



TECHNICAL BRIEFING

Insuring pollution & environmental damage

A SOLUTION TO EUROPEAN
ENVIRONMENTAL LIABILITY

In association with

AON

Welcome



IF YOU DAMAGE THE ENVIRONMENT, YOU RESTORE IT. If you pollute the environment, you clean it up. And if you foot the bill, shouldn't you be insured?

Environmental insurance has a history going back nearly 30 years in the US, initiated by concerns of general insurers not to be exposed and liable for complex and often costly environmental risks and liabilities driven by regulation and legislation.

Europe is now seeing similar challenges with the introduction of the Environmental Liability Directive (EU ELD) creating new liabilities across the European Union. The consequential costs, losses and damages from these liabilities, explicitly defined in this legislation, is driving many businesses to review their exposure—an exposure which is often found to be uninsured or underinsured by existing general liability and other policies and programs. If ignored, the consequence for a business can be very serious

While there remains a view that securing environmental insurance can be a “difficult process,” this report is designed to educate and inform as well as demonstrate that today's environmental insurance market is rapidly maturing and continuing to develop to meet the needs of the industry. As the coverage gap widens and uninsured exposure grows, the environmental insurance market has responded—in this case to the EU ELD—by developing new products and processes to address this risk.

Aon believes that brokers have to provide the leadership needed to continue to deliver value to clients. We hope you find this report informative about the role of environmental insurance in managing the increasing exposure to environmental risk and liability; providing vital protection and supporting companies in their sustainable efforts.

Dr Simon Johnson
EXECUTIVE DIRECTOR, EMEA
Aon Risk Solutions' Environmental Services Practice

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THIS YEAR'S RISK FRONTIERS SURVEY OF risk and insurance managers from a range of Europe's leading corporations that is being published at the Ferma Forum along with this report, focused on emerging risks and innovation.

We decided to focus on this topic because the world feels like a riskier place and so many risk and insurance managers have told us in recent years that they are fed up with the lack of innovative response shown by insurers and to a lesser extent,

brokers, to help them cope with rising risks.

Environmental risk is a good example.

It is not a new risk as such because people have been damaging the environment from the moment they climbed down from the trees and picked up a piece of flint or, depending upon your point of view, were placed upon this earth by a deity.

But it is an emerging risk that needs to be very much risk managed today, however, because society has decided that the environment needs to be protected and laws have been passed to ensure that it is and that those that damage it can be pursued.

Environmental risk is somewhat different to reputational and cyber risk though because there is a range of solutions on offer at relatively affordable rates.

During the research carried out for our recent management report on the ELD and our conference on the same topic in Brussels, I was surprised by the continued lack of awareness and concern shown by many risk managers for this exposure.

It seems that still only those that work in obvious polluting industries, such as chemical companies, feel more at risk and feel the need to proactively manage the risk and buy specific insurance cover.

For this reason I was more than happy to entertain the prospect of publishing this report when Aon's Dr Simon Johnson came to us with his proposal. This is an important topic and one which European risk and insurance managers need to think a little harder about and reassess their strategy.

Dr Johnson has done a fine job to explain further the evolving risk landscape and in particular the risk transfer options available, as only a broker perhaps can.

This Technical Briefing is different to our previous reports on ELD and Global Programmes, because they were written by our own expert journalists. The content of this briefing, apart from CRE Deputy Editor Ben Norris' overview, is therefore clearly Dr Johnson's own work and if any of our readers wish to discuss it further please contact him directly.

We are, however, pleased to be able to bring such valuable expert content and opinion on such an important topic to our readers and hope to publish similar Technical Briefings with other market experts on hot topics next year.

As ever, your comments are gratefully received and in particular ideas for future reports that you may find useful.



ADRIAN LADBURY
Editor, œ “ i A V ^ > • E , ^ A
ALADBURY COMMERCIAL

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> BEN NORRIS, œ “ i A V ^ > • E , ^ A Deputy Editor, identifies the recent growth in environmental exposures faced by European corporations and explains why risk managers need to take this risk more seriously and review their risk transfer strategy and options

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> Environmental insurance is now well established and is set for growth with the arrival of new environmental regulations, notably the Environmental Liability Directive, which is expected to dramatically increase the costs of environmental liability

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> Environmental liabilities comprise property damage, bodily injury and cleanup liability, and these liabilities are increasing as there has been a major increase in regulations globally and much greater enforcement by regulatory bodies, with the result that the costs of environmental risks and liabilities on businesses are increasing all the time

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> Environmental insurance comes in three main covers: Pollution Legal Liability, Contractors' Pollution Legal Liability and Remediation Cost Cap. These covers can protect either ongoing operations or offer cover for historical, pre-existing conditions. And the insurance market has expanded to include many new players in 2011

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> Many environmental losses are not covered by traditional general liability policies which will generally only respond to sudden and accidental pollution. However, the gaps in cover can be filled through specialty products offered by the environmental marketplace

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> There are two approaches to environmental insurance for ongoing operations: compliance-driven and exposure-driven. However, there are a number of issues when taking a compliance-driven approach and the current trend is towards adopting an exposure-driven strategy through a global insurance programme

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> The level of information required by environmental underwriters has long been an issue for corporates. This has improved where coverage is sought for new conditions, but where pre-existing conditions are to be insured, data on site conditions is still required but this is now much more readily available

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> Claims will continue to be complex and challenging, especially in relation to the ELD, not least over the issue of 'imminent threat' to the environment, and the challenge of biodiversity, and returning the natural resource to baseline condition, where the preferred approach is to use Resource Equivalency Methods

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Chapter 2

ENVIRONMENTAL LIABILITY & EXPOSURE

Environmental liabilities comprise property damage, bodily injury and cleanup liability, and these liabilities are increasing as there has been a major increase in regulations globally and much greater enforcement by regulatory bodies, with the result that the costs of environmental risks and liabilities on businesses are increasing all the time

6 ENVIRONMENTAL RISKS ENCOMPASS A WIDE array of liabilities, as illustrated in the following academic definition of environmental risk: 'The economic or administrative consequences of actual or potential, slow or catastrophic release of effluents, emissions, wastes, resource depletion, etc., arising out of an organisation's activities'.

For those of us working in the insurance and risk management arena, a more useful working definition of environmental risk is:

'Actual or alleged environmental damage caused by the release or disturbance of polluting materials from a business' activities resulting in bodily injury, property damage or cleanup liability'.

Discovery of pollution, a pollution condition or a pollution event is typically the trigger for an environmental loss or claim. Pollution is generally categorised as one of the following occurrences:

- b** NEW CONDITIONS—pollution caused by releases from current operations
- b** SUDDEN AND ACCIDENTAL RELEASES—pollution that happens within a relatively short and defined period resulting in consequential effects such as a rupture in a pipeline or failure of a tank valve
- b** GRADUAL—the 'drip-drip' occurring over an expanded period of time such as leaking underground pipes, valves, tanks, etc.
- b** PRE-EXISTING CONDITIONS—historic contamination caused by prior operations at a facility or site, typically soil and groundwater contaminated by materials used at the facility
- b** ON-SITE—pollution conditions within the boundaries of a facility or site requiring action to protect work-force or the environment
- b** OFF-SITE—pollution that is migrating, or has migrated, beyond the facility boundaries such as groundwater plumes or the deposition of airborne releases.

Environmental risk

Environmental liabilities comprise property damage, including contamination and vapour intrusion, for example from industrial chemicals and fuels migrating under building, bodily injury, including physical damage, inhalation of vapours, and ingestion of contaminated produce and mental anguish, cleanup liability and legal defense expense.

Regulatory enforcement action includes that taken by a regulatory body or other body delegated authority to intercede to protect human health and the environment from pollution conditions.

These bodies can require companies to undertake several actions, which might include an emergency response to a sudden and accidental release to contain and stabilise a release; an investigation and assessment of pollution conditions to determine their potential for impacting human health and the environment and potential remedies to mitigate the impacts; the cleanup, remediation and restoration both off-site and on-site (first party); taking action in relation to the enforcement of regulations with regard to groundwater, rivers, lakes etc or land and soil; or an assessment of environmental damage.

Environmental liability, legislation and Exposure

Over the last 10 years there has been an explosion in environmental regulations, gaining pace year by year. Research by Aon shows that there are currently more than 17,000 separate environmental regulations that address air, water (including groundwater), land and soil contamination. Legal liability for pollution and environmental damage is driven, in part, by the numerous environmental laws and regulations which are typically administered by government-appointed authorities responsible for environmental protection and compliance. Damages to third parties often accompany events that result in regulatory actions.

Another global trend is that these regulations are now being actively enforced by regulatory authorities. As a result, operators of potentially polluting facilities and operations are now more frequently being targeted for regulatory enforcement actions, and are exposed to significant legal liability under national, provincial/state and local environmental laws.

Across Europe, EU member states have differing legal regimes that share the fundamental common objectives of the EU Directives, including the Environmental Liability Directive (2004/35/EC), the Water Framework Directive (2000/60/EC), Integrated Pollution Prevention and Control (IPPC) (2008/1/EC) and the Directive on Protection of the Environment through Criminal Law (2008/99/EC).

Globally, a wide range of regulations apply, with many of them borrowing best practice requirements from the more es-

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ENVIRONMENTAL LIABILITY & EXPOSURE

The ELD creates a range of new responsibilities and liabilities for operators both within their home country and for any operations which are either trans-border or operate solely outside their home country

established regimes operating across Europe and North America.

Other areas of potential environmental liability include regulatory control over directives such as Seveso II (2003/105/EC) which apply to facilities that have the potential to cause a major accident, and international treaties and agreements such as The Basel Convention on Transboundary Shipment of Hazardous Wastes and their Disposal.

Examples of the potential impact of environmental risks and liabilities on business facilities and operations:

- Cost of risk identification, assessment and compliance with environmental laws
- Cost of losses and claims associated with third-party liability
- Cost to defend third-party claims (even where the party is ultimately exonerated)
- Cost of cleanup of onsite and offsite releases of pollutants
- Disruption of business due to the presence of contaminants or requirements for their cleanup
- Cost of fines and penalties imposed by regulators
- Unexpected costs to clean up acquired properties or businesses
- Losses occurring during construction or from completed operations (i.e. discovery of contaminated Chinese drywall in new homes or mould in condominium units)
- Losses occurring during remediation due to negligent actions of contractors
- Losses due to improper maintenance of structures or systems (i.e. mould due to failure of an air conditioning system)
- Cost to meet regulatory requirements in areas of expanded footprint of operations
- Cost of managing and mitigating risks, including insurance premiums for environmental insurance policies
- Cost to comply with financial responsibility requirements (i.e. underground storage tanks and waste management facilities)
- Losses due to intentional releases of contaminants (i.e. bio-terrorism or sabotage)
- Damages to business reputation

The financial consequences of many of these environmental impacts can be mitigated by the use of environmental insur-

ance, which responds to a broad range of third-party claims and regulatory actions that are not covered by general and excess liability insurance programmes.

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The purpose of the Environmental Liability Directive (EU Directive 2004/35/CE) was 'to establish a common framework for the prevention and remedying of environmental damage at a reasonable cost to society...' The ELD does this by creating, for the first time, a comprehensive liability regime that applies across the EU for damage to protected habitats, species, flora and fauna and liability for pollution of water, groundwater and land.

The ELD creates a range of new responsibilities and liabilities for operators both within their home country and for any operations which are either trans-border or operate solely outside their home country.

Liability may be strict, where the materials or operations are so hazardous that negligence need not be a factor in determining liability, or fault-based (negligence) exposure. In this context, and relevant to insurance claims, the definition of operator is broad and includes any person or company that operates or controls the damaging operations. In many countries, this will also include a person that exerts decisive economic control over the technical functioning of the operations.

The ELD's definition of 'environmental damage' to include protected species and habitats is perhaps the most important development in creating a broad basis for the liability of polluters across the EU.

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For the purpose of the Directive the following definition applies:

(a) damage to protected species and natural habitats, which is any damage that has significant adverse effects on reaching or maintaining the favourable conservation status of such habitats or species. Damage to protected species and natural habitats does not include previously identified adverse effects which result from an act by an operator which was expressly authorised by the relevant authorities in accordance with provisions implementing Article 6(3) and (4) or Article 16 of Directive 92/43/EEC or Article 9 of Directive 79/409/EEC or, in the case of habitats and species not covered by Community law, in accordance with equivalent provisions of national law on nature conservation.

(b) water damage, which is any damage that significantly adversely affects the ecological, chemical and/or quantitative status and/or ecological potential, as defined in Directive 2000/60/EC, of the waters concerned, with the exception of adverse effects where Article 4(7) of that Directive applies;

(c) land damage, which is any land contamination that cre-

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ates a significant risk of human health being adversely affected as a result of the direct or indirect introduction, in, on or under land, of substances, preparations, organisms or micro-organisms.

Where environmental damage as defined above does occur, the ELD specifies a number of potential obligations to address such losses depending on the scale of the damage and response to primary remediation, as outlined here:

PRIMARY :

Any remedial measure that returns natural resources and or improves towards baseline

COMPLEMENTARY :

Any remedial measure needed to offset that primary remediation restoration of the damage at service

COMPENSATORY:

Any action taken to compensate of natural resources and or set the date of damage until primary achieved its f

INTERIM LOSSES:

Losses that result from the natural resource services are performed their ecological functions to other natural resources primary or complementary effect. It does not consist of members of

The concept of environmental damage and the definitions adopted by the ELD are increasingly used by countries outside the EU and particularly for those countries that are members of the OECD (Organisation for Economic Cooperation and Development) which holds the ELD as an exemplar regulation for protecting the environment (Environmental Liability for Damage to Natural Resources).

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New types of definitions of losses and damages have been introduced for the first time across the European Union Some liabilities created by the ELD include non-pollution environmental damage

An assessment of coverage for ELD liabilities under general liability is needed

The definition of 'operator' needs to be reviewed and possibly restated in insurance policies

Operators bear responsibility for actions taken regarding an imminent threat of environmental damage

The ELD was implemented in 2007, and liability can be retroactive to that date

Liability may be strict or fault-based. It depends on a company's operations and other factors

An at-fault party is responsible not just for cleanup but for remediation and restoration of natural habitats and species Some incidents may be cross-border. Complicating matters, different countries have implemented the ELD with differing definitions and broader mandates, making application of the law and liability (e.g. joint and several) of polluters more complex

The monetary value of a loss and its concomitant restoration actions is very difficult to assess

Financial assurance/security is selectively (to be) required by operations that have strict liability in a number of countries: Portugal (from January 2010), Spain (expected clarity 2011), Greece (expected clarity 2011), Bulgaria (from January 2011), Czech Republic (2013), Hungary, Slovak Republic (2012) and Romania.

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A predecessor to the ELD in the US is the assessment of Natural Resource Damages (NRD) which is applied under a number of US laws. These regulations are defined as 'Damages recoverable at sites where injuries to natural resources have occurred as a result of releases of hazardous substances or oil or as a result of natural resource injury related to implementation of a response action'. They have been in place since the 1990s and provide a source of reference and a priori experience to the wider implementation across Europe of liability for such damage, specifically in the area of environmental resource equivalency to determine both the extent of damage and restoration mechanisms and targets.

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Environmental regulations will continue to develop in Europe and other nations where European countries conduct industrial operations. The effects of new regulations can often take several years to become apparent, depending on the speed of implementation and the aggressiveness of enforcement by regulatory authorities.

In those countries with a history of strict enforcement of environmental laws, the body of environmental regulation and law will continue to grow, and also will be further integrated into other aspects of general behaviour. This is demonstrated by the growth in the number of businesses registered under the ISO 14001 Environmental Management Programme. Elsewhere, regulations and enforcement will lag behind the US and EU as societies and governments become more sophisticated and governed populations demand more effective environmental governance.

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ENVIRONMENTAL INSURANCE: SOLUTIONS & MARKETS

Environmental insurance comes in three main covers: Pollution Legal Liability, Contractors' Pollution Legal Liability and Remediation Cost Cap. These covers can protect either ongoing operations or offer cover for historical, pre-existing conditions. The market has expanded to include new players in 2011

E HERE ARE A WIDE RANGE OF SPECIALISED insurance policies to cover environmental exposure to legal liabilities. Currently, most individual environmental insurance policies are underwritten by a single market. When higher limits are required (usually above €20m–€25m), follow form excess layers are provided by other environmental carriers.

Most environmental insurance policy forms can be put into one of the following categories.

Pollution Legal Liability (PLL) or Environmental Impairment Liability (EIL) is a policy to cover loss and damage for which the insured is legally liable or alleged to have a legal liability. This includes policies for pre-existing (historical contamination) conditions, as well as for new conditions and for ongoing operations. Typically, pollution liability coverage is used to (1) protect current and ongoing operations; and (2) facilitate a property or business asset or share transaction. Policies can be written for single sites and facilities or for a portfolio of operational assets and business activities and on a multi-national basis.

Contractors' Pollution Legal Liability (CPL): a policy to cover environmental loss and damage arising from contractors operating on third party sites. And, remediation Cost Cap or Remediation Stop Loss: a policy to cover loss arising from cost overruns during remediation.

Pollution legal liability

The PLL policy form is invariably 'claims made' for a specified period. While there are a number of potential coverages available, the most common in practice are:

- b Liability and clean-up for new conditions for fixed site facilities and operations
- b Liability for pre-existing conditions for fixed site facilities and operations
- b Clean-up of pre-existing conditions for fixed site facilities and operations
- b Legal defence costs
- b Transportation of wastes and other materials from an insured location.

Insurance solutions

'New conditions' coverage is usually limited to a maximum three-year fixed term, based on an aggregate sum insured over the period, although often written on an annual basis and can be grouped together as operational policies. Coverage for pre-existing conditions can be written on a 10-year claims-made basis by selective environmental insurance markets for a one-off premium paid on inception.

Examples of typical coverage:

- b Sudden and gradual releases of pollutants
- b New and pre-existing (historical) pollution conditions at owned, leased and managed sites
- b On and off-site cleanup of pollution conditions to meet regulatory standards for soil, surface water and groundwater (first party coverage)
- b Third-party claims for on-site and off-site cleanup, bodily injury, property damage, business interruption, diminution of property values
- b Liability associated with the disposal, transportation, treatment or destruction of waste streams
- b Defence coverage (within and/or outside the limit of liability)
- b Punitive damages and civil and/or administrative fines and penalties where allowable by law
- b Natural resource damages (NRD) in the US and biodiversity damages in the EU (EU ELD)
- b Change in law where new materials are determined to be hazardous or where cleanup standards have become more restrictive
- b Regulatory re-openers (such as regulators requiring additional cleanup following a completion of originally specified remedial activities)
- b Transport—own and third party contracted

Another way to view pollution liability coverage is to look at whether the risks are associated with ongoing operations (operational), historical (pre-existing) contamination, or the requirement to provide financial security to meet regulatory requirements.

Operational policies

These policies provide coverage for liabilities resulting from current operations at a facility. The following represent typical operations and businesses that are exposed to operational liabilities, loss and damage:

- b All types of manufacturing and fabrication
- b Chemical processing, blending and packaging
- b Petroleum exploration, development, production, refining and distribution
- b Power generation (fossil fuels, nuclear, wind, solar, water, etc.)

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ENVIRONMENTAL INSURANCE: SOLUTIONS & MARKETS

Owned, leased and/or managed property portfolios
 Waste treatment, storage and disposal facilities, including municipal solid waste and construction and demolition landfills
 Institutions, including hospitals, colleges and universities, public school systems and other public entities
 Warehouses, storage and distribution facilities.

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Historical (pre-existing) policies cover pollution liabilities and cleanup costs resulting from historical pollution that is present as a result of past operations or incidents at a site.

Pollution Legal Liability (PLL) policies for historic conditions is often used to facilitate transactions by transferring the risk of future issues from previous activities, faced by either the buyer or the seller, to an environmental carrier. Most purchase and sale agreements allocate environmental risks between the buyer and the seller and provide some form of warranty and/or indemnity to carry out the allocation. Unfortunately, warranty and indemnity agreements are only as good as the financial strength of the company granting the warranty, which in recent times has become more of an issue. Historic environmental insurance enables the warranty/indemnity risks to be insured.

These policies can be used in a number of ways to complement contractual relationships between buyer, seller and third parties such as investors and banks. They have proven highly successful over many years across a wide range of mergers and acquisitions and sale and transfer of property and businesses.

Typical applications include:

- Transfer of properties included in merger and acquisition activities
- Spin-offs that include the transfer of fixed facilities
- Divestitures of all types of real estate
- Protection for lenders providing funding of transactions where pre-existing pollution conditions have been identified or are suspected
- Legacy portfolio environmental exposures that may have accumulated over a period of time.

Coverage can be extended to previously divested properties subject to the availability and quality of underwriting information. Most policies allow for assignment, or the addition, of other individuals or entities as additional or named insureds on future transfers of the insured property(ies).

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Another area where environmental insurance policies can be used is the growing trend within regulations to require companies to demonstrate financial security (assurance) so that they can meet the requirements of the regulations in the event of a pollution release. One example is the ELD where a number of countries voluntarily committed to make financial guarantees a mandatory part of compliance for operations that are strictly liable under these regulations.

Example of a loss

Chemical storage facility in the Netherlands

The recent fire at a chemical storage facility demonstrates how a sudden event can result in environmental exposures ranging from air pollution of harbour and inland environmental damage (EU ELD), to groundwater damage and contamination of habitats. These losses, not covered by an indemnity without some form of environmental liability insurance, resulted in a total loss believed to be over €60m.

Example of a historical policy

Acquisition of a business in the UK

A US-based buyer was acquiring the shares of an operating company in the UK and the liabilities. The current owners wanted to limit their residual liability.

The two main sites both had significant operations and had been continuously active since the 1900s. The current use was not associated with the potential for significant environmental damage.

The solution was a 10-year pollution liability policy covering all pre-existing conditions and extending to the former owners as principal insureds.

This enabled the sale to proceed and provided for the seller, who paid for the policy, to be protected against future environmental damage.

Other examples of financial assurance can be found in waste management regulations, and in the Seveso II Directive, as well as being common in the US for closure and post-closure care of hazardous waste facilities and landfills. Insurance may not always be accepted, or available, to satisfy such requirements, but increasingly where it is allowed, environmental insurance can be an effective and financially efficient option for regulated businesses, complementing other mechanisms such as bonds and surety to provide complete solutions.

Contractor's Pollution Liability (CPL) insurance can provide coverage for environmental claims arising out of all types of contracting operations, including general contracting, trade and specialty sub-contracting, and environmental remediation. Increasingly, contractors are exposed to a broad range of environmental risks and liabilities, including those associated with gradual pollution of soil and groundwater from releases of fuels and solvents from underground tanks, pipelines and manufacturing operations, as well as sudden releases from spills, ruptures of tanks or pipelines, and dispersion of dust from construction sites.

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ENVIRONMENTAL INSURANCE: SOLUTIONS & MARKETS

Claims may also arise out of completed operations such as the development of mould from water incursions that are the result of faulty construction or defective building products.

Coverage can be provided for a broad range of risks, including:

- Sudden AND gradual pollution conditions which arise from operations performed by, or on behalf of, the contractor or named insured, including on-site cleanup
- Vicarious pollution liability from subcontractors
- Third-party claims for on-site and off-site cleanup, bodily injury and property damage resulting from pollution conditions
- Liability associated with the disposal, transportation, treatment or destruction of waste streams
- Punitive damages, fines, penalties where allowable by law
- Natural resource damages and biodiversity
- Coverage for claims resulting from products installed in the course of covered contracting operations
- Legal defence and associated technical costs
- Diminution in property value
- Contractual liability.

Policies with both occurrence and claims-made 'triggers' are available. Policies can be purchased for a specific project with a dedicated limit and policy period matching the project period (subject to a maximum 10 years for the project coverage and completed operations combined), or on an annual basis to cover all construction activity engaged in by the insured contractor(s) in that policy year.

Policies can also be structured on an owner-controlled basis, allowing the owner to be protected and to offer the insurance protection to all contractors and sub-contractors employed on the project or projects.

Examples of situations where pollution and/or environmental damage can occur in relation to Contractor's Pollution Liability include:

- On-site spills of oil, fuel and chemicals
- Contamination of clean stockpiles of soil and building materials
- Exacerbation of existing pollution when working on brownfield sites
- Discovery of unknown contamination during, and as a result of, construction activities
- Gradual pollution due to wastewater run-off and failure to control surface water on the project site
- Damage to sensitive habitats by de-watering operations
- Discovery of unexpected asbestos and asbestos-containing materials in buildings or as a pollutant in the soil or groundwater at a project site
- Uncontrolled storm water discharges that contain sediments or contaminants
- Placing, or excavating, historic fill material containing unknown contamination
- Impacting underground utility lines (water mains, sewer mains, gas and oil pipelines, etc)
- Encountering contaminated groundwater during geotech-

nical investigations, well drilling, site grading or other construction activities

Airborne fumes, vapours, odours and dust from covered operations at a construction site

Leaking underground/aboveground storage tanks

Contamination from minor spills of oils, fuel, lubricants, etc., and poor housekeeping

Improper disposal of waste materials at construction sites or materials shipped to non-owned disposal sites.

The following examples are all cases where insurance would have responded if it had been in place:

A sub-contractor, through breaching a reservoir wall, released over 1,000 tonnes of silt which poured into a river destroying vital spawning grounds for brown trout, sea trout and salmon. The full scale of the ecological impact will not be known for several years, but whole generations of fish could be lost as a direct result. Costs to date are in excess of €50,000.

A local council, as the direct employer of contractors on the regeneration of a former steel works in Corby (UK), is being held responsible for dust released from trucks transporting waste and contaminated materials on public roads from one part of the site to another. This activity resulted in subsequent litigation about the negligent release of toxic chemicals into the environment which, it is claimed, caused birth defects in children born to exposed persons.

Contractors engaged in the clean-up of an oil pipeline failure in southern France are being held liable for physical damage to protected species (environmental damage under the EU Environmental Liability Directive) caused by heavy construction plant and truck movements.

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Once the darling of the environmental insurance market, Cost Cap Policies have lost some of their lustre due to marginal underwriting and a poor loss record. Remediation Cost Cap programmes can provide valuable protection for unexpected cost overruns for specified remediation schemes and projects. Costs can exceed project budgets for a number of reasons, including:

- Finding that the target contaminants are more extensive or found at higher concentrations than originally anticipated

Several contractors have standing arrangements with insurers that enable them to offer proposals for guaranteed cost contracts, but they have not been used much in the past three years due to the complexity of the process

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The selected remediation technology is found to be unsuitable or proves ineffective in cleaning up the site. This may lead to either revisions of the original remediation plan or a change of technology, resulting in increased costs.

Changes in regulatory requirements during the remediation project such as requiring more material to be excavated or treated than originally estimated

The failure of remediation work to meet targets set by the regulating authority that require modifications or changes in technology or operation of the existing equipment for a longer period of time

A regulatory requirement to extend remediation, add monitoring or implement other measures not contemplated in the original remediation plan.

Insurers require a detailed remediation action plan, together with evidence that it has been approved by the relevant regulatory authorities. They also require a detailed estimate of costs that include volumes of materials, excavation, transportation and disposal costs and other elements of the remedial action work plan.

Remediation Cost Cap policies, where available, have relatively high premiums (12% to 15% of expected remediation costs are typical) and may be subject to a large deductible (15% to 20% of expected remediation costs are common). Cost Cap Policies are only available for larger remediation projects, typically where remediation costs are not less than €2m, and have a maximum policy period of 10 years. Cost Cap Policies are often combined with a Pollution Legal Liability Policy, which provides post-remediation coverage, and also with a Contractor's Pollution Liability Policy for contractor risks associated with remediation activities. By adding coverage for errors and omissions arising out of professional services, a remediation project would have a comprehensive protection programme for environmental risks associated with the project.

Cost Cap Policies are most often purchased by environmental contractors to support their work on guaranteed fixed-price remediation contracts. Insurers are typically more comfortable underwriting these projects where they are familiar with the qualifications and experience of the contractors performing the work. Where this type of programme is utilised, the cost of the insurance, including premiums and buffers, are added to the expected costs of remediation to arrive at a guaranteed maximum cost for the work. Several contractors have standing arrangements with insurers that enable them to offer proposals for guaranteed cost contracts, but they have not been used much in the past three years due to the complexity of the underwriting process and the relatively high cost of the protection provided.

Where a contractor or developer is required to indemnify any future site owner, these policies can be used to back any indemnity or warranty in relation to site cleanup and final conditions.

Example of contractors pollution United Kingdom

Development of a site

A developer needed to build on previously where residual contamination was on the landowner. As a condition to the plot landowner required the developer pollution program in favour of both the landowner, to protect against exacerbation of the known existing contamination. The policy period (construction period) plus a four maintenance

O

A number of environmental carriers have identified Europe as a growth area. From a core group of five established markets, the total number of insurers offering some form of standalone environmental policy is now around 13. The current gross written premiums are believed to be in the range of \$250m to \$350m per annum. As more companies purchase policies and programmes, whether to comply, or in response to exposure, the European market has the potential to grow rapidly as environmental insurance becomes good practice.

The following insurers are all able to offer some form of specialist environmental cover on a standalone basis, with different markets being more or less restrictive in terms of coverage, policy form, and global spread (most markets are able to offer a EU Freedom of Services form, but only a small number can be considered to be able to fully support wide ranging multinational programmes):

ACE	Allianz
Amlin—new in 2011	AXA
Beazley—new in 2011	Chartis
Chubb	CV Starr—new in 2011
Ironshore—new in 2011	Liberty
QBE—new in 2011	XL
Zurich—new in 2011	

This, in turn, has increased the overall capacity of the market, with most insurers able to provide a minimum of €20m of primary cover, with some insurers able to offer up to €50m, depending on the risk and the account.

In addition to the markets listed above country insurance pools have provided environmental insurance cover in their specific countries and for domiciled clients for a number of years.

The pools include; Assurpol in France, R C Inquinamento in Italy, Nederlandse Milieupool in the Netherlands and Pool Español de Riesgos Medioambientale in Spain. In Germany there is a local 'standardised' product for Environmental Liability Directive risks. All of these provide environmental insurance solutions that to a greater or lesser extent compete locally with the policies provided by the broader market carriers listed.

Many environmental losses are not covered by traditional general liability policies which will generally only respond to sudden and accidental pollution.

However, the gaps in cover can be filled through specialty products offered by the environmental marketplace

Pollution legal liability (PLI)

'The gap between traditional insurance cover and the range of environmental liability...has become uncomfortably wide and will get wider'.

E HIS IS THE CONCLUSION OF AN INDEPENDENTLY authored report entitled Environmental Risk—Insured or Not?, prepared in 2010 by the International Underwriting Association (IUA) in London and which analysed a number of environmental risks and liabilities.

This point is further illustrated by a typical gap analysis table [illustrated below] prepared as part of an Environmental Risk Analysis. This table demonstrates where there is no coverage for environmental risks under the general and excess liability insurance programme, and where there may be limited coverage (typically for sudden and accidental releases), depending on the circumstances of a claim and policy wording interpretations.

From this table, it is apparent that there are parts of every environmental loss scenario that would not be covered by general and excess liability policies purchased as part of the corporation's risk management programme. It also illustrates the breadth of coverage that is available for these same risks in specialty products offered by the environmental marketplace.

Gaps and their relationship to traditional programmes

Many companies have some form of sudden and accidental pollution cover through their liability policies, and so it is common practice for the environmental programme to concentrate on providing this gap cover either as a Difference in Condition to the General Liability and/or as a primary insurance where no other cover is available to be triggered by the loss.

Environmental protection can also be found in other insurance policies and programmes, such as 'all-risk' property policies, where there may be some coverage for cleanup of buildings, but not for soil or groundwater. Directors' and officers' liability policies may also provide limited protection for certain types of environmental claims, but the coverage is typically limited to claims against individual executives, and provides no protection for claims against the insured corporation.

Contractors pollution legal liability (CPL)

The same rationale applies equally, if not more, to CPL as illustrated on the next page, in the gap review for a general contractor table. Again, the table graphically illustrates areas of no cover and partial cover under traditional programmes, demonstrating how a CPL programme complements and provides additional protection and control. CPL policies can provide valuable protection for a number of environmental claims that are not insured by conventional general and excess liability insurance programmes.

CPL can be structured as a one to three-year programme covering all of a contractor's activity during the period or on a project-specific basis. Programmes can also be owner controlled providing cover on a contingent basis or to cover all contractors.

Table 4.1: Environmental Risk Analysis - Pollution Legal Liability (PLI) Coverage Gaps

Environmental Risk	Coverage Status	Typical Policy Wording
Third Party Bodily Injury and Property Damage	Insured	Sudden and Accidental
Clean up off-site	Insured	Sudden and Accidental
Clean up on-site	Not Insured	?
Legal Defense	Insured	Sudden and Accidental
Directors' and Officers'	Not Insured	?
Business Interruption	Insured	Sudden and Accidental
Transport	Insured	Sudden and Accidental
Non-Owned Disposal sites	Not Insured	?
Environmental Damage & biodiversity	Not Insured	?

* This table is an indication of the potential coverage gaps and issues. Each case is different.

Chapter 4

STRUCTURING PROGRAMMES

GAP CEG IEH € CO? TCACTOC'S LIA3ILITJ *

DESCIPTIO? OF COG EC (CPL)	LIA3ILITJ , CAC	POLLUTIO? LEGAL LIA3ILITJ
q \$r dParty 3o dly Injury , Property Damage o r s u e r t e A c c i d e n t a l		J e s i n t . G r a d a l P o l
q \$r dParty 3o dly i n j u r y , P r o p e r t y D a m a g e o s u e r s i t e A c c i d e n t a l		J e s i n t . G r a d a l P o l
q C l e a n u p o f f - s i t e	? o o v e r	J e s i n t . G r a d a l P o l
q C l e a n u p o n - s i t e i n b u i d n g e x a e r b a t i o n o f ? o o v e r		J e s i n t . G r a d a l P o l
p r e - e x i s t i n g s t r u c t u r e s , d i s c o v e r y o f n e w c o n d i t i o n s		
q L e g a l D e f e n e	S u e d n . A c c i d e n t a l	J e s i n t . G r a d a l P o l
q D i r e c t o r s ' , O f f i c e r s ' L i a b i l i t y	? o o v e r	J e s i n t . G r a d a l P o l
q B u s i n e s s I n t e r r u p t i o n	S u e d n . A c c i d e n t a l	J e s i n t . G r a d a l P o l
q S t a t u t o r y , r e g u l a t o r y n u i s a n c e	S u e d n . A c c i d e n t a l	J e s i n t . G r a d a l P o l
q E n v i r o n m e n t a l D a m a g e R e s p o n s i b i l i t y i n b i m m i n e o n b o t h e r e a t		J e s i n t . G r a d a l P o l

* This table is an indication of the potential coverage gaps and issues. Each case is different.

An increasing number of firms are conducting business operations, especially manufacturing, outside of the European Union. As this trend has spread, international corporations have elected to insure their operational assets through global insurance policies rather than purchasing separate policies in each country where they do business. When considering a global insurance policy, a number of issues need to be addressed. One of these is limits of liability. Aggregate limits from €20m to €50m are common for environmental insurance portfolios, although the trend is to purchase higher aggregate limits on global insurance policies.



S R O Y W

“Compliance continues to be a top priority for business, however, taking into account the example of Portugal where the requirement but no guidance led to some companies purchasing very low limits of liability (€50,000) just to ‘comply’.

Growth continues in Spain and the phasing in of mandatory financial provisions from next year. Other markets of growth, including the UK, France, and the key (traditional) Free Trade Agreements (FTA) and the key (traditional) Free Trade Agreements (FTA) have environmental risk as a key element of their risk profile. The level of claims, principally from operational risks, is increasing. One reason why we are seeing an increase in companies purchasing EIL to sit excess DIC/DILO programmes, for example the addition of top tier upgrade pollution events and not traditionally covered under general liability.

Self-Insured Retentions (SIRs) commonly range from €100,000 to as much as €10m. Some larger corporations also integrate capacity available in captive insurance companies into their environmental insurance programmes where large SIRs are utilised.

Another issue is policy structure. Some programmes use a fully-admitted environmental insurance policy issued in the UK with local underlying policies where required by law. Freedom of Services policies may be used to insure environmental risks and to satisfy requirements for evidence of financial responsibility in most EU nations. Where locations outside of the EU are included, a separate ‘Rest-of-the-World’ Portfolio Policy may be utilised in addition to the FOS Policy for EU nations. Environmental policies issued in EU countries do not typically extend coverage to US locations, which may be insured through standalone policies issued by environmental insurers in North America. The issues involved in environmental insurance are similar to those involved with global general liability programmes except that there are many countries that do not have recognised environmental policies, markets or capacity in country.

- The following are two examples of typical environmental insurance programmes for operational portfolios:
- Fabrication and distribution—European portfolio EU
 - All operating locations covered under the programme
 - EU Freedom of Services Programme
 - Programme Limit \$30m / \$150,000 deductible
 - 3-year term, claims-made
 - DIC/Excess to GL Umbrella programme
 - Chemical Company (EU-based)—Global Portfolio
 - EU Master programme—EU Freedom of Services plus Rest of World coverage
 - Limit €40m (€30m excess of €10m retention)
 - €500,000 deductible
 - 1-year term, claims-made
 - DIC/Excess to GL Primary programme
 - Local policies and certificates, Spain, Portugal, Brazil

Chapter 5

RISK MANAGEMENT & STRATEGY

There are two approaches to environmental insurance for ongoing operations: compliance-driven and exposure-driven. However, there are a number of issues when taking a compliance-driven approach and the current trend is towards adopting an exposure-driven strategy through a global insurance programme

6 ENVIRONMENTAL INSURANCE CAN BE USED TO fill the gap in third party and general liability programmes, but insurance is only one aspect of an environmental risk management programme. Companies should take a holistic approach to environmental risk identification, assessment, management, control and transfer.

The Systematic Environmental Risk Management Programme is an example of taking an exposure driven approach. Firstly, identifying and assessing the risks, and secondly, putting into place the most appropriate mechanisms for risk transfer and mitigation [see diagram, right].

Adopting such an approach ensures that the risk management process drives decisions about insurance and risk transfer, so that the first line of defence is always about good management and control of operations.

An integral part of environmental risk management is compliance with regulations and compliance with any licences, permits and other permissions to discharge that the operations are required to have, and the standards that have to be met. ISO 14001, for example, is now widely adopted and provides a recognised and auditable framework for environmental management. The issue of compliance also creates two approaches to environmental insurance for ongoing operations: compliance-driven and exposure-driven.

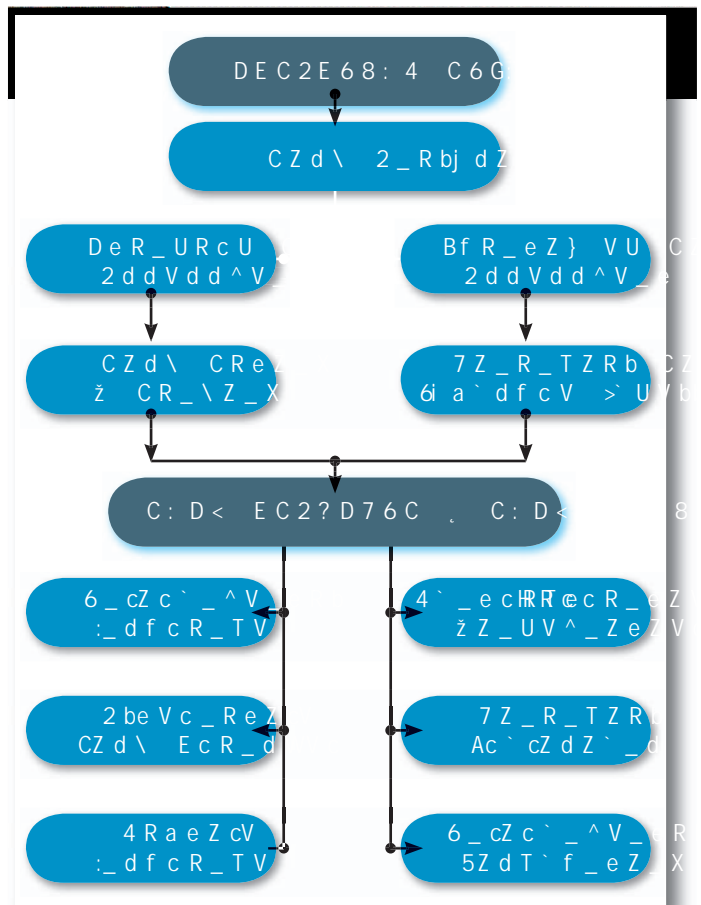
Buying your environmental cover—mind the gap!

Compliance-driven

This approach involves purchasing insurance and/or meeting financial responsibility requirements on a local basis, as and when required. A compliance-driven approach dictates the use of environmental insurance only where regulations require such insurance to meet financial assurance requirements in respect of its operations. Examples include the purchase of environmental insurance to satisfy mandatory financial security arrangements under the EU ELD in Portugal and Bulgaria, and the insurance-bonding requirements for high risk operations in Argentina.

Exposure-driven

This approach involves purchasing insurance that primarily protects the company from its exposure to new environmental risks and liabilities, but also deals with financial responsibility



Chapter 5

RISK MANAGEMENT & STRATEGY

requirements in nations where operations are conducted. The insurance may also be used to demonstrate local financial responsibility for environmental obligations. Increasing concerns about protecting the corporate body against high level catastrophic losses, as evidenced by the loss, damage and fines imposed in relation to the recent red mud spill at Kondohor in Hungary, are adding to the exposure debate.

The issues that commonly arise within global companies implementing a compliance-driven strategy include:

- Mounting costs of standalone local programmes compared with taking a global approach

- Erosion of protection against catastrophic events losses and damages as local limits (€1m–€5m) are likely to be below standards required by the authorities—irrespective of any financial security requirements, operators have unlimited liability in the event of damage

- No protection in countries that have implemented and are enforcing these regulations but which do not require financial security

- A requirement in law and regulation to prevent pollution and damage, for example, preventative measures in the EU ELD and IPPC regulation and permitting.

The trend in environmental risk management programmes is to adopt an exposure-driven strategy and mitigate the risks by putting into place either a European or global programme which increasingly may also include US risks and operations.

It is interesting to note in this context that risk of loss is



KARL RUSSEK AT ACE

“THE MOST IMPORTANT
average at present
by claims experience
be an up. Around 75% of all
claims and notifications
party be an up. Claims al
ost basis in Europe

worldwide, due to legal and

Sales have moved from one-off trans
most and the annual renewable cover for
which has also allowed for

Growth is in Europe, France, Spain,
Central Europe becoming more active.
spread but is good in Australia/New Zealand
becoming more active. Latin America, an
prime growth area

As to the future, growth will be
the economic background. The UK market
adapting annual programmes, and Europe
to continue. Latin America long term
an priorities. Increasingly, we have
businesses purchase insurance
particularly in respect

completely unrelated to compliance, and taking a compliance-driven approach does not guarantee protection, just compliance.

The level of information required by environmental underwriters has long been an issue for corporates. This has improved where coverage is sought for new conditions, but where pre-existing conditions are to be insured, data on site conditions is still required, but this is now much more readily available

EHE OLD MANTRA IN SECURING ENVIRONMENTAL coverage was—data, data and more data. And the process of obtaining environmental insurance was hampered by the need for comprehensive data regarding environmental conditions at all sites that were to be insured. Often such information was not available for some, or all, locations, placing a burden on prospective purchasers to have environmental characterisation reports prepared before proposals for insurance could be offered. In some cases, there were good reasons not to conduct environmental surveys, especially where cleanup could be required for any conditions identified in these investigations.

While the need for data has been relaxed for some classes of risk, environmental insurance remains an engineered class of business, meaning coverage is underwritten in relation to the risks and risk profile of the business. Policies are underwritten by insurance professionals with experience and knowledge of environmental risks, remediation technologies and claims scenarios that are common to specified classes of business.

Coverage for new conditions can often be underwritten with a minimal amount of information regarding operations of the prospective insured. But where pre-existing conditions are to be insured, data on site conditions will still be required, especially for locations that have been in operation for many years or where releases of harmful substances have been documented.

However, for many prospective insureds, environmental information is now part of their business process. Reporting to stakeholders, regulatory requirements and compliance makes available data that only a decade ago would have been hard to obtain. In addition, industry standard due diligence procedures for the purchase and sale of sites and facilities have resulted in a substantially increased body of knowledge regarding environmental conditions at manufacturing plants in many parts of the world. The data available still may need to be supplemented by investigations by environmental consultants or by inspections conducted by the environmental insurers themselves.

As a minimum, some information about the operations,

Securing your environmental insurance

environmental management controls and current site conditions will be required. To add coverage for historic pollution conditions, data on the cause and extent of known pollution and contamination, sufficient to assess the range of risks being insured, will need to be provided. In all cases an insurance application form will need to be completed and the warranties signed.

Pollution legal liability— new conditions, current operations

In recent years, insurers have become more pragmatic in their requirements for information needed to insure new conditions for current operations and operational portfolios. Together with a signed application form, insurers will, in general, require the following information to be provided for a business with industrial operations that, within the EU, will have strict liability under the ELD:

- [Country, location, full postal address
- [Value and size of property
- [Type of operation: manufacturing—chemicals, plastics, other (specified)
- [Property survey report, if available, and date of report—reports to be available to underwriters
- [Description of operations with ISO 14001 certification (if available)
- [Description of operations and facilities with IPPC permits (EU)
- [Annual environmental compliance audits and reports for the last three years, internally prepared environmental reports, sustainability reports, etc.
- [Information on underground storage tanks, including contents, capacities, installation dates, construction and protection provided
- [Correspondence with regulators regarding compliance with environmental.

In addition, the insurer may request, prior to binding, all available environmental reports, surveys, plans and other relevant correspondence related to the environmental risk, for example, correspondence with regulators following previous site remediation.

Businesses may also expect insurers to require either selected site visits and/or, more commonly, telephone risk surveys of key operations or a representative sample of typical operations. These are not usually an issue and may take around an hour, with all questions being sent to the operation in question, and its management, prior to the survey.

Chapter 6

THE PROCESS

Insurers typically seek to exclude or restrict cover for losses arising from existing pollution conditions identified in the baseline report, where those pollution conditions are subject to a current third party or regulatory action or such action is 'reasonably foreseeable'

The amount and detail of the information needed to bind a programme can also be affected by the level of any Self Insured Retention (SIR), either as self-insurance or where a company chooses to use a captive insurance company.

In cases where the insurer is already involved in a company's global liability and property programmes, less data may be required.

Pollution legal liability—pre-existing conditions, historical & current operations

There are two main circumstances where pre-existing conditions are covered. The first is where the insurance is placed in conjunction with a purchase, sale, merger or acquisition of locations to be insured. The second is where coverage is provided for pre-existing conditions, as well as for new conditions, as part of an environmental insurance programme for an operational site or portfolio.

In order to provide cover for claims and liability associated with historical (pre-existing) pollution conditions, environmental insurers will typically require some additional information (as well as the data previously described for new conditions coverage). This may be on issues such as the manufacturing and site use history and environmental setting of the subject site or properties. This information is usually contained within industry standard Phase I environmental site investigation reports.

For a site with a long industrial history and/or more complex environmental issues, an environmental intrusive survey (Phase II reports) will be required to identify baseline conditions (that is, an attempt to capture the environmental position at a certain point in time) and to determine the status of all confirmed releases, including the effectiveness of

any previous remediation measures. These reports may be investigations that have already been carried out, or they may be commissioned specifically for the purposes of the insurer.

Where a site has been (recently) remediated, a closure report and confirmation of no further action, or acceptance of the 'cleanup', where needed, will be required from the authorities.

Insurers will also typically seek to exclude or restrict cover for losses arising from existing pollution conditions identified in the baseline report, where those pollution conditions are subject to a current third party or regulatory action or such action is 'reasonably foreseeable'.

However, it may be possible to obtain cover for the identified pollution if it can be shown that such action would be 'fortuitous' (occurring by accident or chance) from the standpoint of the insured. In many instances protection from bodily injury damage claims can be provided for pre-existing pollution conditions. The provision of such cover is often the focus of negotiations with insurers.

Again, an insurer specific application form will need to be completed and the warranties signed.

Contractor's pollution legal liability

The information needed to place contractor's forms depends on whether it is a project specific policy or a policy to cover all annual activity. Where project specific, then details of the project will be required, including estimated costs, remediation details where such works are being done, or a description of the main activities, particularly relating to ground works, project terms, and names of prime contractors and major subcontractors.

Annual placements for all construction or contracting activities require a breakdown of turnover for the main risk-related activities, including ground works and foundations, remediation work, general and trade construction etc. Insurers will also want, for example, information about how projects are managed, qualifications of key individuals, contractual relationships with sub-contractors and control of labour. They may also request copies of standard contract forms and indemnity agreements entered into with project owners and subcontractors. Other areas such as the quality and environmental management systems and emergency procedures may all be required.

Completion of the application form will usually provide a contractor with a list of the information needed to bind coverage.

Chapter 7

CLAIMS, CLAIMS MANAGEMENT AND FUTURE TRENDS

Claims will continue to be complex and challenging, especially in relation to the ELD, not least over the issue of 'imminent threat' to the environment, and the challenge of biodiversity, and returning the natural resource to baseline condition, where the preferred approach is to use Resource Equivalency Methods

4 CLAIMS WILL CONTINUE TO BE COMPLEX and challenging, especially in relation to the ELD, not least over the issue of 'imminent threat' to the environment and the challenge of returning the natural resource of biodiversity to its baseline condition, where the preferred approach is to use Resource Equivalency Methods.

There is a significant body of experience with claims on environmental insurance policies for claims arising out of gradual pollution, on-site clean-up and remediation, and third-party claims for bodily injury and property damage.

It is becoming apparent that the ELD presents a number of claims management challenges, especially where claims involve damage to biodiversity, habitats and species. This is a new type of environmental claim and may involve non-pollution damage. For example, events such as fires, floods or windstorms can cause damage that is not within normal insurance definitions of "pollution". It is also an area where the ELD departs from the United States' concept of Natural Resource Damage (NRD), although experience with NRD claims in the US is critical for insurers to control and manage claims arising out of biodiversity issues in the EU.

The ELD also brings new responsibilities to regulated industries, which include: a duty to report environmental damage or suspected damage to the appropriate regulator; and a duty to prevent damage and take action when there is an imminent threat to the environment.

Where there is an 'imminent threat' of environmental damage, operators must immediately take all 'practicable' steps to prevent environmental damage and notify relevant authorities if such actions do not eliminate this threat. If environmental damage has already occurred, further damage must be prevented and the relevant authority notified. Failure to do so,

'Baseline' principle foreshadows complex claims scenarios

or to comply with a remediation notice served by the authority, is a criminal offense under the ELD, for which, in addition to the operator, a director or other responsible employee may also be held liable. This has significant implications in relation to 'emergency cost' cover in environmental insurance policies.

The judgment in 2010 of the European Court of Justice (Italian case C-378/08) clarified that the ELD applies to damages caused by an emission, event or incident taking place after April 30, 2007, where such damage is from activities carried out after that date or were carried out but had not finished before that date. This ruling sets a precedent for EU interpretation and holds true irrespective of when the country actually completed implementation of the ELD into national law.

The court also went on to say that, while causal linkage has to be established, fault or intent does not. Moreover, the competent authority in the country has discretion to determine how much investigation is actually required to allege or prove the cause.

All of the above factors will affect how claims will be made and managed in environmental policies and programmes that provide protection.

Resource Equivalency Methods

The challenge in any ELD claim is to 'return the damaged natural resources and/or impaired services to baseline condition.' Based on experience in the US, a preferred approach is using Resource Equivalency Methods. This technique brings ecology and economics together. However, it is not an exact science and is still young in terms of application to real-life situations. Some of the problems for 'early' ELD claims include:

- b Potential lack of experience in the methodology that could lead to unrealistic remediation and restoration targets
- b Ensuring equivalency between the debits and credits involved in biodiversity claims is conceptually quite simple, but practically complex
- b Understanding ecosystems requires elaborate studies and constant updates
- b The need for baseline data to define the extent of remediation
- b The practicality of calculating interim losses and applying compensatory remediation programmes. Significant expertise and professional judgment is

Chapter 7

CLAIMS, CLAIMS MANAGEMENT AND FUTURE TRENDS

required to apply the available models to real-life events. In a claims situation, such expertise needs to be brought into play by the insurer as early as possible to ensure claims for loss and damage remain reasonable and controlled.

Using experience from US Natural Resource Damage losses it is clear that where a release damages the environment, or threatens damage, costs can escalate rapidly and become more difficult to assess and control compared with a more traditional clean-up response. Such damage is also likely to generate additional third-party claims, for example from fishing groups affected by an event that pollutes a river, killing fish and threatening the aquatic environment.

The ELD has similar potential to significantly raise environmental liability loss costs. The French government study referred to earlier in this report (La directive 'Responsabilité environnementale' et ses méthodes d'équivalence or The ELD and Its Equivalency Methods), used the EU recommended Resource Equivalency Methods to re-evaluate two environmental incidents from the late 1990s. The researchers involved in this study found a significant spike in regulatory costs under the ELD—in the range of 10 to 40 times—when compared to the original costs imposed by regulators in the pre-ELD period.

In a report entitled 'A Review of the implementation of the ELD', published in October 2010, the European Union commented on around 50 cases to date since implementation. Since then claims activity and values seem to have increased, typically averaging not less than €250,000 (\$356,600).

From an insurance perspective the ELD, in addition to creating a number of potential gaps in cover, as discussed previously, presents a number of claims and claim management challenges particularly in the areas of:

- 'Environmental Damage' both as a loss and as a trigger for loss
- Non-pollution 'Environmental Damage'
- Gradual losses and continuity of damage where the actions accused of causing damage started before 2007 but were, or are, continuous beyond 2007 with damage occurring or becoming manifest after 2007
- Responsibility to prevent damage which is broadly stated to be a duty: (1) to report environmental damage or suspected damage to the appropriate regulator, and (2) to prevent damage and take action when there is an imminent threat to the environment;

Extensions for risks such as the transport of goods and products and operating on third-party sites.

It is a distinct advantage to be able to manage any insurance claims in-country and be able to take advantage of the claims experience and services that are available from the specialist environmental insurance market. For example, a client in Portugal who is able to leave the technical management of the loss and damage to the insurer's expert while the company concentrated on minimising the effects on business.

The increase in take-up and the number of markets offering environmental insurance will eventually put pressure on the reinsurance markets. While this is not obvious at present, overall rates for environmental insurance have stabilised after a number of years of downward pressure. This is especially the case for complex risks and high risk portfolios. Premium rating is also quite volatile as markets develop specific risk appetites.

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There are a number of trends and challenges for environmental insurance when developing the scope and scale of cover and continuing to expand the market and applicability of environmental insurance policies and programmes. One of the most pressing challenges concerns global programmes and compliance and how these programmes can be structured to meet the needs of multinational and global companies.

Other challenges include changes in regulations including areas such as changes in standards and regulatory enforcement, EU regulations and Directives, in particular the Directive on Environmental Crime and the proposed Soil Quality Directive and global regulations for environmental protection and damage. And finally, new risk and trends include:

- Environmental Regulations and Enforcement in the Far East (China and India)
- Regulation of mining and mineral extraction in South Africa, the Far East, South America and Central America
- Hydraulic fracturing for the recovery of oil and gas reserves
- Carbon Capture and Sequestration
- Carbon trading and credits
- Man-made disasters i.e. oil spills, releases from mining impoundment dams etc.
- Climate Change and its impact on environmental damage.

