

Environmental Insurance Products

Available for

Brownfields Redevelopment, 1999

Northern Kentucky University
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Preface and Acknowledgments

Reclamation of the large number of potentially contaminated sites in the United States has long been a concern of the Environmental Protection Agency (EPA). The Agency has gone well beyond regulatory functions to engage in pro-active efforts to encourage site mitigation and reuse efforts. The Outreach and Special Projects Staff (OSPS) of EPA's Office of Solid Waste and Emergency Response has played a leading role in promoting the redevelopment of what have come to be known as "brownfield" sites. The Staff has provided critical information to brownfields stakeholders -- property owners, redevelopers, potentially responsible parties, community organizations, financiers, and others. Central to their activities have been efforts to assist with risk minimization and reduction of the uncertainties associated with brownfields.

As part of the support to stakeholders, EPA published *Potential Insurance Products for Brownfields Cleanup and Redevelopment* in June 1996. Compared to the products available in 1999, the environmental insurance industry was just beginning to develop at that time, but OSPS recognized the importance of this emerging tool for risk management. This report is an extension of that earlier work.

In the last few years, the insurance industry has evolved rapidly and continues to do so today. A snapshot taken at one point in time will quickly become obsolete as new products and services develop, new insurance providers and brokers enter the market, and the mix of purchasers changes as governmental and quasi-public agencies become more active users of the insurance coverages. The findings reported here are a reflection of the status of the market as of 1999. We offer comments on the strengths and weaknesses of the market as we have found it, but these conclusions cannot predict the nature and directions of the changes that are unfolding. Future reviews of the state of the industry will be needed to update the results we present here.

This report is based on responses to detailed questionnaires and interview questions asked of representatives of five insurance carriers and four brokers. We express our appreciation to them here. Without their full cooperation, time, and patience during the various stages involved in preparing this report, the document would not have been possible. The companies whose representatives provided information include the following, listed in alphabetical order:

Insurance Carriers/Representatives

AIG Environmental
ECS, Inc.
Kemper Environmental
United Capitol Insurance Company
Zurich-American Insurance Company

Insurance Brokers

Averbeck Environmental Insurance Brokers
Eric Companies
Marsh Risk Consulting, Environmental Consulting Practice
Willis Environmental Practice

We also owe a major debt of gratitude to Susan Neuman, President of the Environmental Insurance Agency, who was not a respondent, but who volunteered many hours of her time to provide useful comments and suggestions on the second questionnaire and first draft of this report. Finally, we especially want to thank and acknowledge the support of Linda Garczynski, the OSPS Director; Karl Alvarez, our OSPS Project Officer; and Andrew Kreider, our previous Project Officer.

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Cautionary Statement

The legal department of one insurance carrier prepared the following statement and requested that it be inserted into the report. It applies, however, to all companies who provided data for this document.

- ◆ The insurance company makes no representation or warranty as to the accuracy of the coverage evaluations contained herein and this publication should not be relied upon for the purchase of insurance.

- ◆ Many policies have amendments other than those represented here which significantly change the insurance provided.

- ◆ Each claim is evaluated pursuant to the express terms and conditions contained in the policy issued to the insured and in relation to the facts and circumstances surrounding the claim.

- ◆ The insurance company reserves the right to change the terms and conditions of its standard forms and endorsements at any time without notice to any reader of this publication.

1.0

Executive Summary

The development of environmental insurance (EI) in the last four years has reshaped the risk and reward mix associated with redeveloping brownfield properties in the United States. These properties, defined as "abandoned, idled or underutilized industrial and commercial facilities where expansion or redevelopment is complicated by real or perceived contamination," increasingly benefit from new coverages and terms for insurance that facilitate cleanup and reuse. The 1996 Environmental Protection Agency (EPA) publication, *Potential Insurance Products for Brownfields Cleanup and Redevelopment*, provided the first overview of this emerging brownfields tool.

Northern Kentucky University with The E.P. Systems Group, Inc., intended to update that report under a cooperative agreement with EPA. However, the categories of coverage, conditions under which insurance is available, and new flexibility to be found in the EI sector have changed to such an extent that direct comparison to the findings of the 1996 study was not possible. The information about the EI industry reported here reflects conditions and patterns of change reported by five insurance carriers and four brokers between late 1998 and mid 1999. Data were collected using written questionnaires and telephone interviews.

Insurance products permit economic risks associated with brownfields to be quantified. This makes investment decision-making easier for developers and other equity investors at the same time as it provides lenders with the certainty that eases investors' access to debt capital. EI offers an alternative to indemnification agreements, the traditional approach used to allocate and minimize liability exposures among parties involved with brownfield transactions. However, insurance must be understood as only one instrument in a risk management strategy that should also take into account indemnification and risk retention.

Although other coverages are available to environmental service industry contractors, three broad categories of coverage are of greatest relevance to brownfield owners and redevelopers:

- ◆ **Cleanup Cost Cap (CCC)** policies protect against cost overruns above the estimated cost of a planned cleanup on a brownfield site that occur because of regulatory requirement changes and/or discovery of contaminants not identified when the cleanup was designed.
- ◆ **Pollution Liability (PL)** policies provide protection for (a) the costs of third party claims for site remediation, property damage, and bodily injury arising from a pollution condition; (b) the costs of remediating pre-existing or newly released contamination on the insured's property

and other expenses related to a pollution problem on the property; and (c) legal defense expenses.

- ◆ ***Secured Creditor (SC)*** policies provide reimbursement to financiers for loan payments in the case that a borrower defaults and compensation to the lender for collateral value loss caused by a pollution condition. Although the policies are designed to protect lenders, they are important from the viewpoint of redevelopers in that they make lenders more willing to provide capital.

While an array of protections is now available, not all policy coverages noted above may be offered to a redeveloper seeking insurance. If a coverage represents too great a risk to an insurer, the provider may decline to offer particular coverages to an applicant or may offer them at an unaffordable price.

Insurance industry representatives report an increased demand for EI in the past few years due to factors including a highly active real estate market and the refinement of EI products. While it is difficult to specify trends in the industry as a whole in the absence of an industry-wide data base, changes in EI noted by individual carriers and brokers reflect the following improvements in the products:

- ◆ ***Increased Policy Dollar Limits.*** Maximum limits have increased considerably. Five years ago, a \$4 million limit on a PL policy was a rarity. Today, policies with limits of \$200 million may be provided by a single carrier.
- ◆ ***Longer Policy Periods.*** The standard policy period used to be only one year. Today, a policy can be written for ten to fifteen years or even longer in some cases.
- ◆ ***More Flexible Coverages.*** Insurers are more willing to tailor their policies to individual business needs by waiving exclusions and adding coverages to address unique features of redevelopment project risks.
- ◆ ***Broader Coverages.*** The scope of policy protections has expanded. For example, CCC policies now cover contaminants that were not noted in a remediation plan. Examples of coverages in PL policies that were not available three to four years ago include onsite remediation coverage for the insured, protection for damages arising from known prior pollution conditions, property value diminution protection for the insured, and coverage for contractual liability and business interruptions due to environmental problems.

- ◆ ***Less Extensive Site Assessment Requirements.*** Insurers today tend to rely on existing site data and rarely charge a separate fee for their own engineering assessments.
- ◆ ***Lower Costs.*** There was a general consensus among respondents that the costs of brownfields insurance have fallen. Some, however, noted that the costs of CCC policies may rise in the future as insurers begin paying more claims and find they have loss ratios that mandate premium increases.

The prices of individual policies vary greatly. Many considerations influence the cost of a policy such as the extent and nature of contamination; the adequacy of the environmental site characterization performed; the intended land use; the maximum dollar limit, time limit, and deductible included in the policy; and other factors based on decisions made by the purchaser. For example, deciding to proceed with a cleanup before obtaining state regulatory agency approval generally results in higher costs for a CCC policy, since the coverage presents a greater risk to the insurer in terms of possible requirements for cleanup beyond the remediation plan.

Despite the overall improvements in the policies noted above, significant problems remain with EI as a tool for brownfields cleanup and redevelopment:

- ◆ ***Although the flexible, highly tailored nature of EI renders the products valuable, it also creates the need for experts to negotiate the policies.*** Redevelopers without extensive EI experience need to acquire the assistance of skilled underwriters, brokers, and/or lawyers to guide them in comprehending and selecting coverage suited to their specific projects.
- ◆ ***Available insurance products, especially CCC policies, generally are not cost-effective for small-scale projects (e.g., dry cleaners, photo developing labs, auto plating shops).*** While such sites constitute the majority of brownfields nationwide, the fixed costs of underwriting still limit the availability of affordable coverage for small brownfields (with cleanups under roughly \$250,000).
- ◆ ***EI coverages do not adequately serve the needs of public entities that own brownfields and/or seek to facilitate the redevelopment of privately owned sites.*** The development of portfolio policies, arrangement of bulk purchases of EI, and/or creation of governmental self-insured pools that provide environmental coverages could reduce the cost of insurance and prove valuable, especially for redevelopment of smaller sites. Insurance representatives identified barriers to developing products useful to governments, highlighting (a) the lack of public officials' knowledge of insurance products; (b) the absence of interest in insurance due to governmental self-insurance and special liability protections available to governments; and

(c) insurance representative frustrations stemming from dealing with multiple departments and coping with sluggish decision-making processes. While respondents indicated a preference for dealing with private parties, all indicated that it is feasible to develop insurance programs that could serve public needs. A number of options exist for public sector involvement with EI programs that need to be explored.

In summary, the environmental insurance market is maturing and the value of its products for brownfield redevelopment efforts is expanding. Brownfield developers with large projects appear to be increasingly well-served. However, small developers and the many public redevelopment programs trying to regenerate abandoned and underutilized sites still require help in identifying and acquiring the most useful and cost-effective insurance products.

2.0

Introduction and Methodology

In the last decade, a great deal of attention has turned to the redevelopment of brownfield sites, defined by the EPA as "abandoned, idled or underutilized industrial and commercial facilities where expansion or redevelopment is complicated by real or perceived contamination." The sites not only pose a threat to public health and the environment; failure to put them to productive use deprives cities and towns of tax revenues and employment opportunities that are desperately needed.

In 1995, EPA launched its "Brownfields Economic Redevelopment Initiative," a program based on the premise that cleaning contaminated properties must go hand-in-hand with bringing economic vitality back to communities. The Initiative involves a number of measures to encourage revitalization efforts. Most notably, the Agency has implemented federal tax incentives for cleanup; built partnerships with other government bodies and the private sector to find ways to facilitate redevelopments; clarified many liability issues surrounding brownfields; and funded some 375 brownfield projects including site assessment pilots, cleanup and revolving loan pilots, and job training pilots.

These and other federal efforts have corresponded with and encouraged state and local attention on innovative ways to assist brownfields regeneration. Over forty states now have Voluntary Cleanup Programs (VCPs) involving cooperative arrangements between property owners and state environmental agencies to prepare sites for reuse. In addition, financing tools have become available in many cities and states, including grants for site assessment and cleanup, tax credits and abatements, and low-interest loan programs targeted specifically to brownfields.

As public officials have accelerated their efforts to promote reuse projects, developers increasingly have come to appreciate the opportunities for profits the properties offer because the sites can often be purchased at discounted prices and have the benefits of established infrastructures, advantageous locations, and a trainable workforce. In fact, a number of private companies have been formed for the sole purpose of brownfields investment and have generated returns on investment that have attracted venture capitalists.

These companies, perhaps more than any other entities, have come to rely on the risk management tool that is the focus of this report -- insurance geared specifically to brownfields. They have driven the development of the insurance industry in many ways, through the different types of environmental project liability risks to which they introduced the insurers as they searched for coverage and risk reduction.

In the last five years, EI policies have evolved rapidly and now better serve the needs of redevelopers. The rate of change has been extremely high. Despite these changes -- or perhaps because of the very speed of change -- many private and public actors hold beliefs concerning the products that they formed several years ago, i.e., that the policies are too expensive, require excessive site assessments, and do not provide necessary protections.

The purpose of this study is to bring brownfield stakeholders up to date on the types of insurance now available and the potential value of the coverages for redevelopment efforts. It is not an in-depth technical analysis of the insurance industry and the workings of the EI marketplace; the intention is to provide information and discuss distinctions that are critically necessary for those working to revitalize brownfields. Without a grasp of some of the details discussed here, potential insurance purchasers will fail to understand the coverage options available and are thus not likely to gain the economic benefits that they could from their insurance purchases.

The focus is on insurance products appropriate for purchase by public and private stakeholders involved in brownfield real estate transactions and redevelopments. Other insurance products designed for contractors such as lawyers, site assessors, brownfield remediation firms, and general contractors are not discussed in any depth.

The research for this report was conducted by Northern Kentucky University with The E.P. Systems Group, Inc., under a cooperative agreement with EPA. The report was intended to update a 1996 EPA publication, *Potential Insurance Products for Brownfields Cleanup and Redevelopment*. However, the new coverages and flexibility in the EI sector are such that direct comparison to the patterns described in the 1996 study was not possible. This non-comparability can be interpreted as a measure of the extent to which the EI market has rapidly matured.

Data collection involved several steps. In the winter of 1998, a preliminary questionnaire was distributed to representatives of eight insurance industry companies. Telephone interviews with these individuals were then conducted to obtain more detailed information about their EI products. In the spring of 1999, a second questionnaire based on the interviews was sent to representatives of nine companies and additional follow-up telephone calls were made to clarify their responses. A draft version of the tables on which this report is based was then sent to respondents to check for accuracy. Finally, a draft of the report itself was distributed to respondents for their comments on data analysis and interpretation of findings. For the most part, the tables presented and discussed are taken from the second questionnaire; analysis is supplemented with interview data.

The identities of the participating companies have been cloaked in the tables to allow respondents greater freedom to provide proprietary information. When reading the report, it is

important to keep in mind that companies listed as **A, B, C, D, E** are the country's major brownfields insurance *carriers or agents representing carriers* while companies **F, G, H, I** are insurance *brokers*. The difference here is that a carrier (sometimes referred to as a provider) is an insurance company that offers insurance products in the sense that it actually "carries" or assumes the financial risk associated with the insurance coverage. A broker works with a client desiring insurance, investigates the relevant coverages available from different carriers, and negotiates with carriers to obtain the best coverage for the client.

This report is organized to guide a brownfields stakeholder interested in examining the potential value of EI, but insurance is only one element in the risk management process. Chapter 3.0 thus reviews the special risks associated with brownfield projects and discusses various ways they may be addressed. It begins with a review of the risks, moves through a brief description of legislative and regulatory responses to them, and then turns to the role of insurance relative to indemnification for potential losses. Chapter 4.0 provides detailed descriptions of the three major classes of insurance relevant to brownfield redevelopers -- Cleanup Cost Cap, Pollution Liability, and Secured Creditor coverages. Finally, Chapter 5.0 examines changes in the EI marketplace and in the products available. Selected limitations of EI are discussed relative to the insurance needs of small-scale projects and government involvement with insurance for brownfield sites. The report closes with notes on the complexities of the EI market and the need for specialized knowledge for efficient and effective insurance purchases.

3.0

The Risks of Brownfields Redevelopment and Risk Management Options

This chapter discusses the legislative and regulatory roots of the financial risks associated with brownfield redevelopments. While there is evidence that non-environmental, market factors often pose the most critical constraints on reuse of previously used and potentially contaminated sites, environmental liabilities can be a serious deterrent (Urban Institute 1998). The focus here is, first, on how liability is defined and has been addressed by federal and state legislation and programs. The relationship between insurance and indemnification is then examined.

3.1 Overview of Brownfields 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 with similar state laws that followed. The Act consists of two basic components, intended to bring about the remediation of existing contamination.¹ First, a fund was established to assure cleanup of National Priority List (NPL) sites or properties that pose the greatest threat to human health and the environment. (Hence, CERCLA is also referred to as "Superfund.") Second, 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 of before the enactment of CERCLA. *Strict liability* means that 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 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 of

¹Note that the terms 'remediation' and 'cleanup' are used interchangeably in this report.

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 potentially responsible parties.

CERCLA does offer liability protection in the "innocent landowner defense." To successfully claim this protection, owners must prove that they (a) bought the property after the pollution was placed on the property; (b) did not know and had no reason to know that the site was contaminated when they bought it; and (c) exercised "due diligence" before purchasing the property, i.e., they conducted all appropriate inquiry that was consistent with "good commercial and customary practice." Environmental site assessments thus have become a standardized component of commercial and industrial real estate transactions as purchasers seek to limit their liability and determine the cost of treating contamination on the property they are buying.

Reluctance to redevelop brownfields has been due not only to the liability fears of property owners, but to those of their financiers as well. Although CERCLA originally contained a secured creditor exemption that provided legal liability protection for entities holding security interests in polluted sites, the courts subsequently weakened the protection, ruling that a lender could lose its liability exemption if it foreclosed and/or had the capacity to influence a borrower's treatment of hazardous waste. Although federal and state environmental agencies rarely pursued lenders for cleanup expenses, private parties sometimes did. Consequently, lenders institutionalized their own due-diligence investigations of properties used to secure loans. In 1996, CERCLA was amended by the Asset Conservation, Lender Liability, and Deposit Insurance Protection Act (or Lender Liability Law). The Act clarified the actions lenders could take to avoid liability as owners if they foreclosed and provided detailed guidance on how they could be involved in a borrower's activities without participating in management. Two primary concerns about loaning on brownfields still remain, however. First, a borrower's ability to repay a loan may be jeopardized if unexpected and expensive cleanup costs should occur. Second, lenders fear that if they do have to foreclose, environmental problems might lower the value of their collateral.

Environmental risk management has come a long way in the two decades since the passage of CERCLA. The evolution of EI can only be understood and appreciated within the context of other types of efforts to manage the risks and uncertainties associated with brownfield redevelopment efforts. The remainder of this section examines three critical developments in recent years. First, the types of environmental site assessments as they have come to be standardized are reviewed. Accepted norms for these assessments have emerged from attempts to specify the level of site investigations required by the environmental due-diligence requirements of various laws and

regulations. Next, the federal government policies and practices that offer liability protection for brownfield stakeholders are briefly discussed. The section closes with discussion of the types of state-level policies and programs that may provide liability relief. Without an understanding of these public sector developments, a potential insurance purchaser may over-buy or fail to acquire coverage for risks not now relieved by modifications in public laws or enforcement processes.

3.11 Types of Environmental Site Assessments

Environmental engineers, largely in response to the needs of lenders, have developed different types or “phases” of assessments to determine if a site is contaminated and how serious the contamination is, so that remediation plans can be developed. The basic assessments have been standardized by professional associations of engineers such as the American Society for Testing and Materials (ASTM).²

The lowest level of assessment (referred to here as a Less-Than-Phase-I assessment) consists of database searches and transaction screens intended to identify possible contamination problems on properties stemming from current and historical uses of a site and surrounding properties. Sources for the database searches may include inventories of federal EPA NPL sites, state-agency equivalents of NPL inventories, local hazardous materials disposal and landfill facilities maps, and local fire insurance maps indicating that the property or nearby properties have been used for high-risk purposes. Transaction screens are questionnaires completed by property owners and purchasers to investigate previous or current use. Indications that further investigations are needed are triggered by reports of previously conducted remediations, the presence of underground storage tanks, and the operation of an environmentally risky business on the site or on adjacent properties. Risky businesses include a wide variety of enterprises such as landfills, chemical manufacturers, gasoline stations, motor repair shops, dry cleaners, printing shops, photo developing labs, metal working shops, paint stores, and many other operations.

The next level of investigation consists of Phase I assessments. These entail database searches and transaction screens, but also involve more detailed research of records on past uses of a property and a site visit to see if there are any visible problems (which might include distressed vegetation, fifty-gallon drums on site, unidentifiable piping, and the like). Indications of a potential problem prompt a Phase II assessment, which involves taking a series of soil and/or water samples and conducting laboratory analyses of them to establish the presence of contamination. Phase III assessments entail further sampling and analysis to quantify the amount of contaminants and

²ASTM publications may be ordered on the Web at WWW.ASTM.ORG.

determine their spatial patterns so that a remediation plan can be developed. Alternative methods of remediation can then be designed and priced.

3.12 Federal Policies Offering Liability Protection

An important component of EPA's brownfields effort has entailed taking steps to assure prospective purchasers, lenders, and property owners that, under certain conditions, they do not need to be concerned with federal CERCLA liability. In recent years, the Agency has announced a variety of guidances that remove uncertainties associated with brownfield properties. For example, EPA has offered liability protection for owners of properties that have groundwater polluted by runoff from another site, increased its willingness to consider anticipated future land uses in selecting cleanup remedies, expanded the circumstances under which the Agency will enter into "Prospective Purchaser Agreements" protecting new buyers from liability for prior contamination, and indicated willingness to share information the agency has about a specific site and any plans it may have for federal action on the property.³

Some of these policy developments are more relevant to large brownfield projects than they are to small-scale projects. For example, federal Prospective Purchaser Agreements are given sparingly. To be eligible, an EPA action on the property must have been taken or be anticipated and the redevelopment must have substantial benefits including cleanup and other community benefits such as job creation.

Three points are critical to keep in mind. First, a determined federal effort is underway to facilitate brownfields redevelopment. Second, the US EPA does not become involved with most brownfield projects; owners are much more likely to deal with state environmental agencies and laws. Third, the federal guidelines, such as those described above, tend to serve as models for state policies and programs, which are the most relevant to brownfield projects. In fact, the greater flexibility emerging at the federal level has not been merely reflected, but has been expanded in state responses to brownfields.

3.13 State Policies and Programs Offering Liability Protection

³Goode et. al (1999) provide a summary of federal initiatives supporting brownfields.

Liability assurances related to past or current pollution may well be available from individual states.⁴ Three common approaches are described here. The first entails Prospective Purchaser Agreements, also known in some states as Buyer-Seller Agreements, that divide responsibility for contamination on a property. For example, the seller may be responsible for all pollution discovered prior to a sale while the buyer assumes responsibility for any environmental problems that arise or are discovered after the date of the property transfer. In some states, other inducements for state participation are involved, such as eligibility for mitigation loans and grants. In most instances, participants are charged fees for the costs of overseeing agreement preparations and cleanups.

Second, “Covenants Not to Sue” (CNS) provided by a state may be implemented as part of formal agreements involving both buyers and sellers, or may be arranged between one party and the state alone. They offer assurances that, in return for meeting specified standards for cleanup, the state will not sue for further cleanup on the site. Thus, either the seller has a property that has been cleaned and has a CNS, which enhances its property value, or a prospective purchaser may, through negotiation with the state, determine the cleanup needed to attain a CNS and have less uncertainty about expected development costs prior to finalizing a transaction. The requirements for demonstrating a completed cleanup can vary significantly from state to state; they may be linked to intended use and, depending on the extent of cleanup completed, may involve deed notices or restrictions based on contaminants remaining on site.

Finally, a “No Further Action” (NFA) letter indicates that the state regulatory agency determined that no further environmental cleanup was deemed necessary at the time the letter was issued. In terms of liability protection, both a NFA letter and a CNS are limited in that they always include a “re-opener clause” indicating the right of the agency to re-open a cleanup if circumstances at the site change (such as a modification of property use) or if revisions of environmental regulations mandate cleanup levels that are more stringent than those employed in a remediation. The assurances, however, do define the property as a low state-enforcement priority and therefore lessen the likelihood of future government actions at the site.

3.2 Insurance in Relation to Indemnification

EI must be understood as only one method of risk management. A carefully developed risk management strategy takes into account the options of retention of risk, purchase of insurance, and indemnification (Neuman 1999). Indemnification involves a contractual agreement, usually between the seller and buyer of a property. It is a commitment by one party (the indemnitor) to protect the

⁴See Bartsch and Anderson (1998) and ICF Incorporated and The E.P. Systems Group, Inc., (forthcoming, 1999) for summaries and discussions of state brownfield programs.

other (the indemnitee) from cleanup costs and third party claims. Indemnification is the traditional and most common approach taken to minimizing liability exposures and is the legal mechanism used in the buyer-seller agreements that have been instituted by a number of states. Such an agreement, however, may have disadvantages for both parties:

- ◆ The indemnitee may find that the indemnitor does not have the financial resources to fulfill the commitments made.
- ◆ The indemnitee may have to incur the costs of investigating the indemnitor's financial capacities to estimate the ability of the latter to pay for future claims.
- ◆ The indemnitee may have to undergo lengthy and costly litigation to obtain the financial commitments promised -- and the courts ultimately may find in favor of the indemnitor if an agreement is not carefully crafted.
- ◆ Since private and public entities must report contingent environmental liabilities to rating organizations, including indemnified properties, any such agreement could negatively impact the indemnitor's financial statements and credit ratings.
- ◆ In the absence of a liability limitation or cap, the indemnitor may render its organization vulnerable to catastrophic loss; liability losses may exceed the financial worth of an organization and lead to bankruptcy.
- ◆ Neither party is fully covered from liability risk by an agreement; third parties are not bound by buyer-seller agreements, so an injured party may decide to sue both a property seller and buyer regardless of their agreement on division of liability. At a minimum, such a suit would impose legal defense costs on both parties.
- ◆ Because many indemnifications are complex, the time it takes to craft the contracts may jeopardize transactions requiring completion within a limited time frame.

Relative to indemnification, the purchase of an insurance policy has several advantages including the following:

- ◆ Because financially sound insurance carriers are considered more likely to provide payment than many indemnitors, the guarantee is worth more to the indemnitee.
- ◆ Insurance coverage also includes the costs of legal defense fees, whereas many indemnifications do not.

- ◆ Insurance underwriters usually have more knowledge about relevant risk exposures than lawyers who draft indemnification agreements, so more protection may be available for all parties.
- ◆ Purchase of insurance eliminates contingent liability so that an indemnitor's financial statements and credit ratings are not jeopardized.
- ◆ Insurance allows quantification of environmental risks and thus may raise property values. When contamination is known or suspected, the price of a property generally is reduced by the estimated cleanup and liability costs. The more uncertain the costs, the greater the discount taken on the value. By reducing the uncertainty, insurance may raise the selling price of the property by more than the cost of the premium.

This discussion is not meant to demonstrate the unqualified superiority of insurance over indemnification and risk retention approaches to risk management. In many cases, an optimal combination is desirable (e.g., indemnification backed by an insurance policy). There are limits to, and disadvantages of, insurance relative to its alternatives:

- ◆ Coverage may not be attainable; a risk may be judged by a carrier to be too great or uncertain to assume.
- ◆ The insured still runs the risk that an insurance carrier may become insolvent or may contest and refuse to pay what the insured considers to be a legitimate claim.
- ◆ Insurance costs money. The price of insurance must cover the insurer's prospective losses, operating costs, and profits, so insurance may be too expensive relative to the value it adds to a transaction.

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.

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 costs or

lost profit opportunities associated with losing the transaction altogether? The remainder of this report provides information on current insurance coverages available that can help brownfields stakeholders decide when insurance can help move a redevelopment project forward.

4.0

Available Coverages, Policy Limits, and Costs

The utility of EI products for brownfield remediation and redevelopment efforts is determined by the types of insurance coverages available, the policy dollar limits on claims, the policy time limits, the site assessment requirements, and the costs of the policies. This chapter describes these factors for three basic types of products that can be purchased separately and are most relevant to brownfield redevelopers -- Cleanup Cost Cap, Pollution Liability, and Secured Creditor policies.⁵ Other policies designed for environmental service industry contractors that are not as relevant to redevelopers are then briefly discussed.

Due to the diversity of coverages available and rapid change in the insurance industry, several cautionary notes at the outset are necessary. The summary descriptions in the tables on EI products can be highly misleading unless the following considerations are taken into account:

- ◆ Depending on the characteristics of their brownfield projects, certain coverages may not be offered to redevelopers. If a coverage represents too great a risk to an insurer, the provider may decline to offer it to an applicant. For example, insurance protection against third party bodily injury due to contamination is common, but an insurance carrier declined to provide a policy that included this coverage in a situation in which well-water used for drinking had been contaminated because the company felt claims were highly likely.
- ◆ The policies are constantly changing, especially the newer products discussed here -- cleanup cost cap and secured creditor policies. This report provides only a snapshot of the coverages at this particular point in time.
- ◆ Many EI policies are highly tailored, unlike standardized coverages with which most people are familiar (e.g., automobile insurance). Carriers often include “endorsements” that waive exclusions and offer coverages additional to those included in a standard policy. Insurance purchasers are thus able to craft policy provisions suited to their brownfield project needs.

⁵See Committee on Environmental Insurance (1999) for discussion of Cleanup Cost Cap and Pollution Liability policies.

- ◆ The costs of individual policies vary greatly. Premiums for any one type of policy may range from \$10,000 to \$100 million. The ballpark estimates provided here by carriers and brokers only give a sense of the range of costs.
- ◆ Even the ballpark cost estimates are unstable. Rates have fallen in recent years because the market has become more competitive due to the entry of new carriers. Some in the industry predict a rise in costs in the future due to industry consolidation. Also, costs for the newer policies and coverages may rise as claims are paid and carriers find they have loss ratios that mandate premium increases.
- ◆ Throughout the report, definitions of various policy terms are provided. These definitions, however, generalize across the very specific -- and legally binding -- terms that are included in actual insurance policies. Policy definitions may vary among different insurance companies and among EI products offered by the same company. They thus must be examined with great care in the selection and purchase of coverages.
- ◆ Finally, note that the data in the tables that follow exhibit a common pattern. Brokers (respondents F through I) report much more flexibility than carriers (respondents A through E) in their descriptions of types of coverage, maximum dollar coverages, and length of policy terms available. The insurance carriers' answers are more conservative primarily because they do not want to present an overly optimistic picture of what an individual client may be able to purchase, even though, for particular clients and under special conditions, exceptionally high time and dollar limits may be available. The brokers, on the other hand, reported estimates based on policies they had actually negotiated, some of which were highly exceptional. The carriers' answers are thus a better indication of what is generally available.

4.1 Cleanup Cost Cap Policies

The first type of policy, referred to in this report as “Cleanup Cost Cap” (CCC), is also called Cost Overrun or Remediation Stop Loss insurance. As the name suggests, the policy protects against cost overruns above the estimated cost of a planned cleanup at a brownfield site. The premium for the policy is based on a percentage of the estimated cleanup cost. The insurer pays for the excess costs above a self-insured retention (SIR) or “buffer” to be paid by the insured.⁶ Thus, for example,

⁶ The term SIR can be confusing as some carriers and brokers consider the SIR to include the estimated cleanup cost *plus* the buffer paid by the insured. Others limit the meaning to include only the buffer or, in other words, a deductible. The latter definition is used in this report.

on a planned \$2 million remediation with a \$200,000 SIR, the policy “attaches” (starts paying for costs) after \$2.2 million -- the original cost plus the \$200,000 -- has been spent by the insured party.

The coverages generally offered with the policy are presented in Table 1. Respondents were asked to indicate whether the protections were offered as standard coverage, as policy endorsements (exclusion waivers or additional coverages) or were offered with a different policy. In this Table, as in others describing coverages throughout this report, the carriers were asked about the different ways in which coverages were offered by their own company, while the brokers were asked how the coverages were *most often* offered by the various carriers with whom they deal. Recall that the *companies labeled A, B, C, D, and E are insurance carriers; F, G, H, and I are brokers.* (This distinction is denoted by a heavy line in the tables separating the two.)

The Table indicates that a common core of coverages are offered in the policies across the industry. The exception is legal defense costs, and these costs would not normally be incurred by a developer who is simply trying to clean up a site to meet regulatory requirements.

TABLE 1 CLEANUP COST CAP POLICY COVERAGES									
	A	B	C	D	E	F	G	H	I
Due to discovery of higher concentrations/greater spread of contaminants than noted in cleanup plan	V	S	S	S	S	SED	S	S	S
Due to discovery of contaminants that were not noted in the cleanup plan	V	S	S	D	S	SED	ED	SED	SED
Due to regulatory requirement changes	V	S	S	S	S	SED	S	ED	S
Legal defense associated with unanticipated cleanup	V	S	D	D	D	SED	SD	ED	S

Note: Brokers were asked how the coverages are most often offered.

Codes: S Offered as Standard CCC policy coverage X Not currently offered
 E Offered as CCC policy Endorsement V Coverages are highly Variable
 D Offered with Different policy

All carriers indicated that unexpected cleanup costs include those resulting from orders by a regulatory agency and those stemming from discovery of contaminants at concentrations actionable under federal or state laws. The completeness of coverage depends, however, on what is considered to be a “cost” in the CCC policy, and there is disagreement on that across the insurance carriers. Table 2 demonstrates that only one insurer considers both pre-cleanup site assessment costs and post-cleanup monitoring costs to be part of the cleanup; Carriers A, C, and E agree on the meaning of the term with a definition that comes closest to common usage; site assessment costs are presumed to be

completed when applications for insurance are submitted and are thus excluded, but monitoring after remediation is considered part of the cleanup process and is included. Carrier D, however, is exceptional in not covering monitoring expenses that may persist after a cleanup is completed.

TABLE 2 CARRIER MEANINGS OF 'REMEDATION COSTS' IN CLEANUP COST CAP POLICIES				
	Includes Site Assessment Costs		Includes Monitoring Costs	
	No	Yes	No	Yes
A	–			–
B		–		–
C	–			–
D		–	–	
E	–			–

Policy coverages also vary in the dollar amounts available and the length of the coverage period, two dimensions that are critical to determining if CCC can help make a contribution to the financial feasibility of a brownfield project. Variation in individual policies are reflected in the dollar limit ranges presented in Table 3, from a low of \$100,000 to a high of \$1 billion. The latter figure, however, is clearly exceptionally high; while the \$1 billion dollar limit refers to an actually policy sold, in all likelihood, the broker used more than one carrier to underwrite the policy.

TABLE 3 CLEANUP COST CAP POLICY LIMITS						
	Dollar Limits (Aggregate)			Period Limits		
	Minimum	Maximum	Typical	Minimum	Maximum	Typical
A	V	V	V	V	V	V
B	1 M	100 M	40 M	1 year	20 years	10 years
C	1 M	60 M	5 M	None	10 years	2 years
D	1 M	200 M	5 M	1 year	10 years	5 years
E	100 K	50 M	2 M	1 day	5 years	2 years
F	1 M	200 M	50 M	None	V	V
G	1 M	1 B	10 to 20 M	1 year	30 to 50 years	10 years
H	500 K	100 M	5 to 10 M	3 months	30 years	1 to 4 years

I	1 M	20 M	5 M	None	10	3 to 5 years
Codes: K	Thousand		B	Billion		
M	Million		V	Varies too widely to estimate		

Cleanup times, in fact, vary widely depending on the remediation needed. Some projects may permit site utilization and redevelopment while long-term remedies are in progress. Gradual remediation of soil contamination on site, for example, may be more cost-effective than removal of many cubic yards of soil to hazardous waste landfills, but the process takes more time. As one broker explained, projects with long-term mitigation operations or post-mitigation monitoring may require policy terms that may be difficult to obtain from some carriers:

In many cleanups, you remove contaminated soil, but you also install a series of injection and pumping wells to pump material out. And this pump-and-treat process may continue for years. Beyond that, you may have a requirement to do long-term monitoring...And sometimes those are problematic. It may take three years for a cleanup, ten years of pump and treat, and another ten years of monitoring and it's unlikely that you can get a 23 year policy.

One source of variation in the cost of coverage is, of course, the risk accepted by the insurers. Carriers limit their risks by requiring information about site conditions as part of insurance applications. As Table 4 indicates, however, four of the five carriers are willing to provide non-binding quotes for some CCC policies with only limited site condition information and are especially inclined to do so for portfolio policies or policies that insure more than one site.

	Percent of Quotes Given Using Phase II or Less					Percent of Quotes Given Using Only Phase I					More Likely to Quote with Phase II or Less for Portfolio Policies	
	0	Less than 10	10-50	51-90	90+	0	Less than 10	10-50	51-90	90+	Yes	No
A	-					-						-
B					-					-	-	
C				-			-					-
D			-				-				-	
E				-				-			-	
F					-			-				-
G				-				-			-	
H			-				-				-	

I			-				-					-	
---	--	--	---	--	--	--	---	--	--	--	--	---	--

The actual *issuance* of a CCC policy is a different matter. Prior to writing a policy, insurers usually require a remediation plan and cost estimates based on a Phase III site assessment. These assessments provide information on the type and extent of contamination found and thus permit development of alternative cleanup plans. The cost estimate for the agreed-upon remediation approach determines the baseline for the CCC protection. The insured pays for the Phase III assessment on which the CCC policy is based and the thoroughness of the assessment is one factor that determines the cost of the insurance; the more complete the assessment, the lower the likelihood that unanticipated remediation expenses will be encountered, and the lower the cost of the policy.

Developers sometimes assume that all carriers require site assessments that are more extensive than those that would be completed in the absence of EI and that carriers require that additional assessment procedures be performed to confirm those already conducted. While this belief is based on actual practices in the insurance industry several years ago, Table 5 demonstrates that the vast majority of applications for CCC insurance are now accepted simply on the basis of assessments completed in the course of project planning.

<p align="center">TABLE 5 PERCENT OF CASES FOR WHICH CARRIERS REQUIRE REPEATED OR AUGMENTED ASSESSMENTS FOR CLEANUP COST CAP POLICIES</p>					
	0%	Less than 10%	10% to 50%	51% to 90%	More than 90%
A	ID	ID	ID	ID	ID
B	-				
C			-		
D		-			
E		-			
F		-			
G		-			
H		-			
I		-			

Code: ID Insufficient data available to provide percentage

Another important consideration is whether a carrier will approve a remediation plan estimate provided by an environmental engineer or, in addition, will require that a cleanup plan be pre-approved by an environmental agency. Table 6 shows substantial differences across the four carriers providing data on this question. As a rule, coverage for a cleanup that has not been approved by a state agency will tend to be more expensive since it presents a higher risk to the insurer in terms of possible mandates for cleanup beyond the remediation plan. This suggests that developers face a tradeoff between the costs of delaying the mitigation work until state approvals are in hand (which can take several weeks or months, depending on the state) or the higher insurance costs associated with starting work and buying coverage before obtaining final regulatory agency approval.⁷

TABLE 6 PERCENT OF CASES IN WHICH CARRIERS REQUIRE GOVERNMENT APPROVAL OF REMEDIATION PLAN FOR CLEANUP COST CAP POLICIES					
	0%	Less than 10%	10% to 50%	51% to 90%	More than 90%
A	ID	ID	ID	ID	ID
B		–			
C					–
D					–
E		–			
F					–
G				–	
H			–		
I				–	

Code: ID Insufficient data available to provide percentage

The bottom line is the price of CCC policies relative to other project costs. The range of reported costs appears in Table 7. Premiums may be as low as under 1% of the estimated cleanup costs or as high as 25%. SIRs range from 0% to a high of 100% of these estimated costs. The

⁷ In some states, developers who start a cleanup before state approval of the remediation plan may lose eligibility for a No Further Action Letter or Covenant Not to Sue.

“variable” and “no responses” codes in the Table reflect concerns about proprietary information. More importantly, they reflect insistence on emphasizing the variability among individual policies. (This was especially the case with Carrier A.)

TABLE 7 CLEANUP COST CAP POLICY PREMIUMS AND SELF-INSURED RETENTIONS AS A PERCENTAGE OF ESTIMATED CLEANUP COSTS						
	Premiums (%)			Self-Insured Retentions (%)		
	Low	High	Typical	Low	High	Typical
A	V	V	V	V	V	V
B	2	25	5	0	100	10
C	4	10	--	10	30	20
D	3	15	7	5	50	20
E	4	10	--	0	50	10
F	5	25	V	10	25	10
G	--	--	--	--	--	--
H	Less than 1	10	2 to 4	0	15	10
I	3	5	4	5	20	10

Codes: V Varies too widely to estimate
 -- No response

The relative importance of the different factors determining the price of a CCC policy is difficult to determine, as the variables are weighed differently across projects and providers. However, the interviews with company representatives indicate that the following considerations influence the cost of the policies:

- ◆ The ways in which the policy is written including:
 - the dollar and time limits on the policy and the deductible/SIR selected (the higher the SIR, the lower the premium); and,
 - the meaning of a completed remediation under the policy (e.g., if the policy continues until a state agency provides a No Further Action Letter, the cost will be higher as variables such as additional regulatory requirements may come into play).

- ◆ The estimated cleanup costs, which are determined by:

- the extent and nature of the contamination and complexity of the cleanup;
 - the reliability of the cleanup technology employed;
 - the intended future land use (which affects the applicable cleanup standard); and,
 - the duration of the remediation period, including on-going monitoring.
- ◆ The certainty and reliability of pre-application engineering work which involves:
- the adequacy of site characterization and qualifications of the Phase III assessors;
 - the qualifications of the remediation contractors; and,
 - approval of the remediation plan by a government agency.
- ◆ The method of purchase, whether individual site or portfolio, where portfolio coverage spreads the risk for the insurer across several brownfield sites and allows lower per-site insurance premiums. When multiple sites are insured, the policy limits can be written on an aggregate basis so that cleanup costs below an estimate at one site can compensate for cost overruns at another site. Alternatively, separate limits for each site can be set, but this option is more expensive.
- ◆ Known existence of competitive quotes from other insurers or bids submitted in an advertised competitive solicitation.

At present, the actuarial data base that individual companies use to price CCC coverages is small, due to the newness of the policies; not that many have been sold. While most carriers developed the products as highly specialized, experimental policies in the early nineties, they only began to offer them as a “standard” product beginning in 1996. With respect to CCC policies for *individual* sites, only two carriers provided figures on the number of policies they had sold since a standard product was offered: one indicated 30 had been sold and the other reported 12. Of the five brokers, two reported selling under 10 individual-site policies, another indicated 12, and the two largest brokers claimed 50 and 80 policies sold. The approximate numbers of *portfolio* policies sold were noted as 0, 3, and 50 by carriers who answered and 0, 0, 10, and 15 by responding brokers.

This is clearly still a thin market, with minimal claims experience on which to develop rate models. Adding the policies reported by all companies results in a total of 282 individual and portfolio CCC products sold nationally since 1996 (a figure that double-counts, since the brokers sold policies underwritten by the carriers). Note, however, that some of the portfolio policies covered 100 or more sites. A narrow focus on the number of policies sold, therefore, does not provide adequate indication of the site-based experience that informs current CCC protection provision.

Two relevant points flow from these observations. First, as emphasized earlier, the price of individual policies are based on unique site conditions and are highly variable. Second, the prices of CCC policies are likely to change as insurers begin paying more claims.

4.2 Pollution Liability Policies

The second basic category of insurance policies highly relevant to brownfield redevelopers is referred to here as Pollution Liability (PL).⁸ The coverages included under this label have been given various policy names by different companies including Pollution Legal Liability, 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. Note that some insurance carriers have more than one PL policy relevant to brownfield redevelopers. While limited forms of PL products have been in existence for over twenty years, the scope of coverages in the policies developed in the last three to four years has been greatly expanded. These changes are discussed further in Section 5.2.

PL policies provide protection for costs that result from a pollution condition that can be pre-existing (either unknown contamination or known contamination disclosed at the time the policy is written) or current (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, 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 parcels 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 property value); (c) offsite remediations; and (d) other expenses related to a pollution condition such as business interruptions during a cleanup.

⁸A PL policy can be initiated in conjunction with a CCC policy at the beginning of a planned cleanup. Alternatively, the two may be purchased in stages. That is, a redeveloper may want to purchase a PL policy after a cleanup when the CCC policy term ends.

- ◆ *First party cleanup cost* coverages entail protection for the insured against the expense of onsite remediation and related expenses such as business interruptions and property value diminution resulting from pollution. Remediations may be for pre-existing but newly discovered contaminants that were not addressed in an initial planned cleanup and for cleanup of pollution arising from ongoing operations. Also included is what many refer to as “re-opener” coverage. This coverage insures for the costs of additional remediation ordered by environmental regulators or compelled by law after a cleanup has been completed and a state agency has provided an assurance such as a “No Further Action” letter. As noted, such assurances generally indicate that further remediation was not required at the time the assurance was written. However, they always include a statement that reserves the right of the agency to re-open a cleanup if circumstances at the site change (such as a modification of property use) or if changes in environmental regulations mandate cleanup levels that are more stringent than those employed in the initial remediation.

- ◆ *Legal defense costs* may be associated with the first two elements. These expenses can be substantial, even if the insured is not a major contributor of contamination on a site, in part because of the imposition of joint and several liability and in part because of the complex mix of federal, state, and local regulatory oversight that applies to any one property. 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.

The coverages included in various PL policies are enumerated in Table 8 that begins on the following page. The Table reveals variation among carriers in terms of which coverages they offer and how they are offered -- some protections are provided as policy endorsements while others are offered as standard policy components. It is important to note in this regard that a coverage provided as an endorsement does not necessarily cost more than the same coverage provided as part of a standard policy. In examining the Table, note that the data presented may include coverages of more than one relevant PL policy available from a single carrier.

While not indicated on Table 8, variation also exists among carriers with respect to contaminant types and sources covered. Some policies specifically exclude lead paint, asbestos, radioactive matter, and naturally occurring radioactive materials (such as radon). Others exclude underground storage tanks. In all instances, whatever their standard policies, the companies may be willing to negotiate an endorsement (in this instance, a waiver of an exclusion) to provide needed protection.

TABLE 8 POLLUTION LIABILITY POLICY COVERAGES									
Third Party Claims	A	B	C	D	E	F	G	H	I
Offsite remediation of pollution emanating from insured's property	S	S	S	S	S	S	S	S	S
Offsite bodily injury caused by pollution emanating from insured's property	S	S	S	S	S	S	S	S	S
Offsite property damage caused by pollution emanating from insured's property	S	S	S	S	S	S	S	S	S
Offsite property value diminution caused by pollution emanating from insured's property	X	S	S	E	S	E	E	E	S
Offsite business interruption loss caused by pollution emanating from insured's property	E	S	E	S	S	SE	SE	E	S
Contractual liability due to pollution	E	S	E	S	E	SE	SE	E	E
Natural resource damage	S	S	S	E	S	E	E	SE	S
Onsite bodily injury caused by onsite pollution	S	S	E	S	S	S	SE	SE	S
Onsite bodily injury caused by pollution emanating from adjacent properties	X	S	E	S	S	S	S	SE	S
Onsite property damage caused by onsite pollution	S	S	E	E	S	S	SE	SE	S
Claims due to contamination at/emanating from known, non-owned disposal site where contaminants were taken	E	S	E	E	E	SE	SE	SE	D
Claims due to contamination at/emanating from unknown, non-owned disposal site where contaminants were taken	X	S	E	X	E	SE	DX	SE	D
Release of contamination during transportation	--	S	E	E	D	SE	E	SE	D
Continued on following page									
TABLE 8 POLLUTION LIABILITY COVERAGES (continued)									
First Party Onsite Cleanup Costs and Pollution-Related Expenses	A	B	C	D	E	F	G	H	I
Additional remediation, due to regulatory change, of known pollution after cleanup (re-opener coverage)	S	S	S	S	S	S	S	SE	E
Remediation, due to regulatory changes, of known pollution originally thought not to require remediation	S	S	S	S	D	SED	S	SE	E

Remediation of previously unknown, pre-existing pollution	S	S	S	S	D	S	S	SE	S
Remediation of current pollution from ongoing operations	S	S	S	S	D	S	SD	S	S
Property value diminution due to onsite pollution	X	S	E	E	S	SE	E	E	E
Business interruption loss due to onsite pollution	X	S	E	S	S	SE	E	E	E
Delayed construction costs due to onsite pollution	X	S	E	E	S	SE	E	E	D
Remediation of pollution emanating from adjacent property	X	S	S	S	X	SE	S	X	S
Property damage due to pollution emanating from adjacent property	X	S	S	E	S	S	S	SE	S
Property value diminution due to pollution emanating from adjacent property	X	S	E	E	S	E	E X	X	E
Business interruption loss due to pollution emanating from adjacent properties	X	S	E	S	S	SE	E	X	E
Delayed construction due to pollution emanating from adjacent property	--	S	E	E	S	SE	E	X	D
Legal Defense Costs									
To defend against third party claims	S	S	S	S	S	S	S	SE	S
Arising from remediations	S	S	S	S	S	S	S	S	S

Note: Brokers were asked how the coverages are most often offered.

Codes: S Offered as Standard PL policy coverage X Not currently offered
E Offered as PL policy Endorsement -- No response
D Offered with Different policy

In the actual standard policies carriers offer, coverages may not be described at the level of detail given here. While some companies do provide “menus” of specific protections offered, others describe coverages quite broadly. For example, they simply indicate coverage for bodily injury and property damage without separately listing onsite/offsite or pre-existing/current pollution conditions. The policies, in fact, may appear to be fairly simple. As discussed in Section 5.4 on the need for expertise in purchasing coverage, both approaches can be problematic; while the menu presentation can be confusing, broad descriptions of protections may not clarify specific protections that are included or excluded.

Another caveat regarding the policies warrants reiteration here; not all of the coverages listed in Table 8 are extended to all clients because of the risk they pose to insurers or because the cause of a problem may be difficult to prove. Examples include first party property value diminution resulting from a pollution condition. The difficulty in offering this protection lies in determining the actual cause of the damage suffered. Property values may drop for many reasons, including new forms of economic activity in an area that are seen as undesirable, a general decline in the local real estate market, and so on. If some aspect of the social or economic environment changes at the same time as

new contamination is discovered at a site, it is almost impossible to separate how much of the value change is due to the pollution and how much is attributable to other factors.

Table 9 shows variation in the meanings of acceptable “remediation costs” in PL policies. The fact that one carrier omits site assessment and another excludes monitoring illustrates another dimension of the complexity of PL policies -- the importance of carefully understanding policy-specific terminology. It is interesting to compare Table 9 with Table 2, which describes the meanings of remediation costs in CCC policies. The meanings are consistent across the two types of policies for three of the five insurance carriers. Two insurers, however, do not include site assessment costs in their CCC policies, but do include them in PL coverages.

TABLE 9 CARRIER MEANINGS OF ‘REMEDATION COSTS’ IN POLLUTION LIABILITY POLICIES				
	Includes Site Assessment Costs		Includes Costs of Monitoring	
	No	Yes	No	Yes
A	–			–
B		–		–
C		–		–
D		–	–	
E		–		–

PL policy dollar limits are presented in Table 10. While the minimum available from all sources is \$1 million, a substantial range in the maximum limit is apparent, showing different insurers' willingness and capacity to assume risk on any one site. Large limits may also reflect the fact that a broker used more than one carrier to underwrite a policy. The limit reported by broker G represents an actual policy sold, but as the carriers indicate, this figure references an exceptional case.

TABLE 10 POLLUTION LIABILITY POLICY DOLLAR LIMITS FOR A FIVE-YEAR POLICY			
	Minimum	Maximum	Typical
A	V	V	V
B	1 M	100 M	50 M
C	1 M	60 M	5 M
D	1 M	200 M	10 M
E	1 M	50 M	5 M
F	1 M	50 M	5 to 10 M
G	1 M	350 M	50 M
H	1 M	200 M	20 to 30 M
I	1 M	20 M	5 M

Note: Figures reflect the most comprehensive policy offered for an individual site.

Codes: M Million
V Varies too widely to estimate

The findings in Table 11 reveal the range of costs for a five-year, single-site PL policy. The data in the first panel reflect an average annual cost of coverage of \$5,000 or more. This would be a substantial cash flow drain for smaller projects, but need not be onerous for larger developments with expected annual revenues in the hundreds of thousands.

As is the case with any type of insurance, the size of the deductible varies among individual policies and substantially affects the premium price. The larger the amount of liability for which the insured takes responsibility, the less expensive the premium will be. The link between deductible and premium cost is exceptionally close for PL due to an issue known to insurers as "moral hazard." The term refers to the lack of incentives for the insured to engage in actions that would avoid liabilities. The higher the deductible, the less likely that a moral hazard will come into play. For example, if the insurance coverage does not attach (or begin to pay) until after a \$25,000 deductible is expended by the insured, it is in the insured's interest to spend \$24,999 to try to avoid a suit. If there is no deductible, the insured would not have the same motivation to take precautionary actions.

TABLE 11 POLLUTION LIABILITY POLICY COSTS FOR A FIVE-YEAR POLICY		

	Premiums in Dollars			Deductibles in Dollars		
	Low	High	Typical	Low	High	Typical
A	V	V	V	5 K	V	25 K
B	20 K	45 M	25 K	10 K	100 K	20 K
C	29 K	75 K	33 K	10 K	150 K	25 K
D	10 K	1 M	50 K	10 K	1 M	50 K
E	25 K	1 M	50 K	25 K	1 M	100 K
F	35 K	3.8 M	50 to 100 K	25 K	500 K	25 to 100 K
G	--	--	--	--	--	--
H	25 K	50 K	35 K	10 K	500 K	100 K
I	7 K	100 K	25 K	10 K	250 K	50 K

Note: Figures reflect the most comprehensive policy offered for an individual site.

Codes K Thousand -- No response
M Million V Varies too widely to estimate

In addition to deductibles, other variables affect PL policy price. The total amount of coverage purchased makes a significant difference; the cost per million dollars of protection drops as the policy dollar limits rise. Risk-spreading considerations are also important in that, compared to single-site policies, portfolio policies lower the cost per site. Other factors involve the specifics of the project or site, including the types of contamination, the standard to which the site was cleaned in the past, the intended land use, zoning in the area, and the surrounding land uses. PL coverage also is sensitive to price competition and buyers may reduce their costs by specifying the coverage needed and asking for a quote from more than one carrier. The interactions among cost-determining factors are too complex for any estimates of typical cost per million dollars of PL coverage to be meaningful. When asked, only two of the carriers were willing to provide such estimates and their quotes were so divergent that it was clear they had very different policies in mind.

Tables 12 and 13 provide data on site assessment requirements for PL policies. While many public and private developers believe that assessment requirements remain excessive, they have been reduced substantially in recent years, a fact discussed further in Section 5.2.

**TABLE 12
MINIMUM SITE ASSESSMENT REQUIREMENTS FOR
POLLUTION LIABILITY POLICIES**

	Percent Issued Using Only a Phase II or Less					Percent Issued Using Only a Phase I or Less					Percent Issued Using Less than a Phase I				
	0	Less than 10	10-50	51-90	90+	0	Less than 10	10-50	51-90	90+	0	Less than 10	10-50	51-90	90+
A	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID
B					-					-					-
C				-				-				-			
D					-				-				-		
E				-					-				-		
F					-					-				-	
G				-					-					-	
H				-					-					-	
I					-					-				-	

Code: ID Insufficient Data available

**TABLE 13
PERCENT OF CASES IN WHICH CARRIERS REQUIRE REPEATED OR
AUGMENTED ASSESSMENTS FOR POLLUTION LIABILITY POLICIES**

	0	Less than 10	10 to 50	51 to 90	More than 90
A	-				
B	-				
C		-			
D		-			
E		-			
F		-			
G	-				
H		-			
I		-			

Seven of the eight representatives who provided data for Table 12 above estimated that they rely on a Phase I or less in over 50% of the policies issued and are willing to use Less-Than-Phase-I assessments (data base searches and transaction screens) in 10% to 50% of the policies. These results, however, may be attributed in part to portfolio policies. On a separate item not shown in the tables, four of the five carriers indicated that they were more likely to issue a PL policy only on the basis of a Phase I or less if the site were part of a portfolio policy. In general, such policies tend to cover relatively low-risk sites.

The number of PL policies sold in the last three years is shown in Table 14. Comparing the figures with the rough estimates provided on the number of CCC policies sold, it is clear that PL policies are more established in the marketplace.

TABLE 14 NUMBER OF POLLUTION LIABILITY POLICIES SOLD IN THE LAST THREE YEARS		
	Individual Policies	Portfolio Policies
Carrier	4,000 +	20
Carrier	3000	1000
Carrier	400+	50+
Carrier	Confidential	Confidential
Carrier	Confidential	Confidential
Broker	200+	25+
Broker	1,000	75
Broker	450	50
Broker	25	6

Note: Company codes have been omitted and the response order has been scrambled to further conceal company identities.

Three important provisions affect the usefulness of a PL policy to a developer over time. The first is the length of the policy term. The second is the policy “trigger,” or conditions that activate the coverage. Both of these are important in determining the value of the coverage to the insured, and thus in establishing the willingness to pay for a PL policy. A third provision, transferability of the coverage to a successor owner, may be especially important if the project for which coverage is sought involves an intent to sell the property once it is redeveloped.

The value of a long policy term is that losses caused by environmental conditions may take considerable time to manifest. For example, it may take years or decades 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. The policies generally have “guaranteed” renewal options. In some circumstances, renewing may be preferable to a longer policy period because, if losses have been low as of the end of a policy period, the premiums for the new policy may 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.

A consensus on a one-year minimum PL policy term is indicated in Table 15. The maximums range from ten to as high as the fifty years reported by one broker. Again, insurers’ responses were more conservative, reflecting what they believed to be realistic upper limits that a client may expect. As the broker who obtained the fifty-year limit emphasized, the high figure is the exception:

If you just ask for an off-the-shelf quote, it will be 10 to 15 years. If you have a very specific issue, you could push them maybe to go to 30 to 50 years because it has been done, but it’s not standard practice...I think we’re going to see the market moving more toward the 20 to 30 years as they get more comfortable with this...But it’s still very hard to do to get the 20 to 50 years.

TABLE 15 POLLUTION LIABILITY POLICY PERIOD LIMITS			
	Minimum	Maximum	Typical
A	V	V	1 year
B	1 year	20 years	5 years
C	1 year	10 years	3 to 5 years
D	1 year	10 years	3 years
E	1 year	15 years	5 years
F	1 year	20 years	3 to 5 years
G	1 year	30 to 50 years	10 to 15 years
H	1 year	20 years	7 to 10 years
I	1 year	15 years	5 years

Code: V Varies

The matter of a policy trigger, or conditions that determine when coverage is invoked, poses some choices similar to those involved in the selection of a coverage term. Most PL policies issued are “claims made” policies. This means that for the coverage to respond, a claim must be made against the insured (by a private party or public entity) 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. The alternate type of policy is an “occurrence” policy that will respond to liability arising from damage or injury that occurs during the policy period, regardless of when a claim is made against the insured. Of the five carriers questioned for this report, only one indicated the company offers PL on an occurrence basis and then in fewer than half of the policies the carrier issues. This low utilization of an occurrence policy may reflect the significantly higher cost of such coverage.

Table 16 notes ways of addressing this issue by providing a policy “tail” or extended reporting period. All carriers offer an automatic period in which injury or damage occurring during the policy period may be reported to the insurer. For one provider, this period is typically ten years, but this is an exception; most automatic extensions are three months or less. Four carriers offer an optional extended reporting period that may be purchased.

TABLE 16 EXTENDED REPORTING PERIODS OFFERED BY CARRIERS FOR POLLUTION LIABILITY POLICIES				
	Automatic Extended Period		Optional Purchased Period	
	Maximum Length	Typical Length	Maximum Length	Typical Length
A	V	V	V	V
B	5 years	3 months	5 years	2 years
C	90 days	60 days	5 years	1 year
D	60 days	60 days	3 years	3 years
E	15 years	10 years	None	None

Code: V Varies

Not all insurance considerations involve damages that may occur in the future; some claims may be made for damage done prior to acquiring insurance. Therefore, policy periods may also be “retro-dated” or extended back in time to cover liability claims for damage that occurred prior to the time the policy was issued, but for which no claim was filed prior to signing the policy. However, as Table 17 indicates, four of the seven representatives responding to questions about this feature

reported that the provision is offered or purchased in less than 10% of policies. While the coverage is reported by carriers to be available for extended periods of time, the actual sales reported by brokers show shorter retrospective coverage periods, possibly reflecting the cost of the endorsements for longer periods.

**TABLE 17
RETRO-DATING POLLUTION LIABILITY POLICIES**

	Percentage Estimates of Policies Retro-Dated					Maximum Period	Typical Period
	0	Less than 10	10-50	51-90	90+		
A	--	--	--	--	--	V	V
B		--				Unlimited	Unlimited
C		--				--	--
D			--			Full	Full
E					--	Unlimited	Unlimited
F		--				1 to 2 months	V
G		--				--	--
H				--		Inception of previous environmental coverage	5 to 7 years
I	--	--	--	--	--	--	--

Codes: V Varies too widely to estimate
 -- No response

The third feature of a PL policy that can prove useful is its transferability. In some cases, depending on the site characteristics and the carrier, policies can be made transferrable to subsequent or successor owners so that the policy “travels with the property.” All carriers indicated, however, that they reserve the right to approve of the new use of the site when the title is transferred. If the new use increases environmental risks, the carrier may decline to offer coverage or mandate that the policy be underwritten again.

When transferability is possible, the existence of the coverage may contribute more to the sale price of the property than it costs the seller in premiums to maintain. If the impact on sale price is not sufficient, an alternative is to cancel the policy as of the date of a property transfer and recoup a

portion of the premium. A further consideration for the insured is that, even when parties sell properties, they may still retain liability exposures under CERCLA and state environmental laws. It thus may be advisable for sellers to retain the insurance for themselves, rather than transferring it to a successor, in which case it would not pay to include transferability in the policy if an endorsement permitting the transfer adds to premium costs. The reported percentages of actual policies written that are transferrable are shown in Table 18.

TABLE 18 PERCENT OF POLLUTION LIABILITY POLICIES TRANSFERRABLE TO SUCCESSOR OWNERS					
	0%	Less than 10%	10% to 50%	51% to 90%	More than 90%
A		–			
B			–		
C				–	
D			–		
E					–
F				–	
G				–	
H			–		
I					–

4.3 Secured Creditor Policies

While lender liability concerns about federal requirements have been largely addressed by the 1996 Lender Liability Law, 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-nineties, insurance companies began offering Secured Creditor (SC) policies to address these concerns. The basic coverages included are presented in Table 19. As with PL policies, SC policies offer protection against the costs of third party bodily injury and property

damage claims arising from contamination and legal defense costs to defend against these claims. In addition, they provide reimbursement for loan payments in the case that a borrower defaults and compensation to the lender for collateral value loss caused by a pollution condition. From the perspective of brownfield redevelopers, the policies are important in that they make lenders more willing to provide because they basically serve as loan guarantees.

TABLE 19 SECURED CREDITOR POLICY COVERAGES									
	A	B	C	D	E	F	G	H	I
Compensation for collateral property value diminution resulting from contamination	--	S	E	S	E	S	E	E	E
Reimbursement for loan payment losses due to borrower's default	--	S	S	S	S	S	S	S	S
Cost of third party bodily injury and property damage claims as a result of site contamination	S	S	E	S	S	S	S	S	S
Contract damage costs resulting from contamination	--	S	E	S	--	S	E	E	SE
Business interruption costs resulting from contamination	--	X	S	S	E	X	E	E	E
Remediation costs at bank-owned sites	S	S	E	S	S	S	S	S	E

Note: Brokers were asked how the coverages are most often offered.

Codes: S Offered as Standard policy coverage X Not currently offered
 E Offered as policy Endorsement -- No response
 D Offered with Different policy

As new and evolving products, SC policies vary across carriers. For example, in order for the policy to respond, three carriers require that a borrower's default must be caused by a pollution condition. For the other two, default can occur for any reason. For four of the carriers, the coverage trigger simply entails default, but for one provider, the policy responds only after both default and foreclosure. Two of the providers calculate collateral value loss as the lesser of (a) the outstanding balance of the loan owed to the insured, (b) the fair market value of the insured site prior to discovery of a pollution condition or, (c) the amount of remediation costs. Carrier A specifies that, after a default, the bank may make a claim for estimated cleanup costs at the collateral property. If these costs are 85% or more of the outstanding loan balance, the loan is paid in full.

The maximum time limits reported by carriers, presented in Table 20, range from 10 to 20 years to allow coverage for the lifetime of most loans. Note that SC policies are automatically written with transferability to successor lenders; given the common practice of securitization and other sales of real estate loans, the coverage would have little value without such a provision.

TABLE 20 SECURED CREDITOR POLICY PERIOD LIMITS			
	Minimum	Maximum	Typical
A	V	V	V
B	1 year	20 years	15 years
C	1 year	10 years	3 years
D	1 year	10 years	3 years
E	1 year	15 years	10 years
F	1 year	5 to 10 years	5 years
G	1 year	Life of loan	15 years
H	1 year	Term of loan	5 years
I	3 years	15 years	5 years

Code: V Varies

Table 21 displays the policy dollar limits for SC products. The policies protect against an array of risks comparable to those included in PL policies, plus the assurance of return of invested capital. Thus, the common minimum dollar limit of \$1 million reported in Table 21 is not unexpected.

TABLE 21 SECURED CREDITOR POLICY DOLLAR LIMITS FOR A ONE-YEAR POLICY									
	A	B	C	D	E	F	G	H	I
Minimum	V	1 M	1 M	1 M	1 M	1 M	1 M	1 M	1 M
Maximum	V	100 M	60 M	200 M	50 M	5 to 10 M	150 M	25 M	20 M

Note: Figures reflect the most comprehensive policy offered for an individual site.

Code: V Varies

Table 22 provides data on the approximate costs of comprehensive, single-site SC policies with one-year terms. Estimates for typical policy costs vary widely from \$600 to \$100,000. This variation is due to the many factors affecting cost discussed in the previous section of this report on PL policy. Again, cost-per-million estimates are unreliable; those representatives willing to respond to a cost-per-million question provided figures ranging from \$600 to \$7,500.

TABLE 22						
SECURED CREDITOR POLICY COSTS FOR A ONE-YEAR POLICY						
	Premium Ranges			Deductible Ranges		
	Low	High	Typical	Low	High	Typical
A	V	V	V	V	V	V
B	5 K	50 K	10 K	5 K	100 K	10 K
C	--	--	--	25 K	100 K	50 K
D	5 K	1 M	100 K	5 K	250 K	25 K
E	500	3 K	600	10 K	1 M	15 K
F	1.8 K	2.5 K	2 K	0	25 K	25 K
G	--	--	--	--	--	--
H	800	2.5 K	2 K	10 K	100 K	25 K
I	200	4 K	1 K	10 K	250 K	50 K

Note: Figures reflect the most comprehensive policy offered for an individual site.

Codes: K Thousand
M Million
V Varies
-- No response

Table 23 displays a decided tendency in the industry to offer SC policies as portfolio policies. Two carriers and one broker indicated that over 90% of the policies they now offer are for portfolios. (One carrier does not offer the policies for individual sites.) The cost reduction per site (e.g., 50%) explains the demand for portfolio coverage where it can be arranged.

	Portfolio Policies as Percent of Total Policies Sold					Trend, More Portfolio Policies		Cost Reduced for Portfolio Policies		Cost Reduction Per Site
	0	Less than 10	10-50	51-90	90+	Yes	No	Yes	No	%
A	ID	ID	ID	ID	ID	-			-	--
B				-			-	-		50
C					-	-		-		--
D			-			-		-		50
E					-	-		-		--
F					-	-		-		40
G			-			-		-		--
H				-		-		--	--	50
I			-			-		-		50

Codes: ID Insufficient Data available
 -- No Response

The ways in which SC policies may be purchased are described in Table 24. Although financiers may pay for some policies, when lenders want to obtain SC protections, they tend to request or require that borrowers purchase the coverages as a loan approval condition. This finding poses an interesting problem with respect to EI as a tool for brownfields regeneration. Lenders have an economic incentive to demand that borrowers purchase insurance, as the policies essentially are loan guarantees. What is not clear is whether or not the expense to borrowers of buying the policies raises the costs of obtaining capital so that the insurance actually poses a barrier to brownfield reclamation efforts. On the other hand, to the extent that the coverages increase the total pool of capital available for brownfields mitigation and redevelopment, SC policies will lead to the financing of more brownfield projects nationwide.

TABLE 24 LENDER PROCEDURES FOR PURCHASE OF SECURED CREDITOR POLICIES									
	Lenders Pay for Coverage			Lenders Request that Borrowers Pay			Lenders Require that Borrowers Pay		
	Most	Some	None	Most	Some	None	Most	Some	None
A			-		-		-		
B		-			-		-		
C				-			-		
D		-			-			-	
E			-		-		-		
F		-				-	-		
G		-			-			-	
H		-			-				-
I			-			-	-		

Table 25 indicates that site assessments for SC policies most often involve transaction screens and database searches, although Phase I assessments are still required for larger loans (e.g., those exceeding \$20 million.)

TABLE 25 ASSESSMENT REQUIREMENTS MOST OFTEN USED FOR SECURED CREDITOR POLICIES								
	For Single Site				For Portfolio of Sites			
	Less than Phase I	Phase I	Phase II	Phase III	Less thanPhase I	Phase I	Phase II	Phase III
A	V	V	V	V	V	V	V	V
B	-				-			
C	-	-			-	-		
D	-	-			-	-		
E	-				-			

Code: V Varies

The availability of insurance has changed due-diligence procedures used by some lenders. For roughly the last decade, lenders have generally required a Phase I site assessment prior to providing loans of \$2 million or more on commercial and industrial properties (Yount 1997). In the case of smaller loans, they have often limited their due diligence to transaction screens and database searches. As noted in Table 26, six of the nine insurance industry representatives reported that lenders tend to offer clients the option of either paying for SC coverage or for a Phase I site assessment (and further assessments if contamination is suspected). If the coverage is purchased, the insurer conducts its own due diligence, which tends to involve Less-Than-Phase I assessments.

TABLE 26 LENDERS OFFERING CHOICE OF PHASE I OR SECURED CREDITOR COVERAGE									
	A	B	C	D	E	F	G	H	I
Most Lenders		-				-			
Some Lenders	-		-		-				-
No Lenders				-			-	-	

An important point to recognize is that SC policies are designed to protect lenders, not redevelopers. While the policies may facilitate access to loans, the coverages do not address owner/operator liabilities for environmental cleanups and damage caused by contaminants. Replacing more thorough site assessment procedures with insurance thus may not be advisable from the borrower's standpoint; the borrower's interest lies in knowing whether or not a property has environmental problems and the extent of problems that do exist.

For most insurance companies, SC policies are even newer than CCC policies. While one carrier reported selling SC coverages in 1994, the other four began offering them in 1997 or 1998. Although two carriers and one broker did not provide data for Table 27, the figures that were provided by respondents indicate that not many of the products have been sold. This finding is logically a function of the newness of SC insurance. It also may reflect a preference on the part of some lenders for EI policies that provide protections for their clients as well as themselves.

TABLE 27		
NUMBER OF SECURED CREDITOR POLICIES SOLD		
	Number of Individual Policies Sold	Number of Portfolio Policies Sold
Carrier	0	30+
Carrier	300	100 to 200
Carrier	10	10
Broker	25	10
Broker	10+	10+
Broker	0	5

Note: Company codes have been omitted and the response order has been scrambled to further conceal company identities. Two carriers and one broker did not respond for proprietary reasons.

4.4 Other Coverages

This chapter ends with brief descriptions of other insurance products that are relevant to brownfield projects. They are not discussed in any depth, however, as they are not useful to all brownfield projects or are designed for environmental service contractors rather than redevelopers.

Closure and Post-Closure Cost coverages, also known as Financial Assurance coverages, are appropriate only for some brownfield properties, i.e., hazardous and solid waste treatment, storage, and disposal sites regulated by the Federal Resource Conservation and Recovery Act (RCRA) and similar state laws. While the majority of brownfields do not fall into this category, some may be obligated to meet the requirements of these laws. These include landfills being redeveloped or sites where qualifying amounts of hazardous materials are stored in underground storage tanks or otherwise kept on the property. The insurance coverage satisfies the financial assurance and liability protection requisites that owners and operators of such sites demonstrate the financial capacity to take corrective action, monitor remaining contaminants, and compensate third parties for bodily injury and property damage associated with contamination. The policies provide an alternative to self-insurance, letters of credit, trust funds, bonding mechanisms, and other assurance instruments that permit property owners to meet the financial obligations; unlike these alternatives, insurance eliminates contingent liabilities and thus does not reduce the insureds' available credit.

Other products are intended for environmental service providers who are exposed to liabilities stemming from their involvement with pollution conditions. 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 (E&O) 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.

To serve redevelopers' demand for greater certainty, insurers offer Owner-Controlled policies that cover all the parties involved with an entire brownfield project including contractors pollution insurance, professional errors and omissions insurance, non-owned disposal site coverages, and offsite transportation vendors liability coverages. With an Owner-Controlled policy, a redeveloper need not be concerned about specific clauses or limits on the coverages carried by contractors.

5.0

Discussion

This chapter begins with discussion of the increased demand for EI coverages and the reasons for it reported by industry representatives. The section that follows describes a number of distinct changes that have occurred in EI products in recent years that have positively affected their utility. Next, the limitations of EI are considered. A focus is placed here on the needs of small-scale projects and government entities seeking to facilitate brownfields redevelopment. Finally, the problems inherent in investigating insurance are addressed, i.e., the extreme variation among policies and carriers resulting in the need for expertise on the part of EI purchasers.

5.1 Increased Demand for Environmental Insurance for Brownfields

When asked if the number of brownfields insurance policies they have sold nationally has increased in the last three years, all respondents answered in the affirmative and six of the nine indicated a substantial increase. These perceptions are as accurate a reflection of change in the industry as can be obtained. There is no organization that reports the number of EI policies sold; insurance is regulated at the state, not federal, level and there are no systematic compilations of sales across individual states. The major data available, therefore, are those from knowledgeable parties in the industry who are willing to talk about their own sales activities.

According to interviews with respondents, the growing interest in brownfield investments may be attributed primarily to:

- a highly active real estate market across the nation during the late nineties due to a growing economy;
- new federal, state and local government programs offering incentives for the redevelopments such as low interest loans, assistance with site assessments and cleanups, and tax advantages;
- federal and state liability relief, most notably for lenders; and,
- the acceptance of flexible mitigation standards that allow cleanup levels to fit the future use of a site and thus lower costs.

Factors noted in interviews as secondary but important causes of increased demand for EI include:

- the marketing efforts of insurance brokers and carriers that have greatly increased knowledge about insurance and its potential value to brownfield redevelopers;
- growing demands on the part of lenders that redevelopers seeking loans purchase insurance for their brownfield projects; and,
- the greater value and attractiveness of EI policies to developers as the policies become more flexible, provide broader coverage, and offer better value for money spent.

The interview data reflect the causes of increased EI market activity that people were thinking about during discussions with interviewers. Questionnaire data, presented in Table 28, indicates a wider array of causal elements and permits the same people to systematically weigh the importance of factors that may not have been in the forefront of their thinking during the interview.

TABLE 28										
IMPORTANCE OF FACTORS ACCOUNTING FOR INCREASED BROWNFIELDS INSURANCE MARKET ACTIVITY, RANK-ORDERED BY MEAN										
	Mean	A	B	C	D	E	F	G	H	I
General increase in brownfield redevelopment activity	2.3	2	2	3	3	3	0	3	3	2
General increase in knowledge about EI availability	2.3	3	2	3	3	2	1	3	1	3
Development of more flexible insurance products	2.0	0	2	3	1	3	2	1	3	3
Increased lender demand for EI on collateral property	2.0	3	3	1	2	1	3	1	1	3
Improved/increased product marketing by insurers	1.9	3	2	1	2	2	2	2	2	1
Increased state/local emphasis on brownfields	1.9	2	3	3	3	1	0	2	1	2
Falling costs of insurance products	1.8	0	2	3	1	2	3	1	3	1
Increased use of flexible brownfields cleanup standards	1.8	1	3	0	2	3	0	3	2	2
Increased competition in the insurance market	1.7	3	2	0	0	1	3	2	2	2
Increased federal emphasis on brownfields	1.6	2	3	2	1	1	0	2	1	2
Increased lender demand for EI for all brownfield projects	1.6	0	3	1	2	1	3	1	1	2

Note: The mean was computed across all weights assigned to each factor.

Codes: 0 Unimportant 2 Important
 1 Marginal 3 Dominant

5.2 Recent Changes in Environmental Insurance Products

In light of the youth of the EI market, it is not surprising that interviewees were unanimous in describing innovation in the EI industry as at an all time high, with policies and available coverages changing from month to month. For redevelopers of brownfields, these changes mean that better coverages are available. Further, the competition that drives the innovation may result in more insurance value available for the premium dollar. On the other hand, the rapid evolution of the products makes it difficult to keep current on the coverages, which results in dependence on specialist advisors to guide insurance purchases. Key changes, since roughly 1996, are presented in Table 29.

	Cleanup Cost Cap		Pollution Liability		Secured Creditor	
	No Change (#)	Change Extent (Mean)	No Change (#)	Change Extent (Mean)	No Change (#)	Change Extent (Mean)
Policy dollar limits increased	0	2.0	0	2.1	1	2.0
Policy periods longer	0	2.1	0	2.1	0	1.9
Policies more flexible	0	1.8	0	2.3	0	1.8
Portfolio policies increased	1	1.9	0	1.6	0	1.8
Policies less expensive	1	1.7	0	2.2	1	2.0
Deductibles reduced	1	1.6	0	1.3	0	1.4
Assessments less prohibitive	2	1.8	0	1.6	2	1.8
Application requirements reduced	2	1.7	1	1.4	2	1.5
Scope of coverages broader	2	1.7	0	2.0	0	1.4
Restrictive exclusions eliminated	3	1.8	0	1.7	1	2.0
Underwriting costs fallen	3	1.5	2	1.9	2	1.5

Notes: The first column for each policy represents the number of respondents who indicated that NO CHANGE had occurred. The second column is the mean response of those who indicated that change had occurred, based on a three-point scale: 1=Changed somewhat. 2=Changed considerably. 3=Changed greatly.

Data from interviews conducted with respondents following distribution of the preliminary questionnaire help to elaborate selected changes noted in Table 29 above.⁹

Increased Policy Dollar Limits. Maximum limits have increased considerably, especially for PL policies. Five years ago, a \$4 million limit on a single environmental policy was a rarity. Today, policies with limits of \$200 million may be provided by a single carrier. Greater coverage is important to the developers of larger brownfields or those with more complex and expensive cleanups, so this trend may enable some previously uneconomic redevelopments to proceed.

Longer Policy Periods. The standard policy period used to be only one year, with some renewability provisions or assurances, but no premium rate stability. Today, a standard policy can be written for ten to fifteen years or even longer in some cases. This provides greater certainty for redevelopers and increases the value of policies to borrowers in their negotiations with lenders.

More Flexible Coverages. Insurers are more willing to tailor their policies to individual business needs, to waive exclusions and add coverages required to address unique features of redevelopment project risks. Eight of the nine respondents reported that over half of their CCC and PL policies are highly manuscripted to provide flexibility and greater value for money spent.

Broader Coverages. The scope of policy protections has expanded. A significant change with respect to CCC policies involves coverage for contaminants not noted in a remediation plan. When CCC first emerged, the standard practice was to insure only for known contaminants scheduled for particular treatment in the plan. Now the policies generally cover costs stemming from discovery of contaminants not included in the plan, whether previously unidentified substances or unexpected amounts of listed contaminants.

Significant coverages previously omitted from PL policies that are now offered by at least some companies include:

- damages arising from known prior pollution conditions, if the insured fully discloses the conditions to the carrier;
- first party coverages, including onsite remediation coverage (whereas previous policies only protected against third party claims);
- first party property value diminution protection;

⁹For earlier histories of the emerging EI industry, see Anderson (1998) and Neuman (1999).

- coverage for contractual liability and business interruptions due to environmental problems;
- exclusion waivers for substances such as lead paint and asbestos;
- coverage for release of contaminants during transportation for disposal; and,
- coverage for releases at non-owned disposal sites.

In addition, broader triggers for PL coverage are emerging. The only applicable trigger used to involve a third party making a claim and the insured reporting the claim during the policy period. Now one carrier is providing PL occurrence policies on a limited basis, allowing claims for an indefinite future period for damages occurring during the term of the coverage. Moreover, longer policy periods now offered make remaining claims-made requirements less troublesome.

Less Extensive Site Assessment Requirements. When CCC policies were undergoing development in the early nineties, insurance companies would impose heavy underwriting costs on potential clients, sometimes charging as much as \$30,000 to \$40,000 for the insurer's own engineers to replicate or expand the scope of a site assessment already completed. Insurers today tend to rely on existing site data and rarely charge a separate fee for their own engineering assessments. In addition, in the mid-nineties, insurers often required a government agency sign-off on a remediation plan before providing CCC coverage. This reliance on public sector oversight has declined somewhat, with two carriers reporting that they require approval in less than 10% of their policies. As a result, project delays associated with obtaining approvals may be eliminated. Assessment requirements for PL policies also have declined significantly for some carriers; seven of the eight responding industry representatives indicated that they rely on a Phase I or less in over 50% of the policies issued. As is the case with CCC policies, carriers used to require their own assessments for PL policies, whereas now they most always rely on assessments completed by insurance applicants.

Lower Costs. Respondents exhibited a general consensus that the costs of brownfield insurance have fallen. In interviews, cost reductions were reported to be about 20% to 25% in the last three years for PL coverage; premium costs for CCC policies reportedly were down as much as 50% from the early days when the policies were being developed. Reasons for the reductions provided by insurance representatives included:

- increased competition in the insurance market, which brings down the price;
- the fact that insurance companies are more efficient now in terms of underwriting, i.e., their procedures are more standardized and thus involve lower costs;
- increased volume, which allows lower prices by spreading the risk (while, in turn, lower premium costs stimulate further increases in demand); and,

- the broader market, especially with respect to PL policies, which permits more experience-rating of risks. With the greater availability of statistical data on claims, the practice of inflating premiums to protect the insurer against unknown risk is declining.

In summary, the data indicate that substantial improvements have been made in EI for brownfields. Qualifications in this regard should be noted, however, especially with respect to price reductions. First, it is difficult to specify trends precisely since there is no industry-wide data base. The absence of centralized information means that the industry members are privy only to their own statistics. For example, respondents described price changes that they have observed from their own experiences, and these may not reflect overall trends in the industry. In fact, one carrier suggested that, *“The market now provides very broad coverage, which it didn’t five years ago, and the competitive nature of the market has kept the prices pretty even or flat.”* Second, each brownfield project is unique, which makes any across-the-board statements questionable. Third, to the extent that coverage prices are experience-rated, the cost reductions reported may not be sustained in the future for the newer products. As one broker cautioned, the costs of CCC policies may rise somewhat in the future as insurers begin paying more claims and find they have loss ratios that mandate premium increases.

5.3 The Limitations of Environmental Insurance

The fact that insurance is available does not necessarily mean that purchasing coverage is in the best interest of a brownfield redeveloper. The costs and benefits of the coverage may not warrant the expenditure, especially for developers with the capacity to effectively self-insure for risks or obtain reliable indemnifications. There are also general problems with all insurance products that should be kept in mind, including the possibilities that an insurer may refute a legitimate claim, that an insurer may become insolvent and unable to pay a claim, and that the insured’s loss is so great that it exceeds the dollar limit of the policy purchased. Further, coverage may not be available for all risks facing a redeveloper, and the time and/or dollar limits on policies offered may not be sufficiently high for a project.

Industry respondents were asked to list types of projects or circumstances for which CCC and PL products may not be cost effective. Their answers are presented in Table 30. (Interestingly, the Table reveals that carriers were more willing to admit to limits than brokers, suggesting a possible over-exuberance about the policies on the part of brokers.)

TABLE 30 TYPES OF PROJECTS FOR WHICH POLICIES MAY NOT BE COST EFFECTIVE																		
	Cleanup Cost Cap									Pollution Liability								
	A	B	C	D	E	F	G	H	I	A	B	C	D	E	F	G	H	I
“Small Projects”	-	-	-	-	-		-		-				-	-				
“Sites with Risks Too Difficult to Assess”	-								-									
“Inadequate Site Assessment”					-													
“Property Damage for Sites Already Contaminated”												-						
None						-		-		-	-				-	-	-	-

Note: Factors reported are taken from an open-ended questionnaire item.

5.31 Small-Scale Projects

As Table 30 indicates, industry representatives most frequently referenced the limitations of EI for small-scale projects, especially with respect to CCC policies. For these policies, “small” was variously defined as projects involving project cleanup costs under \$100,000, \$200,000, \$250,000, \$250,000, and \$500,000. This limitation has widespread consequences since sites such as dry cleaners, photo developing labs, auto repair shops, and many other smaller facilities constitute the majority of brownfield properties nationally and tend to face other special difficulties such as inability to access capital (Yount and Meyer, forthcoming).

The dilemma small projects pose for carriers was underscored by the comments of one insurer who noted that, because of the fixed component of the underwriting costs, his company would not be interested in providing coverage for a small project unless it was part of a larger insurance program provided to a client:

At some point, it becomes not worth it to invest the time and energy bidding on a project...I have a package now that I'm not even going to consider. These things come in a box about three or four inches thick...The project is \$114,000. How much could this person possibly be willing to pay for (CCC) insurance? We figure it costs us at least \$7,000 to \$10,000 to review a proposal, before I consider any of my other costs and the cost of the risk. So would this person be willing to pay \$30,000 to insure a \$114,000 cleanup?

The answer to this question will vary with the developer -- and the cost of the coverage may vary with the insurance carrier -- but the problem remains widespread. The constraints from the insurance provider's perspective pose a problem for small developers, especially when it comes to potential lenders' requests for insurance protection. As one broker noted, unless small-scale project developers have straightforward contamination problems with few expected unknowns, they may have exceptionally high needs for insurance coverage, since they can least afford the risk of losses.

One possible solution to this problem entails portfolio policies for small projects. Most portfolio coverage is obtained by private parties -- either an owner insuring a number of properties or a lender, pursuing protection for its portfolio of sites offered as loan collateral. For the many scattered, privately owned small sites, however, such policies will have to be created or facilitated by a public development agency or local or state government.

5.32 Environmental Insurance and Public Entities

At present, EI coverages do not adequately serve the needs of public entities that own brownfields and/or seek to facilitate the redevelopment of privately owned sites. A number of different options exist for public sector involvement with EI programs.¹⁰ At the lowest level of involvement, governments could simply play an educational role, disseminating information about EI to current owners and purchasers of brownfield sites. Alternatively, municipalities could form governmental self-insured pools in which associations of government entities retain large portions of risk rather than transferring it to an insurance company. Premiums, losses, and expenses are shared in agreed ratios and earnings that accrue on loss reserve balances are periodically distributed to members. Excess insurance is usually purchased from carriers for catastrophic losses. General

¹⁰While little information is available on government use of EI, see Ayers and Taylor (1998) and The E.P. Systems Group, Inc. (1997) for case studies and discussion.

You can get any three insurance companies in a room and ask, ‘Do you think you’ll ever sell brownfield policies to municipalities?’ We wouldn’t have to think before we told you in chorus, “No. They’re never going to buy it.”

	Public Sector Efforts to Investigate Insurance			Insurance Company Efforts to Inform Public Sector		
	Weak	Somewhat Active	Vigorous	Weak	Somewhat Active	Vigorous
A		–			–	
B		–				–
C	–					–
D	–			–		
E	–			–		
F	–					–
G	–					–
H	–					–
I		–			–	

In the interviews, insurance representatives identified several key barriers to developing products useful to governments, highlighting, first, the lack of public officials’ knowledge of currently available insurance products and, second, the absence of serious interest in insurance due to two factors -- the ability to self-insure and the special environmental liability protections available to cities and states. Whether a respondent characterized his or her firm’s efforts to market to the public sector as “weak” or “vigorous,” all insurance representatives indicated a preference for dealing with private parties because the transactions are less time-consuming and the prospects for a sale more likely. As one carrier noted on the questionnaire, *“The perception is that these entities do not purchase insurance and are not worth the company’s time to develop creative solutions.”*

Beyond the industry’s suspicions about the absence of serious public sector and development agency interest in insurance, the expressed frustrations with marketing to such entities focused on two aspects of contending with a bureaucracy -- dealing with multiple departments and coping with sluggish decision-making processes. Interview comments reflected, for example, difficulties

identifying the correct office with which to deal and lack of capacity to move forward with a purchase:

Broker: The trouble is finding the person who makes the decisions and then getting to them. You start wherever you can find an entry and educate them and then find out that they're not the right person and you have to find the next person in line, educate them, and keep working your way through.

Broker: [Cities] are really slow in reacting. It just takes an awful long time for them to make a decision. We may eventually do business with them, but we haven't yet.

Carrier: [City name] is a classic example. They have tons of property and want to buy a big policy...And we've been going around and around with them for years and they can't even get together a spec of the insurance they want. So it's never going to go anywhere.

Despite the pessimism about the prospect of actually issuing policies to public entities, all respondents indicated that, given sufficient effort, it is feasible within the context of their existing underwriting principles to develop insurance programs that, in principle, could serve public environmental cleanup and economic development purposes. The process of creating such programs will be complex, however, because of the various scenarios that need to be considered (e.g., privately owned properties being sold for redevelopment, government properties being sold or leased to private parties or being redeveloped for government use). The process would entail consideration of a series of difficult questions:

- ◆ Given the diversity of sites that municipalities and other government entities seek to redevelop, how feasible are portfolio policies?
 - How do state and federal insurance regulations affect the inclusion of both privately and publicly owned sites?
 - How might a portfolio policy be tailored to reduce costs for individual projects, when different projects require different coverages?
 - What are the prospects that portfolio policies will lower insurance costs sufficiently to serve the needs of small-scale projects?

- ◆ How appropriate and feasible are governmental self-insured pools for insuring brownfields?¹¹
 - Relative to the purchase of commercial insurance, to what extent would the cost savings, cash flow benefits, and coverage flexibility offered by these forms warrant the time, effort, and expense to establish them?
 - How do insurance regulations constrain the operation of a pool (e.g., in terms of the lines of coverage that may be offered)?
 - What roadblocks exist to adding EI coverages to established governmental self-insured pools?
 - What is the optimal composition of an insurance pool, i.e., a single municipality, several municipalities, or all entities within a state?

- ◆ What are the advantages of organizing a group of municipalities to purchase insurance from commercial insurers at reduced costs and favorable terms?
 - How many brownfield sites would be necessary to induce insurers to offer discounted prices?
 - Given that a single city may not have a sufficient number of brownfields to benefit from bulk purchases, should such groups be organized at the state level?

- ◆ Who should pay for the policies?
 - Should the involvement of governments be limited to educating private parties about insurance or should public entities subsidize EI?
 - How should public benefits be measured and assessed to determine the level of appropriate governmental support, if any?

Answering these questions requires efforts on the part of both public and private actors. Complex issues such as these necessitate a forum in which government representatives, insurance carriers, brokers, independent risk management consultants, and environmental lawyers are invited to participate.

¹¹For in-depth discussion of the pools, see International Risk Management Institute, Inc. (1999).

5.4 Variation Among Policies and the Need for Expertise

This final section of the report emphasizes a point that, in all likelihood, is already clear from the prior discussion; the variation across insurance carriers and the complexity of the individual insurance policies is burdensome. Redevelopers without extensive brownfield EI experience will need to acquire expertise to guide them in comprehending and selecting coverage suited to the requirements of their specific projects.

Table 33 offers indication of the flexibility of insurance carriers in providing coverage to individual projects, especially with respect to CCC and PL policies. Six of nine respondents reported that over 90% of their CCC were highly tailored or manuscripted (a subjective determination); eight of the nine indicated that over half of their PL policies could be characterized this way.

TABLE 33 PERCENT OF POLICIES HIGHLY TAILORED TO FIT CLIENT NEEDS															
	Cleanup Cost Cap					Pollution Liability					Secured Creditor				
	0	Less than 10	10-50	51-90	90+	0	Less than 10	10-50	51-90	90+	0	Less than 10	10-50	51-90	90+
A					–				–						–
B				–				–					–		
C					–				–				–		
D					–				–				–		
E			–						–						–
F				–					–		–				
G					–					–					–
H					–					–				–	
I					–				–					–	

This flexibility in underwriting renders the products valuable while, at the same time, creates the need for skilled underwriters and specialized brokers and/or lawyers to negotiate the policies. The policy-specific meanings of terms need to be attended to; policies may appear the same, but key definitions may differ. Exclusions for certain substances may need to be waived and additional coverages crafted. Further, the applicability of specific local, state and federal laws needs to be determined.

Comparing policies can be extremely confusing for buyers. Insurance company brochures and Web sites may give the impression that certain coverages are included in a policy by one company and excluded by another. However, the coverages may actually be provided by both, with one offering them in a standardized policy and the other providing the protection at no greater cost through endorsements. Additional sources of confusion include:

- documents that list coverages for various risks, but fail to note that a client may need to purchase more than one policy to obtain all the protections;
- a lack of uniformity in the ways insurance companies bundle coverages;
- different policy names given by different carriers to the same basic types of policies; and,
- inconsistency in the provision of details about coverages across carriers, rendering comparisons difficult.

According to brokers, carriers differ in many ways including their willingness to assume risk, to tailor a policy, and to negotiate price. Some providers have the capacity for larger dollar policy limits and longer term periods, while others are more amenable to offering coverage with smaller dollar and time limits. Moreover, the brokers report that there can be considerable variation in prices among carriers for the same coverage. Pursuit of multiple bids is the practice of three of the four brokers included in this study who urge that at least two carriers should be approached for quotes for any policy.

The environmental insurance market is maturing and the value of its products for brownfield redevelopment efforts is expanding. Brownfield developers with large projects appear to be increasingly well-served. However, small developers and the many public redevelopment programs trying to regenerate abandoned and underutilized sites still require help in identifying and acquiring the most useful and cost-effective insurance products.

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