

- A diverse team of experts is needed to design a publically led insurance program. Ideally, the parties involved should include an experienced broker, the insurer, general counsel for an EDO or municipality, a public sector risk manager, PEP personnel, an environmental attorney, an environmental consultant, the remediation contractor, a risk manager from a financial institution, and community representatives.

- The insurance component of any public brownfield regeneration program should be incorporated into planning efforts from the outset. Benefits of this early consideration of risk transfer mechanisms include:
  - encouraging sellers to release properties to the market;
  - selecting site assessment contractors acceptable to an insurer;
  - including insurance costs in the total project costs;
  - preventing a project from stalling due to differing buyer/seller estimates of environmental costs;
  - arranging indemnity and insurance agreements in conjunction with each other; and,
  - allowing adequate time to seek bids from multiple insurers and negotiate policy terms.

Chapter 1.0
Introduction and Methodology

Since the mid-eighties, increasing attention in both the public and private sectors has turned to the cleanup and redevelopment of brownfields. Such properties were defined for the first time in federal law in the 2001 Small Business Liability Relief and Brownfields Revitalization Act as "...real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant." Some of the complications arise from the neighborhoods in which the sites are located. The actual contamination present or suspected and fears of stigma caused by a history of pollution pose additional barriers.

Despite these potential problems, and beyond the objective of environmental mitigations to protect human and ecosystem health, there is a great and growing interest in reusing these sites because:

- from a private sector perspective, they may offer exceptional profits from successful redevelopment; and,
- from a public sector perspective, their redevelopment contributes to economic and community development goals, from neighborhood revitalization to fighting sprawl by providing previously used locations for new developments.

Conventional wisdom argues that the costs and risks associated with the reuse of these sites makes them uncompetitive with 'greenfield' development. The obstacles are real. However, recent experience demonstrates that brownfields redevelopment is possible and rewarding. As a result, it has emerged as both a major environmental and economic development effort for state and local governments across the United States. In moving center stage, the 'contaminated land problem' addressed by EPA has gone from a narrow definition as an environmental threat removal concern in the 1980 Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) toward broader recognition as an economic issue, exemplified by the passage of the Asset Conservation, Lender Liability, and Deposit Insurance Protection Act in 1996 and the 2001 Small Business Liability Relief and Brownfields Revitalization Act (H.R.2869), signed into law in January of 2002.

Abandoned and underutilized properties exist in virtually all municipalities and counties across the U.S. Whether or not they are polluted or environmentally suspect, such sites often become the responsibility of the public sector at the local, state or national level, simply because they are not attractive market prospects for private investment. They may be abandoned, become tax delinquent, or pose other problems warranting government intervention. In the case of sites with suspected pollution problems, an additional problem may arise, since their owners may not want to bring their properties to market for fear of incurring legal obligations, costs associated with past contamination, or environmental liabilities after reuse of the property. However, while such sites may not be

attractive to private investors, or may pose risks associated with reuse for current owners, their mitigation and redevelopment may provide substantial public benefits.

In all these situations, some public sector intervention may be necessary to bring sites to market and/or attract private capital to finance reclamation and redevelopment. In the interest of both economic efficiency and attaining the greatest environmental improvements from the expenditures of limited budgets, public sector and quasi-public agencies should seek the most cost-effective means of attracting private sector interest in such redevelopments. Given the uncertainties common to brownfield properties and the dollar cost and legal liability risks inherent in cleanups and efforts to contain contamination, environmental insurance offers a tool for stimulating reclamation and reuse. This report is intended to provide guidance to public sector organizations in their efforts to take advantage of this tool.

The report is the culmination of a Cooperative Agreement between the Office of Solid Waste and Emergency Response of the Environmental Protection Agency and Northern Kentucky University with its partner, the Center for Environmental Policy and Management of the University of Louisville. The Agreement, initiated in 1998, produced two earlier reports on environmental insurance and brownfields:

- *Environmental Insurance Products Available for Brownfields Redevelopment, 1999*, was based on a series of in-depth telephone interviews and a detailed survey about insurance products that was administered to five insurance carriers and four brokers. It summarized brownfield coverages commercially available as of late 1999.[1]

- *Environmental Insurance and Public-Sector Brownfields Programs: Factors Affecting Pursuit of Insurance as a Redevelopment Tool*, was based on open-ended interviews with representatives from state and municipal environmental agencies and redevelopment organizations dealing with brownfields. The report documented public entity efforts to develop insurance programs and summarized the difficulties they encountered in obtaining the coverages they needed.[2]

The concluding recommendation of the second study was the creation of a national forum involving both insurance industry representatives and public sector brownfield working group participants to facilitate mutual learning and enhance communications. The proposed forum was to examine questions regarding workable models of insurance programs that public entities could use as a basis for crafting coverages geared to their specific needs.

[1] Available at <http://www.epa.gov/swerosps/bf/pdf/insrep99.pdf>

[2] Available at <http://www.epa.gov/swerosps/bf/pdf/meyeryou.pdf>

Both in order to hold down costs and as a mean of providing the anonymity that potential participants might want and need, an electronic focus group that would utilize a Web site to transmit and archive communications was proposed as the means of conducting the forum. The Cooperative Agreement was amended to include the development of the electronic focus group Web page, recruitment of participants and conduct of the forum. This report presents the findings from that effort and from subsequent interview-based research in which issues raised in the forum were explored further.

Provisions of the 2001 Small Business Liability Relief and Brownfields Revitalization Act underscore the importance of developing models for public sector utilization of environmental insurance for brownfields:

- A local entity eligible for grants and loans from the newly authorized $200 million annual loan and grant pool "*...that performs a characterization, assessment, or remediation of a brownfield site may use a portion of the grant or loan to purchase insurance for the characterization, assessment, or remediation of that site.*" This language permits use of funds to buy insurance for contractors and to cap the costs of site remediations.

- States may use their shares of the $50 million annual pool newly authorized to support their efforts to "*purchase insurance or develop a risk sharing pool, an indemnity pool, or insurance mechanism to provide financing for response actions under a State response program.*" This clause permits state spending on an even wider range of insurance coverages, effectively any policy that can be shown to facilitate access to private capital to be used for remediation or other mitigation of onsite contamination problems. (There may be issues in separating out financing for environmental 'response actions' from financing for redevelopment and new construction, but that remains to be seen.)

The legislation clearly recognized that environmental insurance is one important instrument in the efforts to reclaim brownfields. As prior studies have found, however, the environmental insurance market thus far has served predominately the private sector pursuing large redevelopment projects.

The new Act reflects the Bush Administration's and congressional commitment to making brownfield redevelopment an environmental policy priority. While EPA has provided over $250 million in brownfields funding to states, tribes and local governments for their brownfield efforts over the past five years, this new level of annual funding represents a major expansion of effort. ($200 million for FY 2003 was proposed in the President's budget.) The EPA pilot projects with hundreds of communities, tribes, and states have proven successful in leveraging limited public funds to generate substantial private investment, new jobs, and increased local property values. This new funding and expanded mandate can only improve the record. The extent of enhanced performance however, will be dependent on the tools available for state and local action. This report should help to build the capacity of governments to maximize the benefits they can generate with the new federal funds available.

1.1 Methodology

As noted, this report is based on an electronic focus group (EFG) involving an array of different professionals who play roles relating to public sector brownfield programs and their potential use of insurance. In addition to this platform for data collection, the project team also conducted a number of in-depth, open-ended interviews on brownfields insurance with government and insurance industry representatives and collected field notes from participation in numerous meetings relating to the use of the insurance products. Each of these data collection tools is discussed below.

1.11 The Electronic Focus Group

Interactions among the participants in the EFG were facilitated through a Web site from January through April of 2001. Participants were drawn from multiple sources and contacts. Participation was solicited from attendees at EPA's national brownfields conferences in 1999 and 2000. Other participants were invited from contact lists that had been developed through the earlier stages of this project, and from lists of people suggested by these contacts. Any individuals who learned about the dialogue could apply to participate by completing a form on the Web site. Participants included representatives of state and local economic development units and environmental agencies, insurance carriers and brokers, independent risk management consultant, administrators of self-insuring public entity pools, attorneys involved with brownfields redevelopment, and independent analysts. The profile of participants by type is presented in Table 1-1.

Table 1-1. Research Participant Codes and Count (Total: 187)

Code	Description	Number
LocalEcon	Municipal economic development organization representatives	26 from 19 cities
LocalEnv	Municipal environmental agency/office representatives	11 from 10 cities
StateEcon	State economic development organization representatives	10 from 5 states
StateEnv	State environmental agency representatives	19 from 9 states
Insurer	Insurance carriers/providers	28 from 11firms
Broker	Insurance contract negotiators who represent insurance buyers, but receive financial compensation when insurance is purchased	24 from 12 firms
Consult	Independent risk management consultants who do not receive additional financial compensation when insurance is purchased	12 from 12 firms
Admin	Administrators of self-insuring public entity pools	15 from 13 pools
Analyst	Persons with generalized expertise in brownfields redevelopment	17 from 15 orgs.
Attorney	Lawyers involved with brownfields redevelopment	25 from 19 firms

To encourage free and creative expression of ideas on the site, participation was anonymous. Each participant was assigned a user name that described his or her role in the brownfields redevelopment or insurance provision process. The first column in Table 1-1 provides the codes used. The actual names and organizational affiliations of participants were not revealed. This anonymity was intended

to foster creativity by encouraging individuals to raise ideas and questions that they might hesitate to express otherwise. The confidentiality also addressed underwriter concerns that their speculations about possible products might appear to promise types of coverage that they may not be able to provide for all projects. It also protected public sector participants who were concerned about the possibility of marketing calls if they indicated they were interested in acquiring insurance coverages.

One point should be noted about Attorneys. A number of individuals who hold another brownfield stakeholder status also are attorneys. However, they are not designated in the report as having a dual status because, in some cases, this designation would forfeit their anonymity.

The EFG Web site itself constituted what is commonly referred to as a pseudo-chat-room style of bulletin board. Participants were able to read others' remarks and respond to the commentary on several message boards on the site. Within each board, there were different discussion threads, each of which dealt with a distinct aspect of the larger topic. The site was opened with a small set of different message boards, including,

- 'Programs and Policies in Place or in Progress' (descriptions of insurance programs governments had established or were working to establish),
- 'Participant Needs and Objectives' (descriptions of brownfield issues about which participants were concerned),
- 'Insurance Coverages' (summaries of brownfield coverages available and questions/ comments about them).

Issues discussed included the ways in which insurance programs could be structured (e.g., portfolio policies, bulk purchases of insurance, the use of self-insuring public entity pools). Other boards were added as the discussion progressed and threads on existing boards became obvious topical focuses. Two that became prominent topics were,

- 'Pools and Portfolio Policies' concerning lowering insurance costs through bulk purchases and portfolio policies, and,
- 'Land Use Controls' that dealt with engineering and institutional controls.

Since many participants from the public agencies that might be the purchasers of coverage had limited knowledge of insurance and the terminology involved, the site provided a pop down menu with a working glossary to define specialized terminology. The glossary was derived from the International Risk Management Institute's (IRMI) *Glossary of Insurance and Risk Management Terms,* with IRMI graciously permitting the use of their material.

The researchers facilitated the Web site interactions by synthesizing messages, identifying questions that needed to be addressed, and creating new discussion boards and threads as issues were raised by participants and attracted interest. Participants were sent emails summarizing recent EFG activity on a regular basis, both to keep them informed and to generate participation by identifying new topics

and issues. As the discussions progressed, the interactions were archived on a searchable database, accessible to participants. Excerpts from the archive are used in this report.

1.12 Telephone Interviews

Following closure of the Web site, telephone interviews were conducted to investigate unanswered questions that arose during the EFG and to further investigate possible brownfield insurance approaches. These were free-flowing conversations tailored to individual interviewees, including insurance brokers and carriers and representatives of state and local environmental agencies and economic development units. Individuals providing information about specific programs were sent a draft of their program summaries to validate the accuracy of the description and, in some cases, follow-up interviews were conducted.

Most interviews were taped and transcribed. Excerpts from these interviews and from the postings on the Web site are provided in this report to illustrate issues and approaches presented. Note that editorial liberties were taken with the interview quotes to make them flow smoothly. For example, false starts to sentences were omitted, intervening phrases that confused sentences were eliminated, ambiguous pronouns were clarified, etc. Again, assurances of anonymity were given to encourage candid expressions of opinion. In the excerpts, code names are used to indicate an individual's role. Accompanying numbers associated with a role distinguish individuals but have no other meaning (e.g., 'Insurer307' does not indicate that over 300 insurers were involved in the research).

1.13 Field Notes

Additional data used in this report were collected at a number of conferences, seminars, and workshops the authors attended and/or presented at in 2001 and 2002. The events allowed collection of materials from written documents and provided forums for the researchers to engage others in informal discussions about insurance needs and products. Field notes from this participant observation work were recorded.

In total, 28 events were attended. These included six forums that focused specifically on brownfields insurance that were sponsored by state and local governments, insurers, and other professionals. Thirteen other events addressed insurance as part of a broader agenda on brownfields including two EPA co-sponsored national brownfield conferences and four EPA regional brownfield workshops. At the remaining events, which had a scope beyond brownfields, the authors gave presentations on environmental insurance that engaged others in conversations. These entailed four national and five state and local conferences.

1.2 Report Overview

The overall intent of this report is to present and assess the viability of various models of government-led insurance programs for multiple brownfield sites. Both viable and unfeasible approaches suggested by public sector participants are addressed; one central purpose of the research was to identify untenable programs in order to limit time and costs that might be expended on unproductive efforts.

Chapter 2 lays the necessary groundwork for understanding the models by reviewing the special risks associated with brownfield projects and describing the types of insurance products developed to address these risks. This is followed by a discussion of recent changes in the insurance market and an assessment of the overall value of brownfields insurance. Chapter 3 adds to this groundwork by examining the reasons why local governments experience difficulties in developing brownfield insurance programs, including the organizational structure of brownfield working groups and the scarcity of experienced brokers willing to work with public entities.

Chapter 4 analyzes three insurance program models at the local level of government. The first, involving portfolio policies for multiple sites owned by financially unrelated private parties, is determined to be untenable. The remaining two models are assessed as quite promising. They involve, first, public acquisition of multiple, scattered brownfield sites that are aggregated into a portfolio policy and, second, assemblage of contiguous sites by a local government or a master developer that are remediated as a single site and sold to multiple private parties.

Chapter 5 addresses the potential of organizational forms that entail significant elements of self-insurance, including self-insuring public entity pools and captive insurers. Factors that prohibit the use of captives and public entity pools as providers of brownfields insurance are discussed. It is suggested, however, that public entity pool personnel could play useful roles in terms of assisting in the development of insurance programs involving the purchase of insurance from commercial carriers.

Chapter 6 turns to the state level of government to describe the history and basic elements of programs that are in place or are being developed in Massachusetts, California, Connecticut, and Wisconsin. Chapter 7 concludes the main body of the report by recapitulating and providing further commentary on the models discussed in the report and advice for developing government-led insurance programs.

Following the concluding chapter, four appendices are attached. The first summarizes and provides focus group discussion concerning controversial issues associated with secured lender policies. The second addresses the difficulties of assessing the claim payment behaviors of insurance carriers and provides transcript excerpts offering advice for an insured party on avoiding claim disputes. The third describes an EFG participant's vision of forming a captive to provide insurance for brownfield remediations. The final appendix describes a model for a trust designed for long-term stewardship of engineering and institutional controls at brownfield sites at which contaminants have been left in place in the course of risk-based cleanups.

Chapter 2.0
Insurance Products for Brownfields

This chapter provides an overview of the types of environmental coverages available from commercial insurance companies. It begins with a review of the risks brownfields present in order to make the logic and potential utility of different insurance policies clearer. Following this review, the coverages are described in some detail and the changes that have occurred in the environmental insurance market in the last three years are discussed. The chapter ends with an overall assessment of the value of insurance in the regeneration of brownfields.

2.1 Environmental Risks at Brownfield Sites

Beyond the uncertainties associated with any real estate investment, two major exceptional risks are evident with respect to brownfields. The first involves the actual cost of the response to possible contamination, including the site assessments needed to determine the extent of the onsite hazards, the planning for mitigation responses, and the execution of the remediation/containment plans. The second involves the environmental liabilities associated with the damages attributable to the past pollution of a site. Each set of risks is summarized below.

2.11 Uncertainties in Response Costs

If a site is *suspected* of having contamination, some expenditure is required to determine the extent of the actual problem, if any. Current practice involves a multi-step process. The sequence is understood, but the number of steps required – and the costs of subsequent actions – is determined by the data revealed at each step. The sequence that is described below was developed over time largely through convention and agreements about the standards for professional practice, sometimes dictated by the information demands of potential project financiers or the insurers themselves, for better understanding of project risks. Two of the steps, Phase I and II investigations, have been standardized by the American Society for Testing and Materials (ASTM).[3]

- *Database searches*. These investigations are intended to identify possible contamination problems stemming from current and historical uses of a site and surrounding properties. The searches rely on local use permits, hazardous materials disposal and landfill facilities maps, local fire insurance maps, state regulatory and enforcement records, and federal inventories of environmentally impacted sites. Private information vendors have entered the market, integrating many data sources into a single computer-searchable database accessed through the Internet in order to lower search costs.

[3] ASTM publications may be ordered on the Web at <www.astm.org>

- *Phase I assessments.* These incorporate and build on the database searches, if the former indicate the possibility of a problem, and involve both field visits to local government offices to obtain more detailed records on past uses of a property and site visits to see if there are any visible problems or potential sources of contamination (distressed vegetation, unidentified fifty-gallon drums or piping, underground storage tanks, and the like).

- *Phase II assessments.* If the Phase I investigation provides evidence that contaminants may be present, it becomes necessary to take a series of soil and/or water samples (typically by drilling for core samples on a predetermined grid pattern or where pollution is likely or feared) and conducting laboratory analyses of them to establish the presence of contamination and indications of its extent and severity.

- *Phase III assessments.* These activities, sometimes just referred to as remediation or mitigation planning, involve further sampling and analysis to refine the quantification of contamination and to determine the specific location characteristics (spatial extent or depth) of different pollutants to permit preparation of a remediation plan. Alternative remediation or mitigation actions are designed and priced.

The cost risks are obviously tied to uncertainties about what may be discovered at each step of the assessment process. Uncertainty also arises with regard to the design of response actions when a discovery of contamination is made: the extent to which a site is remediated and pollutants removed will affect the possible future uses of a site. Simply containing the contamination may be a less expensive response, but may limit the returns available from a redevelopment. Moreover, as discussed later in this chapter, there are costs associated with the maintenance over time of engineering controls put in place to contain the pollution. The tradeoff between response effort expenditures and possible returns from future uses is not straightforward and the decision on which actions to take involves additional analysis expenses as well as new uncertainty costs.

2.12 Environmental Liability Risks

Much of the concern about the exceptional risks associated with redeveloping brownfields originated with the 1980 Comprehensive Environmental Response, Liability, and Compensation Act (CERCLA) and similar state laws that followed. CERCLA established a liability scheme with respect to contaminated lands; the courts have found that the Act imposes 'retroactive, strict, and joint and several liability' for the costs of cleaning up hazardous substances and for any damage done by the pollution.

Retroactive liability refers to the rule that responsible parties are liable regardless of whether or not their hazardous substances were disposed on site before the enactment of CERCLA. Strict liability means that any site owners and operators may be held liable for environmental cleanup without regard for negligence or fault (that is, even if they did not create the pollution or were abiding by the law at

the time they did create it). Joint and several liability applies to situations where more than one potentially responsible party (PRP) exists. CERCLA creates three general classes of responsible parties: generators of the hazardous substances found at the site, owners and operators of the site, and transporters who have the authority to select the site for disposal. The courts have held that any one member of the three classes of parties may be held liable for the entire cost of site cleanup, unless it can be shown that the harm is divisible (for example, where there are two or more physically separate areas of contamination). In short, any one party can be assigned the full responsibility by the government for contaminants created by several parties, even if the damage was done before the party owned or occupied the site. A party held liable, in turn, may seek contributions from other PRPs.

CERCLA itself does offer liability protection in the "innocent landowner defense." Other limits on liability have been promulgated in subsequent legislation. In 1996, the Asset Conservation, Lender Liability, and Deposit Insurance Protection Act (or Lender Liability Law), specified the actions lenders can take to avoid CERCLA liability exposures. The 2001 Small Business Liability Relief and Brownfields Revitalization Act provides conditional liability relief for those owning property contiguous to contaminated sites, two categories of 'presumed innocent' new purchasers (or inheritors), and certain polluting parties who made minimal contributions to the problems at National Priority List sites. All these forms of relief are conditional, meaning that the party seeking the protection must take actions and meet legal requirements to qualify. The protections do not fully remove liability risks, since court interpretations of the new language cannot be predicted. On balance, however, they do reduce risks.

State Voluntary Cleanup Programs (VCPs), legislated to limit liability and ease the redevelopment of brownfields, also offer a variety of forms of protection. States originally offered their stamp of approval on Prospective Purchaser Agreements, also known as Buyer-Seller Agreements, that divided responsibility for contamination on a property. These pacts either allocate percentage shares of response costs and liability claims to the parties involved, or assign responsibility for contamination on the basis of the date of its occurrence or release. The latter allocation generally rely on the results of a site assessment prior to a property transfer to determine the pre-sale pollution condition. While provision for approving such agreements remains on the books, the major liability relief tool now used by the states involves recognition that a response action on a brownfield meets state requirements for mitigation or remediation appropriate to the new land use intended after redevelopment.

The details of the state programs vary, but all offer some sort of 'comfort letter' certifying state approval, variously called a Certificate of Completion, No Further Action Letter, or Covenant Not to Sue. Regardless of label, the protections provided depend on state legislation, and may include a commitment that the state will not ask for additional response effort, assurance that the state will not sue over damages or for more remediation in the future, or even a state limit on the right of other private parties to sue the recipient of the approval document for any damages or for further response effort. All these protections, however, like the assurances offered under federal law, are limited by 'reopener' clauses that permit reconsideration of decisions if new information about toxicity or

exposures is obtained, or if an approved response action proves to be inadequate. At least one state permits reconsideration of an approved response if the development of new, less costly, response technologies makes additional remediation economically feasible. All the assurances are null and void if they were based on the redeveloper's acceptance of limits on land uses and the onsite activities violate those limits at some future date.

In summary, notwithstanding the federal and state offers of a variety of limits on liability, either for additional cleanup or for damages to ecosystems, human health or property values, the level of uncertainty about the protections remains high. There is thus a substantial potential market for environmental insurance.

2.13 Risk Transfer Firms

The discussion of insurance products that follows is directed at the types of coverage offered by insurance underwriters and brokers. It is oriented toward the acquisition of insurance by redevelopers and development agencies. No attempt is made to examine assurances provided by risk transfer firms that may be used in the brownfield redevelopment process such as fixed price remediations offered by engineering firms that promise to respond to any response failures or reopeners at no cost to the purchaser of their services, or risk transfers by management firms that accept title to unmarketable properties (and the legal liabilities that go with them) for a fee.

The assurances offered by these firms all rely on some combination of the guarantor's financial capacity and the insurance the guarantor may acquire to protect itself. In other words, they are indirect mechanisms for acquiring insurance protection. To the extent that they can obtain insurance directly, developers may save the fees otherwise due to these companies in the guarantee programs. In any case, a better understanding of the coverages available will improve decision-makers' capacities to negotiate the terms of guarantees if they opt for indirect insurance protections from risk transfer firms.

2.2 Overview of Insurance Coverages

This section provides an overview of insurance coverages for brownfields that builds on the *Products Available, 1999* study. Although a thorough update of that research has not been conducted, the information has been supplemented with additional interviews and participant entries during the focus group.

It is necessary now to raise caveats about information on insurance products in this report. First, definitions of terms are intended to communicate meanings to those who are not in the insurance industry. They generalize across very specific, legally binding terms used in actual policies and so should not be relied upon when purchasing insurance. Second, unlike standardized coverages such

as automobile insurance, brownfield policies are highly 'manuscripted' or customized to address the unique risk management issues of each project. Carriers often include 'endorsements' or contractual modifications that waive exclusions or provide additional coverages needed. Thus, individual policies must be reviewed carefully. Third, the discussion intentionally avoids noting prices for the coverages. Many considerations influence the cost of a particular policy and the overall costs of insurance fluctuate with the market.[4] Finally, the descriptions summarize coverages that *may* be provided, *depending on the carrier and the particular brownfield project*. Not all carriers offer all the coverages described. Moreover, an insurer may decline to provide a coverage for a specific project if the exposure represents too great a risk for the underwriter.

2.21 Pollution Liability Policies

The most widely sold category of insurance coverages is referred to here as Pollution Liability (PL). It is frequently called Pollution *Legal* Liability, but since this term was originated by one particular company, the more generic terminology is preferable. Additional names used to describe policies that include PL coverages are Pollution and Remediation Legal Liability, Brownfields Restoration, Environmental Response Compensation and Liability, Commercial Property Redevelopment, Real Estate Pollution, Real Estate Environmental Liability, and other labels. While forms of PL products have been in existence for over twenty years, the scope of coverages was greatly expanded in the mid- to late-nineties.

PL policies provide protection for costs that result from 'legacy' issues or preexisting pollution conditions (either unknown contamination or known contamination disclosed at the time the policy is written). In addition, they protect against costs arising from current pollution conditions (contaminant releases that occur during the policy period). The risks covered may be categorized into three basic components. The first consists of protection for the costs of 'third party' claims arising from a pollution condition. The second provides protection for 'first party' cleanup costs and other expenses related to a pollution problem. The final component involves legal defense costs associated with the first two components. Each of these elements requires a brief explanation.

Third party claims refer to assertions, such as lawsuits, seeking damages from or action by the defendant and alleging legal responsibility for damage. Third parties may include private parties *and* government entities enforcing environmental regulations. The damages may occur onsite (on the property designated in an insurance policy) or offsite (on locations beyond the boundaries of the insured property such as nearby properties where pollution has migrated, disposal sites, and properties damaged during transportation of contaminants). Claims may be made for (a) bodily injury (sickness, disease, mental anguish, or death resulting from a pollution condition); (b) property damage caused by contaminants (physical injury to property and, in some policies, diminution of the value of

[4] Some sense of the costs of the insurance products can be gleaned from tables presented in Chapter 6 on state programs that provide premiums for categories of brownfields.

property); (c) offsite remediations; and (d) other expenses related to a pollution condition such as business interruptions during a cleanup.

First party cleanup cost coverages entail protection for the insured against the expense of onsite remediation and related costs such as business interruptions and property value diminution resulting from pollution. Remediations may be for preexisting but newly discovered contaminants that were not addressed in an initial planned cleanup and for cleanup of pollution arising from ongoing operations. Reopener coverage also may be included. This coverage insures for the costs of additional remediation ordered by environmental regulators after a state agency has provided a comfort letter but makes the decision to reopen the case for any of the reasons enumerated in state laws (other than change in land use).

Legal defense costs may be associated with the first two elements. These expenses can be substantial. The policies generally indicate that the carrier has both the right and the duty to defend the insured. The costs of such defense are included in the policy dollar limits.

Specific overages under these three categories that may be available, again, depending on the carrier and project include the following:

Third Party Claims

- Liability claims for bodily injury, property damage, property value diminution, and business interruption caused by pollution emanating from the insured's property.
- Onsite bodily injury and property damage caused by pollution.
- Claims due to pollution at or emanating from known or unknown, non-owned disposal sites.
- Release of contamination during transportation.
- Contractual liability due to pollution.
- Natural resource damage caused by pollution.

Legal Defense Costs To Defend Against Third Party Claims

First Party Onsite Cleanup Costs And Related Expenses

- Remediation of pollution ordered by a regulator after a cleanup (reopener coverage).
- Remediation of known pollution originally thought not to require remediation.
- Remediation of previously unknown, preexisting pollution.
- Remediation of current pollution from ongoing operations.
- Property value diminution, business interruption, and delayed construction costs due to pollution.
- Remediation of pollution emanating from adjacent properties.
- Property damage, property value diminution, and delayed construction due to pollution emanating from adjacent properties.
- 'Soft' costs due to project delay caused by unexpected contamination such as income loss and loan interest incurred during the delay.

Depending on the carrier, some protections listed above are provided as policy endorsements or modifications while others are offered as basic policy components. (A coverage provided as an endorsement does not necessarily cost more than the same coverage provided as part of a basic policy.) Variation also exists with respect to contaminant types and sources covered. Most policies specifically exclude lead paint, asbestos, radioactive matter, and naturally occurring radioactive materials (such as radon). Others exclude underground storage tanks. Whatever their basic policies, the insurers may be willing to negotiate modifications in order to provide needed protections. Most always, however, a policy will contain a 'material change in use' exclusion that cannot be negotiated pertaining to a situation in which an owner chooses to change the use of the site from the use agreed upon with the insurer.

As noted, the interactions among cost-determining elements are too complex for any estimates of typical cost per million dollars of PL coverage to be meaningful. Factors that affect the price include, first of all, the size of the deductible an insured selects. There is an inverse relationship between the size of the deductible and the premium price; the larger the amount of liability for which the insured takes responsibility, the less expensive the premium will be. In addition to deductibles, other variables affect PL policy price. The total amount of coverage purchased makes a difference; the cost per dollar unit of protection drops as the policy dollar limits rise. Other determinants involve specifics of the project that affect the risks the insurer assumes, including the types of contamination present, the standard to which the site was cleaned in the past, the intended land use, zoning in the area, and the surrounding land and groundwater uses.

An important consideration with respect to PL policies is the length of the policy term. Typically, the policies range from one to ten years. The maximum may be longer in exceptional cases although, as discussed in Section 2.3 of this chapter, these cases have become increasingly infrequent. The value of a long term policy is that losses caused by environmental conditions may take considerable time to manifest. For example, it may take years after exposure to a pollutant for a third party to file a claim for bodily injury. Likewise, polluted groundwater migrating from a site may take years to reach an adjacent site and be discovered. Thus, from the insured's viewpoint, longer policy periods are often desirable.

In this regard, it is important to understand that PL policies are 'claims made' policies. This means that for the coverage to respond, a claim must be made against the insured and reported to the insurer during the policy period. This can be problematic if the injury or damage occurs or becomes evident toward the end of the policy and the claim is not made before the policy term ends.

There are, however, ways of addressing this issue. First, a policy 'tail' or extended reporting period may be provided. Carriers offer an automatic period in which injury or damage occurring during the policy period may be reported to the insurer (e.g., two or three months). Some carriers offer an optional extended reporting period of several years that may be purchased. Second, rolling renewal endorsements may be negotiated. For example, on a ten-year policy, buyers are allowed to renew at

the end of first year, so that they always have ten years of prospective coverage. Finally, guaranteed renewal endorsements allow the policy owner to renew a policy when the term has ended, if the insurer has not paid out more in claims than a predetermined percentage of the premium dollars (e.g., 30%). In some circumstances, renewing may be preferable to a longer policy period because, if losses to the insurer have been low, the premiums for the renewed policy may actually fall. On the other hand, claims filed may result in denial of renewal or in significant increases in the costs of a policy with guaranteed renewal provisions.

An additional important consideration for a PL policy concerns its 'transferability' to subsequent owners so that a policy 'travels with the property.' Discussion of this important endorsement is reserved for Chapter 4, which deals with policies involving multiple insured parties.

2.22 Cost Cap Policies

The second type of insurance coverages for brownfields, referred to here as 'Cost Cap' (CC), is also called Cleanup Cost Cap, Cost Overrun, or Remediation Stop Loss insurance and similar titles. The policies protect against cost overruns that arise in the performance of a remediation plan. The insurer pays the excess costs above a 'self-insured retention' (SIR), a term that can be confusing because it is used in two different ways. At times, the SIR is meant to refer to the estimated cleanup costs *plus* a 'buffer' or amount that the insured is obligated to pay before making a claim. At other times when insurance representatives use the term SIR, they are referring only to this buffer. To add to the confusion, when this meaning is intended, the SIR may be called a deductible because this is a concept with which most people are familiar. In this report, the terms buffer and SIR are used synonymously, but the reader should keep in mind that it may used to refer to the expected cleanup costs plus the buffer.

The SIR is typically calculated as a percentage of the estimated cleanup cost. Thus, for example, on a planned $1 million remediation with a 10% SIR, the policy 'attaches' (starts paying for costs) after $1.1 million – the estimated cost plus the $100,000 – has been spent by the insured. A policy may include a co-insurance provision under which claims that exceed the SIR are shared by the insurer and the insured in a predetermined ratio. The specific coverages that may be provided with a policy, depending on the carrier and specific mitigation project, include the following:

- Costs due to discovery of a greater volume or higher concentrations of contaminants than were noted in the remediation plan.
- Costs due to discovery of contaminants that were not noted in the plan.
- Costs due to regulatory requirement changes during the performance of the remediation plan.
- 'Soft' costs due to a project delay caused by unexpected contamination such as income loss and loan interest incurred during the delay.

The policies specify exclusions such as unwarranted contractor delays and changes in the cleanup plan that have not been approved by the carrier. They are generally written for the length of the anticipated duration of the remediation, but may include a few additional weeks or months. Typically, long-term operation and maintenance costs, such as pumping and treating groundwater over a period of years, are not included. Prior to writing a policy, insurers require a remediation plan and cost estimates based on a Phase III site assessment, paid for by the insured.

Premiums are expressed as a percentage of the policy dollar limits purchased and vary considerably depending on the ways in which the policy is structured, including the SIR and selection of a co-insurance feature. Other factors determining price include the thoroughness of the site assessment on which the remediation plan is based; the more complete the assessment, the lower the likelihood that unanticipated remediation expenses will be encountered, and the lower the cost of the policy.

In addition, price may be affected by whether or not the remediation plan has been pre-approved by a state environmental agency. In fact, some insurers will not issue a CC policy until this approval has been given. Where insurance can be obtained without approval, coverage will be more expensive since it presents a higher risk to the insurer. Thus, developers may face a tradeoff between the costs of delaying the mitigation work until state approvals are in hand or paying higher insurance costs in order to start earlier. Note that, in some states, developers who start a cleanup before state approval of the remediation plan may lose eligibility for a state assurance such as a No Further Action Letter or Covenant Not to Sue.

A PL policy can be initiated in conjunction with a CC policy at the beginning of a planned cleanup. In many cases, the two types of coverages are issued together in the same policy.

2.23 Finite Risk Programs

Finite risk (FR) programs encompass a CC component in that they cap the cost of remediation and the insurer assumes the risk that mitigation costs will be higher than anticipated. However, the programs are structured very differently in that funds for the cleanup and other costs are paid at the outset of the program. Like CC, each FR program is tailored to meet the needs of the project and involves options that can be quite complex. Two distinguishable approaches are summarized here as simply as possible.

Model 1. The first, labeled in this report as FR Model 1, is appropriate for brownfields where (a) cleanup costs are expected to be high, (b) remediation is expected to take at least five years, and (c) extensive site assessments have been conducted.[5] This approach involves a profit-sharing arrangement between the insurer and the insured on the returns earned by investment of the expected cleanup funds. Under the program, the insured places the net present value of the total expected remediation

[5] For a more detailed description of Model 1, see Radigan (1996).

costs and other expenses in an account with the insurer, referred to as a 'notional commutation account,' which is invested by the insurer. Most of the account is used to pay cleanup costs. A percentage is retained by the insurer as a premium for its assumption of risk and to pay transaction costs and taxes. If there is a balance remaining in the cleanup fund at the end of the policy term, the insured receives a profit commission or interest based on a contractually defined market benchmark such as the US Treasury Bill rate for each year of the policy. The insurer, however, invests in instruments intended to yield a higher interest rate and keeps the difference.

If the cleanup costs are higher than expected, the insurer pays the excess costs above an SIR, up to the limit of the policy. This is the 'underwriting risk' associated with the program. In addition to this risk, the insurer is also accepting 'timing' and 'investment' risks associated with the cleanup. The timing risk refers to the possibility that the cleanup costs will be paid out faster than estimated in the remediation plan. If this happens, the insurer will have less time to earn investment income on the funds it is holding and thus will earn less on the project than anticipated, even if there are no cost overruns. The investment risk refers to the chance that the insurer will not be able to realize the investment return that it was expecting. The insurer may suffer an economic loss due to its assumption of any one of these risks.

While FR Model 1 terms typically are ten years or longer, provisions are made so that the insured can 'commute' or terminate as of a specified earlier year and each year thereafter. If an insured elects to commute a FR program, the insurer pays the insured one hundred percent of the notional commutation account balance as of the commutation date in return for a complete release of all liability. From the insurer's viewpoint, this is a favorable outcome because the carrier is relieved of risk at an earlier date than expected, but retains the full premium which was paid at the outset.

An advantage for the insured in policy commutation due to more rapid completion of mitigation lies in the opportunity to begin to earn from the site sooner than expected. Thus, at the inception of the program, the insured and the contractor may negotiate a percentage of the commutation account balance to be paid to the contractor if work is completed prior to the targeted date, rewarding the latter for rapid execution of remediation activities.

If the insured is a public entity, such as a municipality, there is a second advantage. The requirement for up-front capital for a project that would otherwise have to be funded annually can be a positive for some municipalities if they can manage the necessary special appropriation or can float municipal bonds to raise the needed monies. The interest paid on the commutation account under a FR program is likely to pay private market interest rates or above. The municipality, however, will generally pay a lower interest rate on its federally tax-exempt bonds. As a result, the locality enjoys the possibility of earning money on its bond debt (or the funds it managed to appropriate) for the cleanup. Municipalities that deposit funds in state accounts to pay off their bond indebtedness, the usual method of accumulating funds to redeem bonds when due, would not have the potential for such a profit. The public entity, like the private insured, would also enjoy an enhanced profit potential in the

event of a rapid cleanup and commutation of the FR account, since the bond could be called and retired early. This outcome would save the municipality interest charges and could enhance its credit-worthiness, thus lowering the interest costs of future borrowing.

Model 2. To the researchers' knowledge, FR Model 2 is offered by only one carrier. While the program also involves pre-funding of the cleanup costs, premium, transaction costs, and taxes, it differs from Model 1 in four important ways.

- First, because the insurer does not look for investment income to provide a large part of its profit margin, a lengthy cleanup duration is not required. In fact, there is no minimum duration and the *maximum* program period offered is ten years.

- Second, the insurer targets cleanups of $5 million and less. The minimum dollar threshold is $1 million.

- Third, the insurer does not require a buffer or co-insurance feature in its FR programs. Rather, the policies attach at the pre-funded cleanup amount.

- Fourth, a notional commutation account is not included in the program.

Under this approach, if a project is completed below the expected cleanup costs, the insurer retains the remaining cleanup funds deposited in exchange for absorbing the risk of attaching at the expected cleanup costs. In this event, a portion of the amount is shared with the remediation firm if it has met certain objectives such as client satisfaction and acquisition of a state agency assurance letter. A client also may opt for a notional commutation account, but in this case, a buffer is required.

While Model 1 requires thorough site assessments by highly qualified firms and careful monitoring of cleanups, the extraordinary risk assumed by the Model 2 carrier in attaching at the expected cleanup cost requires exceptional diligence. Clients are required to select an engineering firm from the insurer's approved list to assess sites and conduct remediation. The carrier scrupulously investigates each of these firms and scrutinizes their work performance throughout each cleanup. Further discussion of Model 2 is provided in Chapter 4 within the context of an examination of policies for pools of small-scale brownfield remediations.

2.24 Secured Lender Policies

Lender liability concerns largely have been addressed by the federal 1996 Lender Liability Law and similar state laws. However, two primary concerns about loaning on brownfields remain. First, a borrower's ability to repay a loan may be jeopardized by unanticipated and expensive cleanup costs. Second, in the event of foreclosure, a lender may not be able to recoup the loan amount if the value of the collateral property has been eroded by actual or perceived contamination, either prior to or

after completion of mitigation. In the mid- to late-nineties, insurance companies began offering policies to address these concerns. They are referred to here with the generic label, Secured Lender (SL) coverages. Labels carriers have given to them include Secured Creditor Impaired Property, Creditor Reimbursement for Environmental Damages, and Lender Environmental Collateral Protection and Liability Insurance.

The policies provide reimbursement to a lender in the event that a borrower defaults and the default is accompanied by a pollution condition. Third party liability coverages are also offered. Specific coverages that may be provided, depending on the carrier and project include:

- Reimbursement for the lesser of the cleanup costs or the principal loan balance - or - in some policies, for the outstanding principal balance only.
- Cost of third party liability claims for bodily injury, property damage, diminution of property value and/or business interruption resulting from contamination.
- Legal defense costs to defend against third party claims.

While the policies are primarily intended to benefit lenders, they also positively impact brownfield redevelopments by making lenders more willing to provide capital to redevelopers. However, SL coverages do not address owner/operator liabilities for environmental cleanups and damage caused by contaminants. During the focus group, an important debate arose about this issue that is provided in Appendix A. The discussion implicates the need for both SL coverage for the lender and PL coverage for the redeveloper and considers the impact of this on the costs of brownfield redevelopments.

2.25 Long-Term Stewardship of Contaminated Sites

The newest policy to be developed in the brownfields arena offers coverage for the long-term stewardship of sites where contamination has been left in place. As of the summer of 2002, only one insurer was offering the policy, which was first announced in late 2001. While the number of policies sold is a matter of confidentiality, conversations with the insurer indicate that the number is very small, as might be expected with a product this new.

Long-term stewardship is a critical component of brownfield redevelopments involving the use of ‘risk-based corrective action’ (RBCA) standards at a site. In these cases, some contamination is left in place and humans and the surrounding soil and water are protected from exposure to pollutants by ‘engineering controls’ or physical measures such as fences and containment caps. ‘Institutional controls’ or legal mechanisms are then established to ensure that future activities on the site do not violate the engineering controls. For example, restrictions can be placed on digging wells, excavating in certain areas of the site, or altering caps placed on topsoil. The institutional controls include a

variety of private measures such as covenants and deed restrictions, and public mechanisms such as zoning ordinances.[6]

RBCA mitigations have become increasingly frequent in the last decade because they are less expensive than removing or treating all contamination. However, there has been a great deal of concern about protecting human health and the environment over the long term. Serious questions arise regarding how the institutional and engineering controls will be monitored, where the funds to correct a problem will come from, and who will be responsible for bodily injury and property damages incurred as a result of residual contamination. These questions become especially problematic considering that the contamination left on site may be toxic for many years – perhaps hundreds of years – and that the property may change ownership numerous times during this period.[7]

The new insurance policy is an 'omnibus' policy that includes a number of coverages. While more comprehensive protection is provided against the risks involved with institutional and engineering controls by purchasing all of the coverages, for marketability reasons, the policy allows particular clients to purchase only some of the elements. There are four coverage parts to the policy:

- *Stop Loss* insures against cost overruns in the design and implementation of institutional and engineering controls.
- *Professional Liability* insures against cleanup costs, bodily injury, and property damage claims resulting from an error or omission on the part of a professional designing or establishing engineering and institutional controls.
- *Failure of Controls* insures against cleanup costs, bodily injury and property damage claims in the event that a properly designed and implemented institutional or engineering control fails, including the event that new scientific developments establish that the controls are no longer adequate.
- *Maintenance and Enforcement of Controls* insures against cleanup costs, bodily injury and property damage claims due to errors or omissions by persons responsible for maintaining or enforcing engineering and institutional controls.

Currently, the policy terms are ten to fifteen years for the risk transfer coverage. However, if there is a substantial funded component associated with the project, the insurance would operate on a FR basis and the term may be extended to forty years or perhaps longer.

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[6] Unfortunately, there is a lack of consensus on terminology surrounding long-term stewardship. Some organizations include engineering controls when they use the term institutional controls; others separate the two. Some organizations prefer the term 'land use' controls rather than institutional controls and exclude engineering controls from the meaning.

[7] In August of 2002, the International City/County Management Association (ICMA), with assistance from EPA, launched an online information clearinghouse related to land use controls at <http://www.lucs.org.> For further information on the controls, see Edwards (2002) ICMA (2000) and Hersh et al.(1997).

In order to apply for the policy, the parties involved must prepare a stewardship plan to be submitted to the insurer for approval. These plans are complex and unique to each brownfield project. For example, the parties must determine the site-specific monitoring requirements that need to be established, how access rights from property owners and occupants will be secured, and many other factors. According to the insurer, this process forges a discussion of allocation of liabilities and responsibilities related to residual contamination that may not occur in the absence of the insurance mechanism.[8]

2.26 Other Coverages

Other products are intended for service providers who are exposed to liabilities stemming from their involvement with pollution conditions at a brownfield site. Insurance companies have developed numerous products for these parties. For example, Contractors' Pollution Liability policies insure general contractors and various other contractors who handle remediation, demolition, transportation and disposal of hazardous materials, etc. The products protect against third party property damage, bodily injury, and environmental cleanup claims that may arise from performance of work associated with a brownfield site. Errors and Omissions policies, also known as Professional Liability coverages, provide protection against claims for mistakes and negligent acts for environmental engineers, lawyers, consultants, laboratories, and other professionals providing services and advice on reuse projects.

Such contractors and professionals generally purchase their own insurance policies. Some, such as transporters of hazardous materials, are required by law to be insured. However, their policies may not all be uniform. For example, coverages by some parties may include asbestos remediation while others may not. Moreover, a redeveloper's project may not really be covered, since it is possible that a contractor's aggregate policy limit already has been expended on claims associated with other projects on which the contractor has worked. In such a case, a claimant may try to collect from the party that contracted for the services, rather than the now uninsured professional.

To serve redevelopers' demand for greater certainty, insurers offer Owner-Controlled insurance programs to cover pollution conditions caused or exacerbated by the operations and professional services of all contractors and consultants working on a project. With an Owner-Controlled policy, a redeveloper need not be concerned about specific clauses or limits on the coverages carried by contractors.

[8] The possibility of establishing institutional control trusts has been widely discussed. In Appendix D, one approach to developing such a trust is summarized.

2.3 Changes in Brownfields Insurance: 1999-2002

Since its inception, the environmental insurance market has been characterized by rapid development and modification. In the *Products Available, 1999* report, several key positive changes that occurred roughly between 1996 and 1999 were noted. These included broader and more flexible coverages, increases in the maximum dollar coverage limits available, longer policy periods for PL policies, and lower costs of products. Over that time period, the insurance market was 'soft,' i.e., a buyer's market characterized by high competition among carriers, low premiums, and high insurer capacity. Between 1999 and 2002, however, the market has become 'hard' – a seller's market characterized by rising premiums and decreased carrier capacity.

For PL policies, this change has resulted in lower maximum policy dollar limits, shorter policy periods, and, to a lesser extent, higher deductibles and premium costs. For CC policies, the effect has been a decreased willingness to offer the coverages for small-scale projects with cleanups of less than $1 to $2 million, requirements for more thorough site assessments and monitoring of cleanup processes, and increased premium costs. One company that used to offer CC was acquired by another company that no longer provides CC coverages. Another carrier has significantly restricted issuing the policies.

This hardening of the environmental insurance market is not primarily a function of losses from claims specific to brownfield redevelopments. During the 1999-2002 period, the general property and casualty insurance market experienced significant losses including claims from several large natural disasters and the events of 9/11/2001. Losses also have been incurred from 'insurance archeology claims' or claims made on old liability policies that did not have an absolute pollution exclusion and allowed claims to be filed years later if the damage could be proven to have occurred when the policy was in force.

This is not to say that insurers have not incurred losses from environmental claims; indeed they have had losses, particularly from the newer products – CC and SL policies. The statistical data base that individual companies used in the nineties to set prices for the coverages was small due to the newness of the policies coupled with the fact that the insurers do not combine their data.[9] With little claims

[9] Most commercial property and liability insurance policies are written on standardized forms and the insurers that offer them are referred to as the 'standard' market (Luthardt et al. 1999). This market utilizes 'rating bureaus' or organizations that aggregates data from many insurers to calculate suggested rates to be used by insurers. Brownfields insurance, however, consists of 'excess and surplus lines' insurance afforded when the standard market does not make needed coverages available for various reasons (e.g., manuscripted policies are required). This type of insurance is offered by 'non-admitted' carriers or insurers that are not licensed in the state in which they operate. In general, non-admitted insurers are exempt from many regulations that apply to the standard market and they are not required to file their forms and rates with state insurance departments. They are, however, subject to oversight that varies from state to state. For example, many states have laws requiring them to place their business through an excess and surplus lines broker who is licensed by the state.

experience on which to develop rate models, some insurers undercharged for coverages and, particularly with respect to CC policies, did not insist on adequate 'engineering' or site assessment and remediation monitoring. Consequently, they experienced losses with the product and are now more scrupulous with respect to assessments and monitoring. One effect of this additional time and money spent by the insurer is an increase in the cost of premiums.

Some of the most dramatic losses were incurred on smaller brownfield projects. For small-scale projects the issue of site characterization is especially acute; developers tend to contract with engineering firms that submit the lowest bid for site assessments, a decision that does not produce the most thorough assessments. In order to offer CC products to the smaller developers, however, insurers forewent requiring further engineering and accommodated customers with relatively low SIRs:

> *Insurer9*: It doesn't take much error in judgment by an engineering firm to ratchet up your cost in a small cleanup and the buffers on those smaller cleanups were very small, maybe 20 percent. So when you only have a $500,000 cleanup and $100,000 buffer, it doesn't take much to run over that. So a lot of companies got burned on the smaller cost caps.

As a result of the problems encountered, most insurers are declining from offering CC for smaller remediations. (However, as Chapter 4 discusses, insurance for these sites may be obtained by pooling several together in one policy.) While in the *Products Available, 1999* study, insurers set the minimum cleanup at $100,000 to $500,000, as of 2002, they were setting the minimum cleanup cost threshold at $1 or $2 million, depending on the carrier:

> *Broker111*: To write cost cap policies for projects under $1 or $2 million is virtually impossible right now. The insurers had a number of real bad limit losses on the small cost cap policies. The problem is, they're not cost effective to engineer. For the insurers to have their staff there and work through all the engineering and review all the cost estimates, it costs as much to do it for a $200,000 cleanup as it does for a $2 million cleanup. And, you can't charge enough premium on the little one to pay your internal expenses. In the past, it came down to not engineering them and then they were taking big losses. So, they decided the easiest thing to do is just not offer cost cap on the small projects.

While underwriting losses have contributed to the hardening of the environmental insurance market, the biggest factor influencing the insurance climate between 1999 and 2002 has been the overall change in the returns on investment of premium dollars. The collapse of a major bull market in securities has meant that income from invested premiums has diminished substantially and some insurers actually may have suffered investment losses. The Federal Reserve Bank of Dallas (2002) recently raised the issue of a hardening insurance market overall, noting that the property casualty insurance sector of the industry paid more in claims in each of the past 25 years than it earned in

premiums. The ability of the industry to turn a profit, therefore, has been a function of investment returns on the premiums collected, and those returns have significantly decreased.

The combination of decreasing returns on investment and increased losses has mandated a more conservative approach to risk taking for the underwriters. This situation affects not only insurers, but 'reinsurers' as well. A reinsurer is an insurance company that accepts part of the underwriter's risk in return for a premium. Reinsurers provide another level of risk transfer, offering such coverage to a number of different insurers.

While the reinsurance market is invisible to the purchaser of insurance, it has a critical impact on coverage availability. Insurers have a restricted 'capacity' or the largest amount of insurance the company can offer in a given period, a figure determined by state regulators and generally accepted accounting principles. Thus there is a limit to the insurance coverage they can offer on any one policy. To issue a policy that exceeds this amount, they must purchase reinsurance. As a result, the availability and price of reinsurance coverage can affect the environmental insurance available to brownfield redevelopers. Because the insurance industry as a whole has hardened and prices for traditional lines of insurance have increased dramatically, reinsurers are finding these traditional coverages to be more attractive than they have been in the past. Thus, environmental underwriters are encountering increased competition for capacity within the reinsurance market:

> *Broker222*: A 10 year maximum policy term is becoming the standard among most carriers. Some may limit new conditions coverage to 5 years. Larger deals, particularly portfolio deals, are still able to get out to about 25 years, but it is getting tougher. A good general rule is, unless the premium is well in excess of $100,000 and the sites are relatively innocuous, expect 10 years is the most you'll get. The biggest factor determining this is the reinsurance experience on some of the longer term policies that were written as this market really geared up in the last few years. They've had claims experience on these when the general property and casualty marketplace – of which the environmental market is only a small component – has suffered significant losses. At the same time, they've seen reduced investment returns. When investment returns go down and losses go up, it affects everybody who buys insurance. So, reinsurance capacity is tough right now.
>
> *Broker88*: Since January of 2001, the carriers have gotten a lot more conservative. It's affected the premium anywhere from 30% to 100%. They're trying to pull back and get more premium for the same deals. And they've pulled back on terms. In 2000, underwriters had the authority to go out 10 years for new conditions on the Pollution Legal Liability form. Now, they go can go 10 for preexisting conditions, but can only go out 5 years on new conditions unless they have approval for 10 years for each individual policy. It's because the reinsurer's market has really tightened up. One carrier has capacity on one form up to $100 million and we had a deal where we had to get up to $125 million. In 2000, we had a similar deal and the insurer carried up to

> $100 million and laid off the $25 million excess to a reinsurer. But when this deal came up, they couldn't do it because the reinsurer wouldn't take the excess $25 million.

It is ironic that, at a period in which stock market losses are generating renewed interest in direct investment in real estate, the same investment climate may raise the costs of insurance coverages that are important tools attracting capital to brownfields rather than greenfields. Chapters 4 and 6 examine approaches to the limited availability of coverage – bulk purchases of insurance and portfolio policies for small projects.

An important consideration to remember from this section is that the insurance market runs in cycles, fluctuating between hard and soft markets. The coverages available and their costs will change. As the following broker notes with respect to current shorter-term PL policies, prices may decrease and coverages may broaden in the future:

> *Broker222*: A ten-year maximum policy may not be such a bad thing. Right now, the market is tight. In 10 years, it may be extremely soft again with many new coverage innovations in response to market conditions. For example, just as you could not get nearly the scope of coverage in PL 7 years ago as you can today, 10 years from now, the situation may be much better, with broader coverage and 30 year terms. Remember, this market changes almost monthly.

2.4 Assessing the Value of Brownfield Insurance Policies

This brief assessment addresses the potential contributions of brownfield insurance products as a whole. In some instances, the value generated by one or another specific coverage is described, but the effort here is to summarize the overall impacts associated with use of these forms of private risk transfers. The simplest way to proceed is to enumerate potential benefits and then the potential difficulties associated with insurance.

2.41 Potential Benefits of Insurance Coverages

+ *Providing quantification and certainty of maximum possible losses.* Any insurance premium adds to the cost of a project, but, if the coverage it buys permits potential investors to quantify the downside risks and limits them, then the economic viability of a venture can be assessed. Without such quantification, investment decisions would be based on uncertain guesstimates, and access to regulated sources of capital would be acutely limited due to the risks involved.

+ *Facilitating deal-making when risk perceptions differ.* Expected environmental response costs are a logical basis for reducing the sale price of a property. Buyers and sellers may reach an impasse over price due to differing estimates of remediation costs and/or the liability exposures

created by known or suspected contamination. In such a situation, insurance to protect the buyer from costs above an agreed-upon level may permit a sale and reclamation that otherwise might not be possible. Moreover, by reducing the uncertainty, insurance may raise the selling price of the property by more than the cost of the premium.

+ *Backing or substituting for indemnifications*. In a property transaction, it may be difficult to obtain an indemnification agreement, or contractual commitment by one party to protect another party from expenses such as cleanup costs and third party claims. When indemnifications are made, insurance is increasingly being used to support the agreements by providing protections the indemnitor is unwilling to offer and/or by backing promises made by an indemnitor. Indemnifications without insurance have disadvantages for both parties. For example, the indemnitee may find that the indemnitor does not have the financial resources to fulfill the commitments made, and the indemnitor's financial statements and credit ratings will be negatively impacted by the agreements. (See the *Products Available, 1999* report for more on the problematic aspects of indemnifications.)

+ *Removing 'contingent liabilities' from balance sheets.* Uncertain costs such as cleanup expenses or potential environmental damage claims – or indemnifications offered as part of a deal – have to be carried on corporate and public financial accounts as contingent liabilities, weakening balance sheets. The Financial Accounting Standards Board and the Government Accounting Standards Board both have stressed the need to disclose contingent claims on financial capacity. The disclosures can weaken the apparent financial strength of organizations that need good credit ratings to access debt capital. Purchase of appropriate insurance can cap contingent liabilities and thus improve credit worthiness.

+ *Attracting 'warehoused' sites to the market.* Landowners with liability fears may be unwilling to offer properties to the market, or may limit prospective uses of their sites. Liability insurance coverages can offer security and allay concerns about whether the transfers of previously contaminated sites expose them to liabilities.

+ *Protecting landlords and tenants on leased premises.* Tenants on previously contaminated sites may want protection from environmental liabilities that they may incur due to occupancy of sites with incomplete remediations, while landlords may want to insulate themselves from costs they could face due to joint and several liability exposures if their tenants, such as those engaged in manufacturing, pollute their property. Environmental liability insurance is a tool that can protect both the landlord and the tenant (Waeger 2002).

+ *Obtaining review of engineering assessments.* The underwriting process for any form of cost overrun coverage for planned site mitigations involves review of engineering plans by staff of the insurance company. The premium payments for CC and FR coverages thus incorporate a built-in check on the quality of the proposed environmental responses and the stability of

remedies over time. The oversight on the engineering, by itself, adds to certainty and confidence in the adequacy of the response, not just for the redeveloper, but also for any subsequent owners or lessors.

+ *Providing immediate tax deductions.* Any party faced with expenditures for environmental responses may be able to accelerate tax deductions for those costs when purchasing FR coverage. The payment of the full premium and cleanup costs under a FR program as it is activated permits the deduction of that amount in the first year, even though the covered mitigation activities may not be completed for several years.

+ *Reducing loan risks for regulated lenders.* Banks and other regulated lenders may classify brownfield loans as high risk if they are not covered by some exceptional allowances for risks and uncertainties. Many lenders have had bad experiences with brownfield lending and may want protection independent of any regulatory requirements. Collateral other than the brownfield property may provide additional security, but, when that or similar assurance is not available, lending risks can be reduced through use of SL insurance coverage.

2.42 Potential Problems Associated with Insurance Coverage

– *Costs of coverage premiums.* The cost of protection may preclude acquisition of coverage. The price of insurance includes the insurer's prospective losses, operating costs, and profits, so insurance may be too expensive relative to the value it adds to a transaction.

– *Transaction costs in designing coverages.* Even if expected premium costs are not excessive relative to other project expenses, the sheer complexity of environmental coverages may be a barrier to their acquisition. The information costs, possible delays, and problems in weighing coverage alternatives may impose excessive costs on a redeveloper, especially smaller firms with fewer central office personnel to divert to the insurance purchase process.

– *Coverage conditions modifying project strategy.* Insurance underwriters may be unwilling to accept certain types of risks, such as offering CC protection for innovative mitigation approaches or PL coverages for residential uses of previously heavily contaminated sites. In such conditions, the risk transfers offered by insurance may impose costs on redevelopment plans that exceed the premiums themselves, in requiring utilization of more expensive environmental responses and/or abandonment of new land uses that offered higher rates of return on investments.

– *Possibility of insurer insolvency.* Insurance companies, by their sheer size and structure, are generally more financially stable and reliable in responding to insurance claims over time than operating companies that are not organized to have the liquidity necessary to service any indemnification claims. Insurers, however, can become insolvent. At least one has already

abandoned the environmental coverage market in recent years. Other considerations become insignificant if an insurer cannot pay claims. Insolvency guarantee funds that compensate parties suffering losses due to the failure of an insurer may be available. However, the payments they provide have a cap and the losses on claims filed may far exceed this amount. Rating bureaus, such as Standard and Poor's, must be consulted to ascertain the financial stability of an insurer.

- *Risk that coverage may not be renewed or be terminated.* Insurance policies are written for specific time periods. Some risks, however, especially those associated with possible liability claims and problems arising from environmental responses reliant on engineering and institutional controls, may extend indefinitely into the future. The availability of economically efficient coverage today does not assure renewability at comparable terms in the future, even if no claims have been filed under a particular policy. Further, an insurer may unilaterally cancel a policy under certain conditions (e.g., when the insured has failed to report a known pollution condition).

- *Danger of exceeding policy claim limits.* There are limits on the payments available under all policies. There is a danger that, in pursuit of lower-cost coverage and greater investment returns, a redeveloper may purchase a policy that does not have a high enough limit to shield itself and its investors from precisely the catastrophic loss for which the insurance was purchased. This problem becomes especially acute when multiple insureds are included on a single policy.

- *Delays in claim payments and claim denials.* Even if policy limits are high enough to cover losses, there exists the possibility that claims may be denied or paid only after significant delay and negotiation. For real estate redevelopment investments, such delay can be ruinous. In the site preparation phase, cost overruns on environmental responses that do not get covered quickly can so delay the point at which the project begins to generate positive cash flow as to render the project a failure. During ongoing operations, the discovery of a remediation failure may make a site not usable, either stopping onsite business operations or tenant lease payments, either of which can comprise catastrophic losses if funds are not available quickly to cover debt service obligations and to finance the needed corrective remediation. Discussion of claim payments is provided in Appendix B.

- *Inability to get the right coverage – or any coverage.* The risks may so exceed the potential returns on premiums that no insurers would be willing to underwrite a policy. For individual smaller brownfield parcels with low-cost cleanups, no cost-effective coverage may be available.

Ultimately, the decision to purchase insurance is based on weighing both the negative elements of insurance policies and the benefits of the coverages. Perhaps the primary value of insurance in brownfield projects, however, is that some transactions cannot proceed without it. Risk retention and indemnification may be perceived as unacceptable options because of the financial vulnerabilities they

create for organizations. Conflicts may well arise over who should indemnify whom. Buyers and sellers often reach an impasse over differing estimates of remediation costs and/or the liability exposures created by known or suspected contamination. In such situations, insurance protections may provide the only solution:

> *LocalEnv66*: I would characterize the insurance as the final deal maker. Everybody wanted the project to happen. They were right on the edge, but everybody was worried that we might discover something our engineering firm didn't find. So we decided to buy cost cap insurance and it was the assurance that people needed. That's what finally pushed it over and made the deal go. We've been able to use that example ever since with people. Now it's pretty much a factor that everybody considers.

As one broker noted, people usually evaluate insurance costs in terms of the amount of protection provided per dollars spent. In the case of a brownfield redevelopment, the important question often is, how great is the expense incurred for insurance coverage relative to the lost profit opportunities associated with losing the transaction altogether?

Chapter 3.0
Government Brownfield Insurance Challenges

In the past few years, there has been increased interest in insurance and more municipalities have used insurance for single brownfield sites. Moreover, as described in Chapter 6, some states have played very active roles in developing state-wide brownfield insurance programs. Overall, however, local governments experience difficulties in attempting to develop insurance programs to meet their needs. Chapter 4 examines approaches that could be taken, including pooling sites into portfolio policies. The issue addressed here is why these approaches are underutilized. The chapter elaborates on the analysis presented in *Environmental Insurance and Public-Sector Brownfields Programs* (2000).

Opening with a brief overview of the types of brownfields with which local governments are contending, the chapter moves on to examine the barriers public entities face in developing insurance programs for these sites. These include the complexities of insurance products, the organizational structure of brownfield working groups, a shortage of brokers experienced with brownfields, and lack of incentives on the part of those brokers with this experience to work with public entities.

3.1 Brownfield Scenarios Facing Local Governments

Information provided by focus group participants indicates that, at any one time, a municipality may be dealing with a diverse array of brownfields, each of which has specific insurance needs. The excerpts below are offered as examples of the assortment of redevelopment efforts reported by focus group participants:

> *LocalEcon15*: One project I'm working on is a 300-acre redevelopment. The idea is to reshape this industrial area into a new, mixed-use neighborhood that would allow for 1000 townhouse units and 850,000 square feet of low-rise office/retail development. And we have a variety of smaller, privately owned sites.

> *Localenv88*: We're in the process of doing some redevelopment zones and the city may step in to pool enough small properties to make them attractive for the development plans that are being put forward. We've got a new city center in the old part of town and we have over $10 million for a new library facility and some city offices. We're proposing to use that site to spearhead a six-block redevelopment. Then we're involved in a couple of old military bases on the border of our brownfields area.

> *LocalEcon4*: Most of the brownfields are privately owned, but the projects we're involved in are publicly owned because it's much easier to control them that way. We have sites ranging from very old industrial areas and a few acres of adjacent sites pooled together that used to be a bakery and an oil distribution facility. We also have a large 55 acre river front parcel near our

downtown area that used to be a construction debris landfill and a manufactured gas plant. We have a former rail yard. Our sites are generally light to medium manufacturing and tend to be river-front or flood-plain impacted sites.

LocalEcon777: We have focused on publicly held brownfields and use brownfield redevelopment districts to capture tax revenue to pay for infrastructure improvements. Not all sites are badly contaminated. We also have many privately held brownfields in the city. We don't want to buy all of them to gain public benefits, but the owners won't aggressively develop or market these sites without incentives.

Municipalities differ with respect to their brownfields strategy. For example, some tend to acquire sites through purchase or condemnation, while others avoid an ownership role. Some focus on individual, scattered brownfields while others focus on multiple brownfields in one area. The scenarios may be categorized along several key dimensions related to the characteristics of the sites and actors involved:

- project sizes (in cleanup costs, total investment dollars, and acreage);
- public/private ownership in a transaction (ownership may move from private to private, private to public, or public to private);
- proximity of multiple sites to each other (contiguous, scattered);
- site assemblage and parceling (multiple sites may be assembled and sold as a single site, a single site may be parceled and sold as multiple sites);
- number of owners and purchasers (one owner may sell to multiple purchasers; multiple purchasers may sell to one owner); and,
- number of developers (several developers or one master developer may be used).

One theme that recurred among participants concerned the problems associated with redevelopment of brownfields that are small in terms of cleanup costs and overall scale of investment. Government representatives expressed an interest in finding insurance mechanisms to assist, as one person put it, "the little guy who falls through the cracks:"

Localenv88: We're interested in learning about the ways others have been able to entice small property owners – mom and pop type shops – to take advantage of some of these federal grants for site assessments. It's very difficult because when you start talking about environmental liability, they get very nervous. The developers of big sites are well aware of the liability and have the resources to go after environmental insurance. But these small business owners, which make up the bulk of our brownfield sites, are very nervous and they don't have enough resources to put into insurance. They're just barely breaking even sometimes.

LocalEnv9: Most of our publically owned brownfields are too small to attract the investors our economic development people routinely pursue. All the information says that the insurance costs

are too high for the small sites we need to address in the neighborhoods. How can we get insurance for the small sites? Can we group them?

LocalEcon777: A problem for us is, we've got a lot of very small brownfields. If there are ways of extending this insurance idea that could help smaller businesses on brownfields, we're interested.

Compared to large-scale redevelopments, smaller sites are disadvantaged in that, first, it is more difficult for them to access debt capital, especially when a brownfield property is used as collateral. Second, smaller projects often do not have access to expertise such as specialized real estate and environmental attorneys. Third, environmental site assessment and cleanup costs represent a higher proportion of overall development costs to small projects than large projects since they entail certain fixed costs (Yount and Meyer 1999). Finally, the cost of PL coverage represents a greater burden to smaller firms and, as noted, it is difficult, if not impossible, on an individual basis to obtain CC coverage for sites with cleanups under $1 to $2 million. The irony is, unless small-scale project developers have straightforward contamination problems with few expected unknowns, they have an exceptionally high need for insurance coverage, since they can least afford losses.

3.2 Factors Affecting Insurance Program Development

We now turn to conditions that undermine the ability of government entities to implement insurance programs for the multiple brownfield sites with which they are concerned. These factors pertain both to the organizational structure of brownfield working groups and the existing reward structure within the insurance industry.

3.21 The Complexities of Developing an Insurance Program

The first and basic point to acknowledge in considering the difficulties of establishing an insurance program for government entities is the complexity of the policies. As emphasized, they are often highly manuscripted as the result of negotiations among the purchaser, carrier, broker, attorneys, and other parties. From the public sector's standpoint, the complexity of the products compounds the difficulties involved in the brownfield redevelopment process, which requires some basic knowledge of engineering, real estate transactions, liability concerns, and other issues.

The intricacies of brownfield insurance programs also presents difficulties for brokers. Designing programs for governments is challenging due to the special and diverse needs of public brownfield programs. Local governments not only are redeveloping their publically owned sites, but also are attempting to facilitate the cleanup and reuse of privately owned properties. Also, legislative and constitutional limits on municipal liability exist and vary from state to state. Finally, as noted, local governments are particularly interested in finding cost effective ways of insuring multiple, scattered

small-scale brownfield projects. In general, these are the types of projects with which insurers and brokers have had the least experience. While designing insurance approaches to these properties is possible, the process requires an exceptional effort on the part of industry personnel.

3.22 The Organizational Structure of Brownfield Working Groups

Public brownfield working groups typically are composed of individuals from several departments and agencies concerned with both the environmental and economic development elements of brownfields regeneration, along with other non-governmental stakeholders. In many cases, the groups are restructured on more than one occasion in attempts to improve the ways in which they approach redevelopment projects. Moreover, individuals who become knowledgeable of insurance may be moved to another unit or leave government work.

One consequences of this organizational complexity is that it becomes difficult to reach a consensus about insurance program issues and decision-making can be slow. From the broker's perspective, public buyers require greater investment in educational efforts. In general, working group participants are more knowledgeable about insurance than they were several years ago due to educational forums such as national brownfields conferences, local and regional workshops on insurance, and presentations by insurance brokers and carriers brought in to discuss coverages. Often, however, only representatives of the working groups attend these events and do not convey the information they have learned to others. Another source of variation in knowledge stems from the background of group participants. While those in economic development units may have a background in general insurance concepts, those from an environmental agency may have very little knowledge. This variation makes it difficult for insurance representative to gauge the level of sophistication they should assume when speaking to brownfield groups.

Despite gains in knowledge, relative to redevelopers of large-scale private projects, the level of public sector understanding remains low with respect to insurance and its potential value to brownfields redevelopment. Not only do government actors have less knowledge than private insurance purchasers, there are more individuals who need to be educated. Insurance industry personnel may be asked to give to give presentations on insurance on repeated occasions to different government units in the same municipality or state.

A second element of the organizational structure of brownfield working groups that creates difficulties from an insurance procurement perspective is that public sector risk managers, who are responsible for seeing that a municipality is adequately protected by insurance, are often not a part of the groups. This issue was raised during the focus group deliberations:

> *Admin99*: Many times, internal communications within the local government agency as to the need for risk management involvement in brownfield projects sorely is lacking. Those in the economic development department may not perceive the need to involve risk management until

long after a project is underway. Not everyone is tuned into the resources available to them internally or externally.

LocalEcon11: The level of sophistication in local government in insurance for individual projects is still quite low. It's probably even lower for portfolios of projects. There are many reasons for this including the fact that local government risk managers are not keyed into pollution insurance and do not necessarily exchange notes with the brownfields staff .

Broker33: There is a huge disconnect between risk managers and the brownfields staff. This gap creates inefficiencies in marketing environmental insurance products.

One problem that emerges from this disconnect is that the risk managers may not have adequate knowledge of the special insurance needs of brownfield projects. When they lack understanding of brownfields and have not been a part of discussions surrounding insurance, they may not see the need for an insurance program or the necessity of procuring the services of professionals who are specialized in brownfield insurance. Consequently, the development of a program can be stalled:

Insurer10: I can tell you, working with the public sector is a painful, painful process. In the private sector, I can sit down with the CEO and explain the situation. They see the economic advantages of the insurance. They say, this is perfect. This is just what we're looking for. Do it. You go to the head of one government department and he says, yeah, this is great. Then you go to the risk management department and they don't want any part of it and you have to start over.

Finally, some brokers noted that public sector actors have less of an economic incentive to put a program in place compared to the private sector where delays in binding a policy means loss of their own money:

Broker88: Compared to the public sector, the private sector's a lot more flexible because they have to get the deal done to generate income. There's a huge incentive for them to be flexible and creative and to accept new ideas. Environmental insurance typically is a new concept to the public sector. They haven't been as eager. Plus, there's a lot of different entities involved in the public sector and it's a bureaucracy. It moves a lot slower.

3.23 Availability of Experienced Brownfield Brokers

A broker with expertise in brownfields is central to a viable insurance program. As Taylor (2001) discusses, brokers play critical roles in insurance procurement processes. For example, they may:

- identify client risk exposures and quantify the loss potential of those risks;
- identify appropriate insurance products;
- gather and submit information needed by insurers to underwrite coverages;

- work with insurers to develop alternative proposals in terms of deductibles, premiums, and endorsements; and,
- service the policy throughout the policy term by obtaining endorsements for changes and assisting in the administration of claims.

Compared to other lines of insurance, these activities are particularly complex with respect to brownfields insurance (Taylor 2001). For instance, identifying environmental risk exposures involves knowledge of hazardous materials and liability laws that vary from state to state. Quantifying the loss potential is difficult because, unlike other types of insured risks, actuarial data for most types of contaminated properties do not exist. Submissions to insurers entail technical information with which most brokers are unfamiliar, such as environmental site assessments. Moreover, brokers who do not place brownfields policies on a regular basis are not knowledgeable of the range of possible policy endorsements that may be negotiated to meet the specific needs of any one project.

Very few brokers in the industry have competencies in brownfields relative to other lines of insurance. In terms of public entity ability to develop brownfield insurance programs, the shortage of brokers is exacerbated because the majority of experienced brokers are occupied with private sector developers. Several reasons why public clients are less attractive than private clients have already been noted, i.e., the programs are especially complicated to design, greater time investment is needed in public sector education, and the need to work with multiple government units is cumbersome. In general, private sector transactions are less time-consuming and the prospects for a sale are more likely.

In addition, working with private clients can be much more lucrative, especially when governments seek to insure small-scale brownfields. Brokerage firms must utilize their limited environmental specialists so as to maximize their profits. This means that the personnel are allocated to accounts that have the largest revenue possibilities:

> *Broker222*: You have to understand where we come from. My firm represents extremely large corporations, so we don't need to chase municipal brownfield programs with three gas stations where the total sale is going to be $3 million. We are a for-profit company. The insurance premium for those three gas station sites might be $65,000 and might generate $8,000 in commission. When I represent major utilities, chemical companies, manufacturers with single portfolios of four or five sites, I might generate $100,000 in commissions for us. So, it's not an issue of we can't develop portfolio products for municipalities - we just chose to play at a much higher level.

Typically, when brownfield working groups need insurance, they assign the process of finding a broker to the risk management office:

LocalEcon77: The way it works with municipalities is that our risk management departments are the ones who work with the brokers. They have a general broker who gets the best deals on the insurance. He's the one that determines what the best policies would be.

Because risk managers are frequently not included in brownfield working groups, they rely on their selected brokers, often those that specialize in excess insurance for their self-insured public entity pools. Such brokers likely have little knowledge of coverages appropriate for brownfields.

Brokers who lack this specialized knowledge typically turn to an insurance carrier to provide guidance and expertise. The consequences of this are twofold. First, the affiliation with one carrier that has provided the broker with these services often results in a situation in which other carriers are not approached for competing proposals. Second, the broker's proposals to the client tends to reflect the perspective and interests of the carrier:

Broker307: If a brokerage doesn't have an environmental operation, the city will be serviced to a lesser extent than they would with somebody who has environmental insurance capabilities. If a broker doesn't have expertise, more often than not he'll approach the insurer and then tell the client, here's what the insurance company is telling us. And the insurance company's objectives are 180 degrees different than what the insureds want. Let's be very clear on that. Insurance companies want to offer as least coverage for the most premium as possible. The insureds want as much coverage for as little premium as possible. That's where they start. If you've got a good broker, you get them closer to the insured's view. If you don't have a good broker, you're closer to the insurer's view.

3.3 Addressing the Problems

The difficulties discussed above largely are inherent in the workings of local governments and the insurance industry. However, certain steps can be taken to ameliorate them.

3.31 The Broker Selection Process

Local governments generally have two types of contracts with brokers. They may have a broad contract that specifies the use of a single brokerage firm for all insurance products, or they may have a contract that specifies use of the brokerage firm for specific types of insurance only. In the first case, they are bound to use that firm. In the second, they have the latitude to solicit specialized brokers.

Where this latitude exists, most often a Request for Proposals for coverage on a specific project is issued. As the following, highly experienced broker points out, this process may result in a broker

with insufficient knowledge of brownfields insurance negotiating policies because of a 'first come, first serve' practice on the part of carriers. Instead, he advocates issuing a Request for Qualifications:

> *Broker222*: We haven't made a specific concentration in the brownfields area of writing policies for municipalities. Part of the reason, unfortunately, is that municipalities tend to put everything out for public bid and we don't choose to participate in that market. You need to understand how insurance works to understand this. There are only four to six carriers that will write environmental insurance for brownfields and each insurance company will only deal with one agent or broker at a time. And the problem is that, if a city puts out an RFP to procure environmental insurance, a hundred agents rush to fax it to the six available environmental insurance markets. The first broker to submit an RFP to an underwriter is the only broker the carrier can work with. So the product gets presented possibly by a broker or agent who really has never done a brownfields deal before, only because that agent got to that market first and blocked other agents.
>
> If you haven't done a brownfield deal before and you're not well-versed in environmental insurance, you really wouldn't know what to negotiate for in terms of removing certain exclusions or changing certain conditions of the policy. What the municipality ends up with then, is a product that partially meets their needs but not as well as it could, possibly at a higher price than they could have gotten for a better product. We don't think that we can win that game. Quite frankly, we'd rather work in the private situation where, let's say, a major chemical company sees the value that somebody with experience can add to the transaction and is not just looking for the low-dollar proposal.
>
> The advice I could give to any state or local government is use a Request for Qualifications to find brokers. We definitely would be much more active in the government arena if they ran their process first by using a RFQ. We're looking for clients who understand that experience, industry involvement, leverage with the market, and brownfield expertise adds value to the process. As somebody who specializes in this area for almost fifteen years now, municipalities don't show me that when they send out an RFP. What they tell me is, 'I'm looking for price and I don't really care if the broker understands this stuff or not– the lowest price is going to win this business'. A municipality that says, 'okay, what I want first is the best broker'– that's telling me they're going to buy value. And that's where I can win the game.

3.32 Broker Compensation

While designing an environmental insurance program useful to government entities requires a lengthy process of collaboration and negotiation, most insurance brokers receive no compensation until a policy is purchased. One course of action for attracting experienced brokers that it would behoove governments to consider is paying them a fee to develop an insurance program, rather than assuming they can obtain a quality broker on a commission basis only. Increasingly, brokers are recognizing the need to deal with government entities on a fee basis to develop programs that involve multiple brownfield sites:

Broker11: Government wheels move slowly. Given the amount of time it would take, I would expect to get paid to develop a portfolio policy for a government entity. While it's invigorating to develop these kinds of products, working for free for three years doesn't pay the bills today. What governmental entities aren't aware of is the infinite variety of approaches that can be utilized with one or more products to address the needs of a city or county or state. If someone wanted me to put something like a portfolio policy together, I'd say great, I'd be happy to do so, but I would expect to get paid for that. I'm not going to work on a commission.

3.33 Specialty Firms

Given the shortage of brokers experienced in brownfields, it should be recognized that it may be difficult for a local government to obtain their services, even when they are compensated on a fee basis. One way to address this scarcity and problematic contractual requirements to work with an existing broker is to procure the services of an environmental consulting 'niche' or 'boutique' firm (Taylor 2001). These specialty firms, which have emerged in recent years, are staffed with individuals experienced in brownfield remediations and transactions. Their size and complexity varies; some are quite small while others utilize teams consisting of brokers, lawyers, engineers, and others.

The firms may be hired on a consulting basis by property owners or by brokerage firms that lack a specialization in brownfields insurance. Alternatively, they may serve as the broker for a project or program involving insurance. In either case, the client should expect to pay a fee for these services, even when no insurance is purchased. One advantage to utilizing the firms as consultants is that they may contracted with even when a government entity has an agreement to conduct business with a particular brokerage firm.

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This report now turns to assess the viability of insurance program models that could be developed by the right team, beginning with the local level of government.

Chapter 4.0
Structuring Insurance Policies at the Local Level for Multiple Sites and Multiple Insureds

Some of the more complex environmental insurance policies are those involving more than one brownfield site and/or more than one insured on a policy. This chapter explores such policies, beginning with a discussion of the nature and advantages of policies for portfolios of properties. The difficulties associated with a model suggested during the focus group that entails policies for multiple sites owned by financially unrelated private parties is then addressed. The two sections that follow discuss viable insurance programs. The first entails public acquisition of scattered brownfield sites that are remediated and sold to multiple new owners. The second involves acquisition of contiguous sites by a public entity's economic development organization or a master developer working with a municipality. The chapter ends with discussion of two topics that pertain to both of these models – considerations when two or more insureds are on the same policy and assembling the project team.

4.1 Portfolio Policies: An Introduction

'Portfolio' policies, sometimes called 'master' or 'blanket' policies, are policies that covers two or more distinct properties. They have an 'aggregate' limit (the most a policy will pay for *all* losses across *all* properties) and, in some cases, different 'sub-limits,' such as a per-occurrence limit for each event resulting in a claim at a site and/or a limit for coverage at any one site.

A single organization may purchase a portfolio policy to protect various properties it owns. In addition, several entities may join together to purchase a single policy to cover properties owned by the group. In conversation, the term 'pool' is used to refer both to the group of purchasers that buys a portfolio policy and the properties covered by the policy. Unfortunately, this term can be confusing because, within the insurance industry, a pool has different, more formal meanings, (e.g., a group of organizations that combine to provide insurance for themselves such as a self-insuring public entity pool or a group of insurance carriers that join together to underwrite large insurance policies).

4.11 Types of Insureds

When there is more than one insured on a policy, different types of covered parties may be designated and given different responsibilities and rights, i.e., the 'first named insured,' 'additional named insureds,' and 'additional insureds.' The first named insured (also called the 'primary' or 'lead' insured) is listed first on the declarations page of the policy and is the contact for the insurer. This entity is responsible for submitting payments for premiums and deductibles (even if other insureds contribute to these expenses), accepting claims payments, negotiating changes in the policy, and generally acting on behalf of the other insureds.

Although there are variations among individual policies, *named* insureds (including the first named insured) differ from *additional* insureds in that the latter are covered only when their liability arises from the named insureds' operations or ownership of a site. That is, coverage for an additional insured applies to liability flowing through the named insured. Thus, an additional insured is able to bring a claim only if liability rests with the named insured. Some insurance carriers stipulate a further condition – an additional insured is covered only when a suit filed against them also is filed against the named insured. A named insured, however, may submit a claim independently.

Named insureds and additional insureds can and often do change status on a policy when a transaction occurs. For example, a party that owns and is remediating a site may be the named insured on a policy. When the property is sold, the new owner may become the named insured on the policy while the original owner reverts to an additional insured.

4.12 Cost Savings and Coverage Availability

The primary advantage of using a portfolio treatment rather than insuring sites individually is cost savings. How much of a savings per site, then, can be achieved? When asked this question, some underwriters and brokers hesitantly gambled a rough estimate of 15% to 20%. Others, however, declined to offer even a rough approximation in the abstract. One insurer noted, "I will venture no such estimate. Without a lot more analysis in the context of a specific risk, it's impossible." Some insurers expressed the opinion that the savings with a portfolio policy were minimal:

> *Insurer021*: Certain people in the industry say if you roll up all of these sites, it's going to be so much cheaper. And I just don't see it in the underwriting process. And the ratings aren't filed, so how do you know whether you've gotten a better deal or not?

Despite difficulties determining the extent of savings and differences of opinion regarding how great the savings are, there is a general consensus in the insurance industry that portfolio policies can lower the costs of insurance per site. This is because, first, insurers very frequently are placing less capital at risk for the portfolio than they would for properties insured individually. That is, instead of an insured party purchasing a policy for five sites individually – each with a $10 million limit – the party purchases one policy for all five sites with a $10 million limit, predicting that not all five will have significant losses. Second, there is an offset effect through which insurers spread their risk; when a carrier provides coverages for a number of properties, losses incurred at some sites are offset by the accumulated premiums collected for all sites:

> *Insurer27*: There's not a hard and fast rule about the percentage savings with portfolio policies. But certainly there are significant economies of scale. It's going to be a spread of risk for the carrier. So, the cost would certainly be lower than if you insured each property individually. Instead of covering one property with a five million dollar limit, if you had ten properties that

shared five million dollars in limits there's not as much limit for each property. But at the end of the day, that may be considered to be very adequate protection.

With respect to CC portfolios, another reason for cost savings stems from assured sales. That is, an insurer's expenses include analyzing the mitigation plan for each site when a client applies for insurance. However, the insurer does not always make a sale. Although, in the future, insurers may begin charging for engineering work when no sale occurs, at present, the expenses from analyses performed for these sites are added to the costs when sales do occur. If an insurer can be assured of each sale, however, this expense need not add to the price of insurance premiums:

> *Insurer045*: It costs us money to analyze and price each risk. If one in three of my efforts generate the sale and it costs me $10,000 per site to do an appropriate amount of due diligence, then I have $30,000 worth of fixed costs to load into each transaction that I consummate. But if I do a deal on a group of properties, instead of hitting on one in three and having to lay off the fixed expenses for three on the one, I assume that I'm going to get every one of those deals. Then my success ratio is not 33%, it's 100%. So, I get some economy in the fixed expenses by doing the transaction on that basis.

Regardless of the savings that might be achieved by using a portfolio approach, creating a pool can make it *possible* to purchase CC and FR coverage for small-scale brownfields where otherwise it may not be possible. As noted in Chapter 2, insurers generally do not now offer the policies for sites where cleanups are less than $1 to $2 million. By pooling several sites, however, this threshold can be reached:

> *Broker022*: It is very difficult to get a cost cap policy for a smaller site with a limited remediation project. The key would be to group those together and put a cost cap on all those properties that need remediation so that you're reaching a level that the carriers will be willing to cost cap it. It gives them some spread of risk because the chances of every single site going over are much lower than having one individual site that could go over.

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It is fairly common for public entities to purchase portfolio policies for risk exposures arising from ongoing operations of their facilities (e.g., chemical spills in vehicle and equipment maintenance facilities). Relative to coverages for current operations, however, pools involving brownfields are complicated due to the unique characteristics of each brownfield site and because brownfield projects typically entail remediation, redevelopment for a new use, and a property transaction. The following sections assesses alternative models of policies designed for brownfields.

4.2 Portfolio Policies for Multiple Sites with Unrelated Owners

One issue raised during focus group discussions by state and local government representatives concerned the possibility of lowering insurance costs by forming a pool of privately owned brownfields. The hope was that this approach would be useful, particularly with respect to insuring small-scale projects. Conceptualizations of how such a pool would be structured were vague. However, a composite scenario of what government officials generally had in mind entailed an economic development organization (EDO) arranging a portfolio policy for a number of sites owned by financially unrelated private parties. Cost savings would be achieved by the insureds sharing an aggregate limit.

Explorations of this scenario with insurance carriers and brokers indicate that there are a number of critical difficulties associated with it. This section enumerates the problematic aspects of creating and managing portfolio policies for unrelated, private site owners. Because of interest in the model among focus group participants, the issues involved in structuring these policies are addressed in some detail.

4.21 Exhausting Limits

The primary difficulty with this approach lies in the possibility that one or a few insureds may exhaust the aggregate policy limit, leaving others unprotected. Placing sub-limits on a per-site basis reduces the chances of this occurring. However, the possibility remains as long as there is an aggregate limit that is less than the total of all the per site limits – the factor that is key to reducing per-site costs. For example, in a portfolio policy of twenty sites with $2 million per-site sub-limits and a $20 million policy aggregate, if half of the insureds filed claims for the limit of their coverage, the other half would not have protection. For many insurers and brokers, the idea of sharing limits runs counter to the purpose of buying insurance in the first place:

> *Broker5*: In the event that there are losses in the pool, limits might not be available for your transaction, which goes against the whole concept of placing a policy.
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> *Insurer045*: If you take my money from me and then you pay a loss on behalf of somebody else with my money and then tell me I get nothing for it, I've got a problem with that.
>
> *Insurer015*: It doesn't make any sense to me. I wouldn't want to share my auto insurance with my neighbor, even if I could get it for 20% cheaper. Is it possible? Sure you could do it, but why would you want to? You're buying the policy for your financial interests.

4.22 Legal Issues

A concern stemming from the problem of expending limits is that policies in which unrelated or financially independent entities share an aggregate policy limit may not be considered legal in some states:

> *Insurer015*: The main issue is that everybody pays, but there may not be limits available for everybody and that can be considered fraud.

> *Insurer045*: We don't issue policies where unrelated entities are covered under a single insurance policy. A lot of states have rules specifically addressing so-called fictitious purchasing groups – unrelated businesses with unrelated risks and unrelated insurable interests who pool for the purpose of buying insurance. I recommend that no programs like this be undertaken without the advice of a competent insurance compliance attorney. If there is a centralized, organizing entity authorized to buy insurance on behalf of various sub-interests, it may be legal in some states in some sets of circumstances, but that doesn't necessarily make it smart.

As with most laws pertaining to insurance, laws relating to insuring multiple unrelated insureds on the same policy vary from state to state. In this regard, it should be noted that the 1986 federal Liability Risk Retention Act allowed organizations to create 'risk purchasing groups' or groups formed to purchase liability insurance coverage for group members, all of whom must share similar or related liability exposures. However, despite the fact that the language of the1986 Act indicated federal preemption of state regulations restricting formation of fictitious groups for the purchase of liability coverage, some states have contested this and still impose their own requirements on the groups. Moreover, the relevance of risk purchasing groups to brownfields is tangential as the Act pertains to third-party liability insurance such as errors and omissions, medical malpractice, and professional liability insurance, and does not extend to property insurance or insurance to cover first-party cleanups.

4.23 Problems Stemming from the Uniqueness of Brownfield Transactions

A point emphasized in this report is that brownfield redevelopments and transactions are highly unique; hence, the need to manuscript insurance policies. While it is possible to amend a policy as needed by endorsement for individual sites, writing the base policy to fit a group of diverse brownfields would be a challenging task. Furthermore, depending on how the policy is written, changes in that base policy may need approval of all the insureds.

> *Broker5*: I would highly recommend against individual parties with no financial link buying into an insurance policy with per-site and aggregate limits if it's for brownfields real estate transactions because every single transaction has intricacies that are specific to that deal. If you have other parties on that insurance contract that have interests that are not consistent with your

company and your transaction, you have to get approval of everyone in that group to change that policy. That would severely hinder your ability to be liquid in terms of getting your transaction done. For example, one transaction might involve indemnification by the seller and another might involve indemnification by the buyer. I haven't brokered a policy where several clients share limits because it's very much taboo in most states to go that route. Where it is legal, it's a very cumbersome process. And frankly, the benefit gained is marginal.

Insurer018: You would have individual entities sharing limits, sharing retentions, sharing premium payments. You'll have some becoming insolvent. It would just be way too much of a headache for an insurance company to keep track of all of these individual insureds under one policy, getting them to all agree on issues that affect the policy, because anything that affects the policy, effects every insured on that policy. Any changes on the policy would have to be agreed upon by everyone.

4.24 Administrative Complexities

In addition to all of these difficulties, the process of creating the pool of properties for the policy and administering the program would be difficult. First, the EDO organizing the program must work with brokers and insurers to decide on the types of sites that should be included:

Broker11: The issue is, what kinds of brownfields are you going to incorporate? Are you going to cover sites with underground storage tanks with hydrocarbons? Are you going to cover TCE's coming from dry cleaning operations? Are you going to cover chemical manufacturers? All of that has to be discussed ahead of time so you can define your universe. And the broader you attempt to define what your coverage issues are, the more expense you're going to spend because of the unknowns. If you haven't investigated all sites, you may have some sites that have significant contamination and others that have less or no contamination.

Second, convincing independent owners to share risks with each other would be a formidable task, especially when sites vary in terms of the level and quality of site assessments:

Broker7: To the extent that you're sharing risk, the biggest obstacle on any of those kinds of group programs is the extent to which the various participants know one another. You don't want a bad actor in there that's going to bleed the pot dry and then not have any money left for the other participants. The problem is, a lot of these brownfield situations are so individual and often there's not a consistent network of people who know each other well enough to share their risks with another project, mainly because they don't know how good the engineering was on the other project.

In a portfolio policy, premiums for each site can be adjusted so that, in principle, those with the greatest risks pay a higher premium than others. However, conflicts among insureds still may arise

over the fairness of premium contributions in relation to risks. This issue is exacerbated by the problem of 'adverse selection.' This term refers to the tendency for parties who perceive a high probability of loss for themselves to seek high limits while those who perceive a low probability of loss to seek low limits (or not buy insurance at all). Owners with the least risky sites would be reluctant to share the coverage with others while parties with the most risky sites would be the most willing to join as they would benefit the most from the portfolio treatment:

> *Broker11*: The ones that are looking at a large environmental bill are going to be the ones that want to join. And the ones that have very little historical exposure will say, why would I join a pooling operation where somebody comes in knowing they've got a cleanup and it turns out to be $15 million? The first time out of the box, the thing is done. You're running a huge risk for adverse selection.

> *Analyst333*: If I've got a site that has a high volatility, high risk and accordingly will get a higher premium, I'm going to be happy blending it in with a group of sites that have low volatility. If I'm the guy with the low volatility, I'll be objecting to that. If you think you have a fairly low risk transaction, your option is always to go with single site, single underwriting. The challenge for the person marketing the program would be to overcome that sense that, hey, I've got the cleanest, most easily underwritten site. Why would I ever want to stick it into a portfolio full of a bunch of derelicts and misfits?

Finally, administering a portfolio policy program for multiple independent insureds would place an EDO in a precarious position *vis-a-vis* relationships with brownfield owners, considering the possibility that policy limits might be expended:

> *Insurer045*: Clearly you've got an issue of expectations. What happens when Owner B uses all the limit and Owner A's out of luck? Clearly there is an expectation of the insured issue that needs to be dealt with and that's not an insignificant problem.

> *Insurer015*: It really makes it messy. If you have a loss, you've got to let all the insured know. And at the end of the day when the limits are impaired and the next loss comes in and the next guy doesn't have the limits, he's never going to remember getting any of your messages. So, it puts you in a bad position.

Considering these problems, most insurance representatives felt that any cost savings achieved would be insufficient to warrant insuring multiple, independent parties under one portfolio policy:

> *Insurer 999*: It's been my experience and I think the experience of the insurance industry that the savings associated with shared aggregates are not great enough to offset the headaches and the potential problems if the aggregate isn't high enough.

> *Broker5*: In a pooling arrangement where you're sharing limits, the cost savings just are not significant enough to warrant taking the risk.

4.3 Portfolio Policies for Multiple Publically Owned Scattered Sites

The discussion now turns to a workable approach to redeveloping multiple brownfields that entails a public entity acquiring scattered sites and selling them to multiple new owners. Since large environmental liabilities affect the municipality's bond rating, the assumption made here is that ownership of the properties would be transferred to an arms-length EDO that would act as interim titleholder during remediation activities. A portfolio involving the primary policies summarized in Chapter 2 could be purchased – Pollution Liability (PL), Secured Creditor (SC) and either Cost Cap (CC) or Finite Risk (FR).

This model also was one in which focus group participants expressed interest. Despite solicitations for examples where the approach was in use, no case studies were found. This may be a consequence of the research methodology used that did not involve random sampling of a large population. The phenomenon also may be attributed to factors discussed in Chapter 3 regarding the difficulties local governments face in establishing insurance programs. Considerations for those interested in developing this type of portfolio approach are presented below.

4.31 Factors Affecting Cost Savings

One question that arose when focus group members contemplated this kind of portfolio concerned factors that would contribute to cost savings, including the number of sites that would be necessary to reduce per-site insurance costs. When asked about a threshold number of sites, there was a rough consensus among insurers and brokers that, for PL policies, savings could be achieved with about ten brownfields and would increase (up to a point) with higher numbers:

> *Insurer27*: As you get up into the tens of properties I think you certainly see the economies of scale and I think it increases as you get higher numbers. The savings start to plateau after a couple of hundred properties, though, because you can't make the coverage free. So, there is some area between, say, ten and a couple of hundred where you have significant economies of scale. You may not get as much economy with just a few properties on a portfolio. There would be some, but it just wouldn't be as dramatic if you had, say, one hundred properties.

Again, however, it is difficult to specify the extent of the cost savings achieved by using a portfolio approach. The premiums will be affected by a number of factors. As the following broker points out, the way in which the aggregate limit and sub-limits are structured affects the cost; the insured may lower the premium cost, but run the risk of expending the aggregate on one or a few sites:

> *Broker111*: If you have, say, fifteen or twenty sites, statistically you'll see an advantage to pooling. If you have six or seven sites and you have sub-limits, you're not going to see much of a savings. Unless – say you have ten sites and a sub-limit of $2 million for each of them, but you

only bring your policy aggregate to $10 million. That means you can pay up to $2 million on an individual site, but no more than $10 million for the portfolio. Then you'll see some benefits.

The most significant factor affecting the cost of the premiums is the amount of risk the insured is willing and able to retain. When large deductibles (in the case of PL policies) or SIRs (in CC policies or FR programs) are selected, insurers are more willing to offer coverage and to offer it less expensively. This is because the insured in these cases is assuming responsibility for a large proportion of the 'working layer,'or dollar range in which losses are most likely to occur. For example, a portfolio can be a primary policy with a moderate policy limit (e.g., $10 million) and a small deductible (e.g., $25,000 per occurrence). Alternatively, 'catastrophic' coverage – or coverage for losses in excess of the working layer – can be selected with higher limits (e.g., $25 million) with a larger deductible (e.g., $2 million). Here, the insured will be exposed to higher liability, but the larger the retention, the lower premium.

4.32 Jurisdictional Scope of a Portfolio Pool

An additional focus group issue raised concerned the jurisdictional parameters of a pool of properties included in a portfolio policy. There was a consensus among brokers and carriers that organizing pools across state lines is not feasible due to varying environmental and insurance regulations. These differences make it very difficult for an insurer to prepare a composite rating that is more cost effective than it would be without cross-state pooling.

It is possible to organize a pool for brownfields transactions involving more than one municipality in a state. However, the types of difficulties that arise when multiple private parties form a pool also would arise when multiple municipalities do so. For example, convincing independent government entities to share a common aggregate limit would be problematic, especially when they differ with respect to historic contamination problems and in terms of the number and quality of site assessments conducted. Differences in contamination conditions also pose problems for multi-city pools. Thus, the most feasible approach is to create a pool on a single jurisdiction basis:

Broker222: Portfolios are a very, very doable deal. It's easy enough to do for a single city government, a local redevelopment authority, an economic development administration. Where it becomes difficult is when you have far-flung municipalities who want to put together a portfolio program, where they can all add and delete sites on the policy, transfer the coverage to developers, etc. It's going to be difficult to have an underwriter agree to a certain pricing structure and coverage structure across the board for a lot of different municipalities.

Broker111: The problem is, it's going to vary so much from municipality to municipality that probably the easiest way to do it is on a city or metropolitan area basis. This is because, within that area, you'll find a similar type of risk. If you organize it on the state basis, some cities might have a heavy industrial history, while others don't. I'm not saying it couldn't be done on a state basis, but it would be difficult.

4.33 Site Assessment Requirements

An interesting feature of portfolio treatments is that insurers may be more willing to offer PL coverages for some sites with less diligent site assessments than they otherwise would require before issuing a policy:

> *Broker111*: In some instances where we've had a large pool of sites for a pollution liability policy where, say, 25% to 40% of them are fairly well-characterized, another 20% to 30% have some characterization, and then a last 20% we don't know much about at all, we'll drop the last group in with the rest.

For sites with certain common types of historic uses for which insurers have adequate actuarial data (such as gasoline stations), the 'law of large numbers' can be applied. Essentially, this law means that when insurers have a large enough number of similar exposure units, they can predict losses using statistical techniques and thus determine appropriate premiums.

However, there are qualifications with respect to insurer willingness to issue PL policies when limited site-specific data exist. First, risk exposures for properties with some types of previous uses are unpredictable and will require thorough analysis before a PL policy is issued. Second, insurers vary in terms of their ability to statistically predict losses. Because no industry-wide data are shared, each insurer's data base depends on their company's size and the length of time they have been offering the coverages. Third, while sites with relatively little assessment may be included in a PL pool, coverages that apply to them may be restricted:

> *Insurer018*: There are certain ways to restrict coverages for certain sites in a portfolio. You provide full-blown coverage for three quarters of the sites, but you may have certain restrictions on the other quarter of the sites, which may be no coverage for pre-existing conditions, no coverage for cleanup. For sites that we have no information on or that are heavily contaminated, we can do some coverage limitations for them. They'll still have some coverage, but probably not the full blown coverage.

With respect to site assessments for portfolios, two important caveats should be noted. First, the fact that an insurer may issue a PL policy with limited assessment on some sites included in a portfolio does not mean that further assessments should not be conducted. Due diligence is necessary to protect not only public health and the environment, but also the parties that enter into the chain of ownership. Second, it is important that all known pollution conditions be reported to the insurer. An insured runs the risk of violating the 'known conditions' exclusion included in insurance policies that denies coverage for a pollution condition that, at the inception of the policy, was known by the insured but was not reported to the insurer. Documents for all assessments conducted on each site should be collected and submitted to the insurer and a record of these submissions should be retained by the insured.

With respect to CC policies, it is extremely unlikely that a carrier will offer coverages without a thorough assessment and detailed remediation plan for each site. Individual insurers lack a sufficiently large data base to statistically estimate appropriate premiums for brownfield remediation cost coverages. This is because, compared to PL sales, far fewer CC policies have been written and each site is too idiosyncratic to allow predictions. The only type of situation for which adequate data exist are non-industrial, petroleum underground storage tanks:

> *Insurer045*: I would argue that the only area where there's anything like enough data to make any decisions like that is in the commercial and residential fuel tank area, because there is a big, homogeneous population of data to draw on there. We will not issue a cost cap policy without a substantial amount of due diligence.

Moreover, some carriers will not offer CC and FR coverages without a state-approved remedial action plan, due to the potential that regulatory agencies will require mitigation beyond the level proposed in a non-approved plan.

4.34 Remediating Small-Scale Sites

As previously noted, an advantage of creating a pool for CC policies and FR programs is that the pooling approach makes it possible to acquire insurance for small-scale brownfields by reaching the minimum cleanup cost threshold that insurers require. One program that is especially promising for small-scale projects is FR Model 2. Recall that the insurer offering this model does not require a buffer, co-insurance feature, or a minimum program duration period, and targets cleanups of $5 million or less. The minimum dollar threshold is $1 million and, depending on the specific sites involved, the carrier will consider combining smaller cleanups to reach that threshold:

> *Insurer8*: We cater specifically to cleanups on the smaller end of the spectrum, below five million dollars which is a market that is largely under-served right now. Some other markets offer coverage on the lower end, but it can be very expensive and subject to high self-insured retentions. I believe our overall price is very competitive. Also, we typically don't require a buffer or co-insurance participation from the insured. Our coverage will attach right at the expected cleanup cost level. What we do is build a lot of discipline around how we underwrite these programs. And, we require the insured to separately evaluate, select and retain a consulting firm from a list of firms we've authorized. We need to go the extra mile to make sure we're comfortable with the level and quality of the site assessment and the capability of the assigned consulting firm before we can offer our customers a high value cost cap program.

Although the insurer has been offering FR programs for other purposes for a number of years, they began specializing in FR products for brownfield cleanups in 2001 in response to market conditions:

Insurer8: We looked at the cost in the marketplace for traditional cost cap. We felt that if we could offer this program without a buffer, whatever additional expenses clients may have to pay for a finite program, we would have a unique market advantage. It really depends upon on what the market bears. If clients were able to find traditional cost cap for a reasonable price with a low buffer, our program probably would be more expensive because of the fixed fees and expenses you have to build into a finite program. But if the market is already very high on the smaller end sites, our program can be an attractive option depending on the needs and objectives of the client. For example, if a developer has investors, they may be willing to pay for a finite program for the smaller sites if they don't have to assume any kind of SIR or co-insurance share. They have that added degree of certainty if you attach at dollar one. It can make the difference in a deal coming together.

A program such as this one that is specifically intended for smaller scale brownfields may be especially useful. However, certain considerations should be kept in mind. Perhaps most importantly, funds for the cleanup, transaction costs, taxes, and premium must be paid at the outset of a project. Also, in order to calculate an aggregate limit for the pool, environmental assessments for all sites in the pool must be completed before the inception of a program. Finally, as Insurer8 notes, premiums for a FR program are more expensive than premiums for a CC program because the former entails fixed fees and expenses beyond those involved in a CC approach.

4.4 Policies Involving Site Assemblage and Parceling

Another practical approach to redeveloping multiple privately owned brownfields involves acquisition of a number of contiguous sites by a single entity that are then remediated and sold to multiple private parties. The concept of a 'portfolio' policy becomes somewhat obscure in cases such as these. Most would not consider the insurance policy associated with this example to be a portfolio policy, since the assembled property is remediated as one site.

This section discusses the utility of insurance in this scenario by describing a case study of a program currently in development. In this situation, the municipality is orchestrating the project, but is working with a private developer who actually is purchasing the sites. Alternatively, it would be possible for a municipality's EDO to acquire the sites and contract the remediation.

This particular project involves over 200 acres on which many different property owners have engaged in various industrial and commercial businesses over the years (e.g., engine repair shops, chrome plating operations, junkyards, landfills). Although assessments have not been completed on all sites, a variety of contaminants are known to exist. The location, however, is an excellent one, close to freeways and the city center. The anticipated new uses of the area include office complexes and large retail stores.

The municipality began the project by creating a redevelopment district for the area and issuing a Request for Proposals for developers to present their approach to the redevelopment. Subsequently, they selected a single developer who proposed to purchase as many properties as possible. If there are properties the developer can't acquire, the city intends to use eminent domain to take ownership of the sites and sell them to the redeveloper. In some cases, operating businesses will need to be relocated. Costs incurred by the city include personnel to direct the program and infrastructure expenses (e.g., sewer, water, and streets). The developer is pursuing federal assistance funds, as well as private financing, and will be conducting remediation and site preparation work. One engineering firm (notably highly regarded among insurers) has been conducting most of the site assessments done to date.

For remediation purposes, the area will be treated as one site. A FR program will be used that will cap the cost of the cleanup for the developer and address the city's concern about the project being left unfinished:

> *Broker7*: One of the city's big concerns about this project is that the developer has to have the financial wherewithall to complete it. Their biggest fear is that a developer would get halfway through the cleanup and run out of funds and then they would have a hole in the ground with open contaminates. So one of the features of the program that we've developed is that the cleanup will be funded on a finite basis through the insurance carrier so that the city is relying on the credit of the carrier as opposed to the developer. They've got an insurer guaranteeing the completion of the project.

A PL policy also will be purchased, hopefully with a policy term of ten years or longer. While the developer will purchase the insurance, in some cases, the costs for the policy will be a write-down from the market value of properties purchased. On the policy, the developer will be the named insured and the sellers, who are potentially responsible parties (PRPs), will be additional insureds.

It is anticipated that this liability insurance will play an important role in terms of encouraging the current owners to release their sites to the market. At least for the policy term, the insurance will relieve them of concerns about third party liability claims. In the event of third party claims against the PRPs, suits would likely arise among them over responsibility for contamination in the absence of such insurance coverage. By assembling the individual sites into one large site, the insurance becomes affordable, whereas it might be too expensive or impossible for individual owners to purchase:

> *Broker7*: We've got about 50 different property owners who, in most cases, have run businesses on the property for many years. We know there's contamination on a number of those sites and, with the close proximity of the businesses, it's very difficult to determine who the responsible parties are. If there are third party claims, the owners have to deal with that issue and, quite frankly, very few of them have the financial wherewithall to get sucked into a big litigation to

> defend themselves from a third party liability claim, much less any governmental claim. For them to go out and try to purchase insurance individually becomes very difficult and very expensive. I don't know how an underwriter could even rate a situation like that because there are so many questions about the individual's responsibility. So, the insurance allows us to put a pollution liability policy together that will protect the developer from third party claims and avoid the issue of determining the liability of Owner A versus Owners B, C, D and E. We can develop a remediation plan for the entire project and a budget and spread that among the entire group, as opposed to trying to determine the level of contribution of any one individual property owner. Clearly, we avoid a lot of unnecessary litigation and negotiation and expert fees that an individual owner might otherwise incur. The end result will be a policy where we can dedicate a reasonable amount of limits to protect all of those property owners against any third party liability claim. And the project's going to be cleaned up to the levels that will meet regulatory scrutiny and we'll work with the regulatory agencies to get a release from claims by those agencies.

Moreover, the insurance allows the PRPs to set fair prices for their sites where they otherwise might not be able to due to unknown remediation and liability costs associated with the properties:

> *Broker7*: It gives the owners an opportunity to get a fair price for their property without a lot of fighting as to the cost of environmental problems. It would be very difficult for an individual buyer to be comfortable with that. They would certainly require significant indemnities from the existing property owner. And in most cases, how would you ever know how much is enough without this type of an insurance coverage available to you?

Clearly there are advantages to insurance in this scenario, including assurances to the city that the project will be completed and increased willingness of owners to release property stemming from liability protection, per-owner cost savings for consultant fees, and ability to set fair prices for their properties.

4.5 Including Multiple Insureds on a Policy

The discussion turns now to an issue affecting both of the models presented above – using insurance to protect future users of the sites that have been remediated. It is common practice for both a buyer and a seller to be included on a PL insurance policy. However, certain complexities emerge with this arrangement that are exacerbated when there are multiple site purchasers. In order to explain the insurance issues that arise with multiple property buyers, it is necessary to begin by discussing complications that can emerge even when there is only one buyer and one seller. The insurance options for protecting multiple buyers then can be explored in light of these issues.

4.51 Single Seller/Single Buyer

Insurance may be used to protect sellers and buyers in three basic ways. First, a purchase agreement can be negotiated in which one party in the transaction indemnifies the other and insures elements of the indemnity. While sellers often indemnify the new owner, either party may be the indemnitor. One focus group participant reported on a project in which her city's redevelopment agency sold a site before it was remediated and required the new owners to indemnify the agency. The owners then purchased PL insurance supplementing the indemnification in order to provide comfort not only to the agency, but to the project financiers as well.

Second, buyers may acquire their own policy. Where a buyer purchases insurance from the same insurance carrier as the seller, the insurer may designate a maximum policy dollar limit that they can issue per property and the seller's policy and the buyer's policy combined cannot exceed that limit. In some cases, the seller may arrange for a policy for the buyer in advance. If there have been no claims, in principle, the policy could be offered at a reduced rate because the insurer already has data on exposures at the site. Most often, however, buyers prefer to negotiate their own policies:

> *Insurer27*: In some cases a buyer is not yet identified but the seller wants to bundle the policy with the property and include it in the transaction. That's probably not that common. What's more common is that buyers will chose the insurance they feel is in their interest rather than accepting something that has been prepackaged.

Third, as long as there is no change in the use of the property, a policy may be 'transferred' or 'assigned' to the buyer, with the seller remaining on the policy as an insured party. Commonly, while a cleanup is ongoing, the seller is the named insured. Upon sale of the property, the seller becomes an additional insured and the new owner becomes the named insured. For example, one focus group member reported that her EDO conducted a cleanup of a publicly owned site and purchased a PL policy in which the EDO was the named insured. When a private party assumed ownership, the policy was transferred to the new owner and the EDO was designated as an additional insured. While the purchasers did not pay for the original policy, when they became the named insured, they added coverages to the policy for themselves that they purchased for a relatively small additional premium.

While including both the seller and buyer on a policy is common, it is an issue debated in the insurance industry. Many advocate the practice as a means of facilitating the sale of a site, pointing to the importance of the certainty insurance brings to a transaction and noting that, at times, it may contribute more to the sale price of the property than it costs the seller in premiums. Others, however, argue that two separate policies should be issued because conflicts of interest may arise between buyers and sellers:

> *Broker222*: In the many deals I've done, transferability is almost always a selling point. Most carriers are willing to cover the interests of both the buyer and seller on the same policy.

Insurer444: I believe that it makes more sense for the parties to a brownfields transaction to each have their own policy. They do have different interests in the site. By reviewing the contracts of sale, brokers and insurers can help in suggesting policy designs that protect each party's interests. While it may work in some cases, more often than not, having everyone insured under one policy is problematic.

In considering this debate, keep in mind that it is in the insurer's economic interest to issue separate policies. However, as the following insurer notes, the decision regarding transferring the policy to a new owner versus writing a new policy ultimately may depend on who has the advantage in the transaction:

Insurer015: A lot of it depends upon who has the leverage. If I've got the leverage – it's a great piece of property and you really want it – and I want to protect my limits, I'm going to say, go buy your own policy. If it's a piece of property I'm trying to get rid of and I can make it easier for you by putting you on my policy, I'll go that way. It's a sunk cost for me as the seller – I've already spent the money for the policy. It really is dependent upon the details of the transaction. There's no universal way to do it.

When a new owner is added to an existing policy, several issues should be noted. Some are inherent in the contractual arrangement; others can be problematic but can be dealt with through competent negotiations with the insurer.[10]

Shared aggregate. Even if policy limits are doubled to accommodate both parties, endorsing an insured onto a policy is less expensive than buying a new policy because the insurer saves administrative expenses. However, the parties are sharing the policy limit so that claims against one may leave the other unprotected. One option to address this is to assign 'dedicated' sub-limits to each insured. That is, each insured has a designated proportion of the aggregate limit available to them and neither can erode the other's limit:

Broker222: Including both the seller and buyer on a policy obviously creates a question as to the adequacy of limits of liability on the policy as issued. As a result, we see it increasingly addressed in the deal. Commonly, one party agrees to pay the incremental cost to double the per claim limits, aggregate limit, or both. This way, the seller still has same scope of coverage and defense costs as when they owned the site.

Insurer015: I would tell the developer, it's important that you have your own limits of liability. You can sell a sub-parcel with dedicated limits to the buyer. That's a lot cleaner. Everyone gets their own balance sheet protection.

[10] Waeger (2002) provides a review of these issues and others pertaining to brownfield policies.

Rights of insureds with different status. A second issue when two parties share a policy concerns their rights, especially in relation to each party's status as a named or additional insured. As noted, while named insured have full access to the policy limits if a suit is filed against them, additional insureds have access to the limits only when their liability arises from the named insured's operations or ownership of a site. Referring to the definition just noted, however, the following insurer echos the point made by others that this distinction does not hold in every policy:

> Insurer021: That is the correct distinction between additional insured and named insured. But the reality is that, when you get down to actual policies, in many cases, what is called an additional insured is truly a named insured. You have to look at the policy. We work very hard to make sure that our additional insureds are only additional insureds.

Thus, the *policy specific* language concerning the rights of the parties should be carefully considered. Some policies are structured so that claim limits are available to additional insureds only after claims against the named insureds have been paid. On other policies, additional insureds are construed more broadly and have the same access to the policy limits when both parties are named in a suit.

It is possible to have both insureds designated as named insureds. While there are advantages to this, there are other considerations to bear in mind. Compared to endorsing an additional insured onto a policy, this is a more expensive option because a named insured has full rights to the policy. Moreover, a suit that may jeopardize the limits is more likely because the policy will respond to each party independently of the other. As one insurer explains, this problem is especially acute when one party has substantial financial assets:

> *Insurer999*: Usually we're pretty lenient about who we'll add as an additional insured because we realize that our named insured has to be named in a suit also. What we're more leery of is who we add as another named insured. Those are people with big targets on their chests – someone people are going to go after because they're viewed as having deep pockets.

An additional consideration related to the insureds' rights involves the control granted to the first named insured. In most cases, the insurer negotiates with this party to modify the policy. For example, the first named insured may change the contract to endorse other insureds onto the policy, thereby diluting the policy limits available to each party. In addition, in the event that the insurer cancels the policy, notification is sent to the first named insured. In some cases, it may be possible to negotiate stipulations that the insurer will notify the other insured of cancellation or changes in the coverages available to them. Insurers, however, typically resist such contractual involvement in relationships between insureds.

Severability. One provision that should be included in a policy and carefully reviewed is a 'severability' clause that specifies that the insurance applies to each insured separately. Under such a clause, the insurer agrees to treat each named insured as if a claim was brought only against them.

Severability is critical in a situation where there is more than one insured and the parties have different interests. Perhaps most importantly, severability pertains to cancellation of a policy. A policy's cancellation language typically allows an insurer to cancel a policy unilaterally for three reasons – nonpayment of premium, material misrepresentations of facts, and omission of facts in the application. Thus, for example, without a severability clause, if a seller has misrepresented or failed to disclose a known pollution condition, the buyer's coverage is jeopardized. In this case, the insurance would not cover the pollution condition that was not disclosed. Further, the insurer may chose to cancel the policy entirely on the grounds that the insured has been fraudulent. With a severability clause, however, the policy would be canceled for the named insured who misrepresented the situation, but not for the other named insured.

Bankruptcy. Another consideration pertains to the possibility of bankruptcy. Although insurance premiums for brownfield coverages are usually paid up front, in some cases, they may be paid in installments. If the insureds have made arrangements that one will pay the premium or that they will share in the cost of the premium and one of them declares bankruptcy, the balance of the premium payment would have to be made by the remaining insured. A second problem is that the insurance policy may become encumbered by a bankruptcy court and the limits be made unavailable to the insureds:

> *Insurer021*: If the policy has multiple insureds on it and any one of those insureds goes into bankruptcy, the entire policy gets dragged into bankruptcy court and access to it is affected by the bankruptcy administrator. If you and I share a policy and I went into bankruptcy, I could go to the bankruptcy trustee and say, 'that policy is an asset of mine. I have third party claims that need to be paid out of that and I have cleanup costs.' So the trustee and the bankruptcy judge will tell the insurer, 'you can't pay a dime out of that policy to anybody unless you want to risk having to pay the dime twice.' The insurance carrier is put into the position where if they pay claims for anybody else under the policy and it turns out that later in bankruptcy court we're deemed to be responsible for paying for some other loss because it was part of the bankrupt entity's assets, then we could have to double pay. So insurance companies file for a declaratory judgment. They submit the policy to bankruptcy court and say, 'bankruptcy court, tell us what to do. We have fifty insureds and all of them have claims. One of them is in bankruptcy – who gets paid?' And in effect, the bankruptcy court puts a stay on the payments. The bankruptcy court usually waits to adjudicate the estate of the bankrupt entity. So, it can really tie up everybody who's part of this.

Typically, a policy includes language specifying that the insurer is not relieved of its obligations if an insurance purchaser goes bankrupt. A knowledgeable lawyer and broker also may be able to negotiate severability of limits provisions in the case of bankruptcy, stipulating that a bankruptcy court can only call on assets dedicated to a bankrupt company.

Ability to sue. It may be the case that conflicts arise between the seller and buyer. Purchase of a policy on which both parties are insured most often eliminates the ability of one party to sue the other. From an insurer's point of view, any right for the buyer or seller to sue the other increases the insurer's risk of a claim. For example, the seller's motivation to avoid a claim by the buyer would be reduced since it would be contested and/or paid by the insurance company. In addition, it is conceivable that the insureds would collude with one another to bring a claim that they wouldn't ordinarily bring, knowing there is insurance coverage. Therefore, when a buyer is added to a policy, the contract usually prevents the coverage from responding to 'infighting' or defending one insured against another for claims between them.

4.52 Single Seller/Multiple Purchasers

The difficulties that emerge when two insureds are included on a policy are exacerbated when two or more purchasers are added. When multiple parties are included as named insureds, many of the problematic aspects of managing portfolio policies for unrelated, private site owners that were discussed in Section 4.2 arise. Most notably, the shared aggregate problem becomes more critical, depending on how many parties are added to a policy. As more are included, the total amount available to everyone decreases. There is no formulaic method of determining how many named insureds are too many in terms of providing adequate protection for each one. Also, the greater the number of named insureds on a policy, the greater the likelihood that a claim will be filed.

Managing the policy also would be complex and important decisions would need to be made. How will the policy limits be divided if a claim paid equals the policy limit? Who will decide on policy modifications, especially concerning endorsing others onto it?

> *Insurer27*: The first named insured is going to be responsible for complying with the terms and conditions of the policy. So, if they fail to pay a premium installment on time, that potentially would cause the policy to be cancelled for all parties. It may be possible to allow another party on the policy to cure that defect but then you've got a lot of complicated notice requirements. Do they even know that the policy has been terminated due to a nonpayment provision or other noncompliance issue on the part of the first named insured? So, the more parties you have on a policy, the more complicated it is.

Some of these problems can be addressed in part. For example, the policy limit may be increased and/or dedicated limits can be assigned to each insured. A severability clause would deal with the problem of noncompliance on the part of one insured voiding the coverage for other insureds. However, because of the problems noted, courses of action other than having multiple insured on one policy are more advantageous.

One such possibility, especially with respect to a private developer selling parcels of a large site, is for the developer to maintain ownership and lease the properties, adding the tenants as additional insureds. An alternative approach is to issue separate policies for each site sold to the new buyers:

> *Insurer27*: I've seen some carriers on some developments continue to add new buyers to the owner's master policy. But they're sharing limits with the owner and they may have different interests than the owner on the policy and may wish to negotiate their own terms and conditions. For example, a new owner may wish to have a policy in his name that he could then transfer to a downstream owner in the future. That's more difficult, obviously, if everyone's sharing the same policy and the same limits. My preference is to try to facilitate coverage for the new owner because then their interests are really protected separately and it's not mixed up with potential erosion of limits on the part of the controller of the policy.

> *Consult081*: If you're selling the properties, I prefer that the underwriter who has worked on the exposures during the cleanup process agree to issue a pollution legal liability policy for the purchaser. It should be inexpensive because they've already underwritten the risk during other phases of the project. Then the limit is devoted entirely to the purchaser and that often is necessary if there's a loan for acquisition of the property or improvements to the property. The lender wouldn't want their limit exposed to somebody else's claims.

4.6 The Project Team

Most likely, it is clear from the discussion in this chapter that complex brownfield insurance programs require expertise. Ideally, the parties ultimately brought to the table should include an insurance broker, the insurer selected, representatives of the surrounding community, general counsel for the EDO, the municipality's risk management officer, a representative from the local public entity pool, an environmental attorney, an environmental consultant, the remediation contractor, and a risk manager from a financial institution. The flexibility in underwriting brownfields insurance policies renders the products valuable while, at the same time, creates the need for a team that can offer diverse, specialized knowledge:

> *Attorney3*: If you're buying one of these policies you really have to have a team. When I'm brought in, I'm praying that my client has a broker who's familiar with the environmental insurance market, not just a guy who's selling fire insurance or whatever and thinks he can make a few bucks selling this insurance. He doesn't really know what it is, but he's going to sell it. It's frightening. But I did a deal where a client was selling a bunch of brownfield properties. I was retained and the client had separate environmental counsel and used [a knowledgeable brokerage firm]. And the client was thrilled with what we were able to negotiate with the policy. We were able to negotiate very few exclusions and they were amazed. So if you've got people who really know what they're talking about, it's really helpful.

A point emphasized in Chapter 3 is that it is especially important to procure the services of an insurance broker experienced in customizing brownfields insurance and/or a speciality consulting firm that has this experience. The policy-specific meanings of terms need to be attended to and numerous endorsements must be considered and negotiated:

> *Broker307*: You have to understand very clearly that insurers aren't going to volunteer endorsements that say, we're going to make sure everything is severable, we're going to dedicate these limits, etc. They're not going to do that unless the broker or the lawyer asks them to do that. That's why we have a job and that's why lawyers have a job.

While the involvement of people who play different roles is a valuable asset, limiting the number of individuals in each role lessens the complexity of the process. For example, insurers are more comfortable when only one firm conducts remediation work:

> *Broker111*: If you have a master cost cap policy for multiple sites, you could get the aggregate up over a million or two million dollars. But the insurers want to have some commonality. There would have to be a controlling entity over all the cleanup work and the same contractor to make sure there's some continuity and controls on the quality of the work. Otherwise, the underwriters are not able to control their risk.

In addition, it may be preferable to use only one lender, especially for a pool of small brownfields. Obtaining individual financing on these properties may prove difficult. However, a lender engaged with the project team and making multiple smaller loans may be willing to include sites that otherwise might not be approved. Here, a SL portfolio policy that would protect the lender in the event that a pollution condition causes a default is valuable.

Chapter 5.0
The Alternative Market for Risk Management

During focus group deliberations, participants raised the possibility of using alternatives to the purchase of insurance from commercial insurers. This chapter assesses the potential of the 'alternative market,' or nontraditional methods of risk management that entail significant self-insuring mechanisms. These alternatives are used when needed insurance coverage is not commercially available or is too costly. They emerged during the hard insurance markets of the seventies and eighties and have experienced substantial growth in the last twenty years.

The organizational forms reviewed here include 'self-insuring public entity pools' and 'captives.' The discussion is intended to provide only a basic overview of these organizational forms.[11] The issues involved, and the complex choices they present, underscore the argument just made that decisions on risk management approaches require high levels of expertise, generally only available from an experienced team of professionals.

5.1 Self-Insuring Public Entity Pools

'Public Entity Pools' (PEPs) are self-insuring, not-for-profit associations of government entities (e.g., municipalities, counties, public school systems, or housing authorities). Each member pays a 'contribution' or premium based on its own loss exposures and past claims experiences. Losses and expenses are paid out of the pooled funds. Most often, the pools purchase excess insurance from commercial carriers for catastrophic coverage. Some PEPs have a statewide scope, while others are limited to a more specific geographic area. PEPs have the advantage of being able to design coverages to meet members' needs. Moreover, unused funds from the loss reserve can be invested and, periodically, investment earnings may be allocated to members or used to reduce contributions.

There are hundreds of PEPs throughout the country. Pools exist that provide almost all lines of coverage, the most common being workers compensation, property, and liability coverages. However, this research has not found a PEP currently providing insurance for brownfield redevelopments and transactions.

Two possible roles that PEPs might play were entertained during the focus group. First, the pools might extend the coverages they now provide to offer insurance for publically owned brownfields. Second, they might facilitate the purchase of brownfields insurance from commercial carriers for publically owned sites. Numerous discussions about these possibilities were held including those posted on the focus group, interviews with brokers who sell excess insurance to pools, and

[11] For detailed description and in-depth analysis of the alternative market, see the International Risk Management Institute, Inc. (2002).

conversations with PEP administrators at the Association of Governmental Risk Pools (AGRiP) Institute for Management and Leadership attended by the authors. The conclusion drawn is that PEP provision of brownfields insurance is not a viable option at this time. However, the pools may be able to play a role as facilitators of brownfield insurance purchases by their members.

5.11 PEPs as Insurance Providers

Key barriers prohibit PEPs from offering brownfield coverages. The first pertains to lack of actuarial data. Before they can offer a line of coverage, PEPs require a substantial amount of past loss data in order to develop their rating schemes used to determine premiums. For most lines of coverage, rating bureaus collect and combine data on losses from many different insurers to permit more reliable actuarial predictions. However, no bureau collects these data for brownfield risks. Although each insurance carrier compiles its own loss data, no national statistics are available. As one broker noted, "There's is no Insurance Services Office or other bureau riding herd over the data so there is no industry-wide data and each carrier guards their own data like the recipe to KFC."

A second impediment is the nature of brownfield risks. A maxim in the insurance industry is that the exposures appropriate for self-insuring are predictable, low-severity/high-frequency losses. Brownfields, however, pose the opposite – uncertain, low frequency/high severity risks. As a rule, such risks are better managed by transferring them to a commercial carrier rather than retaining them. Another principle is that successful self-insurance programs are those in which costs can be managed through active loss control processes. These processes can be and are applied to brownfield reuse projects (e.g., using qualified remediation contractors and reliable remediation methods). However, other aspects of brownfields are beyond control, since they may involve previously existing, unknown contaminants:

> *Broker11*: I have probably the second and third largest pool of communities as clients in one state and in another I have the largest pool. They are already risk pooling and all three are financially very successful. They have a lot of money in the bank. But, given the unknown risk and the cost that can be incurred on environmental remediation, none of them feel prepared to step in and take huge self-insured retentions.

Another pivotal obstacle involves risk sharing by pool members. Because a 'critical mass' or threshold large enough to sufficiently distribute risk is needed, most PEPs are composed of public entities from different jurisdictions (e.g., multiple cities or counties). These entities may differ widely in terms of the types and extent of their contamination problems and the number and quality of site assessments conducted. Thus, determining premium contributions would be problematic if the entities could be convinced to share risks in a pool in the first place. The difficulties here parallel problems with multiple-owner portfolios, including the issue of adverse selection.

Finally, knowledge on the part of pool administrators about brownfield risks and insurance mechanisms to address them is quite low at present and the operation of a pool requires highly trained management. Most all of the administrators the researchers spoke with indicated they would need extensive education to acquire the expertise needed to administer brownfield programs. When asked why his pool chose to purchase environmental insurance for ongoing operations rather than provide it, one pool administrator responded:

> *Admin888*: We didn't have the expertise needed to handle losses, adjust claims, contract with the entities in charge of remediation and that sort of thing. It's not really readily available locally and it's just something we didn't want to get involved in. Our interest was making the coverage available, not setting up the entity that would actually do all of the work. We just wanted to be the administrative pass-through. The most concise answer is, we didn't have the level of expertise needed.

5.12 PEPs as Facilitators of Insurance Purchases

This study has not found a PEP that has facilitated the purchase of brownfields insurance in which publically owned sites undergo a planned cleanup and a property transaction. However, some PEPs are playing important roles in terms of arranging the joint purchase of FR insurance for landfills and PL coverages for exposures arising from the ongoing operations of government-owned facilities. Two examples from focus group participants are described below. The possibility of expanding this role to brownfields insurance is considered.

The first example entails insurance programs organized by Admin99, the executive of a pool that provides workers compensation and other general liability coverages. Initially, pool members approached Admin99 with a problem they faced regarding their landfills. The federal Resource Recovery and Conservation Act (RCRA) and related state laws require owners to close landfills using methods that ensure the protection of human health and the environment and to demonstrate they have the financial resources to perform these activities. The financial assurance requirement can be satisfied in various ways including self-insurance and bonding mechanisms. However, the financial condition of the counties in Admin99's pool did not permit use of these approaches. Another means of providing assurance is by purchasing 'closure/post-closure' insurance coverages that involve a FR program. However, insurance underwriters would not write coverage for the landfills on an individual basis because the landfills were too small.

Because pool members considered Admin99 to be their insurance specialist, they contacted him to find a solution. He began the process by meeting with state environmental agency personnel to review the legal requirements for landfills. He then contacted a broker who specialized in environmental insurance to explore the possibility of a collective approach to the problem:

> *Admin99*: We collected all the engineering reports from the various engineers that had done work on each of the landfills and submitted the reports to the underwriters. The underwriter's own engineering staff reviewed those reports, talked to the engineers to get clarification, and then developed a price. Then I took the underwriter's proposal and met with the commissioners or the city council staff of each jurisdiction. Usually it took two or three meetings to make sure they understood it. We're into about the fourth year of this and whenever budgets are tight or we get newly elected officials who come in and ask why we're spending this money, we have to go back and re-explain it to them.

It took two years to develop the master program and convince government officials to accept it. Ultimately, the pool arranged the joint purchase of a closure/post-closure FR program for seven publically owned landfills, each of which received a 'certificate of insurance' (or document providing evidence that insurance coverages have been purchased). By agreeing to cover multiple landfills under a single master policy, they were able to negotiate favorable terms and limits of insurance. Following the establishment of the landfills insurance program, the pool used its contacts and organizational structure for the joint purchase of third party PL coverages for other operations including water and sewer utilities, swimming pools, etc.

A second example of a PEP facilitating environmental insurance purchase is provided by Admin888, the executive of a pool that provides liability coverages such as fire, casualty, and auto liability to over forty counties in his state. While this report was being prepared, he was in the process of negotiating the purchase of PL insurance for members of his pool. As of late summer 2002, only four counties remained interested in the pooling arrangement due to the cost of premiums.[12] Even though this pool may not come to fruition, the details of the process are reviewed here to indicate the types of services that PEPs can offer.

Admin888 began the process in the fall of 2000 by mailing an initial questionnaire to member counties to determine their interest in the coverages and gather preliminary information to present to the carrier. His broker then presented that information to the insurer who, in turn, provided preliminary possibilities in terms of coverages, premiums, deductibles, and limits. The information was promising and, subsequently, pool members were sent detailed exposure questionnaires that Admin888 gathered and forwarded to the carrier.

The insurer designed a master policy under which all public facilities in each county would be covered for third party liability claims for bodily injury and property damage, and for legal defense. No known pollution condition would be included. The PEP would be the first named insured and the individual

[12] As of 2002, for a $1 million per occurrence, $10 million aggregate, $10,000 deductible policy, the total annual premium proposed by the insurer for 31 or more counties was $250,451. For 20 to 30 counties, the total proposed premium was $335,110. For 10 to 19 counties, the premium was $420,138.

counties would be the other named insureds. The premium for each county was based on population and the presence of certain facilities such as airports and landfills.

Despite the somewhat disappointing outcome of Admin888's effort in terms of the number of counties that remained interested in the program, the examples are suggestive of the potential role PEPs might play in organizing pools for publically owned brownfields, a prospect about which Admin99 and other PEP executives are optimistic:

> *Admin99*: I think it's certainly possible. Our entities are mostly rural, so that hasn't bubbled up as a very significant problem yet. But certainly, theoretically, if my members wanted assistance in acquiring insurance for brownfields, I would see them coming to us to do that. We collaborate with the League of Cities and the Association of Counties on a lot of projects and they look to us as their insurance branch or experts to help them. So if they wanted a program like that, I could step in and assist them in developing it or we can do it on their behalf because of our insurance knowledge.

While training in brownfields insurance products would be needed, PEP executives could bring valuable resources to bear on the development of brownfield insurance programs, including their knowledge of general insurance principles, organizing and marketing skills, and their professional contacts with public entity representatives. In particular, with respect to the model presented in Chapter 4 involving portfolio policies for publically owned scattered sites, the executives could provide services including:

- assessing member interest in developing insurance programs,
- soliciting and selecting brokers and/or consultants specializing in brownfields,
- collecting and submitting information needed by carriers, and
- organizing educational sessions conducted by brokers and consultants to explain and discuss insurance programs.

Provision of these services, of course, is contingent on the willingness of PEP personnel to offer them. The fact that, to date, they have not been involved with brownfield projects may be attributed to lack of communication between brownfield working groups and public risk managers who either serve as PEP administrators or convey local public sector needs to them. This disconnect has led many administrators to underestimate the scope of the brownfields problem and government commitment to addressing it.

5.2 Captives

Forming a ‘captive’ essentially entails an organization or group of organizations establishing their own insurance company, i.e., captives are owned by the entities they insure. They are similar to PEPs in that they retain substantial portions of each loss, usually purchase reinsurance above these limits, and receive investment income from their loss reserves. In some states, PEPs are organized as

captives of some association of public entities. However, PEPs most often are considered as a category in and of themselves because, in many states, they are not required to create a corporate insurance structure and therefore are not subject to the state regulations that apply to other captives.

Single owner or 'pure' captives are owned by one organization while 'group' captives are owned by multiple organizations that share risks. Compared to pure captives, group captives are advantageous in that they can compile more credible loss data from the experiences of many entities, share startup and maintenance costs, and obtain services and reinsurance more cost-effectively due to volume discounts. In group captives, however, disputes among members may arise over the rating process used to determine individual premiums and the distribution of earnings.

5.21 Problems with Captives for Brownfields

Captives have the ability to tailor coverages for risks that traditional insurers may not be willing to write at affordable premiums. Moreover, they benefit from the investment interest they can gain from their loss reserves. However, captives face the same barriers as PEPs to providing brownfields insurance, i.e., lack of available actuarial data and the unpredictable nature of brownfield risk exposures. In addition, considerable time and effort would be needed to complete the necessary preliminary work. For example, before such an entity can be created, a 'feasibility study' must be conducted that indicates coverages, deductibles, policy limits etc., for the insurance that will be offered. The study can require well over a year and several hundred thousand dollars to complete. Most importantly, captives must raise considerable amounts of money to fund the program:

> *Broker222*: Whoever wants to join this captive is going to have to put substantial capital up front in order to fund the first layer of coverage. And I don't think that municipalities are going to be willing to put up significant capital to form this program in order to get the per-site costs down in the long run. The cost is not going to be worth it. They'd be better off just paying whatever premium they can negotiate and not having the up-front expense and tying up capital to join a captive.

> *Broker111*: I'm finding it hard to believe that they would want to go to the expense and headaches of this when property transfer insurance is so relatively cheap, especially when it's bought on a portfolio basis. It's a lot of work and effort unless the market is *really* hard. We find that it just isn't cost effective. If someone is writing commercial insurance on a competitive basis, captives are usually a more expensive way to go. I'm not saying that's always the case, but that's what I've seen.

5.22 Prospects for Captives

Despite these difficulties, captives have proven to be favorable options in other fields when required coverages were unavailable or too expensive (e.g., liability insurance for professionals such as physicians and government entities such as housing development authorities). It is conceivable that captives could be developed to address small-scale brownfield cleanups.

One of the keys to the construction of such an organization is the availability of loss data.[13] Here, the Public Risk Database Project (PRDP) may prove valuable. The PRDP, a nonprofit corporation, exists to collect and disseminate public sector liability and workers compensation loss data to its subscribers and to assist in identifying best practices.[14] If the PRDP could gather data on remediation cost experiences for projects with some public sector involvement, the pricing and packaging of CC policies and FR programs would become far easier. The potential for such expansion of the PRDP role, or for analogous data collection by some other organization, is substantial in light of recent developments in brownfield remediation efforts:

- With 47 states now having implemented some form of voluntary cleanup or brownfields remediation program, regulators could require data on expected and actual cleanup costs.

- The new requirements under The Small Business Liability Relief and Brownfields Revitalization Act of 2001 for states maintenance of a 'timely survey and inventory of brownfields sites' as a condition for eligibility for federal support for brownfield efforts may permit derivation of a standardized protocol for data reporting.

- The expanded capacities for local government support to brownfield efforts under the 2001 Act may help to expand such involvements, and it would be in the interest of local jurisdictions to keep track of the cleanup costs and changes in plans experienced, especially if they share in the costs.

While cleanup cost data are not the claims experiences that PRDP routinely collects, the organization is a potentially useful institution for dissemination of the types of information needed to develop a capacity for rating risks – and thus for the pooling of CC coverages or the creation of public entity captives using a FR approach. The data would need to be coded and collected in a common format so that it could be used for comparative analysis. This process would be a considerable undertaking that likely would require federal leadership.

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[13] The availability of these data also would facilitate the provision of brownfields insurance by PEPs. However, PEPs would still be impeded by other factors noted including risk sharing by pool members that cross multiple jurisdictions and current lack of knowledge on the part of pool administrators about brownfield risks and insurance.

[14] Information about the PRDP is available at <http://www.prdp.org>

A further consideration – and motivation – for creation of a captive derives from the benefits of an area approach to brownfield regeneration. The benefits from reclamation and reuse of brownfields potentially accrue to whole neighborhoods, not just a single site, with rising property values and capacity to attract new investment (Foxen and Knauerhase 1995). This potential gain may be more important in considering groups of small sites scattered across a community than for single large sites, since each contaminated or suspect site pulls down adjacent property values. Whole neighborhoods may be transformed by reclamation and redevelopment of a number of such dispersed half- or even quarter-acre sites (Meyer 2002, 2003).

A redeveloper that undertakes reclamation of a large number of small sites in a neighborhood will be phasing remediation and reuse investments over time, and will benefit from the symbiotic effects on the property values of each site as many are reclaimed and the local real estate market upgraded. Such an investor, whether public, private, or nonprofit, might have both the motivation and the capacity to create a captive.

The Small Business Liability Relief and Brownfields Revitalization Act offers a potential source of capitalization of a captive as it permits a State or Indian tribe to use federal funds to develop risk sharing pools and other insurance mechanisms. Capitalizing also may be facilitated by use of some form of tax increment financing, using the local government as a participant in the creation process since it is also a financial beneficiary of the reclamation, gaining tax revenues from increased valuations on the non-contaminated sites in the target neighborhood.

Thus, while captives do not appear to be a readily adoptable mechanism for risk management at the present moment, they may emerge as a tool as the new brownfield legislation is fully implemented and as public attention gets focused more on the mass of small brownfield parcels that have not yet been addressed. One consultant active in brownfields redevelopment has already outlined an approach to creation of a series of municipally based captives. His ideas are presented in Appendix C.

Chapter 6.0
State Brownfield Insurance Programs

In the last few years, a number of different states across the nation have been actively pursuing insurance as a brownfields regeneration tool. Here, programs that are in place or are being developed in four states are described.

Short of public acquisition of sites, the state programs provide the only models of government-led programs for insuring privately owned brownfields. It is possible that the state-level programs could be applied at the municipal, county, or even regional level. The extent to which this is possible will vary with jurisdictional scale in terms of population and area. State experiences may be fairly directly transferred to larger local jurisdictions such as the nation's larger cities and even some of their larger suburban counties. They would require substantial adaptation for smaller towns and more sparsely settled counties. However, as discussed in this chapter, questions remain about the impacts of the state programs and the optimal ways to structure them.

The first two states discussed in this chapter, Massachusetts and California, use similar approaches that involve provision of a package of pre-negotiated brownfield policies and state subsidies to help pay for the insurance premiums. While Connecticut, the third state, also provides subsidies, staff are made available to help a redeveloper select any policy from an insurer. The fourth state, Wisconsin, makes a different use of insurance to protect the state's environmental fund when natural attenuation of groundwater has been selected by an owner as a remedy.

6.1 Massachusetts' Brownfields Redevelopment Access to Capital Program

In 1998, the Massachusetts Brownfields Act was signed into law. Part of this legislation entailed designation of the Massachusetts Business Development Corporation (MassBusiness) as the agency that would administer the Brownfields Redevelopment Access to Capital (BRAC) program, for which $15 million was appropriated by the Commonwealth. Ultimately, MassBusiness, a non-profit economic development organization, created a state-subsidized insurance program for lenders and developers to encourage brownfields regeneration. The evolution of the program provides lessons about public sector finance program concerns and difficulties in supporting brownfield redevelopment efforts.

Originally, the legislation that established BRAC envisioned it primarily as a loan guarantee program for brownfield projects, modeled after the existing Capital Access program. However, as StateEcon012 explains, the loan-guarantee approach was found to be impractical with respect to brownfields financing:

StateEcon012: The Capital Access program is a small business economic development program whereby every time participating lenders make a loan that fits the program criteria, they charge the borrower up to three points on that loan. The state then matches the points collected and the total goes into a reserve for that bank to pay for loan losses on those loans. BRAC was intended to be similar. Banks would sign up as participants, create loans, charge points, and the state would match the points through the $15 million BRAC fund. That money would go into a reserve pool on a bank-by-bank basis to cover loan losses resulting from environmental conditions.

However, the BRAC legislation limits the program's guarantee usage only to funding for the assessment, containment or removal of contamination. As a practical matter, few if any banks provide loans solely for those purposes. Rather, funds for site assessment and environmental cleanup are generally made as a part of larger financing packages, which include funding for the purchase and subsequent development of a site. As a result, only a small portion of the bank's total loan would benefit from the BRAC guaranty, making it of little benefit to the banks.

The second issue was, that, unlike with the Small Business Lending supported by the Capital Access program, even if a bank would make a loan just for cleanup, the volume of such loans extended by any single bank would be relatively small. With a maximum of six percent of each loan going into a reserve pool, individual banks would be hard-pressed to do a sufficient number of such loans to cover even one loan loss. As a result, it became impractical to try to sell this program to the banks. And the interesting point is, so many banks had success with the Capital Access program, that the state had thirty banks sign up for this program before they really thought it through. But because of the issues cited, no bank ever submitted an application for a guarantee under this program.

Because the program was not functioning as originally intended, MassBusiness reexamined the legislation to seek a more practical and useful application. As the legislation permits the fund to be used to purchase insurance to protect borrowers and lenders from loan losses from environmental conditions, an insurance program was developed and implemented. The program derives its primary cost savings on premiums from the volume discounts possible through using a single insurer:

StateEcon012: The thought here was that by eliminating the extraordinary environmental risks associated with brownfields development through insurance, developers would be induced to take on the sites and lenders would be better able to provide needed financing. While environmental insurance was and is available in the marketplace, the cost of this protection is very high and often renders brownfields cleanup and development projects not financially viable. Also, conventional coverage for smaller cleanup and development projects was not routinely available at any price.

As we talked with insurers, we learned that if we put all program insurance through a single carrier, economies of scale would allow the program to obtain reduced pricing for the coverage. The anticipated volume also induced insurers to provide coverage for smaller

projects. Ultimately, the program was put out to bid and was awarded to the insurance carrier that met the state's rating requirements and was the most aggressive in terms of pricing. That pricing would be guaranteed to be below market in all cases and in many cases, far below market.

One of the insurance industry's principal costs for environmental insurance stems from the fact that the policies are usually highly manuscripted on a case-by-case basis. By using a standardized policy that covers most of the environmental risks encountered on a routine basis, some costs can be eliminated, resulting in a better price. Through a number of months of negotiations, standard policy language and pricing was agreed to and the program was ready to be launched.

While the BRAC enabling legislation allowed the fund to pay for the entire cost of the insurance, in order to spread the use of BRAC Fund assets over as many projects as possible while still providing a strong cost incentive for potential brownfield developers, it was decided the state would pay half of the cost of obtaining this protection, provided certain qualifying factors were met.

If a borrower is eligible, BRAC subsidizes insurance premiums by fifty percent through the Redevelopment Access to Capital Fund. Borrowers eligible for the subsidies include any business or governmental sub-division of the Commonwealth that obtains a qualifying loan for the purchase, environmental site assessment, cleanup and/or development of a brownfield site where there is a high risk that contamination may exist. A borrower who is otherwise qualified but is not using financing for a redevelopment may be eligible to obtain discounted insurance, but not the insurance subsidy:

StateEcon012: There are two types of eligibility. One is for obtaining program insurance which is, on average, 30% less expensive than its equivalent would be outside the program. This alone can represent a significant savings. So you can get program insurance if you qualify to participate in the program by developing or cleaning up a brownfield site. That doesn't mean you can get the subsidy, however. You can only obtain a subsidy if you are using financing in connection with the purchase, cleanup and redevelopment of the site, because the idea of the legislation was to help leverage financing into brownfields development projects. So in short, if there's no financing used in the project, there's no subsidy from the state.

MassBusiness qualifies applicants for the program, facilitates the insurance application and underwriting process, and issues subsidy payments from the BRAC Fund. The organization also monitors the economic development benefits of the program, collecting data from both the lender and the borrower including the prior and proposed uses of the property, the cost of any current or past cleanup of the property, the total cost for purchase and development of the property, and the number of permanent jobs reported to have been created or retained at the site as a result of the project.

Since its inception in October of 1999, the expenditure from the BRAC fund for insurance subsidies has been under $3 million. Through June of 2002, the program had subsidized insurance for

121brownfield redevelopment projects. According to StateEcon012, private developers and some 63 participating lenders have invested over $797 million of private sector funds into these projects, including some $33 million in environmental cleanup expenditures alone. The projects supported by the insurance program range greatly from those with cleanup costs as low as $30,000 to cleanups costing several million dollars. In addition to jobs related to cleanup and development of these sites, the developers and site occupants reported that the projects have paved the way for creation or retention of some 7,400 full-time jobs across the state. StateEcon012 reports that the $383million in insurance coverages written under the program were obtained at an average cost that is 30% below market rates before the state's subsidy.

Two pre-negotiated policies were customized for BRAC. The first, for borrowers and developers, provides a range of PL and CC coverages. The second provides SL coverage for lenders. The pricing of the two policies presumes that, in most instances, both will be acquired for any covered project. The protections and costs are summarized below. As with all descriptions of insurance products in this report, these summaries should not be relied upon by applicants or policyholders since the terms, conditions, provisions, and exclusions contained in the actual policy are not addressed.

The borrowers/developers policy consists of five different types of coverage with separate prices for different limits under each group of coverages.

- *Coverages A and B*: PL for onsite cleanup costs, bodily injury, and property damage from preexisting conditions and for third-party claims for off-site clean-up costs, bodily injury, and property damage and cleanup resulting from preexisting conditions. The coverages include legal expenses to defend against claims.

- *Coverage C:* Business Interruption for expenses including, for example, income and/or rental value loss the insured would have earned had there been no interruption of business caused by a pollution condition.

- *Coverages D and E:* CC for known pollutants and for unknown pollutants first discovered in the course of performing a cleanup.

Typical of all brownfields insurance, the policy is a claims made and reported policy, i.e., a written claim must be made against the insured and reported to the insurer during the policy period or extended reporting period. A sixty-day automatic extended reporting period is provided. The insured also is entitled to purchase an optional extended reporting period endorsement of up to forty months.

Tables 6-1 and 6-2 provide examples of the options available according to the April 2002 pricing schedule. Prices for Coverages A and B vary with limits and deductibles selected. In the figures given, note that (a) the policy term is assumed to be five years, (b) the premium prices cited are *before* the

50% premium subsidy, and (c) the premiums assume purchase of both CC and SL coverage. (A 20% increase in price applies if they are not selected.)

The pricing structure for Coverages D and E, provided in Table 6-3, is somewhat more complicated since two Self-Insured Retention (SIR) options are offered. Premiums for both options according to the April 2002 schedule are shown in Table 6-3. Again, the pricing is *before* the 50% premium subsidy. Projects with estimated cleanup costs in excess of $800,000 receive a 5% discount from the insurer's standard premium pricing.

To obtain a subsidy for the policy, a borrower submits to the insurer (either directly or through a broker) a BRAC application, a Phase 2 site assessment, any existing remedial action plan, and scope of work and cleanup cost estimates. Copies of the materials are also forwarded to MassBusiness. MassBusiness confirms the eligibility of the project and the borrower remits premium payment to the insurer who issues the policy. After confirming the project financing and premium payment, MassBusiness refunds 50% of the premium to the borrower.

Table 6-1. Examples of Premiums for Coverages A and B: Pollution Liability

Policy Limit	$10,000 Deductible	$25,000 Deductible	$50,000 Deductible	$100,000 Deductible
$500,000	$4,193	$3,983	$3,773	$3,563
$1,000,000	$8,035	$6,988	$6,429	$5,940
$10,000,000	$36,770	$34,508	$31,114	$28,285

Table 6-2. Examples of Premiums for Coverage C: Business Interruption

Policy Limit	Premium
$500,000	$1,190
$1,000,000	$1,980
$10,000,000	$6,982

Table 6-3. Examples of Premiums for Coverages D and E: Cost Cap					
Estimated Cleanup Cost	**Policy Limits**	**SIR**	**Premium**	**SIR**	**Premium**
Up to $100,000	$100,000	35%	$22,778	50%	$19,361
	$200,000	35%	$34,444	50%	$29,277
	$300,000	35%	$39,444	50%	$33,527
$300,001- $400,000	$400,000	35%	$72,778	50%	$61,861
	$800,000	35%	$119,444	50%	$101,527
	$1,000,000	35%	$135,688	50%	$115,364
$500,001- $600,000	$600,000	20%	90% SC*	40%	80% SC
	$1,000,000	20%	90% SC	40%	80% SC
$700,001- $800,000	$800,000	10%	90% SC	20%	80% SC
	$1,600,000	10%	90% SC	20%	80% SC
	$2,000,000	10%	90% SC	20%	80% SC

* SC is the insurer's Standard Cost, that is, what would be charged a single insured for the coverage provided if it were purchased on the open market.

The lenders policy provided under BRAC is much simpler and more straight-forward. Under the policy, if there is a loss from any default by a borrower and onsite pollution conditions are present, the insurer pays the lender for the outstanding balance of the loan plus accrued interest from the date the loss is reported until the balance is paid. For this coverage to apply, the insured must become aware of the pollution conditions during the policy period and foreclosure must not have occurred prior to the discovery of the pollution conditions. The policy also protects the lender from claims for bodily injury, property damage or clean up costs resulting from pollution conditions on or emanating from the property. The insurer has the right and duty to investigate and defend any of these claims. This also is a claims made and reported policy. It includes a thirty-day extended reporting period and the insured is entitled to purchase a thirty-six month optional extended reporting period endorsement.

Table 6-4 provides examples of SL coverage prices as of April 2002. Note that (a) the costs are based on a ten-year policy, (b) the premium prices cited are before the 50% premium subsidy, (c) no deductible is required, and (d) the premiums assume purchase of both PL and CC coverage by the borrower. The scheduled premium is subject to a 20% increase if only one borrower coverage is selected and a 40% increase if no borrower coverage is selected.

Table 6-4. Examples of Premiums for Secured Lender Coverages	
Loan Amount	**Premium**
Under $500,000	$2,800
$1,000,000	$3,548
$10,000,000	$10,490
$20,000,000	$27,208
$30,000,000	$70,571

To obtain the SL insurance subsidy, a lender that has signed a program participation agreement submits to the insurer (directly or through a broker) an insurance application and a Phase I Site Assessment and sends copies to MassBusiness. MassBusiness confirms the eligibility of the project. After the lender accepts quotes for the insurance, the insurer issues a coverage binder effective on the loan closing date. The lender collects half the premium payment from the borrower at closing (or withholds it out of the loan proceeds) and remits the full payment to the insurer. When the insurer confirms premium payment, MassBusiness refunds 50% of the total premium to the lender.

In addition to the coverages provided in the two basic policies, an insured party may purchase extended policy terms and other coverages (e.g., endorsements for policy renewal, natural resource damage protection, property value diminution, and contractor coverage). However, the incremental cost for these endorsements may not qualify for the state subsidy if they do not conform to the intent of the enabling legislation:

> *StateEcon012*: The brownfields legislation was not designed to tackle future releases of contamination, but those that have already occurred resulting in an existing brownfield site. As such, we specifically exclude coverages that speak to what might go on in the future in terms of the state's willingness to subsidize. For example, underground storage tanks that may not have leaked but continue to be used may be excluded. If you want coverage for possible future leaks, you can have that added to the policy, but the state won't subsidize the additional cost. You can augment these policies pretty much any way you want. But if you want the state to subsidize the cost, then our attorney compares notes with the insurer's attorney and makes a determination as to whether or not it conforms with the limitations of the legislation.

Interesting questions that require further investigation concern the costs of these endorsements, the time delays associated with negotiating them and determining if the subsidy applies to them, and the frequency with which insurance purchasers tailor the policies. One might surmise that changes frequently are made, since insurers emphasize the manuscripted character of brownfield insurance policies and point to the ability to modify basic coverages as a factor that renders them valuable.

Since the inception of BRAC in 1999, there have been no changes in the pricing of SL coverages. There has been one 30% increase in PL coverage premiums. The cost of CC policies also has risen significantly, but, as StateEcon012 explains, this largely is due to a re-structuring of the pricing.

> *StateEcon012*: In the beginning, our pricing for the cost cap was almost ridiculously low – so low, in fact, that it was difficult to get [the insurer] to write meaningful coverage. Originally, our people weren't as conversant in environmental insurance as we are now. [The insurer] said, 'if you have an estimated cleanup of so much, we'll charge you so much.' And that's as far as the discussion went. As the program proceeded, we got feedback that [the insurer] was offering a 100% SIR. Basically, that means if you had a $100,000 cleanup project, the coverage under the policy would not begin attaching until you'd spent $200,000. That's not real effective. So relatively few people bought cost cap in the beginning. We had a lot of feedback: Brokers saying, 'I can't recommend that to my client because they're paying for nothing.' So we sat down with [the insurer] and said, 'what are we going to do about this?' As renegotiated, there is now a fixed and much lower SIR level in each price range. The insured also can choose an optional higher level SIR to get a lower premium.

One aspect of the program of interest to those desiring CC coverage for small-scale sites is that, due to the volume of business the program generates, the insurer will provide coverage for these sites as well:

> *StateEcon012*: What we're finding in the conventional marketplace is, if you've got a cleanup much under a $1million – unless it's a real straightforward tank pull with soil contamination or something like that – you're going to have a hard time finding anyone to write the coverage for you at any price. This program, however, can still provide this coverage. The SIR is fairly high, but it's a lot fairer than what it used to be. It used to be 100% and now it's 35%.

6.2 California's Financial Assurance and Insurance for Redevelopment Program

In 2001, California followed the lead of Massachusetts, passing SB 468, a bill that established the Financial Assurance and Insurance for Redevelopment (FAIR) program. Like Massachusetts, the program is designed to lower the transaction costs of environmental insurance by providing a package of pre-negotiated, standardized brownfield policies and offering state subsidies for the costs of insurance products. The program is the second part of California's Urban Cleanup Initiative, initiated in 1999. The first of the Initiatives – California's Cleanup Loans and Environmental Assistance to Neighborhoods (CLEAN) program – is a loan program designed to provide low-interest loans and grants for investigation and cleanup of urban brownfields. Because the insurance proposal had not been developed as fully as the loan proposal, the two components were de-coupled. CLEAN was put into place in 2000 and was followed by the enabling legislation for FAIR the following year.

SB 468 requires the Secretary of the California Environmental Protection Agency (Cal/EPA) to solicit proposals for a package of environmental insurance products through a competitive bidding process from insurance companies rated by A.M. Best as having a Financial Strength Rating of A+ or better and a Financial Size Category of FSC X or larger. The selected insurance company or companies would be assured that they would be the exclusive state-designated provider(s) of environmental insurance for a period of three years.

Cal/EPA contracted with a consulting firm to assist in developing the program, soliciting input from developers and other stakeholders about their insurance needs, and providing insurance expertise to help design the program's RFP. As of the summer of 2002, Cal/EPA had held two public stakeholder workshops, as well as additional stakeholder meetings, elements of the process considered essential to developing a successful program:

> *StateEnv011*: We need to figure out from the program's intended customers what their experience has been with insurers and how to design the program to better meet their needs. To do that, we've spent considerable time reaching out to the stakeholders such as local governments, bankers, realtors, insurance brokers, developers and builders. Our desire is to design a program that is responsive to and meets the needs of the entire brownfields community, especially the smaller cleanups that are currently under-served.

Unlike the legislation that established BRAC in Massachusetts, which was originally envisioned as a loan guarantee program, the California legislation was written specifically to establish an insurance program. California officials are attempting to take advantage of lessons learned by Massachusetts, and have consulted with individuals who were involved in the development of BRAC. As a result, the legislative language in the California bill is quite specific. It mandates that the insurance to be offered include PL, CC, and SL coverages and requires certain minimum elements of these coverages.

The PL insurance should protect against damages caused by preexisting and unknown pollution conditions at or emanating from a brownfield site. The policy period should be a minimum of five years after the completion of remediation activities (not including post-remediation operation and maintenance). The coverage must also include a duty to defend and pay for defense costs up to the amount of coverage available under the policy.

CC insurance should provide for response costs in excess of the estimated response action costs, a policy period of sufficient length to cover the duration of the response activities (excluding post-completion operation and maintenance). The bill also limits the SIR to 25% of the estimated response action costs.

The bill requires a recipient of a loan from California's CLEAN program to obtain SL insurance from the insurance company or companies selected under the FAIR program, or comparable coverage from

another source, unless Cal/EPA waives this requirement. SL insurance must protect lenders by providing all of the following:

- Response costs at a site after a default by the borrower or foreclosure by the lender resulting from a pollution condition.
- Damages or other liability for a pollution condition incurred as a result of the lender foreclosing.
- Loss or damages incurred by a lender as a result of a borrower' s inability to satisfy a loan obligation or due to the existence of an unforeseen and unexpected pollution condition.
- A duty to defend and pay for defense costs up to the amount of coverage available under the policy.

In designing a program that meets these minimum elements, Cal/EPA officials are hoping to stimulate competition among insurers to develop new creative solutions to brownfield coverage needs. Specifically to support innovative effort, the legislation permits the Cal/EPA Secretary to authorize other insurance products (e.g., post-closure stewardship coverage), not just the PL, CC, and SL coverages, to be eligible for subsidy support:

> *StateEnv011*: We're opening it up to the insurers and saying here's what we want the program to accomplish and here are the criteria we'll use to evaluate your proposals. You come back to us using your creativity and market knowledge and let us know whether and how you can deliver it. As we are currently proceeding, the design of our program will be limited only by the creativity of the insurers. We intend to give the insurers maximum latitude to give us ideas on the look, feel, and operation of the program, including its structure. There's no forgone conclusion about the direction our program will take. Even though there's specificity in our statute as to the goals and objectives of the program, there's a lot of latitude in accomplishing those goals.

The program was enacted to make the money from the CLEAN fund available to subsidize the cost of environmental insurance products, specifying a subsidy of up to 50% of the cost of the premiums and up to 80% of the SIR of the CC insurance, to a maximum of $500,000. Currently, however, economic conditions have made funding for subsidies unavailable due to budget reductions and obligation of most existing CLEAN funds to loans that have been provided. Cal/EPA officials continue to look for other funding sources to provide subsidies, including federal funds. Absent funding for subsidies, development of the program continues. That development is dependent, however, on finding other ways to provide for insurance cost reductions:

> *StateEnv011*: We felt that implementation of the program without subsidies might still be possible. We might be able to work with the insurance companies to achieve the goals of lower cost insurance products, even without subsidies. We're proceeding with that hope. There's no guarantee that in the end we can do it or that enough internal efficiencies or reduced frictional costs can be created to result in sufficient cost savings and premium reductions. As the process

unfolds and we continue to work with the insurers, we'll see what kind of proposals we get back. The challenge will be finding ways, apart from subsidies, where that cost reductions can be accomplished.

When funds for subsidies become available, any party conducting a response action to a property that meets the eligibility criteria for a CLEAN loan (an urban brownfield, or an underutilized property) will be able to apply for a subsidy, although they need not have applied for a CLEAN loan. Notably, the bill, which also amended the CLEAN loan program requirements, revised the definition of eligible property to target smaller-scale brownfields, including the development of property adjacent to sites owned by a small business or a small business incubator. Indeed, one intention of the program is to facilitate small-scale redevelopments:

> *StateEnv011*: Our desire is that the beneficiaries of the program will be the smaller scale cleanups. As you know, environmental insurance premiums really don't become cost effective – especially with the current pricing structure – if your cleanup costs are below $3 million to $5 million. There's a significant number of sites where the cleanup costs don't reach that level. But it's for those very sites that environmental insurance becomes more critical. Cost overruns for a $100,000 to a $1 million cleanup are more significant to a smaller entity. They're typically more in need of insurance than the larger entity doing a $10 million dollar cleanup. A $1 million cost overrun for a $10 million cleanup tends to be less significant than a $1 million dollar cost overrun on a $500,000 cleanup. We're really hoping to tailor this program to that less-than-$1 million cleanup. That doesn't mean the program wouldn't have a pricing structure that would extend to larger sites. But if we we're forced to choose between what we could accomplish for larger or for smaller sites, we would focus our efforts and program on the smaller sites.

6.3 Connecticut's Department of Economic and Community Development Program

In July of 2001, the Connecticut Department of Economic and Community Development (DECD) formally announced a program they had been piloting for several years. The program, which provides financial assistance for environmental insurance and technical assistance in crafting policies, is part of DECD's larger economic development program offering a range of support to redevelopers. Funding is provided through the 1990 Manufacturing Assistance Act.

The hallmark feature of this program is flexibility. DECD staff manage each redevelopment project they are asked to facilitate on a case-by-case basis. The following representative describes the evolution of the program:

> *StateEcon027*: Connecticut's an old manufacturing state and we've had to deal with sites left behind by industry for a long, long time. What we try to do is maintain a lot of flexibility with our programs, to keep them as dynamic as possible to meet real needs. And, over the past few

> years, there has been a refining process in the environmental insurance industry. When these policies first began to surface, they were severely limited. They weren't products we felt we were able to use. As time has progressed and the policies were refined, we found that they do become applicable to the work we do. Fortunately, the Manufacturing Assistance Act of 1990 is a very flexible and business friendly program and we're fortunate that we're able to adapt that particular program to meet this particular need.

Unlike Massachusetts and California, the program does not involve master policies or rely on specific carriers. Rather, DECD staff help clients to assess their specific coverage needs and provide information about the insurance policies available from several insurers:

> *StateEcon027*: We work with the company in all phases in the development of an actual policy, including assessing real risks and what each policy should address, and clarification of all coverages. We want to get away from a one-size-fits-all application of these policies. We think that a customized policy for a particular customer is what our goal should be.

> *StateEcon11*: The program doesn't recommend any specific insurance company nor do we have an insurance company under contract. We've researched the insurers and collected information regarding available products, some of which are unique to a specific carrier. So a client who comes to us might be looking for cost cap insurance and not know where to start. We provide them with a list of companies and they're free to use whomever they choose.

A broad range of clientele are eligible for the program, including private developers, municipalities, and nonprofit corporations. *There are no set limits on the amount of insurance subsidies awarded for a project*; each one is assessed on an individual basis. The decision to provide financial assistance depends on several criteria, including the strength of the developer's business plan and commitment to the project, the number of jobs that would be created, and demonstration that the project likely would be stalled without state support for the insurance coverage. Although they have assisted only one participant with policy negotiations since the announcement of the program, they have provided financial support for several previous projects.

DECD manages the program through the Infrastructure and Real Estate Division, which has a staff of professionals experienced with the technical and financial elements of real estate development. The in-house staff consists of individuals with a variety of expertise, including architects, planners, business managers, and environmental engineers who review site assessments.

6.4 Discussion

The differences among the approaches undertaken by these three states serve to illustrate the decisions that need to be made in designing public sector programs to support risk transfers for brownfield redevelopments. Different assumptions have been made in these three states, as have

judgements about how a variety of influences on costs may interact. Key choices involve the number of underwriters authorized to provide insurance in the state program, the level of state subsidy for premium costs, deductibles, and SIRs, and the degree of emphasis on serving one scale of development projects over others.

As of the summer of 2002, California officials were grappling with the issue of whether the program should select a single or multiple carriers. (The legislation, in fact, explicitly references the possibility of using more than one insurer.) Massachusetts BRAC officials argue that relying on only one insurer results in cost reductions generated by the economies of scale in providing a standard policy for a large number of projects. Cal/EPA representatives, however, fear that these reductions could be lost in the absence of competition. California's StateEnv011 referred to the increases in prices in Massachusetts and attributed them to having only one carrier:

> *StateEnv011*: In Massachusetts, it was our impression that once [the insurer] was selected for the first contract, it was pretty much able to call the shots and raise the pricing structure on the second contract. I think the most significant advantage to having a program with multiple carriers is that you preserve the competitive market. For this and other reasons, we want to preserve the multiple insurance carrier approach, or at least an open, participatory process throughout the point of selection.
>
> There are a variety of ways that multiple carriers could be involved concurrently in the program. Our RFP contemplates a variety of potential program structures. In providing guidance to the insurers as part of our RFP, we have identified at least four different potential structures. These include single preferred provider, a lead insurer with following quota share insurers, an independent managing underwriter with a pool of participating insurers, and multiple preferred providers. We're hoping for proposals that include any of these or variations on these.
>
> Clearly, some of these structures require cooperation and collaboration among insurers – a significant challenge given the highly competitive nature of the insurance market. The multiple carrier structures could provide benefits that overcome the natural competitive tendencies. They offer a means to spread the risk of loss among the participants, lessening the burden that any one insurer would need to carry. They might also provide an opportunity for some of the insurers who are just emerging in this market or with a smaller market share to participate in the program and become more established in the environmental insurance market.
>
> Regardless of the number of insurers participating in the program, our goal is that all would use the same pre-negotiated policies and premium structure. That doesn't mean that, at the end of our process, we won't end up with a program featuring a single carrier. We still have to evaluate the proposals that are submitted and decide which proposal or proposals best meet our program goals. We're hoping to preserve an open competitive market. We recognize that if we select a proposal that features a single carrier, one of the biggest challenges we would likely face is preserving the participation by all eligible insurers in subsequent cycles. Without

that competition, our program could very well end up being captive to the single carrier, whomever that might be.

Two points in this regard require consideration. First, as already noted in this report, there has been a hardening of the insurance market overall since the late nineties. Therefore, the 30% price increases for PL coverages in Massachusetts are at least partially a reflection of the increased cost of insurance nationwide, and are not solely the result of having an insurer advantageously positioned as the single carrier. Second, the most substantial increases in Massachusetts were in the CC premiums and these higher costs resulted from the reduction of what was previously an inappropriate and untenably high SIR. There is thus no clear evidence to date from that program of higher costs associated with the granting monopoly status to a single provider.

On the other side, there is a potential substantial management cost associated with contracting with multiple carriers. Indeed, maintenance of such control is an important goal for California officials:

StateEnv011: We envision that whatever we do is going to have to have some component of state program oversight or administration. We don't want to turn over program implementation completely to the selected insurance company or companies. To do so would reduce our ability to track the performance of the program – how it's being used, who is using it, how claims are being processed – and ultimately to monitor customer satisfaction. That robs us of a hands-on ability to monitor performance and make decisions affecting not only the ongoing operation of the program, but also to make adjustments in the program in the next three-year cycle. If we put it completely in the hands of the selected insurer or insurers, we might be limited to only that information they are willing to or desire to give us. We don't want to be in that position.

Having agreements with multiple carriers certainly does not preclude control of their programs. However, it does increase the costs to government of managing insurance provision. As StateEcon012 from Massachusetts notes, state agency oversight is essential to maintaining the benefits of the program:

StateEcon012: Many insurers say you should just subsidize all of us in whatever policy we write at whatever price we write it. At that point, we have no control whatsoever as to whether they charged $100,000 for a policy or $500,000 for the same policy. With one insurer, we know what's in the policies and what's not in them. We know what we're subsidizing and what we're not. And, frankly, with scheduled pricing, we know what the base price is that they can charge and they won't inflate the price simply because the state's paying half. Those are important elements that other states need to look out for. It would be easy to say fine, if you're going to get environmental insurance, we're going to pay some percentage of the cost of it for you. But I think over time, the cost would go up to reflect the percentage. Then people buying this insurance wouldn't be ahead at all. The one thing you don't want to do is provide an incentive for increasing prices simply because there's a state subsidy.

Oversight certainly is needed to determine what is covered by a policy. However, the presence or absence of 'scheduled pricing' will not, in and of itself, assure that premiums will not be raised due to the guarantee of a 50% subsidy. The fact that rates are not raised for program participants due to the subsidy can only be established by comparison to the independent market costs for coverages.

The Connecticut program and California's FAIR program both offer variable subsidies for premiums in principle, though California cannot fund its program at present. Connecticut's DECD, in fact, could pay as much as 100% of the cost, well beyond FAIR's 50% maximum. The flexibility may be preferable as a tool for minimizing the tendency of the vendor to capture the subsidy due to its market power, but in practice, this may only be relevant in the Connecticut case, and not just because it has funds at the present time. Under any pure insurance cost support program, the subsidy can either be offered for the premium or it can be denied. Given funds available, the experience of most economic development programs is that they will be spent. In the case of the DECD, however, the funds may be spent either to subsidize insurance OR to provide some other form of financial aid to facilitate a brownfield redevelopment. In this latter instance, insurance providers are, in effect, competing with non-insurance incentives to provide value to a project, and may feel more pressure to hold down premiums to the extent possible.

California's capacity to subsidize up to 80% of an SIR on a CC policy rather than the premium on it similarly gives Cal/EPA the option of choosing how to use funds to reduce risk exposures on brownfield projects. While a premium subsidy reduces the *certain* cost of a project, the same funds used to help cover an SIR would reduce the uncertainty about the *total* costs of a mitigation. Thus the state, beginning with policies with a maximum SIR of 25%, could choose to reduce uncertainty to a mere 5% of expected cleanup cost, a level far below that remaining in the Massachusetts program, with its minimum 35% SIR not eligible for subsidies. Different developers – and projects – may require different types of support for risk management, and the California and Connecticut programs both engender more flexibility than is evident in Massachusetts.

The Massachusetts program premium schedule for CC, presented in Table 6-3, raises yet another issue about insurance coverage support policy: the possibility of negotiating rates that favor one or another scale of redevelopment efforts. Developers of projects with expected remediation costs of $500,000 - $800,000 pay premiums of 90% or 80% of the insurer's standard costs for stand-alone policies, depending on the SIR they select. However, more expensive cleanups get only a 5% discount from the standard premium. Given that the pre-subsidy premiums were negotiated by MassBusiness, this obvious inequality would appear to reflect a specific intent to support smaller scale cleanups. It is clear that, in the process of negotiating standard coverage packages and premiums with one or more insurers, state agencies may be able to target their efforts to provide more service and support to those sectors of the brownfield redevelopment market that most need risk transfers and that are least well served in this regard.

However, the question of the cost-effectiveness of the policies for most small-scale projects still remains. For example, on a $100,000 expected cleanup, with policy limits of $100,000 and a 35% SIR, the premium (net of subsidy) would be $11,389. This means that an insured party would need to be able to spend $46,389 above the estimated cleanup costs (the premium plus the SIR) before the policy would attach. This figure represents close to half of the estimated cleanup cost – and the coverage bought with this sum would not be adequate if the cleanup cost exceeded the $100,000 policy limit.

6.5 Wisconsin's Department of Natural Resources Program

Wisconsin's unique insurance program differs significantly from the other state programs summarized in that it is designed to protect state funds that may be jeopardized by the role the state plays in cleanups involving natural attenuation of contaminated groundwater. Under the state's Voluntary Cleanup Program (VCP), participants may be granted a transferable Certificate of Completion (COC) by the Wisconsin Department of Natural Resources (WDNR) that provides relief from future liability. In the late nineties, a brownfields study group sought ways to improve the VCP and stimulate brownfields regeneration. During these discussions, the suggestion was made that a COC might be issued in cases where a site owner was using natural attenuation as a remedy, but had not yet achieved the state's groundwater standards. There was concern, however, that the state could face expensive environmental assessment and cleanup costs at those sites if a natural attenuation were to fail after a COC had been issued.

This concern was resolved through the use of an insurance program. Now, when WDNR believes that natural attenuation will be effective, a VCP participant is granted a COC if they purchase an insurance policy to cover the costs of a possible further cleanup in the event that the attenuation is not effective. The state is named as the insured on the policy. In 1999, a state statute authorizing the process was approved by the legislature. To develop a rule concerning requirements site owners must meet to obtain the insurance, WDNR formed an advisory group, worked with the existing brownfields study group, and held public hearings. The WDNR utilized the state's insurance broker to solicit proposals from brownfield insurance providers. Four responded and one was selected. Negotiations with the insurer were held and the program went into effect in March 2001.

Under the program, a party relying on natural attenuation for groundwater restoration that has not yet satisfied groundwater enforcement standards is required to pay a one-time insurance fee in order to receive a COC. Most of the fee pays for the premium, although a small amount is deposited into a fund to pay deductibles in the event the state files claims in the future. The fees are updated annually and are based on the previous uses and the size of the insured property. If a site has had more than one former use, the highest fee is required. The fees for 2002-2003 are provided in Table 6-5.

Table 6-5. Wisconsin Insurance Fees		
Previous Use	**Total Acreage**	
	0 to 4.99 Acres	**5 or More Acres**
Residential	$5,039	$5,987
Agricultural	$9,046	$10,758
Commercial	$9,614	$11,397
Light Industrial	$11,755	$13,927
Heavy Industrial	$15,428	$18,293

If natural attenuation should fail and the WDNR files a claim, the state would pay a deductible and the insurer would pay the remaining amount for site assessments, onsite cleanup, and offsite cleanup if pollution has migrated. The party that conducted the original cleanup would incur no further cost.

No third party liability or legal expense costs are provided as the program is designed to address the state's risk and a third party suit directed at the state was not a concern. Moreover, program administrators wanted to minimize the costs of the insurance to participants:

> *StateEnv9*: We don't include third party coverage because that's not really a concern of the state – that's an issue for the property owner. However, owners could get a liability exemption from the state and then buy third party coverage from the private market if they're concerned about a third party claim. Also, I personally don't think that third party issues should be a serious issue for these sites because they've gone through a thorough site investigation and remedial response. There shouldn't be any contamination remaining that would result in a law suit.

The policy is a portfolio policy with an aggregate limit of $10 million and sub-limits for each site of $1 million. New sites are added as they enter the program. The policy term for each property is ten years. The per-site deductible, paid by the state, varies according to previous uses of the site and ranges from $5,000 to $25,000.

Under the program, a VCP participant must obtain insurance under the state's master policy. In early discussions of how the insurance program might work, alternative approaches were considered, including having each owner independently purchase a policy. However, the portfolio approach was selected because it was less costly and because the process of obtaining the insurance was simplified:

> *StateEnv9*: We could have set up it up where people doing the cleanup would get their own insurance and we would approve it. But we figured out that a master policy would be the most cost-effective, streamlined approach as opposed to having people buy individual policies.

Rights to the program may be terminated under specified conditions (e.g., when a participant has obtained the COC by fraud or misrepresentation or by failure to disclose a known pollution condition). Also, if deed restrictions or maintenance requirements are not met, the liability exemption could be lost and the WDNR would look to the property owner and not the insurance policy if cleanup proved to be necessary.

An interesting element of this program concerns a 'moral hazard' the insurer faces. A moral hazard exists when an insured party has a perverse incentive to file a claim, or when their motivation for avoiding a claim is reduced. In this case, the issue is the fact that the state is the insured as well as the entity that would file a claim. According to a state representative, the insurer felt comfortable accepting this hazard because of the deductible involved and, in particular, the specific stipulations for reopeners in Wisconsin:

> *StateEnv9*: Because of the deductible, we would have to incur costs if we wanted to file a claim. Also, the carrier studied our regulations and it's specific in our regulations that there has to be a public health or environmental threat before we can reopen a site. We can't just say we're going to clean up this site since we have insurance money sitting there.

At present, two participants are utilizing the program. Five more will enter it in the near future and the WDNR anticipates that thirty to forty parties will take advantage of it over the next few years.

Chapter 7.0
Lessons Learned

This concluding chapter summarizes and provides further commentary on models for government-led insurance programs, beginning with those found to be unfeasible or difficult to implement at present. The discussion then turns to approaches that hold significant promise for both privately and publically owned brownfield sites, followed by notes on principles for developing brownfield insurance programs. The chapter ends with a brief narrative about the implications of the current state of the brownfields insurance market on development of insurance programs for the public sector.

7.1 Models That Are Unworkable or Not Feasible at this Time

One central purpose of this study was to investigate the viability of various insurance program models entertained or envisioned by public sector actors. While there is a great deal of interest in obtaining coverages in order to stimulate brownfield investment, findings on approaches that are not feasible are extremely valuable to all concerned in that they limit the costs of time expended on unproductive efforts.

- ***Portfolio coverage for financially unrelated private parties*** was proposed during the focus group by government representatives interested in lowering insurance costs for private investors in their jurisdictions. Problems regarding uncertain legality, unwillingness of private parties to share risks and aggregate limits, and massive administrative complexities associated with creating and managing such pools suggest that pursuing this model would not be productive.

- ***Provision of brownfield coverages by public entity pools*** also poses problems in the potential unwillingness of members to share risks. In addition, the many PEPs that exist are oriented toward predictable risk exposures. If, at some future date, the relevant actuarial data for brownfields become available, then the pools may prove useful depending on their jurisdictional scope and the willingness of members to fund the program.

- ***Creating captives to provide coverage*** also is not a viable option at this time. They entail heavy administrative cost burdens, especially in startup, and, most importantly, they require considerable amounts of capital. Also, like PEPs, they lack actuarial data. In the future, however, it is conceivable that they could emerge as tools that could be valuable for larger local government programs, given development of a standardized reporting system that would allow accumulation of cleanup cost data for various types of brownfields and public commitment to funding the program.

It is worth emphasizing that a major barrier to the development of alternative market programs that could be the key to local support for the small-scale sites that comprise the majority of brownfields

is the lack of data on actual experiences with cost overruns and the reasons for them. The new brownfields legislation that envisions states developing an inventory of sites – and potentially the experience of redevelopment efforts on them, including unexpected problems – could contribute to the viability of the approaches that require the types of experience data now available only in the individual files of private insurance firms.

7.2 Viable Insurance Models

While some highly anticipated innovations appear unworkable at this time, that does not mean that programs provided by commercial insurers cannot be designed to serve public sector needs for risk transfer tools that promote brownfield cleanup and redevelopment. Those needs vary with the ownership – public or private – of the sites with which local jurisdictions are concerned. Small-scale projects pose exceptional problems in either case.

7.21 Privately Owned Sites

There are two options for providing public support for insuring privately owned brownfields. One involves the acquisition of the sites by redevelopment agencies. The alternative, discussed here, is reliance on state program models that also could be applied at the municipal or county level, depending on the jurisdictional scale in terms of population and area.

- Massachusetts' BRAC program, in effect since October of 1999, appears to be successful. The state reports that 121 mitigated sites attracted a total of almost $800 million in private redevelopment capital with public investment of under $3 million in subsidizing coverage costs. This is a significant accomplishment, but questions remain about BRAC that need investigation:
  - Are the 50% premium subsidies really needed by redevelopers, given that they get coverage at 30% below normal market rates for the insurance?
  - How well do the pre-packaged policies meet the needs of developers? That is, what proportion of the policies require endorsements that are not subsidized and how expensive are these endorsements?
  - How cost effective and affordable are the policies for most small-scale projects?

- California's FAIR program is still in development and Connecticut's model is too new to make any assessments of its impacts. However, a comparison of the BRAC, FAIR, and Connecticut's model in the future should be informative. An especially interesting comparison in terms of the cost of insurance would present itself if the FAIR program selects multiple eligible providers, rather than a single insurance carrier. A number of different questions might then be addressed:
  - Does having more than one carrier result in greater premium cost savings where no one carrier can spread its fixed underwriting and negotiating costs over a large a number of policy holders?

- Does the larger potential brownfield insurance market in California relative to Massachusetts mean that multiple insurers would be able to achieve the same cost reductions in that market as a single insurer in Massachusetts?
- Does the presence of multiple authorized insurers generate more innovation, and what are the new approaches emerging in California?
- In broader terms, and with an eye to the needs of local governments, how does the size of the market affect potential cost savings and the optimal approach to assisting developers with insurance needs?

7.22 Publically Owned Sites

Two viable models entailing public acquisition of brownfields were explored. They serve different public sector needs and mixes of brownfield sites, so it is not possible to suggest that one is superior to the other.

- ***A portfolio policy for multiple scattered sites*** that would be remediated by a public entity and then sold to multiple new owners is best created at the individual local government level. Whatever economies of scale might be obtained by combining sites across jurisdictions are likely to be undermined by the difficulties of organizing a pool that would share a common aggregate limit, particularly given differences in the extent and type of contamination and the number of site assessments conducted by potential participants. In order to further simplify the management process as well as maximize accountability, a single site assessment and mitigation engineering firm should be utilized by the managing municipality or EDO.

  A portfolio treatment is especially useful – or in many cases, essential – in facilitating access to CC coverages for small-scale brownfields. FR Model 2, specifically targeted to this under-served segment of the market, may prove particularly expedient, given that the FR program does not require a buffer or co-insurance feature. However, the question of the relative costs of a Model 2 portfolio relative to a CC portfolio remains unanswered.

  The FR model also is dependent on the ability of the public sector to pre-fund the program. This dependence may be seen as a barrier to its implementation. However, the possibility of using a FR approach may stimulate development officials to look beyond individual sites in assessing the effects of cleanup and redevelopment activity on the local economy. To the extent that small brownfields adversely affect property values and economic activity in their immediate vicinity, the benefits of cleanup and redevelopment are felt across an area, not just a single parcel. Justifying the public sector capital contributions needed to implement a FR plan is likely to require that area effects be determined, using a rationale very similar to that for tax increment financing of other redevelopment efforts. This perspective is likely to promote better local government brownfield investment decision-making whether or not an FR approach is used.

- ***Public assembly of contiguous sites for remediation as a single site*** by a local government, an EDO, or for a private developer is a simpler approach to take since the assembled properties are treated as one site for remediation purposes. Provision of PL relief to current property owners as part of the package of insurance provided may overcome the resistence of some of them to releasing their sites to the market due to fears of liability claims. Because site assembly is a key element of this approach, it is most useful where public eminent domain acquisition powers are relatively broad.

  The use of a FR program for such an assembled site has the advantage of providing assurances to the locality that the project will be completed. With insurance coverage, the local government is relying on the financial strength of the carrier, rather than that of is arms-length economic development organization or a potentially over-committed redeveloper. The insurance, therefore, serves multiple roles, easing site assembly as well as reducing public sector risks on the acquired sites while rendering the overall project more attractive to lenders and investors.

7.3 Some Principles for Developing Insurance Programs

State and local brownfield redevelopment efforts face many barriers in developing insurance programs for sites in their jurisdictions. Their own organizational, jurisdictional, and financial constraints are compounded by a shortage of experienced brokers with whom they can work.

The matter of gaining access to a specialists in environmental insurance brokerage may, by itself, be a strong reason for developing a program that involves insurance provision for a number of sites. A larger package of properties, and a developed plan for approaching them, offers brokers both greater certainty that coverage will be bought and a larger overall policy than a request for coverage on a single site.

However, having an experienced broker does not assure negotiation of an optimal insurance program. Delay in consideration of insurance factors may mean that time, money, and effort may be wasted. Moreover, public sector bodies need a diverse team to advise them. These issues are addressed in the following two sections.

7.31 Incorporate Insurance From the Beginning

The insurance component of any public brownfield regeneration program should be incorporated from the outset. Depending on the nature of the projects involved, different benefits may be derived from this early consideration of risk transfer mechanisms:

- The insurance may encourage sellers to release properties to the market.

- Selecting site assessment contractors acceptable to an insurer avoids having to conduct additional assessments later to purchase insurance.

- Cost estimates for the project as a whole should include the estimates from the insurer.

- The insurance may prevent transactions from stalling due to differing buyer/seller estimates of cleanup costs and liability exposures.

- Indemnity agreements and insurance agreements supporting them should be worked out in conjunction with each other.

- Adequate time will always be needed to design the required coverages, to seek bids from multiple insurers, and to negotiate policy terms. Depending on the complexity of the program, considerable paperwork that takes time to collect may be required by the insurer.

7.32 Assemble the Right Team

A point emphasized in Chapter 4 is the need to gather the right team to develop an insurance program. The services of a broker and/or an environmental consulting firm that specializes in brownfield insurance is key. Given the national shortage of these professionals and the difficulties with which they contend when dealing with the public sector, it may be necessary to pay them a fee for their services. Issuing a Request for Qualifications for insurance design services with specific minimum criteria, rather than a Request for Proposals for provision of coverage for a particular project will assure that the brokers involved have past experience negotiating brownfields insurance.

Other useful team members noted in this report that may not be included in typical brownfields working groups include, first, public sector risk managers who act as gatekeepers in the insurance procurement process. If they are not involved, they may not understand the insurance needs of brownfield projects. Second, PEP administrators who work with risk managers may be willing to serve useful roles in organizing the purchase of environmental insurance (e.g., collecting and compiling data insurers need). Finally, lending institution risk managers, when available, can be an asset to the team. While bank loan officers, commonly included in local brownfield working groups, may be apprehensive about loaning on environmentally risky properties, risk managers may be more confident because they understand how insurance can mitigate risk and uncertainty.

Other than community representatives, it is desirable to limit the number of individual parties in each non-governmental role in a project or program. Insurers are more comfortable with only one firm executing engineering tasks. Using only one lending institution, protected by a SL policy, may be important, especially for a pool of small brownfields. A lender in that position may make smaller loans available, knowing it has a standardized risk management process available for its loan underwriting

– and because it expects to get other banking business as a result of its services to the local public economic development entity involved.

7.4 The State of the Brownfields Insurance Market

In the last two years, new products have evolved to better serve the needs of brownfield redevelopers, i.e., a policy for longer term stewardship risks and a FR program intended to fill the gap in CC coverages for individual small-scale projects. However, the insurance market worldwide has hardened since 1999 and, for the time being, environmental insurance for brownfields is more difficult to obtain than it was in the late nineties. The combination of decreasing returns on investment and increased losses has mandated a more conservative approach to risk taking for insurers and reinsurers. Environmental underwriters are encountering increased competition for capacity within the reinsurance market. This means that, currently, insurers are highly judicious in issuing policies so as to maximize their profits. Thus, the current willingness of insurers to participate in the models discussed as workable in this report will be a function of the size of the projects and the risks to which they expose carriers.

The combination of continuing innovation in insurance by brokers and underwriters interested in expanding their market share and by public sector working groups that recognize the potential of brownfields bodes well for the longer term. As more experience with brownfields is gained, as the insurance market turns the cyclical corner and loosens once again, and as the new federal legislation both clarifies and reduces liability exposures for all concerned, risk management will become easier and coverage costs will decline. Environmental insurance policies will accelerate the cleanup and redevelopment of more large and medium sized brownfields, and, if the experience data are collected and made available, the capacity for experience rating should permit the implementation of new approaches to providing protections to groups of smaller brownfields.

Appendix A
Secured Lender Coverage Issues

During discussions held on this project's electronic focus group, important considerations pertaining to SL policies were raised. This appendix begins with an overview of the issues, including the potential impact of the policies on due-diligence processes, a lender's competitiveness, costs to brownfield redevelopers, and protection of human health and the environment. None of the issues raised were resolved. However, they are offered here to stimulate further thought, discussion, and analysis of how brownfields redevelopment practice can be altered by the risk management tools available to stakeholders.

Overview

While SL policies provide protections for lenders, they do not address the environmental liabilities of property owners. Furthermore, they may play a role in discouraging the conduct of due-diligence site assessments. Secured creditors who do not utilize SL policies generally require a Phase I site assessment prior to providing loans of $1 million or more on commercial and industrial properties. For some projects, institutions may require a developer to provide alternative security or establish a contingency fund for unanticipated remediation work (Yount 1997).

According to insurers, some secured creditors who use SL policies now offer borrowers a choice of paying for the policy or conducting a Phase I site assessment (and further assessments if contamination is suspected). If the coverage is purchased, the insurer conducts the due diligence. Insurers still generally require at least a Phase I assessment for larger loans (e.g., those exceeding $20 million). However, for loans smaller than this, some underwriters require only database searches and completed screening questionnaires about a site. While the questionnaire ideally should be completed by the seller, often it is completed by the buyer who is applying for the loan, but who may not have full knowledge of a site's pollution history or environmental conditions (Waeger 2002).

Certainly, Phase I assessments are not infallible in detecting the presence of contaminants. However, the advisability of foregoing more thorough site assessment procedures is highly questionable: an owner's interest lies in knowing whether or not a property has environmental problems and the extent of problems that do exist. Indeed, until the EPA promulgates new regulations from the 2001 Small Business Liability Relief and Brownfields Revitalization Act, an ASTM Phase I site assessment remains the legal standard for conducting "all appropriate inquiries" needed to claim innocent landowner status.

From the lender's perspective, SL policies are beneficial. They protect financiers against risks (e.g., cleanup costs or principal loan balance loss, the cost of third party claims, and legal defense costs).

Furthermore, having the borrower pay for the lender's SL coverages rather than paying for a Phase I may offer competitive advantages to the lender. These include the following:

- SL coverage costs the borrower less than a Phase I (*if* the SL coverage is purchased on a portfolio basis).[15]
- The turnaround time for loan approval is greatly reduced in that a Phase I may take two or three weeks to complete while an application for insurance may be approved in two or three days.
- Costs to the lender in terms of personnel to review the Phase I's are decreased.
- Bank examiners and loan rating agencies may give extra credit support to lenders utilizing SL insurance.

From the borrower's perspective, using SL coverages in lieu of a Phase I has the advantages of:

- lowering the costs of obtaining a loan in terms of both time and money up-front;
- eliminating the need to provide additional security to the lender;
- not having to pay for insurance unless a loan is approved (whereas they may pay for a Phase I and still have their loan rejected); and,
- making a loan available where it might not be approved in the absence of the SL protections for the lender.

From the community's perspective, on the one hand, proceeding with a redevelopment project without adequate information about contamination poses a potential risk to human health and the environment because the pollution may not be discovered or addressed. On the other hand, because the SL insurance may pay for site cleanup, a property is less likely to be abandoned and left as a health threat and economic drain in the event that a borrower defaults due to unexpected problems with on-site pollutants.

Thus, the least risky approach for all involved is to conduct a Phase I (and further assessments if required), obtain a SL policy for the lender, and a PL policy for the borrower. This course of action does not displease insurers; carriers who write SL policies now are offering PL coverages for borrowers at reduced rates. However, the three-pronged approach may reduce the lender's competitiveness in relation to lenders who do not require SL protections. Moreover, while it may make more brownfields capital available, it does so by raising the cost of capital. The extent to which the added cost of the policies poses a barrier to brownfield reclamations is not known.

Ultimately, as is the case with other forms of brownfields insurance, purchase of SL coverages may be a condition that has to be met to permit a brownfield project to proceed. Excerpts from the focus group discussions on SL policies follow below. The debate begins with a query by Insurer55 and presents responses to the question.

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[15] For a sense of the costs, see Chapter 6, Section 6.1 on the Massachusetts program.

Discussion Excerpts

Insurer55: All lenders that have suffered through foreclosing on their real estate collateral know that contamination problems are like leprosy. Nobody wants it. What is the reason that lenders are unwilling to buy this insurance and protect themselves where they are most vulnerable?

Broker222: The common excuse banks give for not buying SL coverages are, 'it will raise my costs versus the bank down the street.' This simply is not true. If my bank chooses to purchase a portfolio SL program, I know my cost per loan type and amount. This is almost always less than the cost of a Phase I audit. So, my bank will charge the borrower, say $750, and will NOT require the borrower to go get and fund a Phase I audit. This, versus the bank down the street who requires the borrower to pay $1,500 - $2,000 for a Phase I. Then the borrower still runs the risk that the bank won't make the loan.

It gets better. Because my bank has a SL portfolio program, I have the borrower fill out a page and a half application, submit it to the underwriter, then get approval in one to two days. The bank down the street has to (a) wait two to four weeks for the Phase I, (b) at higher cost to the borrower, with no certainty the lender will make the loan, (c) conduct credit underwriting which may be all for naught if the Phase I comes back bad, and (d) has to have internal resources to review the Phase I and determine whether to go forward. Trust me, my direct costs are lower to the borrower and my indirect costs (internal resource review/staffing) are lower, too.

The *coup de gras*? When my borrower defaults and I discover a pollution condition, I turn to my SL carrier, then they pay me the principal loan balance, plus accrued unpaid interest (if my broker was sharp and manuscripted that in). The bank down the street? When their borrower defaults, they get mad at the consultant (who likely was not negligent because he conducted the audit to the ASTM 1527 standard – using 'Best Practices' in the industry establishes no negligence), then have to decide whether it's worth it to foreclose on contaminated property, risk environmental liability as an owner (even in workout, a lender could be held liable under CERCLA if they do/don't do certain things), hope they can cleanup the problem and recoup their collateral if diminution in value hasn't destroyed it, or walk away from the loan.

Attorney999: The problem I have with the way the SL policies are being marketed is that they are trying to convince borrowers who may be owners or operators of property to forgo due diligence in lieu of an insurance policy. In most cases, I would say this would be a foolhardy decision by the borrower. The carriers simply do not do enough investigation to satisfy the risks posed to the borrower if there is a problem with the site. So, if a borrower is going to do a Phase I site assessment, the bank's request for an SL policy becomes an added cost that another bank may not require.

Analyst900: One lender told me that her bank prefers that the borrower purchase insurance for contamination problems. In this case, the bank is protected and the borrower is protected as

well. In other words, she felt that the bank was being more responsible to their customers by urging them to buy insurance.

Broker222: For the banker who said that they were being more responsible by requiring the borrower to buy the insurance, I offer the following:

(a) You (bank) are an additional insured on borrower's policy. This makes you 'low man on the totem pole' in terms of who gets to use up policy limits.

(b) The borrower's policy would require the bank to foreclose on the site to get onsite cleanup cost coverage benefits. If the borrower defaults, you can foreclose and get coverage for cleanup, but you're still in the web of potential CERCLA liability.

(c) Isn't it better to have your own protection that allows you to just recoup your principal and unpaid interest as of the default date and walk away? Isn't there an opportunity cost to messing around with foreclosure, workout, cleanup, re-marketing, etc.?

Make no mistake – SL is for the lender's interest only. However, most carriers who write SL are now offering PL coverage for the borrower at much reduced rates to be made available to the borrower at closing. THAT'S how you look out for your borrower's interests and still protect your own.

Broker33: An impediment to getting lenders to buy this coverage is that many lenders try the product on a one-off basis rather than a portfolio basis and when they see what they perceive as the high cost, they back off.

Attorney3: I have seen these policies used by lenders on a portfolio basis. I recently was involved in a transaction involving contaminated property that was subject to a fixed price remediation agreement from an environmental contractor. There was to be a significant remediation, in excess of one million dollars. The only way the lender would do the deal was with SL coverage. I thought the insurer was going to charge a premium in the area of $40,000+. Much to my surprise, the insurer added the property to the lender's portfolio policy for what I considered to be a minimal amount of money considering the transaction. I am home and do not have the precise number, but I know it was less than $4,000. I think that in the right circumstance, the SL policy can make a loan on a brownfields property happen.

LocalEnv9: This helps me see a picture I had missed. Secured Lender insurance did not seem relevant to my work very much. Now I wonder – If you are going to discuss the relative cost-effectiveness of doing or not doing Phase I's, you can't realistically leave out a huge potential cost no one has yet mentioned: community response. I can easily see a situation in which a community, figuring out that the redevelopment of a site has begun with no environmental work, will raise hell with regulators and in the courts, causing lots of lost time to the developer even if he wins all the arguments. That could add up to real money. Where's the cost allowance for that in these calculations about why to buy the Secured Lender coverage?

(I should, perhaps, add: where's the protection for the community who'll have to live with the new project and remaining pollution that has been ignored?)

Attorney999: Borrowers may also purchase their own insurance policy. In some instances, if a borrower purchases its insurance policy from the same insurance company its lender utilizes, there will be a savings in premiums by having the policies underwritten at the same time by the same company.

Broker222: Phase I's do nothing to eliminate risk – they just give you some information on which to judge risk. As far as the borrower is concerned, due diligence won't pay for cleanup or third party liability. It's only information, and only a snap shot in time, at that. For the borrower, it is becoming more common for the underwriters to offer Pollution Liability quotes for borrower's coverage in conjunction with the approval notice back to the bank after review of the borrower's application. This PL gives the borrower something due diligence data cannot: RISK TRANSFER.

Attorney999: Broker222 seems to minimize the need for information. It is true that a Phase I site assessment does not eliminate risk, but it can provide crucial information that an insurance policy cannot supply to help the parties allocate the risk in a way that makes sense. Insurance might be one of those tools. However, I would strongly caution against substituting insurance for due diligence.

Broker222: As I would strongly recommend against relying exclusively on due diligence, either to the borrower or lender. What recourse do you have if a consultant performed a Phase I, which found no 'recognized environmental conditions' in complete accordance with the ASTM standard?

Attorney3: I agree that SL coverage is not an appropriate substitute for a buyer's due diligence. In the first instance, this policy does not protect the buyer, it only protects the lender. In the second instance, the buyer will be foregoing an innocent purchaser defense, if one exists. The place that I do see this making sense for a borrower is on a refinance. However, I have seen these policies used in addition to Phase I and other investigations where you are dealing with a lender that is making a loan on contaminated properties. Under the right circumstance, this is the only way to make a deal happen.

Appendix B
Paying Claims

A frequently asked question – and one for which there is not a good answer – is, *do the environmental insurance companies pay claims*? This appendix provides a brief background on concerns about claim payments and summarizes the difficulties in answering this question. This is followed by excerpts from a tape-recorded meeting about brownfields insurance attended by professionals in various roles.

Background

Understanding the reasons for the concerns that some people have about environmental claims being paid requires a brief history of the environmental insurance industry.[16] Before the seventies, references to environmental risks were absent in Commercial General Liability (CGL) policies – there were no pollution exclusions. In 1973, insurers began to exclude pollution events unless they were 'sudden and accidental' rather than 'gradual.' In 1977, carriers began offering coverages for gradual pollution releases in policies known as Environmental Impairment Liability (EIL) insurance. However, by the mid-eighties, with the exception of one carrier, this market had collapsed due to environmental claim losses the carriers incurred and an overall tightening of the insurance market. By 1986, an 'absolute pollution exclusion' was incorporated into general liability policies that excluded both sudden and gradual contaminant releases.

During this time, there were many claims disputes between insured parties and insurance carriers. While insurers fought against having to pay the environmental claims, many courts held them responsible for payments. These disputes still continue today since the older policies were written on an 'occurrence' basis, i.e., claims can be made against the policies for pollution events that occurred when the policies were in force, even if they are filed decades later. Currently, there are legal firms that specialize in work referred to as 'insurance archeology' that involves filing claims and pursuing funds from the old policies, usually on a contingent fee basis.

Unlike these old policies, the insurance policies discussed in this report are specifically designed to address environmental risks. However, a stigma with respect to paying environmental claims still lingers.

An additional and quite valid source of concern for insureds is that no reliable data are available on insurers' claim payment behaviors (e.g., claims paid or litigated and the timeliness of payments). No insurers are required to report these behaviors to state regulators. Each state department of insurance

[16] For histories of the environmental insurance industry, see Anderson (1998) and Neuman (1999).

maintains a record of consumer complaints that may have a variety of grounds ranging from being discourteous to failing to pay what the insured feels is a legitimate claim. They are not useful, however, because they are not systematically collected. Thus, just as insureds cannot research the claim payment behavior of their homeowners insurance providers, government representatives cannot assess the behavior of brownfield insurance providers. Moreover, there is little case law from which to draw conclusions (Waeger 2002). This is due to the newness of the policies (and, according to some insurers, to the fact that they do not tend to dispute claims).

One final note regarding claims on brownfield insurance policies: as the reader knows, many policies are manuscripted as the result of negotiations between the insured and the insurer. While this renders them more useful to the insured, it also may have legal consequences if a claim is filed. That is, in a claim dispute, the courts generally hold that any ambiguity in policy language must be decided upon in the insured's favor. However, if the insured party has participated in writing a policy, it may be possible that it will lose the benefit of this tendency of the courts to blame the insurer if the language is ambiguous.

The remainder of this appendix presents excerpts from a discussion of payments on environmental insurance policy claims. The professionals involved – an attorney, a consultant, an analyst and an insurer, all with years of experience with brownfields insurance – address the issue of data availability and provide advice on steps an insured can take to avoid a claim dispute.

Discussion Excerpts

> *Consult081*: Absolutely, there have been claims paid. CGL policies were written for a different purpose. The policies now say they cover environmental claims, not that they exclude it. Frankly, our experience has been very good with the environmental marketplace. They've responded promptly to claims and they've paid their claims. And, they've paid some that I believe they justifiably could have denied. But they went out of their way to prove that there was value in this insurance. They've paid thousands of claims and very few of those have gone to litigation.

> *Analyst99*: Let me just offer this piece of information. Several years ago, we wrote an article on the new environmental insurance coverages. We were supposed to write a second part to it on the claims experience with the new policies. We haven't written it yet, not because we don't have someone willing to write it, but because we haven't had anything to write. There has not been public disclosure and there isn't an insurance regulation that says the companies are mandated to disclose. Some carriers have been very willing to share information, but there hasn't been voluntary disclosure of claims payment information on a meaningful basis from other carriers. Suffice it to say there's a dearth of information out there on the actual claims payment history of individual carriers. I will echo the comments, though, that we have seen some very favorable experiences when we have presented a claim.

Insurer057: Let me just say that we do pay claims and we've paid significantly. We haven't been willing to share total aggregate numbers for the obvious reasons. Certainly, we're not going to expose our balance sheets to each other. But we readily share individual loss scenarios and it's your right to ask for that. Ask if you can speak with an insured the carrier has paid a claim to and find out what the other insured's experience has been. We've done that on a number of large deals. For the most part, I think there has been good experience with these insurance products. And, as we're getting clearer on the language, it's helping both the customer and the insurer in the claims handling process. The language is becoming more sophisticated so there are less unknowns.

Analyst99: Most of the information that I've gotten is anecdotal. We really don't have any significant body of case law under the new policies. Maybe we've got one or two cases that have been actually litigated to the point where everything is a clear decision. So, we're still operating in a black hole. Make no mistake about it. We're relying on statements and promises and anecdotes and the time frame is still relatively short to determine whether or not the promises will continue to be honored.

Attorney054: We just settled a $1 million case on a leaking underground storage tank policy, but it was a very long, drawn out process. Before they issued the policy, the carrier wanted to know the condition of the property around the underground tanks. So, for whatever reason, the insured did not disclose a couple of yards of contaminated soil that was removed. Then they had a leak in a tank and we went to the carrier to pay. The carrier conducted an investigation and they had very good investigators. They went to the corporate environmental officials and discovered that, prior to the policy having been issued but after the application had been filed, there was an environmental problem at the site that was cleaned up and the state agency had issued a No Further Action letter. But, it was never disclosed to the carrier and the carrier said 'no thank you.' It ended up in litigation and we just settled it. Had we disclosed the problem, the carrier would have covered the leaking tank.

One thing you've got to do is make sure that everybody gets a copy of the policy – the owner of the company, the risk manager, the accountant, and the insurance broker who may not have been involved in getting the environmental insurance because it wasn't their area of expertise. They all should have a copy of the policy and know what's in it. It's not like an automobile policy where, in the event of an accident, you file a claim and the adjuster appears and you get payed. There's a lot of detailed information and the insured may have different reporting requirements after the policy gets issued. It may entail filing quarterly reports, filing annual reports, or notifying the insurer of different pollution instances.

Some of the policies say the insurer wants to know about anything that can potentially lead to a claim. So, the insured has to be aware that if they have a problem at the site, clean it up, and nobody has made a claim, they still have to notify the carrier that something happened that could lead to a claim. But most insureds are very much afraid of doing that. They don't want to tell the carrier anything. Well, while insurers can be your adversary at times, they also are your

partner in managing risks and it behooves you to notify them. Chances are, the notice is going to go into the file and nothing is going to happen. But maybe two years from now, a third party may make a claim against the insured. If you haven't told the carrier about the problem, they're not going to pay. If you told them about it, they probably will defend the lawsuit.

Appendix C
A Plan for Municipal Captives to Serve Small Brownfields

Despite the difficulties discussed in the text narrative in Chapter 5, captives have proven to be favorable options when coverages needed for business or other operations were unavailable or too expensive. There is thus reason to hope that the tool may help address one specific known gap in brownfields coverages: the availability of CC coverages for smaller brownfields with relatively inexpensive cleanups.

It is conceivable that captives utilizing a FR approach could be developed to address these sorts of cleanups. For the last few years, a consultant experienced with brownfields insurance and real estate development has held discussions with insurers and municipal representatives to plan such captives. His vision is still in the development phase. It is offered here as an example of how the problematic elements of captives might be addressed by local authorities committed to regeneration of their scattered small brownfields.

The proposal consists of creating captives on a city-by-city basis. Each captive would be owned by and, in turn, insure, a local nonprofit brownfields corporation. A FR program would be used to cap the cost of cleanup on the corporation's properties. (Note that this approach presumes that the corporation will hold title to the sites – and that raises the issue of how the properties are acquired by the local governments and title then conveyed to the arms-length institution.) Reinsurance for each captive and a PL policy to protect it would be purchased from a commercial carrier.

Sites targeted would consist of brownfields with a variety of contamination issues that have either marginal value or are 'upside down,' i.e., properties where the costs of remediation and site preparation work are considered to be higher than the property's expected sale price as clean:

> *Consult99*: We would get the upside down properties, which is probably 80% of the brownfields problem. It's the small sites that are out there, not the large sites, and we've focused our energy on how to address those small sites. And the only way you're going to address them is if you look at it from a big picture perspective and then focus on the minutia.

The consultant envisions the municipalities selling tax delinquent sites to the nonprofit for a dollar. In this conception, the government entities would have to be willing to exercise the right to acquire the properties beforehand, something many have been disinclined to do in light of CERCLA liability prior to the passage of the 2001 Act. Another possible source for acquisition of a sufficient number of properties to reach the critical mass needed may be firms that speculate on property value turnarounds by buying the tax liens on delinquent properties from local taxing authorities. Consult99 noted that there is a city in which one such company owns the delinquent tax obligations on approximately 450 sites, an adequate number to permit the FR captive pool to be created.

The funds needed for the self-insured retention, purchase of tax liens, and site remediation could be capitalized from a combination of sources including (a) tax increment financing based on a future income streams that create tax revenues, (b) state and local funding programs that pay for assessment and remediation of properties, and (c) syndication of brownfields tax incentive benefits and other incentives that exist within a state. The federal brownfields tax incentive allows a taxpayer to treat expenses for site assessment and remediation as a deductible expense in the year it is incurred, rather than charging the expense to a capital account. According to Consult99, syndication of credits, or the sale of prospective tax benefits on the market, is an overlooked source of capital for brownfields:

> *Consult99*: The brownfields incentives are worth theoretically thirty cents on the dollar and have a syndication value of about twenty cents on the dollar. So, if you start to quantify what that remediation expense would be, you've created a value that would fit with the nonprofit that would own the land.

Since the individual municipalities and their nonprofit corporations could not all be expected to acquire the needed expertise to manage a captive and its insurance program, Consult99's vision would require a critical mass of captives to function over the long term. He suggests that this information/capacity constraint at the local level can be addressed through reliance on a single management company for the captives. That firm could be issued sub-contracts by the municipalities to manage their individual captives in order to both fund and assure the needed administrative expertise and organizational capacity at the local level.

The FR program envisioned utilizes the Model 1 approach, summarized in Chapter 2, that relies on the generation of investment income. The key to utilizing such a program is that the cleanup must be long-term and costly. This is not likely to be the case on any one small brownfield, so, under the proposed captive, less expensive cleanups with shorter cleanup periods would be pooled to extend the dollar amount and time period needed to permit use of a FR approach:

> *Consult99*: What we would do is phase in the cleanup of the different properties. If we've got fifty gas stations that are ready, we're not going to do them all at once. We'll do five a year for the next ten years or five years, or whatever the case is going to be. Then I have that time horizon and therefore can forecast what the claims history looks like.

'Protected cells' could be created within the captive for brownfields that have similar risk exposures and require common remediation approaches. Creating a protected cell involves dedicating reserves to a particular type of risk, so that losses from other cells do not undermine the reserves available. This categorization and isolation should facilitate the estimation of the aggregate cleanup cost for all properties in a cell. (The resources that may remain for the more complex small brownfields that have little in common with others and do not logically fall in protected cells remains an open question.)

After remediation, the nonprofit would maintain ownership of the properties and would sell the development rights on the sites. Future users would be tenants who would have a long-term land lease (e.g., 99 years). The rationale for this arrangement pertains to institutional controls. Each future tenant would be notified of land use restrictions. Contracts permitting subletting would include the proviso that a party signing a sub-lease be notified about the land use restrictions. This approach addresses the problem of notification over time: there is no mechanism to enforce a requirement that a landowner inform a tenant of land use restrictions unless, that is, a state passes legislation to address the problem. In the absence of a state-imposed legal requirement, retaining ownership control may be the only way to assure that all future occupants are informed.

Earnings from the captive would be used to repay investors and to reinvest in additional undesirable brownfields. Cash flow from the operation would come from the interest earned on the funds deposited for the net present value of the cleanups and from the rentals based on the increased value of the properties.

The key to making this plan work is taking a community approach and addressing multiple properties within an area:

> Consult99: When you start to strip away some of the perceptions that exist with brownfields, you create value at every step of the way. As you quantify what the risk is, you now present the investment and development community with the opportunity to come to the table and start investing in properties and, more specifically, in communities. Then we'll master plan that area. And that will create value with those properties because now the development community can get an idea of what they can do. It has to be an area approach. If you have one single family house in the middle of a community, no investors want to stick their neck out. But if you've got fifty of them, now you've got a critical mass that's going to justify somebody coming in and doing something. Plus, you have the state saying, 'by the way, these are the different types of financing tools that we'll make available for people who develop in this area.' You now have what you need in order to stimulate the activity in that particular community.

The logic used by Consult99 involves looking beyond individual sites to whole neighborhoods and recognizing that brownfields redevelopment generates positive property value impacts both on- and off-site. Redevelopment of a group of properties in an area, not just individual sites, presents opportunities for far greater investment returns through the effects of transforming the local area property market (Meyer 2001).

Appendix D
A Trust for Safeguarding Engineering and Institutional Controls

Concerns on the part of community-based organizations and state and local environmental agencies in the US have intensified over the long-term stewardship of contaminants at sites where risk-based cleanups have been conducted. At these sites, contamination is left in place and contained by engineering controls (ECs) or physical measures such as fences and containment caps. Institutional controls (ICs) or legal mechanisms are then established to ensure that future activities at the site do not violate the ECs (e.g., restrictions on excavating in certain areas or altering caps placed under topsoil). The ICs include a variety of private and public measures such as covenants, deed restrictions, and zoning ordinances. At present, there are no reliable institutions that can monitor the condition of the ECs or inform future site occupants about the limits on their uses of the land.

The concerns about ECs and ICs are warranted and likely will grow. The transformation of the definition of the brownfields issue from a purely environmental one to a matter involving economic development considerations has resulted in the rejection of the 'dig and haul,' approach used through the eighties because of the expense involved with the removal remedy. However, both treatment *in situ* and the containment of contaminants pose new forms of uncertainties at the same time as they enhance the economic feasibility of redeveloping brownfield sites.

Currently, environmental protection agencies are developing improved stewardship functions and, as described in Chapter 2, one insurer has created a new product intended to minimize the risks associated with control failures. In addition, several organizations that take the form of perpetual trusts are under examination and development. One of these, created by a focus group participant, has received preliminary review and pilot testing in one state. The basic functions and issues surrounding this Trust are presented here.

The Trust is intended to limit the possibility of control failures through a series of protective actions noted below. Responsibilities to perform these actions would be specified in an agreement between the Trust and each remediator or other responsible party arranging for stewardship by the Trust, and would be in compliance with the remedy at a site approved by regulatory authorities. The services would be offered either as an integrated comprehensive package or on an individual service basis. They include the following:

- Periodically inspecting sites and monitoring ECs to assure they remain intact and functional.

- Developing a database, available to the public, that contains information about both ECs and ICs in place on individual mitigated sites.

- Regularly reviewing land records such as building permits and applications for zoning changes or variances to assure the ICs continue to limit inappropriate land uses.

- Monitoring all impending title transfers (and, ideally, new leases) involving the covered properties, to assure that new owners and/or occupants are aware of the controls governing their actions on the sites.

- Providing continuing outreach to local zoning and planning officials to reinforce the importance of respecting existing ICs in their land use decisions.

- Reporting regularly to all stakeholders on the status of existing ICs and ECs, and issuing immediate 'first alert' notice in instances of the breach and/or failure of existing ICs and ECs.

- Enforcing agreed-upon standards through actions taken to compel current property owners or occupants to (a) comply with ICs on their uses of the land, and/or (b) conduct remediations required as a result of damage to ECs they may have caused through their actions or permitted through neglect.

- Depending on the contractual arrangement, assuming financial responsibility for costs related to the maintenance of ICs and ECs and additional remediations related to breaches of the controls.

To fulfill these obligations, the Trust would require initial capitalization in order to assure a stable and predictable flow of funds over a time. Parties engaging in risk-based mitigations that are to be protected under the Trust would provide funds sufficient to satisfy the future oversight responsibilities being transferred, based upon the evaluation of the costs associated with the long-term maintenance of controls at a site. The fee for services could consist of a one-time front-end payment or could be paid annually. Additional payments would be sought from state and federal governments who are responsible for 'orphan' properties under their control. The Trust may purchase specialized insurance policies from a commercial insurer to manage its business risks including environmental liability exposures and possible cost overruns in the event that remediations are needed due to EC breaches.

Property rights, in the form of easements, covenants and servitudes, also would have to be granted so that personnel would have access to the sites to carry out Trust functions. These legal conditions under which such rights might be ceded to the Trust in all deeds and leases vary from state to state and would need to be carefully investigated. The Trust would need to obtain access to all lease and tenancy arrangements, and the power to communicate directly with any prospective site occupants in order to inform them of the use limits under which they must operate. Moreover, in the case of possible failures of ECs that might involve pollutants capable of migrating through soil and water, access rights might have to be extended to properties other than those directly covered by the Trust and involve owners who were not party to any agreement providing a grant of access. Both of

these latter access issues pose legal challenges since they potentially can conflict with owners' and tenants' rights to privacy.

Thus, it is likely that new legislation would need to be passed in each state to assure that the Trust has the rights of access necessary for it to function as intended. The issue of legislation – and that of intrusion on privacy rights – raises the matter of the legal form of the entity itself, since different artificial 'persons' such as trusts, corporations, and limited liability companies themselves have different rights and powers. Those rights and powers may be different depending on the non-profit or for-profit status of the entity. A determination will need to be made with respect to forming the Trust as a 501(c)(3) non-profit entity. This decision entails a number of important considerations including tax advantages for both the Trust and Trust clients, ability to qualify for tax exempt status, and the impact on the Trust of reporting requirements associated with that status.

A significant advantage of the Trust model over some form of public sector stewardship entity or pool of funds is its ability to insulate funding and protect it from the political process. Funds collected by states and the federal government cannot be protected from the exigencies of budgetary crises. If these funds are held in a private Trust, however, their availability for their intended purposes can be assured.

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