

Environmental Claims Experience:
What's Old, What's New, What's Coming

By Michele Schroeder, AVP, Zurich Environmental

"Our destiny exercises its influence over us even when, as yet, we have not learned its nature: it is our future that lays down the law of our today."¹

The 1970s saw the first wide-spread awareness of the scope of environmental challenges posed by facilities dealing with hazardous materials and waste. The insurance industry instituted express exclusions with increasing frequency during this period. Litigation related to environmental liability increased in volume throughout the 1980s, as did wide-spread efforts to regulate facilities handling hazardous materials and wastes to prevent problems before they arose. Pollution insurance policies entered the insurance marketplace in the mid 1980's in response to market demand for environmental risk management solutions for liability exposures. Some estimate the current environmental insurance marketplace has grown to be a four (4) billion US dollar industry in the United States. With the advent of the European Union Environmental Liability Directive, the industry should continue to grow worldwide.

Relatively speaking in the business of insurance, environmental insurance is very "young" and remains a specialty coverage, rather than a standard lines risk. Further, because environmental liabilities tend to be latent in nature – due to challenges inherent with discovery of pollution conditions, changes in science and changes in law that have occurred over the short life of this insurance product, claims development is difficult to track and

¹ Friedrich Wilhelm Nietzsche, the great philosopher of the 19th century, made this statement in a paper titled, Human, All Too Human, in 1878, translated by Alexander Harvey.

characterize. Much professional knowledge and experience is required to evaluate and predict exposures because the rules which assign environmental liability via common law, statutory and contract interpretation are still being written – and re-written. In fact, the law has difficulty in agreeing upon just what constitutes a pollutant. And, regrettably, the law is inconsistent about that definition not only within its statutory provision but as between common law, statutory and contract law.

The Challenge of the Voluntary Nature of the Environmental Insurance Marketplace

Environmental insurance is a voluntary, non-mandatory purchase. Nothing mandates the purchase of environmental insurance. Some statutory provisions permit the use of insurance to satisfy some obligations related to financial assurance, but choice of method remains. Contrast the purchase of such insurance with that of worker's compensation, which is mandatory, with some exceptions to size of the company in all states, excepting Texas. Coverage for motor vehicle operations is mandatory as a condition of licensure. Or, consider the effective market based mandate for purchase of property insurance. This market driven requirement emerges from the lending industry desire to preserve the value of the collateral upon which they have leant capital. Similar market driven mandates create volume for the general liability market because business counterparties and partners do not want to work with uninsured parties. Oddly, no such market driven demand has emerged with respect to hazardous materials, excepting perhaps contractors and consultants trafficking in the hazardous waste arena – a very small market in comparison. The small and diffuse nature of the buyer community, and their high demand for custom coverage terms, combined with the highly technical and specialized nature of the risks, result in the insurance industry's management of the risk as a specialty risk, with coverage offering predominantly through the surplus lines marketplace structure. As such, little or no centralized reporting of losses or cause of loss exists, nor is it appropriate², for this part of the industry.

² Loss reporting with custom coverage is confounded by non-comparable terms and conditions. Rapidly changing laws and science over time and different law in different jurisdictions also largely makes the exercise fruitless in the absence of great detail upon technical issues and legal and science history.

The Challenge of Latency Characteristics: Insurability of Environmental Risks and Loss

Proper engineering and management of environmental risks is a predicate to qualification for insurance in the underwriting process. However, risks remain and such risks are the subject of properly underwritten environmental insurance. The underwriting process should assure that the remaining risks are of low frequency even though of a catastrophic nature, when they do occur. As a consequence, environmental loss experience takes time to develop. Lawyers, risk managers, actuaries and underwriters of environmental insurance have modest frequency of loss experience, in comparison to that available for standard casualty lines, with which to predict the future. Nonetheless, we must do it. This article will discuss emerging issues in environmental claims.

What's Old?

I. First Party Cleanup and Third Party Liability Claims

Petroleum based fuel, oil, solvents, volatile organic compounds ("VOC's") and polychlorinated bi-phenyls ("PCB's") and other chemicals, substances and materials can either gradually or by sudden event release into and accumulate in the soil, groundwater and vaporize in the air and atmosphere and in structures. Contamination³ and consequential damage and loss can result from: 1) the gradual accumulation of contamination from ongoing manufacturing activities, industrial operations and treatment, storage and disposal operations; 2) accidental events (machinery or facility equipment failure or breaches in containment); 3) negligence in the design and / or performance of standard operations; 4) natural disasters (wet weather, storms, hurricanes, wildfires); 5) criminal acts and vandalism; and 6) naturally occurring substances. Contamination⁴ may be

³ Such events do not necessarily trigger any insurance coverage. Terms and conditions of the specific policy at issue must be evaluated in detail to evaluate coverage implications of specific events and / or conditions.

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discovered or defined by: 1) accidental event; 2) observation: odor, smell or sight; 3) environmental audit; 4) inventory record review showing loss of product; 5) environmental assessment accompanying a real estate transaction; 6) capital improvement or facility upgrade; and 7) injury to others.

Claims may include (depending upon the specific policy terms and conditions and local law) government directed or enforced remediation orders, and/or third party individual or multiple party class action lawsuits alleging bodily injury including acute or chronic bodily injury and fear of future injury, property damage to soil and groundwater and diminution in property value or stigma⁵ claims. Claims may involve the remediation of historical contamination from years of operation, as well as new releases of contamination. Liability, depending upon local law, may be based in negligence, trespass and nuisance, strict liability from environmental statutes or products liability, conspiracy and fraud, breach of the duty to warn, or violations of law (fines and penalties). Claims may also come in the form of discovery of contamination above regulated levels. Claims often sound in multiple causes of action and in the alternative.

A typical claim might involve the insured/property owner or tenant, environmental consultant and insurer achieving a remediation of contamination that is required by environmental regulations. The typical claim involving soil contamination from a small source, including limited groundwater monitoring, averaged between \$250,000 and \$500,000 to remediate in the 1980s and early 90s⁶. Today, despite the advent of risk-based corrective action efforts, the costs of average cleanups have more than doubled, in part, due to a more conservative remediation protocols⁷, longer term monitoring for groundwater impact, especially the

⁵ Decrease in market value of property as a result of environmental contamination at or near the subject property.

⁶ This is a generalization, confounded by state of the science, specific site conditions, predominance of leaking underground storage tank claims in the sheer number of claims in the market, terms and conditions of the applicable insurance contracts, local law, enforcement patterns and other matters. The cleanup of dry cleaning solvents (ie: tri-chloroethylene (TCE), perchloroethylene (PCE)) which are soluble in groundwater, can be very costly including long term monitoring of groundwater and drinking water supply.

⁷ Natural attenuation is less likely to be an option approved by regulators especially when exposure pathways involve humans and natural resources. The options are more likely removal of contamination and longer term monitoring.

presence of perchloroethylene⁸, MTBE⁹ and other chemicals which are very soluble in water systems, travel quickly and persist for long periods of time; and the emergence of newly regulated materials and chemicals. The legal defense associated with third party claims requires costly legal and environmental experts especially if contamination is from several sources and national and/or local cleanup standards are not established.

What's New?

I. Office of the Attorney General lawsuits

Lawsuits brought by various State Attorneys General under *parens patriae*¹⁰ authority or trusteeship under authorizing statutes¹¹ for the protection of the public health or welfare (environment) of the state have sought either natural resource damage assessments for injury to soil, air, surface water, groundwater, drinking water, biota, and wildlife, or redress for MTBE in the groundwater and drinking water supply. These claims do not allege particularized injury to any one person but to the public at large.

A. Natural Resource Damages

Claims from the offices of various State Attorneys General seeking damages for injury to and restoration of the states' natural resources involve "re-opening" sites that have been remediated and provided closure by the respective environmental regulatory agency. Claims initiated by the New Jersey Office of the Attorney General with respect to natural resource damage to the Passaic River in New

⁸ Perc refers to perchloroethylene which is a known carcinogen and dry cleaning solvent.

⁹ MTBE refers to the chemical methyl tertiary butyl ether which U.S. oil refineries were required by 1992 pursuant to the Clean Air Act to add to petroleum with the goal of making the gasoline burn cleaner thereby reducing automobile emissions. The U.S. EPA classifies MTBE as a possible carcinogen; MTBE gives drinking water an unpleasant odor and taste.

¹⁰ *Parens patriae* in law refers to a public policy power and is invoked by a state to create standing to sue on behalf of the people of the state.

¹¹ Comprehensive Environmental Response, Compensation and Liability Act (42 U.S.C. 9601 et. seq.), and the Oil Pollution Act (33 U.S.C. 2701 et. seq.) designate the States' Attorney General as trustee for purposes of seeking assessments for damage to and restoration of the states' natural resources.

Jersey almost entirely involved sites that had been subject to remediation and provided closure by the New Jersey Department of Environmental Protection. The State of Alaska and the Department of Justice "re-opened" the Exxon Valdez matter¹². The natural resource damage restoration demand was \$92.2 million based, in part, on the government's assertion that the original natural resource damage settlement was inadequate in the way it addresses the injury to and restoration of Prince William Sound and the neighboring environment. Although not in such a dramatic way, current natural resource damage claims are being asserted as re-openers because the original remediation settlements were not adequate to remediate and restore the natural resources or compensate third parties for economic loss. In other words, natural resource damage claims are fast becoming a States' second bite at the apple with respect to prior inadequate remediation settlements.

B. MTBE

Claims from the offices of various State Attorneys General involving allegations for MTBE damage to groundwater and drinking water supplies were consolidated in multi district litigation in the Southern District of New York. As of January 2009, 136 actions involving MTBE were pending in the multi district litigation.¹³ The defendants in these actions are manufacturers and distributors of gasoline containing MTBE, and gas service station owners and/or operators. In most cases, because direct evidence of the source of the release is not possible, the states' characterize MTBE as a product in their pleadings for purposes of pleading alternative theories of liability including market share liability as a basis of alleging liability and causation against the defendants. Like the tobacco and asbestos products litigation where individual causation against any particular defendant is difficult if not impossible to prove, the law may impose industry wide liability and allocates damages based upon percentage of

¹² Agreement and Consent Decree, United States v. Exxon Corp., Nos. A91-081-083 CV (D. Alaska, Oct. 9, 1991)

¹³ <http://www.jpml.uscourts.gov/PendingMDL-January-09.pdf>.

market share.¹⁴ Such litigation has also introduced allegations of fraud and conspiracy among manufacturers of MTBE alleging that such manufacturers knew the adverse consequences of MTBE in the 1990's when they were required to add the chemical to fuel but continued anyway with the practice.

II. Re-opener Risk

The risk of "re-opener" of claims has manifested in a variety of areas, including, but not limited to, vapor intrusion. Vapor intrusion is the movement of vapors from subsurface soils or groundwater into buildings either through natural exchange of air or heating, ventilation and air conditioning systems. To have a vapor intrusion problem there must be a source of contamination and a pathway for entry of contaminants to a building. Occupants in the building may be exposed through inhalation and other pathways that may result in bodily injury, nuisance and / or trespass associated with odors interfering with the quiet enjoyment of property rights. The contaminant source can be natural ie: radon gas, or from human activity like spills. Common compounds for vapor intrusion are volatile compounds such as volatile organic compounds ie: perchloroethylene, benzene, and vinyl chloride. Other contaminants that are semi-volatile have still caused vapor intrusion problems include mercury, semi-volatile organic compounds associated with diesel fuel and heating oil; regulators have even sought to re-open for vapor intrusion related concerns for non-volatile compounds like PCB's – chemicals which were in fact developed to resist heat and where precisely those persistent and non-volatile characteristics are the main basis for their environmental concern.

Risk Based Corrective Action ("RBCA") practice issued by ASTM in 1994 permitted closure of sites with a showing of estimations or modeling of indoor air concentrations and looked to natural attenuation factors for predicting indoor air concentrations based on groundwater concentrations. This 1994 ASTM practice is currently being rejected and the US EPA adopted Guidance in 2002 that urges regulators and responsible

¹⁴ For the US insurance industry asbestos related losses could eventually reach as much as \$65 billion. (Insurance Information Institute, October 2008)

parties to evaluate (by actual sampling, collection, monitoring and NOT by previously accepted ASTM estimates or models) vapor intrusion pathways when the contaminant source is within 100 feet of a structure.¹⁵ More than twenty states have issued guidance on vapor intrusion.¹⁶ This change in approach has resulted and continues to result in environmental regulatory agency review of closed sites where vapor intrusion modeling or estimates were utilized to achieve closure often re-opening closed claims. The New York State Department of Environmental Conservation has reopened for vapor intrusion investigation over 400 sites which were subject to final closure prior to 2003.¹⁷ Reopening closed sites also raises the issue of who is liable for a previously closed site that is under new ownership. Additionally, because of what appears to be media attention, bodily injury or fear of future injury claims are now emerging due to concerns related to vapor intrusion that was previously evaluated by the estimation methods.

What's Coming?

I. Toxic Tort Litigation

Tort litigation generally requires an identifiable product or process to cause injury or at least the fear of future injury to an individual or multiple parties. However, we have learned from claim experience to date that the litigation process permits plaintiffs to proceed in some situations where fear of future injury is asserted or where there is an allegation of decrease in property value due to proximity to polluted areas whether or not the subject property was physically contaminated. The following discussion identifies some new technologies and processes which have the potential to generate environmentally related toxic tort litigation.

¹⁵ See Draft RCRA EI Supplemental Guidance for Evaluating the Vapor intrusion To Indoor Air Pathway (December 2001); and Draft Guidance for Evaluating the Vapor Intrusion Pathway From Groundwater and Soils (Subsurface Vapor Intrusion Guidance), 67 FR 71169 (November 29, 2002).

¹⁶ Brownfields Technology Primer : Vapor Intrusion Considerations for Redevelopment, EPA 542-R-08-001, March 2008 at www.brownfieldsdstsc.org. Appendix A lists: Alaska, California, Colorado, Connecticut, Delaware, Idaho, Indiana, Louisiana, Maine, Massachusetts, Michigan, Minnesota, Missouri, Nebraska, New Hampshire, New Jersey, New York, Ohio, Oregon, Pennsylvania, Wisconsin.

¹⁷ See New York Department of Environmental Conservation Program Policy, Evaluating the Potential for Vapor Intrusion, Nov. 22, 2004 which estimates possible re-openers expected to begin in years 2007 and 2008; and Interstate Technology and Regulatory Council Survey, Oct. 2007.

A. Nanotechnology Torts

The EPA has defined nanotechnology¹⁸ as "research and technology development at the atomic, molecular, or macromolecular levels using a length scale of approximately one to one hundred nanometers in any dimension; the creation and use of structures, devices and systems that have novel properties and functions because of their small size; and the ability to control or manipulate matter on an atomic scale." The purpose of nanotechnology is to create a product or process that is more useful and functional for its intended application. Some nanotechnology has pollution mitigation or reduction qualities. For example, nano-sized cerium oxide has been developed to decrease diesel emissions, and iron nanoparticles can remove contaminants from soil and ground water. Nano-sized sensors hold promise for improved detection and tracking of contaminants.¹⁹ The question of whether nanomaterials pose risk to human health and the environment is yet unanswered. Some nanomaterials have the quality of passing through cell membranes or crossing the blood-brain barrier which is beneficial for drugs and other treatments, but could result in unintended consequences to humans. Nanoparticles with high durability and reactivity nanomaterials may persist in the environment for long periods.²⁰ Nanomaterials can potentially be released into the environment from the manufacture and processing of nanomaterials, oil refining processes, chemical and material manufacturing processes, chemical clean-up activities used for remediation of sites, decay - releases of nanomaterials incorporated into materials used to fabricate products for consumer use and releases resulting from disposal of consumer products containing nanoparticles. Not only are the health and environmental effects of exposure to nanomaterials largely unknown but it is also unknown whether our current processes that capture and filter contamination are effective with respect to nanomaterials. However, to the extent that such capture and filtering processes are dependent upon size or other physio-chemical characteristics or normal sized particles, investigation is warranted.

¹⁸ U.S. Environmental Protection Agency Nanotechnology White Paper, EPA 100/B-07/001, February 2007 at p. 5.

¹⁹ *Id.*, at p. 9.

²⁰ *Id.*, at p. 10

Nanomaterials are produced by workers who are exposed to nanoparticles and scientists, researchers and medical professionals who are exposed to nanoparticles in research projects and medical procedures without any special protections other than those used for regular sized hazardous materials. Waste and by-products of nanoparticles are being released into our environment. Consumers are exposed to nanoparticles through skin application, inhalation and ingestion. Nanoparticles are generally patented and registered with the U.S. government.

Nanotechnology poses a unique litigation and regulatory challenge, converging product liability, tort, trespass, and government regulatory issues including duty to label and warn issues. Nanotechnology is increasing in use.

B. Genetically Modified Organism Torts

A living organism end product that has been genetically altered using bioengineering techniques is frequently called a "Genetically Modified Organism" (GMO) or a "Living Modified Organism" (LMO).²¹

GMOs can include items such as plants produced by using gene expression to produce toxins (sometimes referred to as "pest-protected plants"), animals produced by cloning or genetic modification, and animal or bacterial production of human drugs or vaccines. An example of a "pest-protected plant" would be "Bt" corn, or corn that has the genetically engineered ability to produce a toxin that combats certain types of pests. Bt corn is now planted on tens of millions of acres in the United States.

²¹ See Holly Saigo, Agricultural Biotechnology and the Negotiation of the Biosafety Protocol, 12 Geo. Int'l. Envtl. L. Rev. 779, 783 (2000).

Release of GMOs into the environment occurs both through intentional release (ingestion of food or drugs or planting on crops) and through unintentional release (GMO organism escape from laboratory or field containment systems, such as escape of GMO fish being raised through aquaculture or release of genetically engineered pollen or through and waste disposal of GMO materials).

The consequences of GMO activity can result in multiple parties experiencing injury from exposure to GMO product, or diminished property value or loss of use of product because of cross – pollenization, ie: crop failure. GMO poses a unique litigation and regulatory challenge, converging product liability, tort, trespass, and government regulatory issues including duty to label and warn issues. GMO and LMO methodology is increasing in use.

II. E-85 alternative fuels

United States deliveries from primary storage of motor gasoline totaled approximately 9,232,000 barrels per day as of April 2009.²² The demand for motor fuel in the United States and abroad is great and our supply is limited. Every change to the makeup of fuel has immediate and widespread effects due to the large quantity and broad geographic distribution of the product.

E-85²³ was largely introduced into the fuel chain after the enactment of the Energy Policy Act of 2005. E-85 has a high electric conductivity and reacts with soft metals in a manner which causes them to solubilize. As such, in addition to its flammability characteristics, E85 has the potential to cause extreme and rapid corrosion. If the containment system holding the E-85 is not "compatible", corrosion will develop in the system and cause release of product. Some states have implemented E-85 conversion as an alternative to petroleum use but have not ensured that the tank containment systems holding the E-85 can withstand

²² American Petroleum Institute at www.api.org, April 15, 2009.

²³ E-85 Ethanol is 85% ethanol and 15% petroleum.

the corrosive characteristics of E-85. It is also unclear whether the RCRA financial assurance requirements which specifically apply to petroleum and hazardous substance storage tanks²⁴ apply to the product, E-85. E-85's composition does not appear to make the tank a petroleum storage tank or a hazardous substance storage tank under the applicable regulations. We can anticipate several issues associated with E-85 including: an increase in storage tank leaks resulting from incompatible systems; and disputes concerning whether state storage tank funds and RCRA financial assurance as currently written apply to E-85. The extent to which these concerns also apply to lesser percentages of ethanol mixes is yet to be determined. These issues will be tested as the use of E-85 increases and claims are submitted for state fund and insurance coverage.

III. Climate Change

In recent years, there have been a rising number of climate-change cases. The litigation involving climate change to date includes actions based in statute and common law.²⁵ Litigants have sued the government both to demand certain regulation and to stop the government from regulating in this area. States and federal entities also have sued entities for failing to comply with federal and state law potentially related to climate change, such as the National Environmental Policy Act and state little NEPAs. Finally, plaintiffs also have brought tort actions for property damage allegedly related to climate change.

In the 2007 case of Massachusetts vs. EPA²⁶, a group of states, local governments and organizations filed suit against the EPA under the solicitude rule²⁷ for state standing alleging EPA's failure to regulate carbon dioxide and other greenhouse gas emissions from automobiles as a pollutant under Section 202 of the Clean Air Act ("CAA"). The Supreme Court stated that EPA has the statutory authority under the Clean Air Act to regulate greenhouse gases as a pollutant and that "...EPA has offered no reasonable explanation for its refusal to decide whether greenhouse gases cause or contribute to climate change. Its

²⁴ 40 CFR 280.41 and 40 CFR 280.42

²⁵ See Climate Case Chart prepared by Arnold and Porter, LLC at www.climatecasechart.com.

²⁶ Massachusetts et al. v. Environmental Protection Agency (EPA) 549 U.S. 497 (2007).

²⁷ In Massachusetts et al. v. EPA the court states the states have "special solicitude" to sue federal agencies when challenging inaction by an administrative agency.

action was therefore, arbitrary, capricious ...or otherwise not in accordance with law." The case was remanded for further proceedings.²⁸ To date, greenhouse gas regulations have not been established. However, other actions have taken place. In a March 27, 2008 letter from U.S. EPA to ranking members of the Committee on Environment and Public Works, EPA has provided advance notice of public rule making (ANPR) for both mobile and stationary sources under the CAA. On March 10, 2009, the U.S. EPA issued a proposed rule which for the first time would set forth a comprehensive national system for reporting emissions of carbon dioxide and other greenhouse gases produced by major sources in the United States.²⁹ The new reporting requirements would apply to suppliers of fossil fuels and industrial chemicals, manufacturers of motor vehicles and engines, as well as large direct emitters of greenhouse gases, including energy intensive sectors such as cement production, iron and steel production, and electricity generation. On April 17, 2009 the U.S. EPA issued a proposal with two distinct findings regarding greenhouse gases: 1) the current and projected concentrations of the mix of six greenhouse gases – carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulfur hexafluoride (SF₆) – in the atmosphere threaten the public health and welfare of current and future generations – referred to as the "endangerment finding"; and 2) combined emissions of CO₂, CH₄, N₂O, and HFCs from new motor vehicles and motor vehicle engines contribute to the atmospheric concentrations of these key greenhouse gases and to the threat of climate change – referred to as the "cause or contribute finding."³⁰ The proposed reporting requirements and the EPA findings could set the groundwork for future regulation of greenhouse gases by EPA.

The litigation involving climate change to date includes actions based in statute and common law.³¹ Litigants seek injunction against the government demanding the performance of certain action or restraint from action, and the regulation of private conduct. The majority of cases based in common law seek to enjoin private conduct and seek money damages as a consequence of climatic events. *Massachusetts v. EPA* alleged in part that

²⁸ *Mass. v. EPA* at p. 32.

²⁹ Proposed Mandatory Greenhouse Gas Reporting Rule, Federal Register/ Volume 74, No. 68, p.16448, April 10, 2009 and see <http://www.epa.gov/climatechange/emissions/ghgrulemaking.html>.

³⁰ Under Section 202(a) of the Clean Air Act, Federal Register/ Volume 74, No. 78, p. 18886, April 24, 2009 and see <http://www.epa.gov/climatechange/endangerment.html>.

³¹ See Climate Case Chart prepared by Arnold and Porter, LLC at www.climatecasechart.com.

US EPA failed to regulate "greenhouse gases emissions from new motor vehicles...under the Clean Air Act." The people of California and several environmental groups,³² for example, seek to require the US Department of Energy to adopt stronger energy efficiency standards allegedly required by the Energy Policy and Conservation Act and the Energy Policy Act of 1992 for electricity distribution transformers. The case alleges that the adoption of more stringent standards would reduce carbon dioxide emissions. Prior to the EPA taking action this year, the Attorney General of the State of California filed suit against several major car manufacturers for damages that may be incurred by the State of California in connection with global warming. The Court granted the defendants' motion to dismiss and California appealed.³³ California voluntarily dismissed its appeal in June 2009.³⁴ Environmental groups sued the Overseas Private Investment Corporation (OPIC) seeking to have environmental impact statements on collateral property that is slated for construction and development for which OPIC provides loans.³⁵ This case settled in February 2009, and per the settlement, the Export-Import Bank must (1) account for its carbon dioxide emissions when considering which fossil-fuel projects to insure and (2) develop a climate change policy. OPIC must reduce the greenhouse gas emissions of its major projects by 20% over the next ten years.³⁶ Challenges under state NEPAs, such as the California Environmental Quality Act, also have led to changes in standards for projects in California and other states. A court in California, for example, recently set aside an approval of a Wal-Mart project for failure to weigh the project's carbon footprint in the environmental impact statement.³⁷

Litigants also have filed tort actions for property damage and injunctive relief. Three weeks after Hurricane Katrina struck, fourteen landowners in Mississippi filed suit against the oil, chemical, utility and coal industries for a wide array of physical, emotional and economic damages alleging that the industries emissions of greenhouse gases contributed to global warming, which contributed to the severity of Hurricane Katrina. The Court has granted the

³² People of the State of California v. US Department of Energy, case no. 07-74819 (9th Cir. June 26, 2008).

³³ California v. General Motors Corp., No. 3:06CV05755 (N.D. Cal. 2007).

³⁴ California v. General Motors Corp., No. 07-16908 (9th Cir.).

³⁵ Friends of the Earth v. Mosbacher, 488 F. Supp. 2d 889 (N.D. Cal. 2007).

³⁶ Settlement requires federal agencies' accountability for climate change trade impacts, Climatewire, Feb. 9, 2009.

³⁷ Center for Biological Diversity v. Town of Yucca Valley, et al, No. CIVBS800607 (Cal. Super. Ct.); Carolyn Whetzel, California Court Says Town Must Assess Climate Impact of Propose Wal-Mart Store, Daily Environment Reporter, May 18, 2009.

defendants' motion to dismiss and appeal is pending.³⁸ The states of Connecticut, New York, California and others filed suit against utility, electric energy and power companies to abate and enjoin emissions of greenhouse gas emissions. The Court dismissed the case on grounds that the case raised non-justiciable political questions.³⁹ The Alaskan coastal village of Kivalina also seeks damages from oil companies for rise in sea level, sea wall failure, and compensation for "nation" relocation allegedly caused by the effects of climate change.⁴⁰

In future litigation, potential defendants for climate change tort actions include producers of fossil fuels, including the oil, gas and coal extracting companies; burners of fossil fuels including utility companies; and manufacturers of products that contribute to greenhouse gas emissions including automotive, vessel, and plane manufacturers. These defendants may be facing individual and class action lawsuits by plaintiffs who will allege bodily injury, fear of future injury, property damage and economic damages.

IV. Climate Change- Natural Disaster-Related Claims

The insurance industry has experienced an increase in property and casualty claims as a result of the emergence of natural disasters. In 2005, natural disasters resulted in 58 billion US dollar losses as calculated by the insurance industry.⁴¹ As of August 2007, insurers paid losses of 40.6 billion in the Gulf Coast states from Hurricane Katrina.⁴² Again, in 2008, natural catastrophes cost the insurance industry \$44.7 billion.⁴³ The share of loss attributed to environmental insurance has not been separately calculated but environmental losses from tank and containment ruptures, facility collapse and fire, treatment system overflow from wet weather conditions to name a few are emerging as material loss content. Scientists and policy makers predict that this trend will increase and claims as a result of natural disaster will become more common.

³⁸ *Comer v. Murphy Oil, U.S.A.*, (S.D. Miss. April 19, 2006) (appeal pending in 5th Circuit).

³⁹ *Connecticut v. American Electric Power* 406 F. Supp. 2d. 265 (S.D.N.Y. 2005).

⁴⁰ *Native Village of Kivalina v. ExxonMobil Corp.*, (N.D. Cal. Feb. 2008).

⁴¹ *Insurers Waking Up to the Risk of Climate Change*, Marketwatch, May 16, 2007.

⁴² *Katrina at Two Years*, Insurance Journal, August 7, 2007.

⁴³ *Sarah Veysey, Insured Cat Losses Top \$52 Billion in 2008*: Swiss Re, Business Insurance, March 17, 2009.

V. Microbial Matter

The common cold, virus, flu including avian bird flu, legionella, severe acute respiratory syndrome ("SARS") and other similar diseases transmitted from bacteria, virus, parasites and mold are not regulated as pollutants by environmental agencies. No environmental regulatory standards set the safe level of exposure to microbial matter or the cleanup of microbial matter. Traditionally, these matters have been managed as a matter of public health under the authority of public health agencies. Infectious disease and other naturally occurring biologics have been addressed under general liability policies – but no one anticipated the advent of extreme concern associated with mold. As with pollution, the insurance industry issued mold exclusions to confirm coverage intent, placing mold exposures squarely within the province of specialty coverages. Claims involving bodily injury, property damage and cleanup costs resulting from microbial matter have been rejected as general liability claims. The remedies sought in these claims include remediation of property serving as the host for the microbes. Such claims have forced the involvement of environmental regulatory and enforcement agencies. It is anticipated that the debate may shift regulation of these materials from a public health concern to an environmental regulatory concern. Such shift will likely bring an increase in claims for the real or perceived injury associated with microbial matter.

VI. Emerging Chemicals - Perchlorate

Perchlorates are salts derived from perchloric acid. Perchlorate is soluble in water. Perchlorates can occur naturally or through manufacturing operations. Perchlorates have been used in medicines to treat thyroid gland problems, rocket fuel, airbags, fireworks and fertilizers. Studies show that perchlorates may interfere with the development and function of the thyroid system in humans.⁴⁴ In 2005 the US EPA recommended a Drinking Water Equivalent Level (dwel) of 24.5 ug/L and in 2006 the EPA issued Cleanup Guidance recommending the same level. As of April 2007 U.S.

⁴⁴ National Academy of Sciences, Health Implications of Perchlorate Ingestion (2005).

EPA had not determined whether perchlorate is present at sufficient levels in the environment to warrant nationwide regulation on how it should be allowed in drinking water. USEPA's website indicates that the drinking water systems of 16 states and 2 territories are impacted by perchlorate and recommend that water treatment systems include systems to reduce perchlorate concentrations. Effective October 18, 2008, California regulated perchlorate as a drinking water contaminant with an unenforceable Maximum Contaminant Level (MCL) of 6 ug/L. In addition, California requires any detection (Detection Limits Reporting or DLR) above 4 gu/L of perchlorate to be disclosed to the state.

Momentum has been building for national regulation of perchlorate but as of January 2009, EPA has only set an interim health advisory level of 15 micrograms per liter (ug/L), or parts per billion (ppb). This level is based on the reference dose recommended by the National Research Council (NRC) of the National Academy of Sciences (NAS). The EPA is also seeking advice from the NAS before making a final regulatory determination on whether to issue a national regulation for perchlorate in drinking water.⁴⁵ Perchlorate is a special chemical of interest that is likely to result in increased litigation. Further, it can serve as a foreshadow for the national regulation of other chemicals of concern.

VII. Conclusion

Environmental claims activity has increased each year. This increase seems to defy other trends that tell us that industrial operations are safer, pollution control is working and more properties are remediated, posing no threat to human health and the environment. The following factors may contribute to the increase in frequency: 1) expanding doctrines of standing and relaxation of causation and particularized injury requirements: *parens patriae*; trusteeship; solicitude rule; market share liability; public injury; fear of future injury, diminution in property value and stigma; 2) re-opening closed environmental remediations on an industry wide basis also stimulating fear of future injury claims; 3) changes in

⁴⁵ <http://www.epa.gov/ogwdw000/contaminants/unregulated/perchlorate/html#one>.

remediation protocols and practices and regulation of emerging chemicals; and 4) the convergence of social, political and environmental issues being characterized as environmental injury, such as, climate change, GMOs and nanotechnology. Only time will tell how the future of environmental claims will trend but if the past is any indication it will continue to trend upward.

For more information, visit www.zurichna.com/environmental



Michele Schroeder
Assistant Vice President
Zurich Commercial Markets—Environmental

Michele Schroeder manages risk management, product development, regulatory and legal issues for Zurich Commercial Markets—Environmental. She represents the Environmental Unit with respect to the interpretation of policy language and intent, and in the development, negotiation and drafting of programmatic and specific policy language for complex deals and programs, and new and emerging markets. She provides general legal counseling in the areas of environmental and natural resource law, insurance, contract and torts. Michele is an attorney licensed to practice law in the states of New York and Connecticut, the United States District Courts for the Eastern and Southern Districts of New York and United States Court of Appeals for the Second Circuit.

Michele came to Zurich from private practice in Washington D.C. and New York where she participated in the defense of general litigation including construction and superfund cases in state and federal court. Michele holds a bachelors degree in Environmental Studies from Binghamton University. She received her Masters in Environmental Law and a Juris Doctor from Vermont Law School.

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