

The New York Environmental Lawyer

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of the New York State Bar Association

A Message from the Chair

With more than a little sadness did I recently read about the latest round of EPA resignations, because they included, on January 5, that of J. P. Suarez, our keynote speaker a year ago at the January 2003 Annual Meeting of the Section, as well as those of two other well-regarded, long-time air enforcement officials. Suarez, the head of the agency's entire enforcement division, spoke to the Section then about the Bush Administration employing "smart enforcement" of federal environmental laws, making decisions informed by environmental justice, to protect communities that might be at risk of bearing more than their fair share of pollution. Some of the attendees could be forgiven for finding an echo of "Clean Skies" in the phrase "smart enforcement," the spin of the huckster or Orwellian bureaucrat; and for questioning the speaker's declaration that the Bush Administration was committed to "vigorous enforcement" of our nation's environmental laws. It was not encouraging that Mr. Suarez lacked any prior environmental law background.



Just a few short months later, in April, however, Mr. Suarez spoke to a much smaller group of us at the University Club, as part of his reaching out to the environmental law bar. Gone were the clever phrases, the speechifying. Instead, we found, perhaps to our astonishment, that Mr. Suarez provided thoughtful and what seemed unrehearsed answers to whatever questions we posed. He'd clearly done his homework since January. He recognized the difficulties of honestly applying the strict regulatory regime under which our (private) clients operate and under which our (public) clients conduct permit hearings and bring enforcement actions. There really seemed to be hope for this Administration, and we found—to paraphrase our host that evening, a former Section Chair—that our inner environmentalists cheered even though our inner advocates would resist our clients' exposure to enforcement with Mr. Suarez at the helm of that part of EPA.

Alas, we should have known that, given his sensitive position, Mr. Suarez's evolving environmental ethic and understanding would sooner or later clash with Administration policy (as it presumably did last year for Administrator Christie Todd Whitman). We're sorry to see him leave the field when he was just warming to

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it, especially because he showed such promise of being a genuine protector of the environment. We wish him well in the future.

* * *

We are now barely beginning to feel the effects of the “legislation of the decade” in environmental law in New York—the long-awaited passage and signing of a state brownfield law in October. As we did for those who brokered the New York City Watershed Agreement several years ago, the Section awarded, at its Annual Meeting on January 30, Special Section awards to four of those who brokered the passage of New York’s new Brownfield Cleanup Act. Even as the dust is settling, news articles continue to highlight the *Sturm und Drang*, the passion, and what was—even by Albany standards!—the peculiar odyssey leading up to the passage of this law.

We in the Section, on the other hand, ignored all that; we don’t care who the alleged “winners” and “losers” are. Instead, our Brownfields/Superfund Reform Task Force undertook not once, not twice, but three times in about six months analyses of competing bills, including the one that became law. The Task Force resolutely plowed through several bills, describing the complexities in a straightforward yet elegant *explication de texte* fashion, and when necessary, comparing provisions with their predecessors. This evaluative task was not an *ad hoc* effort contingent on the particular predilections of the individuals who happened to be on the Task Force this year; rather, it was rooted in the principles the Task Force had declared, in October, 1999, to be essential for any brownfield law. See “Report of the Ad Hoc Task Force on Superfund Reform,” *The New York Environmental Lawyer*, Winter 2000, at 31–32. We sent the three-bill comparison in June, and the analysis of the fourth bill that we learned would become law in September, to key legislators and aides to the Governor, the New York State Department of Environmental Conservation, and several environmental groups.

In the Task Force’s third undertaking in six months, then, it developed a set of recommendations that, given the credibility it had developed with earlier efforts, the major legislative players genuinely welcomed as thoughtful and independent. These recommendations, sent out in October 2003, are set out in full later in this issue. They are either all or mostly—depending on your viewpoint—in the nature of “technical” corrections to rectify inconsistencies and just plain errors that crept into this particular legislation-making process, one in which the “making of sausages” metaphor has rarely been so apt!

And as befits the great diversity of views within the Section that makes it so rewarding to participate in its activities, the Association made it clear that the Section’s government members had “neither participated in the preparation of the Task Force Report, nor been asked to concur in the proposed changes and clarifications.” (Letter to legislators, et al., of Ronald F. Kennedy, Associate Director, Department of Governmental Relations of the Association, October 31, 2003.) (This issue had also arisen when we considered competing views within the Section on DEC’s draft Voluntary Cleanup Program Guide. See John L. Greenthal, “A Message From the Chair,” *The New York Environmental Lawyer*, Fall 2002, at 1, 2 & 4.)

For any reader who has not been active in Section activities, this is the kind of thing we do best, and that the rest of the environmental law world most looks to us for—analysis and suggestions from a diversity of opinions, and respect for those who, by virtue of their offices (and personal professional views) have to abstain from or otherwise stand apart in the process. If you haven’t up to now, do come join us in the adventure!

James J. Periconi

From the Editor

My column in the present issue will start off by extending some additional credit for an article in the Fall 2003 issue that had been inadvertently credited solely to David Freeman but which had resulted from the work and contributions of the several members of the Section's Brownfields/Superfund Reform Task Force. Dave alerted me immediately that, in fact, the "Analysis of



A. 9120" was a collective effort, and he wanted to ensure that Paul Dixon, Alan Knauf, Jim Periconi, Linda Shaw, Bob Tyson, and Co-Chair Larry Schnapf (Dave also is a Co-Chair) were also credited. Duly noted. These several members of a very active and productive task force deserve accolades for efforts that go well beyond merely the update that was the article's subject matter (to wit, the speedily assembled special program at the Fall Meeting on New York's brownfields legislation).

In the past, I've often invited the submission of articles that provide basic primers to our readers, in that they explain a topic that may be familiar to some readers but generally unfamiliar to many readers. I've also invited articles in what I think of as "hybrid" fields; that is, a technical, but non-legal, area of expertise that doubtless has value for many lawyers who require some familiarity with science or engineering. In the present issue, Bruce Kohrn and Peter Gorton submit such an article. Their general point is that environmental forensics may be necessary in connection with cost recovery actions at sites contaminated with petroleum and other hazardous substances and wastes. More specifically, though, the article walks the reader through basic hydrocarbon chemistry, how the molecular composition of various hydrocarbons affects environmental processes after releases, how "chemical fingerprinting" works and how chemical fingerprinting can be an effective tool in evaluating the nature and sources of particular contaminants. In an earlier life I had an undergraduate science minor for which I took a year of organic chemistry, one consequence of which was that I lost any

ambition to enter medical school, while another consequence was a subsequent and continuing aversion to knowing what went on with carbon atoms. Given that, I can honestly say that I found the article enjoyable and useful. For me, this means that I'll never look at a gas station the same way again; for readers more directly involved with hydrocarbon pollution, though, the article should prove to be a useful primer on the distinction among some very common hydrocarbons as well as the role employed by forensics when a client is involved in a cost recovery situation.

Carin Cardinale submits an article addressing the apparent surge of breast cancer cases on Long Island. Studies bear out the statistical significance of the number of such diagnoses in Nassau and Suffolk counties, but the causal link, if any, between the epidemiological and environmental causation remains uncertain. Better information regarding causation for policy makers would help in refining public health policy responses, but for lawyers, it becomes important, to the extent that environmental causation is provable, in crafting legal remedies. The article thus discusses what legal remedies may be available, yet analyzes many of the problems involved and shortfalls which result when toxic tort and traditional tort theories are employed. Given the notoriety of some very sad cases during the last couple of decades as well as the increasing public acceptance of the link between certain kinds of environmental contaminations and an increased incidence of certain cancers, but also the always worrisome concern of the public's vulnerability to junk science, this is an important topic.

Marla Rubin writes again in the area of legal ethics as applied to environmental practitioners. The St. John's students' case summaries are being shepherded by student editor, Brian Smetana. Jeffrey Zimring of White-man Osterman & Hanna was responsible for the Administrative Update. This issue likely will not be published until after the Annual Meeting in New York, but details from the Section's events at the NYSBA weeklong convention will be included in the Spring issue. We at *The New York Environmental Lawyer* would like to wish everyone a sincere (even if ultimately belated) holiday season.

Kevin Anthony Reilly

Environmental Forensics for Cost Recovery at Petroleum and Other Contaminated Sites

By S. Bruce Kohn and Peter J. Gorton

Introduction

The integration of environmental forensic elements in the investigation and remediation of petroleum contaminated sites (and other contaminated sites such as dry cleaners) can increase the probability of success in cost recovery. Forensic assessments of such sites are best conducted as a series of coordinated steps, each designed to create an historic and site-specific context for interpreting the analytical data. The key is to establish a thorough understanding of the property through chain of use, chain of ownership, geologic and hydrogeologic conditions and contamination chemistry. Chemical fingerprinting of petroleum-impacted environmental samples and free product, when used in conjunction with historic and site-specific data, can provide information on the release date or responsible party for a spill. Each property is different and the use and need for forensic assessment will vary. While environmental forensic assessments and chemical fingerprinting are applicable at most contaminated sites, this article discusses petroleum litigation and cleanup. Furthermore, this article emphasizes the chemical fingerprinting element of the puzzle, and provides some basic information for use as a reference about the chemistry and analysis of petroleum and petroleum-derived products.

Objectives of Integrated Environmental Forensic Assessments

Integrated environmental forensic assessments increase the probability of successful cost recovery by providing data and information useful in litigation, and may in fact help avoid the high cost of litigation altogether by supporting resolution through negotiated settlements and mediation. Objectives include:

- A. Determination of the historical uses of a site, the contaminants associated with those uses, and the locations on site where releases are likely to have occurred;
- B. Identification of responsible parties;
- C. Characterization of the petroleum products on site; and
- D. Allocation of responsibility.

Elements of an Environmental Forensic Assessment

The elements of an environmental forensic assessment of a petroleum-contaminated site include:

- A. **Review** of existing analytical data, case documents, the property use/incident time line, and historical documents (i.e., Sanborn maps, aerial photographs);
- B. **Research** of documentary, archival and other sources to fill in the data gaps;
- C. Establishment of an **in-depth site history**—including detailed historical chain of ownership, chain of use, and incident/environmental data documentation—to be used to formulate hypotheses regarding release dates, type of release, general direction, or responsible parties;

“Chemical fingerprinting of petroleum-impacted environmental samples and free product, when used in conjunction with historic and site-specific data, can provide information on the release date or responsible party for a spill.”

- D. Conduct **site geophysics** (optional and site specific) to examine both documented and undocumented UST locations prior to intrusive actions. This will prevent potential additional releases during future investigation tasks and will add to the site historical knowledge, sometimes significantly if undocumented USTs are discovered that were not previously known;
- E. Collection of new soil, groundwater and free product samples for **chemical fingerprinting**—collection of new data can be combined with planned subsurface investigation and/or during UST closure/petroleum remediation activities;
- F. **Evaluation and interpretation** of the data;
- G. **Documentation** of findings, as appropriate, for use in litigation; and

H. **Litigation support**, including technical case management and expert testimony.

Clearly, as suggested in D above, the elements of a forensic assessment are similar to the usual tasks involved in site investigation and remediation with some differences in information requirements and thought. Coordinating site investigation, remediation and forensic assessment tasks is more cost-effective and can provide better data production for litigation than when conducted separately. For example, municipal records are searched as part of a Phase I Site Assessment to determine the likely presence of USTs on a site. It requires only some additional effort to research the ownership of those tanks while there. Also, Phase II Site Investigations include the installation of boreholes to assess the nature and extent of contamination on site. It requires only some additional effort to collect split samples for analysis by a laboratory specializing in chemical fingerprinting. Finally, during site remediation, it requires only some additional effort to carefully document the location and condition of USTs on site and the nature and extent of contamination (as actually observed in the field).

When the forensic assessment is not integrated into the site investigation and remediation, the analytical data and the documentation may serve the usual regulatory purposes but are likely to be only of limited value in litigation. When brought in on a case after site closure is completed, an environmental forensic consultant can help evaluate the strength of the existing data and documentation being used to support the development of a legal case by discussing, for example, data quality and appropriateness.

While there are significant similarities between a forensic assessment and a site investigation/remediation, forensic assessments require some additional steps and a different approach. Phase I Site Assessments are typically formulaic and limited in scope. To uncover the information necessary to identify and establish the liability of a responsible party, a more open-ended and creative approach not usually associated with Phase I assessments may be required. This may include seeking out additional archival resources to research and individuals to interview.

The Chemistry of Petroleum Products

To understand the chemical fingerprinting of petroleum products, it is necessary to know something about their chemistry.

Petroleum Is Complex

Petroleum products such as gasoline and diesel fuel are complex mixtures of hundreds of chemical compounds called hydrocarbons. Hydrocarbons are molecules comprised of carbon and hydrogen atoms linked

by carbon-carbon bonds into long chains and rings. Crude oil itself—the parent stock from which petroleum products are derived—contains over a million hydrocarbons ranging from light gases to heavy residues.¹ The hydrocarbon compounds in crude oil and refined products fall generally into four classes: alkanes, isoalkanes, cycloalkanes and aromatic compounds.

Alkanes (also called paraffins) are comprised of straight chains of carbon atoms. Also referred to as linear or normal alkanes (*n*-alkanes), they are said to be saturated because each carbon atom has a single bond with four other atoms—usually either other carbon atoms or hydrogen atoms—the maximum number that the carbon atom can accommodate. The simplest alkane is methane, CH₄, comprised of a single carbon atom bonded to four hydrogen atoms. Ethane, C₂H₆, has two carbon atoms linked to each other and to six hydrogen atoms. Hydrocarbons are designated by the number of carbon atoms in the molecule, such that methane is referred to as C₁ and ethane as C₂. Fifteen to 20% of crude oil by weight is comprised of normal alkanes ranging from C₁ to C₄₀.

Isoalkanes (isoparaffins) are comprised of carbon-carbon single bonds (saturated bonds) and hydrogen atoms arranged in branched chains. Isoalkanes comprise 10 to 15% of crude oil, by weight.

Cycloalkanes (naphthenes) are like alkanes with carbon-carbon single bonds, but cycloalkanes, as their name suggests, are linked in rings. Two common cycloalkanes in crude oil are the five and six carbon rings, cyclopentane (C₅H₁₀) and cyclohexane (C₆H₁₂), respectively. Cycloalkanes comprise from 30 to 40% of crude oil, by weight.

Aromatics are unsaturated six carbon rings. They are said to be unsaturated because each carbon atom is bonded to only three other atoms (rather than four) involving alternating single and double bonds. This chemical structure confers unusual chemical properties on aromatics compared to the alkanes, including increased toxicity. The simplest aromatic is benzene, C₆H₆. Toluene is a benzene ring with an alkyl group (CH₃) replacing a hydrogen atom. Xylene has two alkyl groups substituting for two hydrogen atoms. Ethylbenzene has an ethyl group (C₂H₅) in place of one hydrogen atom. Benzene rings can also be joined to form polycyclic aromatic hydrocarbon (PAH) compounds with two or three rings. Naphthalene (C₁₀H₈), with two benzene rings, is the simplest PAH. Aromatics comprise less than 10% of crude oil, by weight.

Crude oil contains small amounts of other non-hydrocarbon elements, including sulfur, oxygen, nitrogen and trace amounts of metals such as lead and arsenic.

Chemical and Physical Properties of Hydrocarbon Compounds

The chemical and physical properties of hydrocarbons are determined by the number of carbon atoms, the types of bonds, and the structure of the molecules. For example, the smallest paraffins, C_1 to C_4 , are relatively lightweight and are thus gases at room temperature. The C_5 to C_{12} alkanes are liquids at room temperature, but evaporate easily and so are said to be volatile. The larger alkanes in crude oil are also liquid, but may be highly viscous (i.e., thick like molasses) at room temperature and do not evaporate as easily (i.e., they have higher boiling points). They are said to be semi-volatile. The aromatic compounds benzene and the alkyl benzenes are all liquids at room temperature and are volatile. PAHs are for the most part semivolatile liquids at room temperature.

The differences in chemical and physical properties among hydrocarbons contribute to the differences in use and performance of the various petroleum products they comprise. As discussed below, the differences in chemical and physical properties also account for the differences in behavior when released to the environment. Aromatic compounds, for example, are more soluble in water than alkanes with the same number of carbons, and tend to be found on the leading of groundwater plumes.

Chemical Composition of Petroleum Products

Gasoline is comprised of low boiling compounds from C_3 to C_{12} . Paraffins comprise approximately 10% of the different grades of gasoline. Isoparaffins and aromatics improve gasoline octane ratings (better anti-knock characteristics), and their concentrations in gasoline are higher relative to other hydrocarbons, particularly in premium grades. Isoparaffins average 35% of the different grades of gasoline. Benzene, toluene, ethylbenzene and xylene (the BTEX compounds) and other aromatics average 43% of gasoline. Premium grades average as much as 48% aromatics and can be as high as 60%.² The BTEX compounds are a particular concern because they are a health hazard to humans.

Diesel fuel is comprised of medium boiling compounds ranging from C_{11} to C_{18-27} because rapid volatilization is not needed or desired. Diesel contains high concentrations of cycloalkanes and low concentrations of BTEX compounds. Diesel has higher concentrations of PAHs than gasoline.³ Other petroleum products such as oils and lubricants are comprised of high boiling compounds comprised of larger hydrocarbons.

It is important to consider that petroleum products such as gasoline and diesel fuel are manufactured to

meet certain bulk characteristics such as combustibility, boiling point, and flash point. The exact suite of compounds is not specified and varies from batch to batch depending on changing specifications, the crude oil stock, the availability of raw materials, the refining process, and the season. To make heating oil flow better in winter, for example, it can be cut with kerosene, which is less viscous. This lack of chemical specificity in petroleum products is part of the challenge of using chemical fingerprinting for forensic purposes.

Additives

Petroleum products, gasoline in particular, contain additives to meet specifications and enhance performance. Several lead-based compounds (referred to as organic lead) were added to gasoline for many years to boost the octane rating. These include tetraethyl lead (TEL) and tetramethyl lead (TML). Ethylene dibromide (EDB) and ethylene dichloride (EDC) were added as lead scavengers to reduce buildup in the engine. As lead was phased out, oxygenates were added, including ethanol and methyl tert-butyl ether (MTBE), to boost performance and reduce environmental impacts. Organic manganese has been added (as MMT) to both leaded and unleaded gasoline.⁴ Other additives include dyes and detergents.

The mixture of hydrocarbons and additives in automotive gasoline has changed over the years, often to meet changing specifications, and the presence or absence of a particular additive in an environmental sample is examined in the chemical fingerprinting process to estimate the release date of a spill. Some additives, such as MTBE, have become contaminants of concern themselves. MTBE is a suspected carcinogen, is much more mobile in the environment than other gasoline components including benzene, and is apparently not susceptible to biodegradation.

Exposure to the Environment

The composition of petroleum products changes over time when released to the environment. Weathering is the term used to describe the chemical, biological and physical processes to which a release is exposed. The various components of petroleum products respond differently to exposure. Aromatics, for example, are generally more soluble than alkanes, and will dissolve in groundwater more quickly. The smaller alkanes and aromatics are more volatile than larger alkanes, and will evaporate more quickly.

The chromatogram of a fresh gasoline is distinctly different than the chromatogram of a weathered gasoline (see below for a discussion of the use of chromatography in forensic assessments), and a severely weathered gasoline will have a different chromatogram than a

moderately weathered gasoline. The degree of weathering can be correlated with estimates of weathering rates to estimate the release date, although efforts to do so have been more successful with diesel fuel than with gasoline. In either case, it is difficult to apply generalized models to site-specific conditions.

Chemical Fingerprinting

Simply put, chemical fingerprinting refers to the product identification process—gasoline as opposed to diesel fuel, for example, or one brand of gasoline or another. Because of the complexity of petroleum and petroleum-derived products, a series of analytical techniques are used to characterize petroleum hydrocarbons in soil, water or free product samples. The most common analysis used in the identification of petroleum products is a technique called gas chromatography (GC); additional techniques are used to further characterize samples in a stepwise fashion, depending on the results of each step, the sample matrix, and the goals of the analysis. For example, if it is determined by analysis that a sample contains gasoline, then subsequent analyses may be used to determine the presence of organic lead, indicating a leaded gasoline, or MTBE, indicating a gasoline manufactured in the early 1980s or later. This stepwise series of analyses is often referred to as a tiered approach.⁵

Gas Chromatography

Chromatographic techniques separate complex mixtures like petroleum into their component compounds and were first developed by the Russian botanist Michael Tswett around 1900. His purpose was to separate and isolate the yellow and green pigments in plants. First he used a solvent to extract the pigments from the plants. He then passed the extract through a glass column packed with a fine powder. Because the various pigments interacted with the powder differently based on their physical and chemical properties, some pigments moved more quickly through the column than others creating a separation between faster and slower pigments. (Think of the faster runners in a race separating themselves from the pack.) Tswett was able to visually observe the pigments in the plant extract separating into different colors, giving rise to the name chromatography, which means *writing with color* in Greek.

Similarly, gas chromatography takes advantage of the differences in boiling points of the components of petroleum to separate them as they pass through the column. Generally, the smaller hydrocarbons have lower boiling points than larger hydrocarbons, evaporate more quickly, and come out at the end of the column sooner. They are said to have smaller “retention times” and “elute” sooner. Resolution—the ability to

separate mixtures into individual compounds—is determined by several factors, including the extraction method (e.g., the choice of solvent), the type of column (e.g., the length, width and the type of materials in the column), and the column conditions (e.g., the initial temperature, the final temperature, the rate of temperature increase, and the total run time).

Rather than visually observe the separation as Tswett did, in GC chemists use several different types of detectors to “see” the separated compounds as they come off the column. Common detectors include flame ionization detection (FID), photo ionization detection (PID) and electron capture detection (ECD), each of which “sees” the compounds differently. FID detectors are non-selective and respond to all hydrocarbon compounds, whereas PID and ECD detectors are selective and respond more efficiently to aromatic and chlorinated compounds, such as the BTEX compounds, PCBs and pesticides.

Detector response is recorded as a graph plotting the abundance of the material coming off the column over time; the horizontal axis represents time, and is also equivalent to both boiling point and the number of carbon atoms in the hydrocarbons. The pattern of the graph is called a chromatographic trace or signature, and individual peaks on the graph represent different compounds. Because crude oil and petroleum products have characteristic traces, chemical fingerprinting involves the qualitative interpretation of the traces of environmental samples. Gasoline, for example, has an asymmetric trace—a ragged pattern of peaks—in the volatile range of compounds. The trace of a weathered gasoline exhibits a shift toward higher boiling point compounds, due to the selective loss of the more volatile and soluble compounds. The traces of diesel and other middle distillate fuels are symmetric “humps” with prominent, regularly spaced peaks indicating the presence of *n*-alkanes in the semi-volatile range. The trace of a weathered middle distillate fuel does not have such pronounced peaks, due to the selective loss of *n*-alkanes, which are susceptible to biodegradation.

Modified Standard EPA Methods for Fingerprinting

Standardized methods for GC and other techniques have been developed by the USEPA for the analysis of environmental samples collected in CERCLA or RCRA investigations. These standard methods are often used in forensic work, but they are used with modifications because they were not developed for the detailed measurement of petroleum or petroleum-derived constituents. The standard methods are used to identify the 160 volatile and semi-volatile organic compounds on EPA’s Priority Pollutant List, only 20 of which are

among the hundreds of hydrocarbon compounds in refined petroleum products (let alone the million or so hydrocarbons in crude oil). As such, a printout of analytical results from a laboratory typically only includes those compounds of regulatory interest (e.g., NYSDEC TAGM list compounds) and not compounds of forensic interest. The modifications made to the standard methods thus add compounds of forensic interest in petroleum fingerprinting and enhance the analytical resolution of these compounds.⁶

The most common fingerprinting method is GC/FID (Modified EPA Method 8015), which is used to characterize hydrocarbons ranging from C₈ to greater than C₄₄. An FID detector is non-selective (as described above) and non-discriminating, meaning that it does not identify individual compounds coming off the column. To identify individual compounds, the results of the analysis of the unknown components of an environmental sample are compared against the results of the analysis of a standard mixture of known compounds that elute at known times.

"In environmental forensics, chemical fingerprinting is just one piece of the puzzle in liability assessment."

A mass spectrometer (MS) is an analytical instrument that is used to identify individual compounds, and can be used as a discriminating detector when used in combination with a GC (a GC/MS). In GC/MS, the identification of individual hydrocarbon compounds and additives in a petroleum product is made more certain. Modified EPA Method 8260 for volatile compounds and Modified EPA Method 8270 for semi-volatile compounds are commonly used in the chemical fingerprinting of petroleum.

There is an inherent uncertainty in methods in which target analyte identification is made by comparison of an unknown sample to a known standard. This is the case in Method 8015 and EPA Method 8021 (GC/PID), which is commonly used at gas station sites to determine the presence of BTEX compounds. Data quality may be sufficient for most data uses, but in cases where target analyte identification is critical, as with compounds of forensic interest such as MTBE, the method requires confirmation by running the sample on a different column or on GC/MS. Because MTBE co-elutes with other compounds commonly found in gasoline (i.e., the resolution is not sufficient to completely separate the peaks), Methods 8015 and 8021 can misidentify the peaks leading to false positive results. Careful review of the data is often appropriate.

Uses of Chemical Fingerprinting

Chemical fingerprinting in environmental forensics is used to identify petroleum and petroleum-derived products such as gasoline, diesel fuel, solvents, and oils in soil, groundwater and free product (e.g., a layer of gasoline floating on groundwater) samples. Chemical fingerprinting techniques can help in litigation by providing information on a responsible party or the date of a spill. For example:

- By identifying a specific pollutant in a mixture of pollutants, chemical fingerprinting may identify the source of pollution when there is more than one potential source.
- By distinguishing between similar compounds contributed to site contamination, chemical fingerprinting can be used to determine the proportional allocation of liability.
- By analyzing the weathering patterns of a sample and by testing for individual constituents and additives, chemical fingerprinting can be used to estimate the release date of a spill.⁷

Coupling chemical fingerprinting with the other aspects of the forensic assessment process noted above can provide strong evidence on how, when and where a spill occurred and who is responsible for it. Care should be taken against using chemical fingerprinting alone to avoid the risk of making forensic inferences that the scientific data cannot support. For example, while the degree of weathering of a gasoline release can be estimated relatively easily from a chromatogram, the rate of weathering is dependent on a number of site-specific variables, and considerable caution must be taken when estimating the release date.⁸ Similarly, since many gasoline additives are brand-specific, the use of a particular additive can be used to identify the brand of a product, thus providing information that can be used to identify responsible parties. However, many additives are proprietary and not long-lived in the environment, and as a practical measure, brand identification may be of limited value.

Summary

In environmental forensics, chemical fingerprinting is just one piece of the puzzle in liability assessment. Environmental forensic assessments are most effective when conducted in a multi-faceted approach involving historical and documentary research and site investigations. Determining the release date or responsible party for a spill requires several different types of information including chemical fingerprinting, historical and site-specific data. When conducted properly, environmental forensic assessments combine a team of specialists that include geologists/hydrogeologists, environmental sci-

entists, chemists, gasoline service station hardware specialists, and legal experts. For some projects, other specialists such as engineers, private investigators and clean-up contractors may be necessary. Together, the totality of data and information gathered from such an integrated approach to a forensic assessment can provide sound technical support with which to develop or defend an action seeking recovery of remediation costs.

"When conducted properly, environmental forensic assessments combine a team of specialists that include geologists/hydrogeologists, environmental scientists, chemists, gasoline service station hardware specialists, and legal experts."

Endnotes

1. Morrison, Robert D., *Environmental Forensics: Principles and Applications*, CRC Press LLC, Boca Raton, 2000.
2. Kaplan, et al., *Forensic Environmental Geochemistry: differentiation of fuel-types, their sources and release time*, *Organic Geochemistry*, Vol. 27, No. 5/6, pp. 289-317, 1997.

3. *Id.*
4. Gibbs, L.M., *Gasoline Additives—How and Why*, Technical Paper 902104, Society of Automotive Engineers, Warrendale, PA, 1990.
5. Stout, et al., *Chemical Fingerprinting of Hydrocarbons*, in *Introduction to Environmental Forensics*, Murphy & Morrison, eds., Academic Press, San Diego, 2002.
6. *Id.*
7. Bruya, James E., *Chemical Fingerprinting*, in *Practical Environmental Forensics: Process and Case Histories*, Sullivan, Argardy and Traub, eds., John Wiley and Sons, Inc., New York, 2001.
8. Alvarez, et al., *Caution Against Interpreting Gasoline Release Dates Based on BTEX Ratios in Ground Water*, *GWMR*, pp. 69-76, Fall 1998.

A version of this article was previously published as part of the Spring 2003 materials for the NYSBA CLE seminar on Petroleum Spill Litigation and Cleanups.

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The Long Island Breast Cancer Study Project: Results of the Epidemiological Study Cause Considerable Barriers to Legal Relief

By Carin M. Cardinale

I. Introduction

In 2001, the American Cancer Society predicted that more than 180,000 women would be diagnosed with breast cancer, and 40,000 would die from the epidemic.¹ Furthermore, the numbers of women diagnosed with breast cancer in Nassau and Suffolk counties of New York State were higher than the national average between 1994 and 1998.² Due to the increased incidence of breast cancer, residents of Long Island have voiced their heightened concern. In response, the 1993 National Institute of Health Reauthorization Bill mandated that a study be conducted, which would explore whether there is a causal link between environmental pollution and breast cancer.³

The study's results, which were released in August 2002, ruled out a significant causal link between two groups of chemicals and breast cancer.⁴ These results create considerable barriers to the possibility of recovery for potential plaintiffs in a toxic tort action; absent significant causal results in the form of epidemiological data, there exists an inability to satisfy the strict causal link that needs to be established in order to prevail in a novel damage claim.⁵ Had the study produced significant causal results, it could have provided the epidemiological data that is essential in toxic tort and novel damage claims.

Part II of this article explains the role of a toxic tort claim for recovery when a causal link can be established between a toxic substance and an injury. Part III discusses the DES cases, which serve as an example of successful toxic tort litigation. Part IV surveys other possible claims under which toxic tort plaintiffs may seek recovery. Part V discusses in detail the results of the Long Island Breast Cancer Study Project. Part VI analyzes the problems currently faced by the women living in Nassau and Suffolk counties. Finally, Part VII discusses future events that may provide these women with hope.

II. Toxic Torts: A Possible Avenue for Relief When a Causal Link Between a Chemical or Toxic Substance and an Injury Is Established

Similar to the concern over the increased risk of breast cancer in Long Island, there is a heightened public concern over the potential adverse consequences from exposure to harmful toxins in the environment as a whole. As a result, the public has increasingly demanded that environmental regulations be implemented and

enforced.⁶ Furthermore, a massive wave of toxic tort claims has resulted from this public concern.⁷ For example, the residents of Woburn, Massachusetts, sought recovery for the contraction of acute lymphocytic leukemia in Woburn children.⁸ The source of the children's illness was contaminated local water sources, which was causally linked to industrial solvents.⁹

Specifically, the toxic tort is a cause of action arising from "an alleged personal injury and related harm resulting from exposure to a toxic substance—usually a chemical but perhaps a biological or radiological agent."¹⁰ In order to succeed in this type of action, the injured plaintiff must demonstrate causation by a preponderance of the evidence.¹¹ Although a plaintiff may attempt to meet this burden by arguing that his or her injuries were generally caused by exposure to a toxic substance, general proof is insufficient for recovery.¹² The plaintiff needs to provide proof of factual, individual causation (i.e., specific causation) of his or her injuries.¹³ The need for specific causation is the very causation problem that plaintiffs in toxic tort cases have great difficulty in overcoming.¹⁴ Additionally, the plaintiff must prove that his or her specific injury was caused by the exposure to a particular defendant's product or chemical.¹⁵ This burden becomes especially difficult to overcome when a plaintiff suffers from cancer that is indistinguishable from a background cancer in the general public.¹⁶

A. The Causation Problem: A Closer Look

Tort law separates the task of proving causation in a toxic tort into two distinct categories: medical and legal causation.¹⁷ Medical causation, which is related to proximate cause, is particularly difficult, and the plaintiff should present evidence demonstrating the following: (1) the carcinogenic characteristics of the chemical; (2) epidemiological data that exposure to the chemicals can cause cancer in humans; and (3) epidemiological data which reasonably concludes that the exposure caused plaintiff's cancer.¹⁸

Epidemiological studies provide the essential data, which serve as the source of evidence.¹⁹ These studies are conducted on groups of individuals who were exposed to a particular agent or factor.²⁰ They isolate and determine possible effects of the agent or factor on the prevalence of disease in the population as a whole.²¹ Furthermore, the stronger the evidence of general causation (i.e., that a particular chemical or toxin may cause

an illness) that an epidemiological study provides, the stronger the inference can be made of specific causation (i.e., that the particular chemical or toxin caused the particular plaintiff's illness).²² Results of an epidemiological study need not be statistically significant, although many courts require such a showing.²³ Therefore, use of epidemiological evidence need not be absolutely dispositive; so long as the study indicates that there may be a causal relationship, it could be favorable to a party in a lawsuit.

In order to prove beneficial to a plaintiff, an epidemiological study needs to fulfill the following requirements: (1) establish a statistically significant relationship between exposure and an increase in the risk of disease; (2) ground the established relationship in biological knowledge; and (3) provide for the extrapolation of the data to an individual plaintiff.²⁴ Getting such evidence into the courtroom proves to be a difficult task; it is for this reason that "[t]oxic tort cases instigated the cry for new standards of admissibility."²⁵

B. The Standard for Admissibility of Epidemiological Data

Even if a plaintiff plans to use epidemiological data in order to prove that a harmful toxin caused his or her injury, expert testimony presenting the data must pass the standard set for admissibility.²⁶ If the standard is met, then both medical and legal causation, which are required to be proven in a toxic tort, may be demonstrated.²⁷ A special standard originated in 1923 with the Court of Appeals of the District of Columbia in *Frye v. United States*, which formulated the following rule: where expert testimony was deduced from science, "the thing from which the deduction is made must be sufficiently established to have reached general acceptance in the particular field to which it belongs."²⁸ This "general acceptance" test was the prevailing standard for determining the admissibility of scientific evidence for the greater part of the century.²⁹

However, in 1993, the Supreme Court in *Daubert v. Merrell Dow Pharmaceuticals, Inc.* changed the reliance of the Frye rule in federal courts in favor of Rule 702 of the Federal Rules of Evidence.³⁰ This rule provides a more flexible standard than the Frye test, mandating that the trial judge must not only ensure that scientific evidence and testimony is relevant, but also that it is reliable.³¹ Specifically, the rule states: "If scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education, may testify in the form of an opinion or otherwise."³² Hence, the *Daubert* Court evaluated the methodology and applicability of the scientific evidence when deciding on its admissibility.³³

In order for epidemiological evidence to be reliable, it must be found to pertain to scientific knowledge.³⁴ This requires the trial judge, in his or her gate-keeping role, to analyze the following factors: (1) whether the scientific knowledge that was relied upon either can be or has been tested; (2) whether the theory or technique was subjected to peer review; (3) what the known or potential rate of error is for the technique; and (4) whether the information is generally accepted in the scientific community.³⁵ The Supreme Court in *Daubert* stated that the focus of the analysis "must be solely on principles and methodology, not on the conclusions that they generate."³⁶

When determining whether the epidemiological evidence is relevant, the trial judge analyzes whether the evidence or testimony will assist the trier of fact in understanding the evidence or in determining a fact at issue.³⁷ If, however, the evidence appears to be a mere extrapolation of an ordinary layman, then it may not be deemed reliable.³⁸

In addition to the FRE 702 analysis, courts also utilize Rule 703 to determine whether the data used by the witness may be relied upon.³⁹ Rule 703 focuses on the reliability of the facts or data upon which an expert bases his or her opinion, and states that they may be known to the expert either at or before the hearing.⁴⁰ The court in *DeLuca v. Merrell Dow Pharmaceuticals* interpreted this rule as delimiting the bases for expert testimony that may be deemed acceptable.⁴¹ Thus, "if an expert avers that his testimony is based on data experts in the field rely upon, then Rule 703's requirements are generally satisfied."⁴² However, the expert witness's opinion in the Bendectin cases fell short of meeting this standard.⁴³ In order to meet the reliability requirements articulated in Rule 703, the expert would have needed to base his opinion on data from a more recent epidemiological study.⁴⁴ This shows that conclusions of expert witnesses, which are based on epidemiological data, must overcome a threshold standard of reliability in order to be admissible as evidence of causation.

Similar to federal courts, New York State's courts also look to the Federal Rules of Evidence and *Daubert* for guidance. Currently, New York adheres to the Frye test, but it has been increasingly debated whether *Daubert* will be formally adopted.⁴⁵ For example, the court in *Pinales v. CSC Holdings, Inc.* looked to scientific knowledge, as discussed in FRE 702, when determining whether to admit evidence.⁴⁶ Thus, both federal courts and New York State courts apply a similar analysis to the admissibility of epidemiological evidence.

C. Courts' Acceptance of Epidemiological Data Demonstrating General and Specific Causation

Plaintiffs in toxic tort cases often use epidemiological data to prove causation, which is a mandatory ele-

ment of these actions.⁴⁷ The importance of epidemiological studies in proving causation was discussed by the court in *Annunziato v. City of New York*, which dealt with injuries allegedly attributed to the plaintiffs' exposure to toxic and hazardous emissions from a landfill.⁴⁸ Epidemiological studies regarding the emissions were not completed, which meant that the plaintiffs were unable to prove causation.⁴⁹ Further, the medical and scientific community did not possess knowledge sufficient to establish a sufficient causal link.⁵⁰ Therefore, the court concluded, "without knowing if these toxic substances are the cause of the injuries alleged, it cannot be said that [the Plaintiffs] had sufficient knowledge [of causation] to bring the action."⁵¹ *Annunziato* demonstrates the difficulty in proving both the general and individual causation of a harmful substance that caused injury in a toxic tort case.

Additionally, the plaintiffs in the Agent Orange cases experienced difficulties in proving general causation because of the lack of available epidemiological data.⁵² Agent Orange was a defoliant that the plaintiffs were allegedly exposed to during the Vietnam War.⁵³ Though the plaintiffs described Agent Orange as "one of the most toxic substances ever developed by man," they were unable to prove the chemical's carcinogenic effect in humans.⁵⁴ Furthermore, the court stated that plaintiffs had another hurdle to overcome: they failed to prove the difficult task of demonstrating individual levels of exposure.⁵⁵ As a result, the plaintiffs were unable to recover any damages from the manufacturers of Agent Orange.⁵⁶

Similarly, the plaintiffs in cases involving the drug Bendectin experienced difficulties in proving both general and specific causation. Bendectin was a prescription drug used to alleviate morning sickness in pregnant women, and caused a growing concern in the 1970s that it was related to an increase in birth defects.⁵⁷ Although the expert testimony of a pediatric pharmacologist stated that the epidemiological data supported a conclusion that Bendectin causes limb reduction defects (general causation), and the expert believed that the drug caused the plaintiff's defects (specific causation) to a reasonable medical certainty, this was insufficient.⁵⁸ The problem was that the expert relied on inferences from epidemiological data, which was insufficient in proving causation, i.e., a greater risk does not automatically prove causation.⁵⁹ These inferences were unable to withstand the court's scrutiny when it critically analyzed the reasoning process used by the experts in connecting epidemiological data to their conclusions.⁶⁰ The *DeLuca* court stated that until new studies were conducted, the epidemiological data relied upon was insufficient to prove causation.⁶¹

Moreover, even if it is a simple task in proving the carcinogenic characteristics of a chemical, it may be impossible to identify whether a plaintiff was exposed

to that particular chemical, thus causing the plaintiff's injury.⁶² The cases demonstrate that even where a chemical is identifiable, and it demonstrates carcinogenic characteristics, there may not be sufficient epidemiological data proving that that particular chemical can cause cancer in humans.⁶³ Furthermore, even where exposure to a carcinogenic chemical may cause cancer, there may not be epidemiological data proving that such exposure can reasonably cause the particular cancer that the plaintiff suffers from.⁶⁴ Hence, the need to prove both general and specific causation prevents many plaintiffs from recovering under a toxic tort theory because it makes proving medical causation virtually impossible.

D. Reasonable Medical Certainty

Additionally, assuming that a court admits expert testimony speaking to the issue of causation, the testimony must satisfy the specific standard of reasonable medical certainty in order for a plaintiff to recover damages from a defendant.⁶⁵ For example, the recovery of consequential damages in the form of future medical expenses requires that a plaintiff prove, with reasonable medical certainty, that medical expenses will be incurred in the future.⁶⁶ This standard was met where plaintiffs demonstrated the likelihood that medical expenses would be incurred as a result of their exposure to defendant's toxic asbestos contamination.⁶⁷ An expert witness's testimony must discuss, with reasonable medical certainty, that a plaintiff will face medical problems in the future as a result of the defendant's tortious conduct. This requires "a showing that sufficient information and knowledge existed to enable the medical or scientific community to ascertain the probable causal relationship between [a toxin] and plaintiff's injury."⁶⁸

Although it can be inferred that this degree of information and knowledge would also apply to expert testimony involved in the damages phase of litigation in a toxic tort claim, the court in *Sterling v. Velsicol* determined that plaintiffs, when attempting to prove damages by reasonable medical certainty, must "establish that their particular injuries more likely than not were caused by [the particular incident], their proofs may be neither speculative nor conjectural."⁶⁹ The court refused to accept medical testimony alleging that the contaminated water was possibly or may have been ingested by the plaintiffs.⁷⁰ The court stressed the importance of a high standard "with injuries or diseases of a type that may inflict society at random, often with no known specific origin."⁷¹ Therefore, an expert witness testifying in the damages phase should state conclusions as close to reasonable medical certainty as possible.

III. DES Litigation: An Example of Successful Toxic Tort Cases

Although the causation problem plagues many plaintiffs in toxic tort cases, particularly with the task of

attributing fault to a particular defendant, cases involving DES demonstrate a limited circumstance where plaintiffs were awarded recovery where they were unable to identify a particular defendant. DES, which is short for diethylstilbestrol, is a known human carcinogen.⁷² British researchers invented DES in 1937 and the FDA approved new drug applications of twelve DES manufacturers for limited uses including the relief of vaginitis, menstrual bleeding, morning sickness, and for the prevention of miscarriages and other complications from pregnancy.⁷³ Although the FDA considered the drug generally safe in 1947, it was later recalled in 1971 because a statistical association between DES and adenocarcinoma, a rare form of vaginal cancer, was discovered in daughters who were exposed to the drug while in the womb.⁷⁴ New York estimated that more than 100,000 of its own citizens alone were endangered by prenatal exposure to the drug.⁷⁵ As a result, the daughters filed thousands of lawsuits against the DES manufacturers, facing several barriers, including the issue of proximate cause.⁷⁶ Therefore, plaintiffs proceeded on the market share theory of liability because of their inability to identify the specific manufacturer who was linked to their mothers' injection of the drug.⁷⁷

As seen with the DES litigation, problems arise when a plaintiff does not know who the defendant is that caused his or her injury. This problem is known as the "intermediate-defendant" problem.⁷⁸ *Summers v. Tice* introduced the "intermediate-defendant" problem, where a plaintiff sued two defendants for negligence.⁷⁹ The California Supreme Court determined that since the defendants failed to meet the burden of proving who was responsible for the plaintiff's injuries, the damages would be apportioned between the two.⁸⁰ It was from this reasoning that courts have solved the "intermediate-defendant" problem and have held more than one possible defendant liable.⁸¹ However, although the DES litigation was a success for the plaintiffs who were unable to identify a defendant, "very few courts have imposed collective liability for 'intermediate-defendants' outside of DES cases."⁸²

A. Courts' Reactions to DES Lawsuits

The first court to tackle the causation dilemma faced by the DES plaintiffs was in California.⁸³ By extending the ruling in *Summers v. Tice*, the court held the defendant manufacturer liable under a market share approach.⁸⁴ Recognizing that it was not the plaintiffs' fault for failing to identify the proper defendant, and that approximately 200 companies manufactured DES, the court held each defendant "liable for the proportion of the judgment represented by its share of that market unless it demonstrates that it could not have made the product which caused plaintiff's injuries."⁸⁵ Therefore, manufacturers were severally liable for their portion of the damages.⁸⁶ Causation was thus measured by the

likelihood that a defendant could have supplied the drug to a plaintiff's mother.⁸⁷ As a result, plaintiffs who were unable to demonstrate that a particular defendant caused their injuries were awarded recovery.⁸⁸

New York also permitted DES plaintiffs to recover from the drug manufacturers absent a showing of causation that the particular defendant manufactured the drug ingested by the plaintiff, thus adopting a market share theory of liability.⁸⁹ However, New York chose to expand liability to reach the overall culpability of each defendant, applying its theory of liability to a national market.⁹⁰ Instead of looking at the culpability of each defendant in New York State, the courts will look at the harm caused on a national scale, i.e., the fault of each defendant is "measured by the amount of risk of injury each defendant created to the public-at-large."⁹¹ Thus, liability hinges "on the over-all risk produced, and not causation in a single case."⁹² This expanded manufacturer liability because in order for the entity to be liable, the company merely needed to partake in the DES market at the time plaintiff suffered her injury.⁹³

Similarly, Wisconsin and Washington tackled the causation problem in the DES cases, slightly altering the methodology utilized by California and New York in holding defendant manufacturers liable.⁹⁴ Specifically, both states focused on the risk created by each defendant.⁹⁵ The Wisconsin Supreme Court stated that a DES plaintiff need only commence an action against one defendant and further demonstrate that (1) the mother took DES, (2) this drug caused the plaintiff's injuries, (3) the defendant produced or marketed the DES, and (4) the manufacturer breached its duty owed to the plaintiff.⁹⁶ In holding DES manufacturers liable, the court recognized that "[d]rug companies, like other sellers and manufacturers, have a duty to produce and market reasonably safe products."⁹⁷ The Washington Supreme Court also utilized this reasoning when it adopted market share alternative liability.⁹⁸

IV. Other Avenues for Relief

Since courts have limited possible liability faced by defendants in toxic tort actions, novel damage claims may be a solution to an injured plaintiff. Novel damage claims in the realm of toxic torts often take the form of two causes of action: an increased risk of cancer and a fear of cancer.⁹⁹ One author has asserted that these claims might radically alter the traditional tort system in favor of allowing plaintiffs to proceed under easier standards with respect to the causation element.¹⁰⁰

A. Medical Monitoring

The expenses for medical monitoring are often sought as consequential damages when a plaintiff undertakes a novel damage claim. Medical monitoring, which is often in the form of annual medical examinations paid for by the defendant, permits parties who

were exposed to toxic substances to detect a chemically induced illness at its earliest possible stage.¹⁰¹ Its ultimate purpose is to provide an early diagnosis of an illness so that an economical and effective cure can be quickly achieved.¹⁰²

Public policy advocates the need for medical monitoring for reasons such as promoting the early diagnosis and treatment of a disease caused by another's negligence, avoiding the potential injustice for an economically disadvantaged party who cannot afford necessary medical treatment, promoting those with toxic substances to minimize risks and costs of exposure, and promoting the public's interest in access to the health care system.¹⁰³ However, those opposed to awarding medical monitoring costs argue that plaintiffs seeking this form of relief may deluge the courts with otherwise unmerited cases, which would create greater uncertainty in the tort system.¹⁰⁴ In order to create a balance, many courts that recognize this remedy require the plaintiff to suffer from a present injury, since the compensation being sought is for ascertainable costs arising from reasonably necessary medical procedures.¹⁰⁵

The United States Supreme Court addressed the issue of whether medical monitoring expenses should be awarded to an injured plaintiff that only alleged an exposure to a toxic substance.¹⁰⁶ In *Metro-North Commuter Railroad Co. v. Buckley*, the Supreme Court was faced with the issue of whether an employee can recover from his employer under the Federal Employers' Liability Act (FELA) where he was exposed to asbestos, but did not yet suffer from any symptoms of disease. Similar to the state law analysis, the Court found that mere exposure was not enough; a party can recover such costs if and when symptoms develop.¹⁰⁷ Although the Court recognized that medical monitoring costs might be recovered in certain situations where there is no physical injury, limitations are imposed upon the remedy in those circumstances.¹⁰⁸ Thus, it is difficult to recover under a claim of medical monitoring where the plaintiff has not suffered from an injury, which may arise from symptoms or a disease.¹⁰⁹

Although the issue of medical monitoring has not been formally addressed by the Court of Appeals in New York, the Court has opened the door for various lower courts to recognize the claim.¹¹⁰ The Court of Appeals in *Schmidt v. Merchants Despatch Transportation Co.* recognized that a plaintiff has a viable cause of action immediately upon exposure to a foreign substance, even where he or she does not suffer from an injury caused by the exposure when an action is commenced.¹¹¹ From this decision, the court in *Askey v. Occidental Chemical Corp.* determined that medical monitoring costs may be awarded where the plaintiff establishes "with a degree of reasonable medical certainty through expert testimony that such expenses will be incurred."¹¹²

Where the plaintiff's injuries are merely possible or speculative, medical monitoring expenses are not warranted.¹¹³

The plaintiffs in *Dangler v. Town of Whitestown* met this burden in a case of cancerphobia arising out of the exposure to contaminants from a landfill.¹¹⁴ Also, the plaintiffs in *Gerardi v. Nuclear Utility Services, Inc.* recovered medical monitoring expenses where they were exposed to asbestos as the result of the defendant's failure to warn them of the asbestos.¹¹⁵

Other states including Pennsylvania, California, and Utah also recognize damages in the form of medical monitoring expenses.¹¹⁶ Although the courts apply differing standards for when to award medical monitoring expenses, they generally indicate that mere exposure to a toxic substance is insufficient.¹¹⁷ For example, Utah's test of whether to award such damages requires a plaintiff to prove the following: (1) exposure (through ingestion, inhalation, injection, etc.); (2) to a substance that is toxic to humans; (3) the plaintiff's exposure was the result of defendant's negligence; (4) the exposure results in an increased risk; (5) the increased risk is to a serious disease, illness, or injury; (6) medical tests for early detection of the disease, illness, or injury exist; (7) a treatment exists; and (8) the test to be administered is medically advisable.¹¹⁸ "[T]he plaintiff's evidence must show the likelihood amounts to such a degree of probability that it is reasonably certain that the aftereffect will come about."¹¹⁹

B. Increased Risk of Disease

Perhaps the most difficult novel damage claim for a plaintiff to successfully assert is the increased risk of disease claim.¹²⁰ When a plaintiff alleges this claim, he or she must either be suffering from a present physical illness, or have evidence indicating that exposure to the chemical will lead to future illness.¹²¹ Therefore, a claim alleging an increased risk of disease is different from a medical monitoring claim because it "seeks present compensation for a possible injury to the plaintiff's general well-being, even though there is no evidence of present harm."¹²²

For example, the plaintiff in *Askey v. Occidental Chemical Corp.* asserted that exposure to discharge from a landfill containing toxic substances led to the increased risk of developing a disease.¹²³ The court stated that "[t]he novel issue presented is whether those persons who have an increased risk of cancer . . . by reason of their exposure to the toxic chemicals emanating from the landfill, but whose physical injuries are not evident . . ." may recover medical monitoring costs.¹²⁴ This issue was also presented in *Gerardi* where plaintiffs were exposed to asbestos while working at a nuclear plant.¹²⁵ These plaintiffs were not currently suffering from a disease, but they alleged that exposure to asbestos caused an increased risk in later contracting an illness.¹²⁶

As a result of exposure to toxic substances, plaintiffs in both lawsuits requested damages in the form of medical monitoring while arguing an increased risk in contracting cancer. The court in *Askey* acknowledged a plaintiff's need for medical monitoring as a result of consequential damages.¹²⁷ However, a plaintiff wishing to recover such consequential damages in an increased-risk-of-cancer case must meet his or her burden of proof; "he must establish with a degree of reasonable medical certainty through expert testimony that such expenses will be incurred."¹²⁸ The plaintiffs in *Askey* failed to lay a sufficient factual basis where their argument rested on exposure to the landfill's toxic emissions.¹²⁹ Again, the plaintiffs in *Gerardi* were able to meet this burden and thus were able to recover medical monitoring expenses from the defendant as a remedy for experiencing an increased risk in contracting cancer.¹³⁰

C. Fear of Disease

Similarly, plaintiffs may allege that exposure to a toxic substance caused them to suffer from fear of a disease that arises from an increased risk in cancer.¹³¹ This claim differs from a claim alleging an increased risk because unlike the increased-risk claim, the fear-of-disease claim seeks compensation from mental anguish and emotional distress.¹³² Also, plaintiffs are more likely to recover under this claim because its roots are in the common law.¹³³

In order to recover under the fear-of-disease theory, plaintiffs must, at a minimum, demonstrate that they suffer from an actual present injury that is caused by the increased risk of developing cancer.¹³⁴ This requires the plaintiff to prove exposure to a toxic substance and demonstrate that a rational basis exists for the fear of contracting cancer.¹³⁵ Failure to meet this burden may be detrimental to the plaintiff's case.¹³⁶

Although caselaw indicates that a plaintiff must demonstrate that he or she manifests symptoms of a disease, the court in *Gerardi* recognized that the plaintiffs suffered mental anguish as the result of the defendant's failure to warn about the dangers of asbestos.¹³⁷ The court reasoned "mental anguish is said to arise out of defendant's culpable conduct. . . . In circumstances where a duty is owed by a defendant to plaintiff, breach of that duty resulting directly in emotional harm is compensable even though no physical injury has occurred."¹³⁸ Thus, a plaintiff is more likely to be awarded damages as the result of mental anguish or emotional distress from a fear of contracting a disease rather than an increased risk of developing a disease.

V. The Long Island Breast Cancer Study Project

The Federal Public Health and Welfare Law mandated an epidemiological study for the purpose of determining whether certain environmental factors contribute to the elevated mortality rates attributed to breast can-

cer.¹³⁹ Specifically, this study was described as "a case control study to assess biological markers of environmental and other potential risk factors contributing to the incidence of breast cancer."¹⁴⁰ It required the evaluation of current and past exposures to environmental and other potential risk factors utilizing a particular geographic system.¹⁴¹ Thus, certain geographic areas became the focus of the study, and included New York State's Nassau and Suffolk counties, and hence the name The Long Island Breast Cancer Study Project.¹⁴²

Additionally, legislation mandating this epidemiological study outlined various other requirements that its directors were bound to adhere to. The direct monitoring of the individuals' exposure, as well as cumulative estimates of such exposure, were required for the following: contaminated drinking water, sources of indoor and ambient air pollution, electromagnetic fields, pesticides (and other toxic chemicals), hazardous and municipal waste, and other factors that are deemed fit for study.¹⁴³ Legislation also called for the study's completion no more than two and a half years after the provision's enactment, and the reported findings were to be compiled and submitted for review.¹⁴⁴ Ultimately, the purpose of this study was to expand and intensify the research related to breast cancer.¹⁴⁵

A. Results of the Long Island Breast Cancer Study Project

The results of the Long Island Breast Cancer Study Project (the "study") were released on August 6, 2002.¹⁴⁶ The study, which was prepared by Dr. Marilie D. Gammon,¹⁴⁷ divulged two main findings, which were major epidemiological disappointments to the hypothesis that the risk of breast cancer on Long Island was causally attributable to environmental pollutants in the area.¹⁴⁸ Specifically, the study's findings indicated that exposure to polycyclic aromatic hydrocarbons (PAHs) may increase women's risk of breast cancer by 50 percent, and exposure to organochlorines did not result in a significant increased rate.¹⁴⁹ The study focused on two classes of chemicals—PAHs and organochlorines—and did not discover a link between exposure to these chemicals and an increased risk of breast cancer.

B. Chemicals at Issue

The term "polycyclic aromatic hydrocarbon" defines a family of chemical compounds; the Environmental Protection Agency (EPA) identifies some of its members as probable or possible human carcinogens.¹⁵⁰ PAHs have been identified as mammary carcinogens in rodents, but their carcinogenic effect on the human breast remains unclear.¹⁵¹ Also, it is impossible to identify exactly which PAHs are responsible for adverse effects.¹⁵² This impossibility arises partly because PAHs occur naturally in complex mixtures.¹⁵³ Sources of these chemicals include the combustion products of fossil

fuels, cigarette smoking, and grilled and smoked food.¹⁵⁴ Due to their makeup, PAHs are stored in the breast fat of humans and bind to DNA.¹⁵⁵

As to the effects of PAH exposure and its effects on breast cancer, the study found a modest 50% elevation in risk for these Long Island women.¹⁵⁶ Although these results may provide a potential causal link between environmental pollution and the elevated risk of breast cancer on Long Island, the results from studying organochlorine compound levels in the blood indicate otherwise.

The study also analyzed the women's exposure to organochlorine compounds. Specifically, the study focused on the following organochlorine compounds: DDT (a newly banned pesticide), DDE (DDT metabolite), industrial chemical PCBs, chlordane (termiticide), and dieldrin (pesticide).¹⁵⁷ These compounds are classified as either known or suspected human carcinogens and produce known estrogenic and antiestrogenic characteristics.¹⁵⁸ For example, DDT was banned in 1972, when it was found to cause adverse effects in birds such as the majestic bald eagle, peregrine falcons, and ospreys.¹⁵⁹

As with the analysis of PAH levels, the study analyzed blood samples from Long Island women. The scientists measured PAH-DNA adduct levels (where PAH was pulled toward the main axis of the DNA) by isolating the DNA supplied by newly diagnosed breast cancer patients as well as a population control group.¹⁶⁰ However, the results from this part of the study were somewhat discouraging, finding little evidence to support the proposition that any of the organochlorines studied (i.e., DDT, DDE, PCBs, chlordane, and dieldrin) may pose an increased risk of being diagnosed with breast cancer.¹⁶¹ Instead, the study attributed the increased risk of breast cancer in Long Island women to the general risk factors which are typically attributed to this cancer, including low parity (number of children borne), late age at first birth, little or no breast-feeding, and a family history of the illness.¹⁶²

C. Reactions to the Long Island Breast Cancer Study Project

The study's results produced a range of reactions. Disappointment with the conclusions may be attributed to the fact that the study began in 1993 with enthusiasm and failed to find a significant association between environmental pollutants and the risk of breast cancer. A leading critic of the project is a breast cancer advocacy organization, called 1 in 9: The Long Island Breast Cancer Action Coalition.¹⁶³ This group stated that the study's conclusions were prematurely drawn and misleading.¹⁶⁴ These sentiments are also shared with representatives of the New York Public Interest Research Group, the Breast Cancer Mapping Project, and Breast

Cancer HELP (Healthy Environment for a Living Planet).¹⁶⁵ Similarly, U.S. Representative Felix Grucci stated, "The results of this study are as bitterly disappointing as they are frustrating."¹⁶⁶ As a result, these groups dedicated to finding a causal link through breast cancer research demanded that more studies be conducted to determine an association between environmental pollution and the risk of breast cancer.¹⁶⁷

Although the study faced harsh criticism, it also received strong support. Particularly, the Cancer Epidemiology Program at the National Cancer Institute (NCI) defended the study's results.¹⁶⁸ Dr. Deborah Winn of the NCI stated that finding an association between environmental pollutants and breast cancer, which is urged by organizations such as 1 in 9, is a daunting task because "[c]onclusive evidence that any of these things increase one's risk of cancer has never been found, despite repeated studies."¹⁶⁹ Furthermore, such a finding may be beyond scientific capacity.¹⁷⁰ Those in defense of the study also point to the fact that the toxins were chosen because pesticides and PCBs are stored in the body for long periods of time, making them easier to study.¹⁷¹

The conclusions of the study leave women living in Nassau and Suffolk counties, who claim to be exposed to an increased risk in developing breast cancer, without the essential causal link between environmental pollution and their actual or potential injury.¹⁷² An analysis of the literature and caselaw related to toxic torts indicates that absent this causal link, which must be provided by an epidemiological study properly admitted as evidence, these women are left without a legal remedy.

VI. Analysis of Whether Breast Cancer Patients Can Successfully Recover by Commencing a Toxic Tort Claim

The conclusions of the Long Island Breast Cancer Study Project result in major difficulties for women living in Nassau and Suffolk counties who wish to seek redress via a toxic tort claim. Based on the results of the epidemiological study, the women could not conclusively prove that breast cancer is caused by exposure to the PAHs and organochlorines studied. Moreover, they could not prove specific causation, which would require a specific source of the toxins they were exposed to, which caused breast cancer.¹⁷³ Thus, the women would find little aid in the study due to its failure to demonstrate the crucial element of causation.

The most beneficial finding of the study was the modest correlation between breast cancer and exposure to PAH.¹⁷⁴ However, a likely response to this sliver of supportive data would be that more studies are needed.¹⁷⁵ Three reasons lead to this conclusion: (1) the study failed to establish a statistically significant relationship between exposure to PAHs and breast cancer;

(2) since it did not establish a statistically significant relationship, the requisite scientific conclusion grounded in biological knowledge does not exist; and (3) the data could not be applied to an individual woman, explaining what caused her diagnosis (or increased risk of diagnosis) of breast cancer. Hence, a court would not even consider conducting a *Daubert* analysis of the study's findings.¹⁷⁶

Since the study failed to produce sufficient epidemiological data, the women in Nassau and Suffolk counties would face causation challenges similar to the plaintiffs in *Annunziato* and the Agent Orange litigation. However, these women encounter additional challenges because they do not have a party that can be held responsible for exposure to toxic chemicals.¹⁷⁷

Although the DES cases provide an anticipated plaintiff with some hope when he or she is unable to identify the precise defendant, it is highly probable that those cases will continue to be the exception rather than the rule. Unlike the women living in Nassau and Suffolk counties, the DES daughters and DES plaintiffs were dealing with a known human carcinogen.¹⁷⁸ Furthermore, they were able to prove both general and specific causation by presenting proof of a statistical association between DES and adenocarcinoma, and that DES caused their cancer.¹⁷⁹ Hence, they were able to satisfy the three-prong test.¹⁸⁰

The only problem that the DES daughters confronted was the fact that they were unable to identify the particular manufacturer that supplied the drug to their mothers. However, they were able to attribute fault to the manufacturers as a whole. Here, the Long Island women do not even have a potential class of defendants to which they can attribute emissions of toxic chemicals. Thus, the DES cases are quite distinguishable from the present situation occurring in Nassau and Suffolk counties.

Nor do the novel damage claims appear to be a potential avenue for these women. In order for the women to recover under an increased risk of disease claim, they would either have to currently suffer from symptoms of breast cancer, or provide conclusive evidence that exposure to specific toxic chemicals will lead to an increased risk in developing breast cancer.¹⁸¹ These propositions would have to be presented by evidence meeting the "reasonable medical certainty" standard.¹⁸² Unfortunately, the study's conclusions state that exposure to PAH and organochlorines do not lead to an increased risk in developing cancer, leaving the women with insufficient evidence.

Although the fear-of-disease claim provides plaintiffs with a less stringent avenue to take, it also does not appear to be an option for these women.¹⁸³ Under this claim, the women would need to prove that they cur-

rently suffer from an existing condition related to breast cancer. Thus, they would need to demonstrate proof that they were exposed to PAHs, organochlorines, or another toxic substance, and that being exposed to such provides a rational basis for fear of breast cancer. Since the study failed to provide the necessary conclusion tying exposure to PAHs and organochlorines to breast cancer, a court could reasonably conclude that the women do not have a rational basis for such fear. Even if they suffer from symptoms of breast cancer, no study causally links these symptoms to the chemical carcinogens studied at the present time. Hence, a fear-of-disease cause of action would not work for these women, either.

VII. Conclusion

The results of the Long Island Breast Cancer Study Project coupled with the concern and discontent experienced by residents of Nassau and Suffolk counties and their supporters indicate that additional studies are needed as to whether a causal link exists between environmental pollution and breast cancer. Finding a causal link based on exposure will likely be an upward battle given the size of the land area at issue.¹⁸⁴ Relief may also be difficult because the focus here is on exposure to a toxic substance as compared to the situation where a damaging object is actively placed in one's body.¹⁸⁵ However, plaintiffs from Woburn, Massachusetts, were able to recover where industrial solvents contaminated local water sources, which resulted in the contraction of acute lymphocytic leukemia in Woburn children.¹⁸⁶ This may provide the women of Nassau and Suffolk counties and their supporters with additional hope.

A bill entitled the "Breast Cancer and Environmental Research Act of 2001" was introduced in Congress in May 2001, which proposed to grant \$30 million a year for additional research looking into whether environmental causes may be attributed to breast cancer.¹⁸⁷ Perhaps a potential study would provide the women residing in Nassau and Suffolk counties with the requisite epidemiological data needed to prove that breast cancer is caused by toxic chemicals found in the environment. This would leave them only with the intermediate-defendant issue, which may be solved through avenues similar to the DES cases.

Additionally, Senators Hillary Rodham Clinton and Harry Reid proposed legislation that would finance a health-tracking network for the purpose of identifying and tracking diseases.¹⁸⁸ The nationwide program would track, monitor, and attempt to correlate diseases such as cancer with environmental pollution.¹⁸⁹ Senator Clinton discussed this legislation at a public hearing, which focused on the concerns raised on Long Island.¹⁹⁰ Therefore, although the Long Island Breast Cancer Study Project provided little hope in addressing concerns raised by residents of the area, possible future

research may provide hope that these women could someday recover for their injuries in the legal sector.

Endnotes

1. See Mary Ann Swissler, *Breast Cancer Group Meets Great Opposition*, United Press International (Feb. 24, 2001); See also *Special Report On Environmental Endocrine Disruption: An Effects Assessment & Analysis*, Risk Assessment Forum, (Feb. 1997), at <http://www.epa.gov>. Breast cancer is the second leading cause of cancer deaths among women after lung cancer. *Id.*
2. Gina Kolata, *Epidemic That Wasn't*, N.Y. Times, Aug. 29, 2002, at B1. According to the National Cancer Institute, the breast cancer incidence in Suffolk County was 118.2 cases per 100,000 women per year, which was 3.4 percent above the national average. In Nassau County, the figure was 114.3 percent per 100,000 women, which was 1.1 percent above the national average. *Id.*
3. 42 U.S.C. § 280e-3; Tom Reynolds, *Congress May Order Breast Cancer Study on Long Island*, J. Natl. Cancer Inst. 85, 520–522 (1993).
4. Marilie D. Gammon, et al., *Environmental Toxins & Breast Cancer on Long Island, Cancer, Epidemiology, Biomarkers, & Prevention*, Cancer, Epidemiology, Biomarkers & Prevention, 11 Aug. 2002, at 677; See *infra*, Part V.A-B (discussing the results of the Long Island Breast Cancer Study Project).
5. See *infra*, Part II.A-B (discussing the role of epidemiological data in establishing a causal link).
6. J. Michael Veron, *The Trial of Toxic Torts: Scientific Evidence in the Wake of Daubert*, 57 La. L. Rev. 647, 674 (Winter 1997) (discussing the “boom” in environmental law and toxic torts that was predicted for the twenty-first century).
7. *Id.*
8. Johnathan Harr, *A Civil Action*, 36 (Random House, Inc. 1995).
9. *Id.* Two wells in Woburn were found to be heavily contaminated with trichloroethylene (TCE), which is an industrial solvent characterized as a probable human carcinogen by the EPA. *Id.*
10. Note, *Increased Risk, Fear of Disease & Medical Monitoring: Are Novel Damage Claims Enough to Overcome Causation Difficulties in Toxic Torts?*, 7 Env'tl. L. 183, 185 (Sept. 2000). Also, injuries relying on the toxic tort cause of action generally demonstrate characteristics such as injury resulting from a genetic or biochemical disruption, or chronically and repeatedly exposing oneself to the substance, or injury typically manifesting after a latency period. *Id.*
11. Jean Macchiaroli Eggen, Note, *Toxic Torts, Causation, and Scientific Evidence After Daubert*, 55 U. Pitt. L. Rev. 889, 896 (1994). This is the same standard that must be met by personal injury plaintiffs. *Id.*
12. *Id.*
13. *Id.* “The inability to prove factual causation of the alleged injuries . . . is often fatal to the plaintiffs’ cases.” *Id.*
14. See Gerald W. Boston & M. Stuart Madden, *Law of Environmental & Toxic Torts*, 5 (2d ed. 2001). “Due to the imperfect knowledge of the disease etiology, the majority of toxic tort claims pose distinctive problems in the proof of proximate cause.” *Id.*
15. See *Increased Risk, Fear of Disease & Medical Monitoring*, *supra* note 10, at 186; See also Boston & Madden, *supra* note 14, at 5. “[P]laintiff must demonstrate that defendant’s activity or product was a proximate cause of the resulting personal injury or damage to property. Proximate cause means that the challenged act (1) was a substantial contributing factor in bringing about the injury (or a ‘but for’ cause), that is, it was at least ‘a’ cause in fact of the harm; and (2) that the relationship between defendant’s act and the harm is not so remote or attenuated as to suggest that the harm was not foreseeable, rendering it unfair or unreasonable to hold defendant responsible.” *Id.*
16. See generally *Allen v. U.S.*, 588 F. Supp. 247, 406 (D. Utah 1984). This difficult burden distinguishes toxic torts from the typical personal injury claim. *Id.*
17. Mary Carter Andruess, Symposium, *Proof of Cancer Causation in Toxic Waste Litigation: The Case of Determinacy Versus Indeterminacy*, 61 S. Cal. L. Rev. 2075 (Sept. 1988) (focusing on the problem of proving medical causation).
18. *Id.* at 2078 (proposing a three-step model for proving medical causation for cancer).
19. See generally *In re Agent Orange Prod. Liab. Litig.*, 996 F.2d 1425 (2d Cir. 1993); See Andruess, *supra* note 17, at 2088 (stating, “[E]pidemiologic evidence is the only method by which plaintiffs can establish proof of medical causation.”). This data is thought of as “the most salient and probative evidence by which to establish a causal link between exposure to toxic waste and the development of cancer.” *Id.*; Jeffery D. Cutler, Comment, *Implications of Strict Scrutiny of Scientific Evidence: Does Daubert Deal a Death Blow to Toxic Tort Plaintiffs?* 10 J. Env'tl. L. & Litig. 189, 1999 (1995). Although courts prefer epidemiological evidence, toxic tort cases also involve the use of toxicological evidence, which “consists of studies that attempt to identify disease or other health problems associated with exposure to a particular substance.” *Id.*; See Wayne Roth-Nelson & Kathy Verdeal, *Risk Evidence in Toxic Torts*, 2 Env'tl. L. 405, 409 (Feb. 1996). However, this paper focuses on epidemiological data because that is the nature of the Long Island Breast Cancer Study Project. *Id.*
20. Cutler, *supra* note 19, at 2088; Roth-Nelson & Verdeal, *supra* note 19.
21. Cutler, *supra* note 19, at 199, citing Michael D. Green, *Expert Witnesses & Sufficiency of Evidence in Toxic Substances Litigation: The Legacy of Agent Orange & Bendectin Litigation*, 86 Nw. U. L. Rev. 643, 646 (1992).
22. Roth-Nelson & Verdeal, *supra* note 19, at 421.
23. *Id.* at 426.
24. See *id.* Thus, the use of epidemiological data in this manner affords a plaintiff the opportunity to prove both general and specific causation. *Id.*
25. Cutler, *supra* note 19, at 198; See also *DeLuca v. Merrell Dow Pharm., Inc.*, 911 F.2d 941, 957 (3d Cir. 1990). Even where epidemiological evidence is admissible, an inquiry must focus on whether the jury can properly utilize the evidence, whether the jury is capable of giving the evidence appropriate weight, whether the jury is capable of understanding the evidence, what the competing expert testimony consists of, and whether the court is capable of exercising judicial control of the presentation of the evidence. *Id.*
26. Cutler, *supra* note 19, at 192–193. (discussing how *Frye v. United States*, 293 F. 1013 (D.C. Cir. 1923) began a special rule of admissibility).
27. See *supra*, Part II.A.
28. *Frye*, 293 F. at 1014; See also Cutler, *supra* note 19, at 192–193.
29. See *Daubert v. Merrell Dow Pharm., Inc.*, 509 U.S. 579, 585 (1993).
30. *Id.* at 589 (stating that the adoption of the Federal Rules of Evidence superceded the *Frye* test).
31. *Id.*
32. Fed. R. Evid. 702.
33. See *Joint E. & S. Dist. Asbestos Litig. v. U.S. Mineral Prod. Co.*, 52 F.3d 1124 (2d Cir. 1995).
34. *Daubert*, 509 U.S. at 590.

35. *Daubert*, 509 U.S. at 593–596; *See also Joint E. & S. Dist. Asbestos Litig.*, 52 F.3d 1124 (discussing the trial judge’s role as “gatekeeper” of evidence pursuant to FRE 104); Fed. R. Evid. 104 gives the court the authority to determine “whether the expert is proposing to testify to (1) scientific knowledge that (2) will assist the trier of fact to understand or determine a fact in issue.” *Id.*
36. *Daubert*, 509 U.S. at 595.
37. *Id.* at 591.
38. *Amorgianos v. Nat’l R.R. Passenger Corp.*, 137 F. Supp. 2d 147, 189 (E.D.N.Y. 2001) (discussing the expert testimony of an industrial hygienist, the court found his testimony, which was drawn from a temporal connection in a single case, to be based on general causation, which cannot be the basis for a reliable conclusion).
39. *DeLuca*, 911 F.2d 941.
40. Fed. R. Evid. 703: “The facts or data in the particular case upon which an expert bases an opinion or inference may be those perceived by or made known to the expert at or before the hearing. If of a type reasonably relied upon by experts in the particular field in forming opinions or inferences upon the subject, the facts or data need not be admissible in evidence.” *Id.*
41. *Id.* at 953; *See also* Fed. R. Evid. 703.
42. *DeLuca*, 911 F.2d at 952–953. The court also stated “This reflects our recognition that Rule 703 was designed to broaden and liberalize the permissible bases for expert testimony.” *Id.*
43. *Id.* at 950 (discussing *Lynch v. Merrell-Nat’l Lab.*, 830 F.2d 823 (D.C. Cir. 1988), the court stated, “Dr. Done’s opinion that Bendectin is a tetragon is not only insufficient to support a verdict in light of the currently available scientific and medical evidence, but that it is inadmissible under the Federal Rule of Evidence 703.”).
44. *Id.*
45. *Stanley Tulchin Assoc. v. Grossman*, 2002 WL 31466800, *9–10 (N.Y. Sup. Ct., Oct. 10, 2002) (discussing the role of the trial court, whose role is to “determine when jurors are able to draw a conclusion from the evidence based on their day-to-day experience, their common observation and their knowledge, and when they would be benefited by the specialized knowledge of an expert witness,” *citing People v. Cronin*, 60 N.Y. 430, 433 (1983)).
46. 2002 WL 31355602 (N.Y. Sup. Ct., Sept. 30, 2002). “The emphasis here is on the presence of scientific ‘principles and methods,’ rather than results,” *citing Daubert*, 509 U.S. at 595. *Id.*; *See generally People v. Lee*, 90 N.Y.2d 157 (2001) (discussing the trial court’s role in determining whether jurors would be benefited from the specialized knowledge of an expert); *See Stanley Tulchin Assoc., Inc. v. Grossman*, 2002 WL 31466800 (N.Y. Sup. Ct., Oct. 10, 2002).
47. *Annunziato v. City of N.Y.*, 164 Misc. 2d 682, 624 N.Y.S.2d 544 (Super. Ct., Richmond Co. 1995).
48. *Id.*, 164 Misc. 2d at 684, 624 N.Y.S.2d at 546.
49. *Id.*, 164 Misc. 2d at 686–687, 624 N.Y.S.2d at 547.
50. *Id.*, 164 Misc. 2d at 687, 624 N.Y.S.2d at 547–548.
51. *Id.*, 164 Misc. 2d at 687, 624 N.Y.S.2d at 547.
52. *In re Agent Orange*, 996 F.2d at 1436–1437. Also, the Supreme Court is expected to hear oral arguments in February 2003 for a case involving Agent Orange. *Dow Chem. Co. v. Stephenson*, No. 02-271 (Feb. 2003). This case arises from an appeal of a Second Circuit decision, which determined that the court had jurisdiction to entertain a claim outside of a class action, and that there was inadequate representation in the prior class action. *See Stephenson v. Dow Chem. Co.*, 273 F.3d 249 (2d Cir. 2001).
53. *In re Agent Orange*, 996 F.2d at 1428; *In re Agent Orange Prod. Liab. Litig.*, 635 F.2d 987, 989 (2d Cir. 1980).
54. *In re Agent Orange*, 996 F.2d at 1436–1437. Also, the plaintiffs were unable to prove Agent Orange to be mutagenetic or teratogenic. *Id.*
55. *Id.* at 1437.
56. *Id.*
57. *DeLuca*, 911 F.2d at 943.
58. *Id.* at 942. This testimony was contrary to the epidemiological studies conducted by the FDA’s Advisory Committee on Fertility and Maternal Health, which concluded that Bendectin did not contribute to an increased risk in birth defects. *Id.*
59. *Id.* at 945–947.
60. *Brock v. Merrell Dow Pharm., Inc.*, 874 F.2d 307, 309–310 (5th Cir. 1989) (discussing the rationale behind excluding certain epidemiological data).
61. *DeLuca*, 911 F.2d at 950.
62. For example, toxic waste sites contain many different hazardous substances, making it impossible to determine which carcinogen the plaintiff was exposed to. Furthermore, chemicals may mix together or synergize, making it impossible to determine which particular chemical caused a plaintiff’s injury; *Boston & Madden, supra* note 14, at 5. “Even where a particular manufacturer’s asbestos products, or chemical solvents, or pesticide can be identified, the passage of time may hinder plaintiff’s demonstration of the times, circumstances and degree of exposure suffered.” *Id.*
63. *See also In re Agent Orange*, 996 F.2d 1425; *c.f. Dangler v. Town of Whitestown*, 241 A.D.2d 290, 672 N.Y.S.2d 188 (4th Dep’t 1998). The Appellate Division stated that the trial court erred when it struck expert testimony, which spoke to the two-prong test in proving carcinophobia. The expert witness testified that the plaintiff was exposed to a disease-causing agent and that there was a rational basis for a fear of contracting a disease. *Id.*; *See Allen v. Pa. Eng’g Corp.*, 102 F.3d 194 (5th Cir. 1996) (finding that animal testing alone is inconclusive, and epidemiological studies conducted on humans would be needed).
64. The Long Island Breast Cancer Study Project is a primary example of this. Although the chemical carcinogens may cause certain cancers, including lung cancer, the study concluded that the chemicals studied did not add to the risk of breast cancer.
65. *Askey v. Occidental Chem. Corp.*, 102 A.D.2d 130, 477 N.Y.S.2d 242 (4th Dep’t 1984).
66. *Id.*, 102 A.D.2d 137, 477 N.Y.S.2d 247.
67. *Gerardi v. Nuclear Utility Svcs., Inc.*, 149 Misc. 2d 657, 566 N.Y.S.2d 1002 (Sup. Ct., Westchester Co. 1991). Plaintiffs also stated a second cause of action for negligent infliction of emotional distress. *Id.*
68. *Pompa v. Burroughs Wellcome Co.*, 259 A.D.2d 18, 24, 696 N.Y.S.2d 587, 592 (3d Dep’t 1999).
69. *Sterling v. Velsicol Chem. Corp.*, 855 F.2d 1188, 1201 (6th Cir. 1988) (applying Tennessee common law, plaintiffs alleged that their alleged damages arose as the result of drinking contaminated water).
70. *Id.* The court stated that these assertions do “not constitute the same level of proof as a conclusion by a reasonable medical certainty.” *Id.*
71. *Id.* at 1200.
72. Noah Sachs, *Blocked Pathways: Potential Legal Responses to Endocrine Disrupting Chemicals*, 24 Colum. J. Env’tl. L. 289, 299 (1999); *See also* www.mindfully.org/Pesticide/Diethylstilbesterol-ROC.htm.
73. *Sindell*, 26 Cal. 3d 588, 594, 163 Cal. Rptr. 132, 133–134, 607 P.2d 924, 925–926; *See also Beverly Sigl Felten, The Lingering Tragedy of DES*, 53 RN 8, 36 (Aug. 1990).

74. *Id.*; See also Tracey I. Batt, Note, *DES Third-Generation Liability: A Proximate Cause*, 18 Cardozo L. Rev. 1217, 1221 (1996). DES may also be associated with breast cancer. *Id.*
75. See *Bichler v. Eli Lilly & Co.*, 55 N.Y.2d 571, 450 N.Y.S.2d 776 (1982) (discussing New York's enactment of section 2500-c of the Public Health Law, which was aimed at aiding these women).
76. Apryl A. Ference, Comment, *Rushing to Judgment on Fen-Phen & Redux: Were the FDA, Drug Manufacturers, & Doctors Too Quick to Respond to Americans' Infatuation with a Cure-All Diet Pill for Weight Loss?*, 9 Alb. L.J. Sci. & Tech. 77, 90-91 (1998); Increased Risk, Fear of Disease & Medical Monitoring, *supra* note 10, at 183.
77. See *In re New York County DES Litig.*, 202 A.D.2d 6, 615 N.Y.S.2d 882 (1st Dep't 1994).
78. *Summers v. Tice*, 33 Cal. 2d 80, 199 P.2d 1 (Cal. 1948).
79. *Id.* While on a hunting trip, both defendants shot their weapons at the plaintiff, causing injuries. *Id.*
80. *Id.*
81. See *Sindell v. Abbott Lab.*, 26 Cal. 3d 588, 163 Cal. Rptr. 132, 607 P.2d 924 (Cal. 1980); See also Ference, *supra* note 76; Increased Risk, Fear of Disease & Medical Monitoring, *supra* note 10, at 183. Due to the "intermediate-defendant" problem, a variety of interpretations of defendant liability currently exist, which include the following: alternative liability, concert of action, market share liability, and enterprise liability. *Id.*
82. Increased Risk, Fear of Disease & Medical Monitoring, *supra* note 10, at 196 (discussing the problems faced by plaintiffs outside of the DES cases with respect to collective liability).
83. *Sindell*, 26 Cal. 3d 588, 163 Cal. Rptr. 132, 607 P.2d 924.
84. *Id.*, 26 Cal. 3d at 600-601, 163 Cal. Rptr. at 137-138, 607 P.2d at 929-930.
85. *Id.*, 26 Cal. 3d at 612, 163 Cal. Rptr. at 145, 607 P.2d at 937.
86. *Brown v. Super. Ct.*, 44 Cal. 3d 1049, 245 Cal. Rptr. 412, 751 P.2d 470 (Cal. 1988). "If such defendants are jointly and severally liable, a plaintiff may recover the entire amount of the judgment from any of the defendants joined in the action . . . if joint liability were the rule, a defendant could be held responsible for a portion of the judgment that may greatly exceed the percentage of its market share. Under several liability, in contrast, because each defendant's liability for the judgment would be confined to the percentage of its share of the market, a plaintiff would not recover the entire amount (except in the unlikely event that all manufacturers were joined in the action) but only the percentage of the sum awarded that is equal to the market shares of the defendants joined in the action." *Id.* Thus, recovery for plaintiffs may not equate 100%. *Id.*
87. *Sindell*, 26 Cal. 3d 588, 607 Cal. Rptr. 132, 607 P.2d 924.
88. *Id.*
89. *Hymowitz v. Eli Lilly & Co.*, 73 N.Y.2d 487, 511, 541 N.Y.S.2d 941, 949, 539 N.E.2d 1069, 1077 (1989).
90. *Id.*, 73 N.Y.2d at 512, 541 N.Y.S.2d at 950, 539 N.E.2d at 1078. Like *Sindell*, the liability of each defendant is several. *Id.*
91. *Id.*
92. *Id.*
93. *Id.* "[T]here should be no exculpation of a defendant who, although a member of the market producing DES for pregnancy use, appears not to have caused a particular plaintiff's injury." *Id.*
94. *Collins v. Eli Lilly & Co.*, 116 Wis. 2d 166, 342 N.W.2d 37 (Wis. 1984); *Martin v. Abbott Laboratories*, 102 Wn. 2d 581, 689 P.2d 368 (Wash. 1984).
95. *Collins*, 116 Wis. 2d at 191, 342 N.W.2d at 49 (recognizing that although defendant manufacturers did not act in concert with one another, they nonetheless contributed to the risk).
96. *Id.*, 116 Wis. 2d at 193, 342 N.W.2d at 50.
97. *Id.*, 116 Wis. 2d at 197, 342 N.W.2d at 52.
98. *Martin*, 102 Wn. 2d at 604, 689 P.2d at 382 (recognizing that each defendant contributed to the risk of harm experienced by the public as a whole, and so each defendant should be liable to individual plaintiffs).
99. Andruess, *supra* note 17, at 2075.
100. Increased Risk, Fear of Disease & Medical Monitoring, *supra* note 10, at 198.
101. See Donnelly W. Hadden, Stephen H. Huff, & Thomas Corbett, *Proving Medical Monitoring Damages*, 43 Trial (July 1995); *Ayers v. Township of Jackson*, 106 N.J. 557, 567, 525 A.D.2d 287, 292 (N.J. 1987). An expert opined "that a program of regular medical surveillance for plaintiffs would improve prospects for cure, treatment, prolongation of life, and minimization of pain and disability." *Id.*
102. Hadden, et al., *supra* note 101.
103. David Green, *Medical Monitoring: The Need for One Standard*, NYSBA: The New York Envtl. Lawyer, vol. 20, 16 (Fall 2000) (discussing *Redland Soccer Club, Inc. v. Dep't of the Army*, 696 A.2d 137, 147 (Pa. 1997)).
104. Ingo W. Sprie, Jr., *Medical Monitoring Gains Recognition, Some Courts Permit Recovery for Cost of Diagnostic Tests Following Exposure*, N.Y.L.J., June 24, 2002.
105. Green, *supra* note 103, at 16.
106. *Metro-North Commuter R.R. Co. v. Buckley*, 521 U.S. 424, 433 (1997).
107. *Id.* at 438.
108. *Id.* at 440-441 (stating that "a full-blown, traditional tort law cause of action for lump-sum damages is not the case.").
109. *Id.* (discussing "the case of a plaintiff whose 'injury' consists of a disease, a symptom, or those sorts of emotional distress that fall within the FELA's definition of 'injury.'")
110. Sprie, *supra* note 104.
111. 270 N.Y. 287, 200 N.E. 824 (1936).
112. 102 A.D.2d 130, 137, 477 N.Y.S.2d 242, 247 (4th Dep't 1984); See also *Gerardi*, 149 Misc. 2d 657, 566 N.Y.S.2d 1002; *Abusio v. Consol. Edison Co. of N.Y.*, 238 A.D.2d 454, 656 N.Y.S.2d 371 (2d Dep't 1997).
113. *Gerardi*, 149 Misc. 2d at 657.
114. *Dangler*, 241 A.D.2d at 293, 672 N.Y.S.2d at 190. In order to meet their burden, the plaintiffs presented the testimony of various experts indicating that they were exposed to contaminants in the landfill, and that there was a reasonable degree of medical certainty of a likelihood of contracting cancer as a result of their exposure. *Id.*
115. *Gerardi*, 149 Misc. 2d 657 at 566 N.Y.S.2d at 1004.
116. See *In re Paoli R.R. Litig.*, 916 F.2d 829 (3d Cir. 1990); *Miranda v. Shell Oil Co.*, 7 Cal. Rptr. 2d 623 (5th Dist. 1992); *Hansen v. Mountain Fuel Supply Co.*, 858 P.2d 970 (Utah 1993).
117. *Hansen*, 858 P.2d at 978. "Mere exposure to an allegedly harmful substance, however, is not enough for recovery." *Id.*
118. *Id.* at 979-980; c.f. *Miranda*, 7 Cal. Rptr. at 627 (discussing five factors that should be considered with a medical monitoring claim).
119. *Miranda*, 7 Cal. Rptr. 2d at 627.

120. See *Increased Risk, Fear of Disease & Medical Monitoring*, *supra* note 10, at 200. The author states that “[a]s opposed to emotional distress theory, there is no such common law basis for increased risk claims because ‘traditionally, there has been no recovery for a mere risk of future harm.’” *Id.*
121. *Id.* at 201. Evidence must prove this with reasonable medical probability. The author indicates that a plaintiff must prove this with a greater than 50% chance in order to meet his or her burden. *Id.*
122. *Miranda*, 7 Cal. Rptr. 2d at 627.
123. 102 A.D.2d 130, 477 N.Y.S.2d 242 (4th Dep’t 1984).
124. *Id.*, 102 A.D.2d at 131, 477 N.Y.S.2d at 244. The class of plaintiffs alleged “that their exposure has increased their risk of developing cancer and other chemically induced diseases.” *Id.*
125. *Gerardi*, 149 Misc. 2d 657 at 658, 566 N.Y.S.2d 1002 at 1003.
126. *Id.*
127. 102 A.D.2d at 137, 477 N.Y.S.2d at 247.
128. *Id.*
129. *Id.* at 138, 248. The map used failed to “identify with any degree of specificity those persons within that area whose bodies have been invaded by a toxic substance and who as a result need medical monitoring.” *Id.*
130. 149 Misc. 2d at 660, 566 N.Y.S.2d at 1004.
131. *Dodge v. Cotter Corp.*, 203 F.3d 1190 (10th Cir. 2000). Plaintiffs in this case alleged that they were exposed to uranium, which was in groundwater. *Id.*
132. *Increased Risk, Fear of Disease & Medical Monitoring*, *supra* note 10, at 200.
133. *Id.* at 198. “These claims arise from the traditional common law claims of negligent or intentional infliction of emotional distress.” *Id.*
134. *Id.* at 198.
135. *Abusio*, 238 A.D.2d at 238, 656 N.Y.S.2d at 372.
136. *Id.*
137. 149 Misc. 2d at 660, 566 N.Y.S.2d at 104–105.
138. *Id.* The Supreme Court recently heard oral arguments on the issue of whether the Supreme Court of Appeals of West Virginia erred in awarding emotional damages under FELA to retired employees who suffered from asbestosis, but who did not manifest symptoms supporting their fear-of-cancer claim. *Norfolk & Western R.R. Co. v. Ayers*, No. 01-963, 2002 WL 31497282 (Nov. 6, 2002).
139. 42 U.S.C. § 280e-3.
140. 107 Stat. 205, P.L. 103-43 § 1911. This provision appears as a note in 42 U.S.C. § 280e-3, and is entitled “Other provisions.” The study called for a collaborative effort between the Director of the National Cancer Institute and the Director of the National Institute of Environmental Health and Human Services. *Id.*
141. 42 U.S.C. § 280e-3; See *Joint E. & S. Dist. Asbestos Litig.*, 52 F.3d at 1128: “Epidemiology is the study of disease patterns in human populations. It ‘attempts to define a relationship between a disease and a factor suspected of causing it.’” (quoting *Brock*, 874 F.2d at 311). *Id.*
142. *Id.* These two counties were chosen from the results of the study entitled “Survival, Epidemiology, and End Results,” which studied cancer cases from 1983 to 1987. The study found that the counties showed the highest age-adjusted mortality rate of breast cancer. Other relevant states included Connecticut, Delaware, Maryland, Massachusetts, New Hampshire, New Jersey, Rhode Island, Vermont, and the District of Columbia. 42 U.S.C. § 280e-3(b).
143. 107 Stat. 205 § 1911, 42 U.S.C. § 280e-3.
144. *Id.* The reported findings were to be submitted to the Committee on Energy and Commerce (House of Representatives), and the Committee on Labor and Human Resources (Senate). *Id.*
145. 107 Stat. 153 §§ 401–403, Sen. Rpt. No. 103-02. Legislation authorized \$400 million for the 1994 fiscal year and subsequent years for research on breast cancer and other gynecological cancers. *Id.*
146. Much-Anticipated Long Island Breast Cancer Study Published in the AACR Journal Cancer Epidemiology, Biomarkers & Prevention, P.R. Newswire, Aug. 6, 2002, available at <http://www.prnewswire.com>. The American Association for Cancer Research (AACR) is a peer-reviewed scientific journal. *Id.*
147. See *Id.* Dr. Gammon serves as an associate professor of epidemiology at the University of Chapel Hill, North Carolina. Dr. Gammon acted as the principal investigator of the study, and led a team of 27 scientists. See *id.*
148. See *Gammon*, *supra* note 4, at 677. This hypothesis is rooted in the high incidence of breast cancer on Long Island and the concern for the effects that environmental pollution has on health and the ecosystem. *Id.*
149. *Id.*
150. *Gammon*, *supra* note 4.
151. *Id.*; See also 2002 Canada Centre for Occupational Health & Safety, available at CHEMINFO, Record. No. 706. PAHs have also demonstrated long-term effects in animal studies on the liver, kidneys, lungs, blood, and the lymph system. *Id.*
152. Cheminfo, *supra* note 151 (discussing specific information regarding the effects of long-term chronic exposure to benzo(ghi)floranthene, a member of the PAH class of chemicals because of the chemical’s complexity).
153. *Id.*
154. *Id.*
155. *Gammon*, *supra* note 4 at 677–678. PAH compounds are lipophilic in nature. As a result, the study measured DNA adducts to evaluate PAH exposure and the body’s metabolic reactions to such. The DNA adducts served as a biological marker for the study. *Id.*
156. *Id.* at 682. These results indicate that there may be a threshold effect, but the study failed to demonstrate an association between adduct levels and major sources of PAH adducts. *Id.*
157. *Gammon*, *supra* note 4, at 686. The study focused on these chemicals because “[a]n increased risk of breast cancer in relation to organochlorines was observed in several early as well as later reports.” *Id.*
158. *Id.* (stating, “The important influence of estrogen in breast cancer development suggests that exposure to these contaminants, which have been classified as either known or suspected carcinogens, could affect the initiation or promotion of breast carcinogenesis.”).
159. *Environmental Defense*, available at <http://www.environmentaldefense.org> (Sept. 10, 2002). Specifically, DDT caused the thinning of eggshells and reproductive failure in these birds. Thus, preventing the use of DDT was a major factor in reversing the adverse effects on such species. *Id.* Also, potato farmers used this pesticide to combat the Colorado potato beetle. Tim Kelly, *20 Years of Temik*, The Suffolk Times Online (Jan. 27, 2000), available at <http://www.timesreview.com>.
160. *Id.* at 678. Specifically, the study subjects included “[w]omen who were residents of Nassau and Suffolk counties, spoke Eng-

- lish, and were newly diagnosed with in situ or invasive breast cancer between August 1, 1996, and July 31, 1997." *Id.*
161. Gammon, *supra* note 4, at 689. The scientists found these results to be consistent with most recent studies. *Id.*
 162. *Id.*
 163. *The Long Island Breast Cancer Action Coalition*, Hewlett House, available at <http://www.lin9.org>. This organization is committed to the fight against breast cancer "through education, outreach, environmental advocacy, spearheading changes to legislation affecting cancer issues, and continuously raising money to support innovative epidemiological cancer research projects at Cold Spring Harbor Laboratory." *Id.*
 164. *Id.* The organization listed six reasons for its criticisms:
 1. Only four chemicals were studied, out of thousands suspected as carcinogens.
 2. The chemicals looked at have already been banned, raising the question of whether these chemicals, if in fact linked to cancer, even remain in one's bloodstream for more than 20 years.
 3. Synergistic properties and other interactions between pesticides were not investigated.
 4. The relationship between the environment, DNA and genetics was completely overlooked.
 5. Other cancers were excluded.
 6. The study did not exclude women from participating who had recently moved to Long Island, raising concern about the study's methodology and results. *Id.*
 165. Amy Basta, *L.I. Breast Cancer Study Criticized, Grucci Calls for More Research*, Suffolk Life Newspapers, Aug. 14, 2002, at Top Stories. The organizations' representatives voiced the concerns found on 1 in 9's Web site. Additionally, Edward Vale of the New York Public Interest Research Group stated, "The study was doomed to fail . . . It was a very small study with lots of mistakes in it." *Id.*
 166. *Id.*
 167. *The Long Island Breast Cancer Action Coalition*, *supra* note 163.
 168. See Gina Kolata, *Ideas & Trends: Proof; What Causes Cancer: Can Science Find the Missing Link?*, N.Y. Times, Aug. 11, 2002, at B4, 1. Dr. Deborah Winn, who heads the National Cancer Institute's extramural epidemiology program, stated that the data was "very, very conclusive." *Id.*
 169. *Id.*
 170. *Id.* Instead of finding a link between environmental pollution and the risk of breast cancer, the study raised issues of whether science can even provide assurances of such associations. *Id.*
 171. See Basta, *supra* note 165.
 172. This is true at least to this point with respect to the PAHs and organochlorines studied.
 173. See *supra* note 12.
 174. See Roth-Nelson & Verdeal, *supra* note 19, at 421, 426.
 175. See *Annunziato*, 164 Misc. 2d 682, 624 N.Y.S.2d 544.
 176. See *supra* notes 56–58.
 177. See *Annunziato*, 164 Misc. 2d at 684, 624 N.Y.S.2d at 546; *c.f. In re Agent Orange*, 996 F.2d at 1436–1437. In *Annunziato*, the plaintiffs were exposed to toxic and hazardous emissions from a landfill, and in *In re Agent Orange*, the plaintiffs were exposed to a defoliant in the Vietnam War. Here, the women have been exposed to chemicals commonly emitted into the environment from a variety of sources, making it difficult to blame a single entity for their exposure. *Id.*
 178. See *supra* note 71, at 299.
 179. See *supra* note 73, at 1221.
 180. See *supra* note 9.
 181. See *supra*, Part IV.B. for a further discussion of the fear of disease claim.
 182. See *Increased Risk, Fear of Disease & Medical Monitoring*, *supra* note 10, at 201.
 183. See *supra*, Part IV.C.
 184. See <http://quickfacts.census.gov>. Based on a 2001 estimate, Nassau County is populated by 1,334,648 (51.9% female), and is 287 square miles of New York State. Suffolk County's population is 1,438,973 (51.0% female), and is 912 square miles of New York State, which is 47,214 square miles total (the state's population is 19,011,378, where 51.8% is female). *Id.*
 185. See *In re Silicone Breast Implant Litig. v. Dow Chem. Corp.*, 227 A.D.2d 310, 642 N.Y.S.2d 681 (1st Dep't 1996); *Davis v. A.H. Robins Co.*, 99 A.D.2d 342, 473 N.Y.S.2d 182 (1st Dep't 1984). These cases involve plaintiffs seeking relief for injuries resulting from silicone breast implants and the IUD (intrauterine device), respectively. Unlike the situation in Nassau and Suffolk counties, these women had objects implanted into their bodies. Thus, they were better able to establish a causal link between the foreign objects and the resulting effects. *Id.*
 186. Harr, *supra* note 8.
 187. S. 830, 107th Cong. (2001). The purpose of this bill was "[t]o amend the Public Health Service Act to authorize the Director of the National Institute of Environmental Health Services to make grants for the development and operation of research centers regarding environmental factors that may be related to the etiology of breast cancer." *Id.*; See <http://thomas.loc.gov>. As of May 3, 2001, the bill is still with the Senate Committee. *Id.*; Kara Sissel, *Democrats Propose a Tracking Network*, Chemical Week, 49, Mar. 20, 2002, at 49; Al Baker, *Clinton Hearing on Cancer Taps Into a Deep-Seated Anxiety on Long Island*, N.Y. Times, June 12, 2001, at B5.
 188. *Id.*; S. 2054, 107th Cong. (2002). The purpose of this bill, which is entitled the "Nationwide Health Tracking Act of 2002," was "[t]o amend the Public Health Service Act to establish a Nationwide Health Tracking Network, and for other purposes." *Id.*; See also <http://thomas.loc.gov>. As of Mar. 21, 2002, the bill is still with the Senate Committee. *Id.*
 189. *Id.*
 190. *Id.*

Carin M. Cardinale is the first place winner in the 2003 Environmental Law Section Essay contest.

THE MINEFIELD

Ethical Duties of a Law Firm

By Marla B. Rubin

Every practicing lawyer knows that the economics of a law firm have undergone drastic changes in the last 15 years. Every lawyer may not know how the “ethical duties of a law firm”—a previously incorporeal concept—have also developed.



New York was the first state to make a law firm responsible for the conduct of its lawyers. In 1996, DR 1-102, “Misconduct,” was amended to make clear that the Rule applied specifically to law firms as well as lawyers. In 1996, and again in 1999, DR 1-104 was significantly amended to address “Responsibilities of a Partner or Supervisory Lawyer and Subordinate Lawyers.” In fact, this is a misnomer, as the provisions of DR 1-104 directly address duties of a law firm as a whole, as well as the duties of individual lawyers. DR 1-104 (A) states: “A law firm shall make reasonable efforts to ensure that all lawyers in the firm conform to the disciplinary rules.” DR 1-104 (C) states: “A law firm shall adequately supervise, as appropriate, the work of partners, associates and non-lawyers who work at the firm.” While it was obvious that these rules made law firms subject to the same disciplinary action as individual attorneys, no change was made to the sanctions that the Appellate Divisions can impose (censure, suspension, disbarment). To date, to this author’s knowledge, no law firm has been subject to any of these sanctions. That might be, in part, because of the difficulty of applying the sanctions. How do you disbar a “law firm”? If that meant disbaring all lawyers, or only the partners and supervisory lawyers, would that be a just result? There also might be political reasons that law firms, to date, have not been sanctioned. Although in January 2004 Justice Charles E. Ramos referred to the appropriate disciplinary committee his finding of a violation of DR 5-105 in *G.D. Searle v. Pennie & Edwards*,¹ this author does not expect the case, even if the misconduct is confirmed by the disciplinary committee, to break ground in this area: Pennie & Edwards dissolved before the case was decided. Thus, well-meaning as the changes may have been to hold law firms, as well as individual lawyers, accountable for ethical violations, there is still a question of their application and effectiveness.

Since the first promulgation of rules directly binding on law firms, New York has added other duties for the law firm, particularly in the context of the “non-lawyers” who work in the firm’s ancillary businesses.²

Finally, every size law firm should be aware of a longstanding requirement to have in place a conflict check system. DR 5-105 (E) states that:

“Thus, well-meaning as the changes may have been to hold law firms, as well as individual lawyers, accountable for ethical violations, there is still a question of their application and effectiveness.”

A law firm shall keep records of prior engagements, which records shall be made at or near the time of such engagements and shall have a policy implementing a system by which proposed engagements are checked against current and previous engagements, so as to render effective assistance to lawyers within the firm in complying with DR 5-105 (D) [“While lawyers are associated in a law firm, none of them shall knowingly accept or continue employment when any one of them practicing alone would be prohibited from doing so under DR 5-101 (A). . . , DR 5-105 (A) or (B) . . . , DR 5-108. . . , or DR 9-101. . . .] *In cases in which a violation of this subdivision by the firm is a substantial factor in causing a violation of DR 5-105 . . . by a lawyer, the firm, as well as the individual lawyer, shall also be responsible for the violation of DR 5-10 (D). . . .*

There is a national trend that follows New York’s lead (although not admitting that). For example, a recent ABA Ethics opinion sets forth duties of a law firm with a lawyer who becomes mentally impaired. In Formal Opinion 03-429, issued on June 11, 2003, the ABA Standing Committee on Ethics and Professional Responsibility set forth several obligations of a law firm with a mentally impaired lawyer. A law firm, according

to the Opinion, must take steps to prevent professional misconduct once there is knowledge of the lawyer's problem. An impaired lawyer's professional misconduct may have to be reported by the firm, unless the misconduct and the impairment are in the past, or the firm has taken steps to prevent further misconduct. Note that in New York, attorneys have a duty to report breaches of ethical rules.³ According to the Opinion, if the impaired lawyer leaves the firm, the firm may have a duty to clients contemplating retention of that

"The focus of the ABA Opinion is the law firm's responsibility to the client that supersedes any duty to the impaired lawyer. "

lawyer.⁴ No corresponding duty under the New York rules may be implied. On the other hand, New York's requirement that law firms "make reasonable efforts to ensure that all lawyers in the firm conform to the disciplinary rules" (DR 1-104 (A)) would certainly not allow a law firm to ignore or fail to oversee the professional conduct of an impaired lawyer.

The focus of the ABA Opinion is the law firm's responsibility to the client that supersedes any duty to

the impaired lawyer. This is certainly consistent with the New York disciplinary rules addressing law firm responsibilities. While this may sound cruel to the lawyer with the problem, and it may be embarrassing to the firm, New York's ethical rules require that clients' interests be paramount.

In sum, many law firms already pay careful attention to their obligations and proscriptions under the disciplinary rules. For those that don't, they will have to begin to pay attention to more than business. It is only a matter of time before the legal groundwork is laid for sanctioning law firms.

Endnotes

1. N.Y.L.J., January 26, 2004, p.18, col. 3.
2. See, e.g., DR 1-106, "Responsibilities Regarding Nonlegal Services"; DR 1-107, "Contractual Relationships Between Lawyers and Nonlegal Professionals."
3. DR 1-103.
4. Model Rule 1.4.

Marla B. Rubin is a sole practitioner in Westchester County. She co-chairs the New York State Bar Association Environmental Law Section's Task Force on Legal Ethics. She writes and lectures extensively on environmental law and legal ethics issues.

REQUEST FOR ARTICLES

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Recommended Changes to Brownfields Law, Chapter 1, Laws of 2003

Prepared by the New York State Bar Association
Environmental Law Section
Brownfields/Superfund Reform Task Force

The following are the changes/clarifications to the recently enacted Brownfields Law that the Brownfields/Superfund Reform Task Force believes should be recommended to the Legislature when it returns to Albany either later this fall or in January:

1. **“Change of Use” Reopener.** Section 27-1421(2)(a)(v) provides a reopener in the case of the change of the brownfields site’s use. Change of use is defined, at least for purposes of section 27-1425, as including transfer of title or the erection of any structure on the site. See also the amendments to ECL § 56-0511. The statute should be clarified to provide that only a change to a type of use that creates more environmental or public health exposure should justify a reopener, not simply the sale of the property or erection of a building onsite. The “change of use” provisions of section 27-1425 also provide, among other things, that there must be a written notification at least 60 days before the start of any physical alteration or construction at a site, and/or prior to the sale of the property. The language in this section also appears to allow the Commissioner to prevent such activity and/or block such a sale. If that is the correct interpretation of these provisions, they are quite troublesome and will likely cause site owners and developers significant concerns about enrolling in this program. Given the extensive requirements for recordation and implementation of land use controls, such extraordinary powers given to the Commissioner are unnecessary. The statute should be clarified to remove any implication that by enrolling in the Brownfield Cleanup Program (BCP), a site owner gives the DEC this kind of power over the site.
2. **“Failure to Redevelop Site” Reopener.** Section 27-1421(2)(vi) allows a reopener for failure of the applicant to make substantial progress toward a proposed development within three years or failure to complete its proposed development within a reasonable time. If in fact the Department’s certificate of completion (COC) is based on satisfactory achievement of cleanup levels, and an applicant does not obtain a liability release until a COC is achieved, it seems unfair to allow a reopener of the liability release after a COC is achieved based upon economic or business developments that may be beyond the applicant’s control.
3. **Other COC Reopeners.** Section 27-1419(5)(c) allows the DEC to modify or revoke a COC for “good cause.” “Good cause” should be further defined, so as not to leave this section unduly vague and subject to abuse. Section 27-1421(2)(a)(i) provides for a reopener of the COC if the Department decides the site is no longer protective of public health and the environment. The statute should be clarified to confirm that any revocation or modification must be tied to new information or newly discovered conditions, and not be simply the result of the Department’s changing its mind. Section 27-1419(2)(b) provides that DEC will issue a COC if the Commissioner is satisfied that the remediation requirements “have been or will be achieved.” There should be clarification as to the circumstances under which the Commissioner can require the remediation to have already been achieved, and those in which a representation that they will be achieved is sufficient (e.g., satisfaction of the applicable Track 2 cleanup standards or Track 1-4 approved remedial programs).
4. **Contribution Protection.** The contribution protections in section 27-1421(6) are drawn from the language of federal Superfund and incorporate concepts that are not part of the BCP. For example, the provisions reference (a) “contribution regarding matters addressed in the order”; (b) the “settlement” discharging responsibilities to investigate and/or remediate; and (c) a reduction of liability of others “by the amount of the settlement.”. These provisions should be rewritten to clarify how they would apply to a typical brownfields agreement. The above-referenced contribution protection provisions seem to be completely contradicted by the provisions of

subparagraph (8) of the same section: “Nothing in this section shall affect the liability of any person with respect to any civil action brought by a party other than the state.” The interplay between these two subsections should be clarified.

5. **Limiting Language in Release for Prior Work.**

The value of the release provided in section 27-1421(1) appears to be substantially undercut by the provisions of subparagraph (5), which states that it does not affect liability for “investigative or remedial activities that are not included in the voluntary agreement or . . . workplan[s].” In other words, the release provided by DEC arguably extends only to specific activities contained in workplans, not to the site as a whole. Subparagraph (5) should be modified to remove any such implication.

6. **Municipal Liability Exemption.** The municipal liability exemption under the amendment to section 27-1323 is apparently forfeited if the municipality “participate[es] in the development” of the site. Such a restriction is contrary to the goal of brownfields redevelopment and should be clarified, modified or removed.

7. **Track Language.** The description of Track 2 cleanups is obscure and confusing, even for experienced practitioners. These provisions should be clarified. In addition, the language in the bill enabling the Department to “require” the applicant to implement a Track 2 cleanup in its discretion appears to be an enforcement provision. Either the circumstances when the Department is or is not entitled to “require” a Track 2 cleanup should be specified, or this provision should be eliminated because it may prevent an applicant from electing to implement a Track 3 or 4 cleanup. Section 27-1414(4) should be amended to refer to Tracks 2, 3 and 4 (not 1, 3, and 4) as permitting groundwater use to be restricted or unrestricted.

8. **On-site v. Off-site Investigation.** Section 27-1411(1)(a) indicates that only responsible party “participants,” not “volunteers,” are required to fully characterize the nature and extent of contamination that has migrated from a brownfield site. However, section 27-1415(2)(b) states that “some off-site field investigation to identify and sample any potential areas of contamination may be required to support the [qualitative] exposure assessment.” Either volunteers should not be subject to section 1415(2)(b), or this provision should be clarified to explain the circumstances

under which even a volunteer may be required to conduct an off-site investigation.

9. **Environmental Easements.** The new environmental easement provisions should be revised to clarify that only that portion of the site where an engineering or institutional control has been implemented as part of a remedy is subject to the environmental easement. In addition, the statute should expressly provide for a process to remove an environmental easement in appropriate circumstances (e.g., the meeting of a cleanup standard, where prior failure to achieve the standard was the basis for the imposition of the easement).

10. **Public Review.** The multiplicity of public comment periods is likely to create delays and transaction costs and unduly burden program participants. Comment periods should certainly be provided at junctures where DEC is making policy or other significant discretionary determinations—e.g., at the point of finalization of investigation and remediation workplans; and at the time of issuance of the certificate of completion. At least some of the other comment periods (e.g., at the time of application to the program, approval of the remedial investigation report, prior to commencement of construction, prior to approval of the final engineering report) should be eliminated.

11. **Hazardous Waste Generator Fee Exemption.** There should be—as there was in prior law—an exemption from hazardous waste generator fees for wastes generated in connection with DEC-approved cleanups.

12. **Conflicting Review Time Frames.** Section 27-1407(7) provides for a 30-day comment period in the event that the investigation determines that no further remediation is needed, whereas section 27-1417(2)(e) provides for a 45-day period. Those two provisions should be brought into alignment.

13. **Conformance with 2002 Federal Brownfield Law.** The legislature should consider conforming the ECL to the new federal Superfund law by adding bona fide purchaser and contiguous property owner exemptions, and to conform the Navigation Law to the Superfund Law by adding lender liability, Act of God, and innocent purchaser exemptions/defenses.

14. **Third-Party Defense in Navigation Law.** The new third-party defense in the Navigation Law appears to be missing language and requires clarification. Further, it appears the bill drafters

may have been attempting to exempt lenders from liability; however, the language of this provision as currently drafted does not do so.

15. **Hazardous Waste vs. Petroleum.** There are two different definitions of hazardous waste in the new law, a situation which will cause significant confusion if not addressed. The definition in Title 14 (the new brownfields program) includes petroleum as a "hazardous waste or contaminant." The definition in Title 13 (the state Superfund program) excludes petroleum as a "hazardous waste." We recommend that the phrase "hazardous waste" be eliminated from the "hazardous waste or contaminant" definition in Title 14, thus leaving "contaminant" as the catch-all phrase for both hazardous waste and petroleum. This way any site "contaminated" with either hazardous waste as defined in Title 13, or petroleum as defined under the Navigation Law, can participate in the Title 14 program.

16. **SEQRA.** Insofar as certain aspects of site cleanup (e.g., designation of anticipated site use, and revocation of COC for failure to timely develop the site) are integrally related in the statute to site redevelopment, the relationship between the brownfields agreement process and the SEQRA process should be clarified. This may require amendments to other provisions of the ECL and the SEQRA regulations.

17. **Right to Withdraw.** Either the Legislature or the DEC should make clear that, as in the current Voluntary Cleanup Program, participants in Brownfields Cleanup Agreements have the right to withdraw unilaterally at any time that they and DEC cannot reach agreement on appropriate investigatory and/or cleanup plans.



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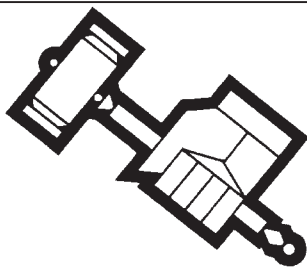
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Administrative Decisions Update

Prepared by Jeffrey L. Zimring

CASE: *In re the Alleged Violations of Article 17 of the Environmental Conservation Law of the State of New York and Title 6, Parts 612 and 613 of the Official Compilation of Codes, Rules, and Regulations of the State of New York by Kuldeep Singh and Kuldip, Inc.*

DECIDED: December 17, 2003

AUTHORITY: N.Y. Env'tl. Conserv. L. Art. 17
6 N.Y.C.R.R. Parts 612, 613, and 622
N.Y. Civ. Prac. L. & Rules Art. 3

DECISION: New York Department of Environmental Conservation (DEC) Commissioner Erin M. Crotty (the "Commissioner") considered default judgments against Kuldeep Singh and Kuldip, Inc. (the "Respondents") that arose from the failure to answer DEC charges that certain inactive gasoline tanks had not been closed properly. Defaults against the Respondents were granted by Administrative Law Judge P. Nicholas Garlick ("ALJ Garlick") pursuant to motions for default filed by DEC staff because of either of the Respondents' failure to answer the charges. The Commissioner held that service of notice of the charges on Mr. Singh was proper and complete and that the proper remedy for his failure to answer was a default judgment. Completed service on Kuldip, Inc., however, was not indicated by the record and, therefore, a default would not be proper until there was proof of service on the corporation.

Background

DEC staff alleged that the Respondents failed to close nine petroleum bulk storage tanks according to the requirements of ECL Art. 17 and 6 N.Y.C.R.R. Parts 612 and 613. The DEC attempted to serve the Respondents with a complaint specifying the charges and a notice of hearing on three separate occasions. In January 2003, a complaint and notice of hearing was sent by certified mail to Mr. Singh at an address in Brooklyn, New York, and an address in Irvington, New Jersey. A complaint and notice of hearing was also sent to Kuldip, Inc., at the same address in Brooklyn used for service on Mr. Singh. The DEC received delivery confirmation from Mr. Singh's Irvington, New Jersey, address

on January 16, 2003, but did not receive delivery confirmation from any of the other mailings.

In March 2003, the DEC sent new, yet virtually identical, complaints and notices of hearing to Mr. Singh at the Brooklyn, New York, and Irvington, New Jersey, addresses and to Kuldip, Inc., at the Brooklyn address. The envelope addressed to Mr. Singh at the Irvington, New Jersey, address was returned to the DEC with the notation "refused." The envelope sent to the Brooklyn, New York, address was returned with the notation "attempted not known." The envelope addressed to Kuldip, Inc., that was sent to the Brooklyn address was also returned with the notation "attempted not known."

In June 2003, a third attempt at service through certified mail was made. The complaint and notice of hearing was sent to Mr. Singh at the Brooklyn, New York, and Irvington, New Jersey, addresses and to Kuldip, Inc., at a different Brooklyn address listed as the location of the storage tanks at issue. The DEC received two of the envelopes back. The envelope addressed to Mr. Singh at the Brooklyn, New York, address was returned with the notation "refused." The envelope sent to Kuldip, Inc., at the address of the storage tanks was returned with the notation "UNK."

On July 29, 2003, the DEC filed a motion for default judgments against both Respondents. ALJ Garlick found that the Respondents were in default for failing to answer the January 2003 complaints. The motion for a default judgment against the Respondents was granted by ALJ Garlick.

Discussion

An administrative enforcement proceeding may be commenced by serving a complaint and notice of hearing on a respondent in the manner prescribed by CPLR Art. 3 or by sending the complaint and notice of hearing by certified mail. When service by certified mail is used, service is complete when the complaint and notice of hearing have been received. Failure to serve an answer to the complaint on the DEC within twenty days of receipt of the complaint and notice of hearing

results in a default and a waiver of the right to a hearing. Furthermore, failure to appear at the hearing or the pre-hearing conference also constitutes a default and a waiver of the right to a hearing.

Kuldeep Singh

The delivery receipt for the January 2003 mailing to the Irvington, New Jersey, address provided sufficient evidence to establish that Mr. Singh received the complaint and notice of hearing. Service on Mr. Singh was, therefore, complete and a default judgment was proper. The Commissioner noted, though, that Mr. Singh's failure to appear at the pre-hearing conference specified in the January notice of hearing could not serve as the basis for a default because the conference was scheduled during the twenty-day period in which Mr. Singh was allowed to answer the complaint. His failure to answer the complaint, however, provided a sufficient basis for the default judgment.

Kuldip, Inc.

There was no evidence that Kuldip, Inc., was properly served with the complaint and notice of hearing. There was no return receipt from the January 2003 mailing. The March 2003 and June 2003 mailings were returned by the Postal Service with notations indicating that the entity could not be found to receive service. Moreover, the DEC staff did not attempt to use any of the methods described in the CPLR or the Business Corporation Law for serving process on a corporation. Accordingly, the default judgment requested by the DEC had to be denied because it could not be shown that Kuldip, Inc. had received proper notice of the complaint filed by the DEC.

Liability and Penalty Determination

Because of Mr. Singh's default, he is deemed to have admitted all of the DEC's allegations in the complaint. DEC staff recommended a penalty of \$100 per day for the continuing violation. The Commissioner held that penalties could only be assessed for days prior to the filing of the complaint. A penalty of \$70,200, therefore, was assessed. Acting on the recommendation of the DEC staff, the Commissioner suspended one-half of the penalty pending remedial action by Mr. Singh.

* * *

CASE: *In re the New York State Department of Environmental Conservation Notice of Intent to Modify the Title V Permit of Village of Freeport.*

DECIDED: November 26, 2003

AUTHORITY: Clean Air Act Title V
6 N.Y.C.R.R. Parts 201-6, 227, and 621

DECISION: Department of Environmental Conservation (DEC) Commissioner Erin M. Crotty (the "Com-

missioner") accepted the findings of Administrative Law Judge Molly T. McBride ("ALJ McBride") with respect to the scheduled shutdown of the diesel-fueled electrical generator operated by the Village of Freeport (the "Village"). Citing an error in the generator's Title V permit, the lack of emissions compliance by the generator, and the ability of the Village to continue to provide service to its ratepayers without the generator, the Commissioner agreed with DEC staff and ALJ McBride in that a shutdown date for the generator was appropriate. The Commissioner did, however, change the date of the planned shutdown from November 30, 2003, to January 31, 2004, to allow the Village to react to the decision and complete an orderly shutdown of the generator.

Background

The Department of Environmental Conservation issued the Village of Freeport a Title V permit in 1998 for the operation of a municipally owned, diesel-engined electric power plant (known as Power Plant #2 or "PP2"). The permit, however, did not include emission limits for particulate matter or oxides of nitrogen ("NOx"). The Village and the DEC agree that the exclusion of the emission limits was an error in need of correction. DEC issued a notice of intent to modify the Title V permit in 2001 and engaged in unsuccessful negotiations with the Village until 2003 in an attempt to develop an agreeable modification to the permit that included emission limits for particulate matter and NOx.

On February 5, 2003, DEC issued a new notice of intent providing for the shutdown of PP2 upon the earlier of the commencement of commercial operation of a new turbine electric power generating facility or November 30, 2003. The Village had previously indicated that a new turbine-powered generator would be operational by that time. Because the time line for the commencement of operation of the new generator had slipped, the Village opposed the proposed modification and argued that PP2 should be allowed to operate until the new generator was operative. The Village conceded that it could purchase sufficient electrical capacity without PP2. The cost of purchasing electricity to replace PP2's capacity, however, was considerably higher than the cost of producing the power with PP2.

Basis for Shutdown

DEC regulations provide that a Title V permit issued by the DEC may be "modified, revoked, suspended, reopened and reissued, or terminated for cause." PP2 did not comply with emission standards for particulate matter or NOx. The Commissioner noted that without PP2 the ratepayers dependent on the Village for electrical service would be ensured of continued service, albeit at a higher price. Furthermore, the

schedule for achieving compliance with emission limits that was proposed by the DEC staff was reasonable in that it afforded the Village time in which to construct a new power generating plant and did not require shutdown of PP2 until November 30, 2003. Although the Commissioner recognized that PP2 was only used as an emergency backup and operated only in limited circumstances, she agreed with DEC staff in that the inability of PP2 to meet emission standards for NOx and particulate matter justified an early shutdown of PP2.

Alternative Emission Limits

The Village maintained that it should have been granted a variance from the emission standards. A facility that does not meet applicable emission limits can apply for a variance from the applicable emission standards if it can show that it is not technically or economically feasible to comply with the standards and that the variance will not result in the facility's exceeding any applicable air quality standard. The Commissioner noted, however, that the Village had failed to submit any information in support of an application for a variance from the applicable emission standards. The Village received notice of the DEC's intent to modify the Village's Title V permit in August 2001 and again in February 2003. Additionally, the record contained no indication that the Village had ever submitted a formal application for an emission standards variance. ALJ McBride also notes in the hearing report that the Village failed to pursue a variance during its adjudicatory hearing.

Delays in Construction of the New Facility

The Village argued in the adjudicatory hearing and again before the Commissioner that the shutdown date should have been extended because of delays in the construction of the Village's new generator. The Village maintained that, despite its diligence in the construction process, progress was delayed because of regulatory requirements of the New York State Public Service Commission and the need for environmental remediation of PCB contamination at the construction site. ALJ McBride found during the adjudicatory hearing, however, that the Village had known about the PCB contamination since 1993 and had not taken appropriate remedial efforts until 2003. Acknowledging that the replacement for PP2 would not be operational until April 2004, the Commissioner determined that the reasons cited by the Village for the delay in construction did not provide sufficient justification for an extension of the shutdown date.

SEQRA Compliance

In its comments to ALJ McBride's recommended decision, the Village argued that the DEC had not fulfilled the requirements of the State Environmental

Quality Review Act (SEQRA) with respect to the shutdown of PP2. The Commissioner summarily rejected the Village's assertion because it was untimely. DEC regulations require that all potential issues affecting the project under consideration must be raised at an issues conference held prior to the adjudicatory hearing. Furthermore, when the DEC is the lead agency or when there has been no coordinated review of a project, any SEQRA issues must be raised prior to the issues conference or the SEQRA determination made by DEC staff will not be disturbed by an ALJ. The Commissioner notes that allowing a party to raise the issue of SEQRA compliance at a stage subsequent to the issues conference would result in serious inefficiencies in the permit hearing process.

The Village had been a party to the entire permit modification proceeding, yet it did not raise the SEQRA compliance issue at any time prior to its reply to the recommended decision. Allowing the Village to raise the issue at that time would have denied ALJ McBride and the other parties to the proceeding the ability to address the factual and legal considerations necessary to make a SEQRA determination. The Village provided no justification for the delay in raising the SEQRA issue even though it was clearly on notice of the DEC's SEQRA determination.¹

The Commissioner noted that the DEC regulations allow, in very limited circumstances, the raising of new issues subsequent to the issues conference. The standard, however, requires a showing that new information exists that was not reasonably available prior to the issues conference. The Village made no such showing, and, therefore, the DEC's SEQRA determination would stand. Any further legal challenges to the DEC's SEQRA determination were waived because the Village failed to raise them in a timely manner.

Conclusion

The modification to the Village's Title V permit to operate PP2 was reasonable because the permit lacked NOx and particulate matter emissions standards and PP2 was not capable of operating without exceeding the applicable air quality standards. A change in the shutdown date from November 30, 2003, to January 31, 2004, was, however, necessary to allow the Village time to complete the orderly shutdown of PP2 once it had received notice of the Commissioner's decision.

Endnote

1. In the February 5, 2003 ENB, three months before the issues conference, the DEC announced that the proposed modification to the Village's Title V permit was a Type II action.

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Recent Decisions in Environmental Law

Student Editor: Brian Smetana

Prepared by students from the Environmental Law Society of St. John's University School of Law

Tennessee Valley Authority v. Whitman, et al.,
336 F.3d 1236 (11th Cir. 2003).

Facts: Fourteen rehabilitation projects¹ at nine coal-fired electrical power plants were undertaken by the Tennessee Valley Authority (TVA).² TVA failed to obtain permits in compliance with the Clean Air Act (CAA) prior to this undertaking which resulted in it being held in violation of the CAA by the Environmental Protection Agency (EPA) which issued an administrative compliance order (ACO).³ TVA refused to comply with the ACO on the ground that the EPA had an incorrect understanding of the law and facts. The decision of the EPA was reviewed by the Environmental Appeals Board (EAB) which was created by the EPA for the purpose of "reconsidering" its decisions on the issue of liability in an informal adjudication.⁴ TVA filed a petition for review in the 11th Circuit Court of Appeals requesting that the ACO be set aside as unlawful and the product of "arbitrary and capricious" decision making pursuant to the Administrative Procedure Act's (APA) judicial review process, 5 U.S.C. § 706(2)(A).⁵

Issue: The main issue in this case was whether the issuance of an ACO constitutes final agency action because the appellate courts lack the subject matter jurisdiction to review an agency's decision if it does not constitute final agency action. Thus, the 11th Circuit Court of Appeals looked to the factors that determine finality. Those factors are:

- (1) whether the agency action constitutes the agency's definitive position;
- (2) whether the action has the status of law⁶ or affects the legal rights and obligations of the parties;
- (3) whether the action will have an immediate impact on the daily operations of the regulated party;
- (4) whether pure questions of law are involved; and
- (5) whether pre-enforcement will be efficient.⁷

The Supreme Court modified this five-factor test with a two-prong test that is known as the "*Bennett* test."

The Supreme Court in *Bennett v. Spear*⁸ concluded that

[a]s a general matter, two conditions must be satisfied for agency action to be 'final': First, the action must mark the 'consummation' of the agency's decision making process—it must not be of a merely tentative or interlocutory nature. And second, the action must be one by which 'rights or obligations have been determined,' or from which 'legal consequences will flow.'⁹

Ultimately, this Court applied the *Bennett* test and held that ACOs fail the second prong and therefore cannot constitute final agency action.

Reasoning: "To ascertain the true meaning of a statute, courts are often forced to delve into the structure of a statute and the context in which different provisions are written."¹⁰ In accordance with this sentiment the 11th Circuit Court concluded that if ACOs were to be given the status of law several statutory provisions would become "useless" or "absurd."¹¹ These statutory provisions include 42 U.S.C. § 7603¹² and 42 U.S.C. § 7413, because when the EPA is concerned that a pollution source presents an endangerment to public health or welfare it commences a lawsuit for appropriate relief and does not issue an order on its own initiative. Section 7413 states that where a person knowingly violates an order that person will be subject to a fine and imprisonment.¹³ Thus, if an ACO is issued "on the basis of any information available" a person who knowingly violates it can be imprisoned.¹⁴ However absurd this may seem, the language of the CAA in combination with decisions of the Supreme Court clearly illustrate the intent of Congress to grant civil and criminal penalties for ACO violations absent proof that there was an act of illegal pollution.¹⁵

This Court touched on some of the constitutional issues of a finding by an executive branch agency based on "any information available" and the issuance of a compliance order that will lead to the imposition of

severe civil and criminal penalties by calling it “repugnant to the Due Process Clause of the Fifth Amendment.”¹⁶ The majority of courts have interpreted the intent of Congress and the CAA with regard to this issue as attempting to resolve disputes out of court.

These courts have held that pre-enforcement review of CAA compliance orders is not available and that ACOs neither constitute final agency action, nor do they have status of law. Thus, this Court reasoned that these nonjudicial dispute resolutions, which do not create a record,¹⁷ do not violate the Due Process Clause of the Fifth Amendment because

no ‘deprivation’ of liberty or property is actually at issue until the Government imposes penalties in a subsequent enforcement proceeding. However, subject matter jurisdiction ultimately hinges upon the validity of an enforcement scheme that gives ACOs the status of law, and the courts have an obligation to assess their subject matter jurisdiction *sua sponte*.¹⁸

Conclusion: The 11th Circuit Court of Appeals declined to issue an order reversing or granting the relief requested by petitioner on the basis that it lacks the subject matter jurisdiction to review non-final agency action. The court further stated that

[a]lthough the CAA empowers the EPA Administrator to issue ACOs that have the status of law, we believe that the statutory scheme is unconstitutional to the extent that severe civil and criminal penalties can be imposed for noncompliance with the terms of an ACO. Accordingly, ACOs are legally inconsequential and do not constitute final agency action.¹⁹

Consequently, the petition was dismissed and the case was remanded to the district court to decide the issues of a violation of the CAA. TVA was free to ignore the ACO without penalty.²⁰

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Endnotes

1. TVA planned to replace various components of boilers at its coal-fired plants. TVA asserted that the projects were “routine maintenance” because the power plants could not operate without the modifications that comprised only a small fraction of the total outlay necessary to maintain each plant. On this basis TVA contended that the modifications did not lead to an increase in emissions, therefore no permit was required. Additionally, TVA alleged that the EPA violated the Constitution when it changed the definition of “modification” without giving fair notice in accordance with due process. The CAA permitted existing facilities to avoid costly procedures to update state-of-the-art pollu-

tion controls. However, once these facilities underwent “modification” beyond “routine maintenance” they were required to update the pollution controls. 42 U.S.C. § 7411(a)(4) defines modification being “any physical change in, or change in the method of operation of, a stationary source which increases the amount of any air pollutant emitted by such source or which results in the emission of any air pollutant not previously emitted.”

2. Codified in 16 U.S.C. §§ 831–833, the TVA is an agency established pursuant to the Tennessee Valley Authority Act of 1933 to provide electric power at reasonable rates.
3. Many more ACOs were issued for TVA’s non-compliance with the CAA’s permit requirements.
4. The entire process was conducted because the EPA mistakenly believed that TVA could not be sued in federal court. The EAB decided that TVA violated the CAA.
5. *Tennessee Valley Auth. v. Whitman, et al.*, 336 F.3d 1236, 1245 (11th Cir. 2003).
6. The phrase “status of law” refers to the legal instrument that if violated leads to the imposition of civil and/or criminal punishment. Since the terms of an ACO can be the basis for severe fines and penalties it would be deemed to have status of law.
7. *Tennessee Valley Auth. v. Whitman*, 336 F.3d at 1248.
8. 520 U.S. 154 (1997).
9. *Tennessee Valley Auth. v. Whitman*, 336 F.3d at 1248.
10. *United States v. Tinoco*, 304 F.3d 1088 (11th Cir. 2002).
11. This is especially true when the EPA expressly stated that “[t]he ACO . . . is in the nature of an administrative ‘complaint’” and “Courts have consistently held that, because they are not self-executing and instead compel action only upon enforcement by the EPA, compliance orders issued under environmental statutes such as the Clean Air Act and Clean Water Act are not ‘final’ under the APA.” *Tennessee Valley Authority v. Whitman*, 336 F.3d at 1251, citing *EPA’s Motion to Dismiss TVA’s Petition for Review of the Nov. 1999 and May 2000 ACOs*, at 24.
12. This Court declined to assess the constitutionality of this statute because the provision was not before the Court.
13. The Supreme Court has never addressed the precise meaning of this statute. However, “The 1970 amendments also specified certain enforcement mechanisms. The Act empowered EPA to order compliance with an applicable implementation plan . . . and to seek injunctive relief against a source violating the plan or an EPA order. . . . In addition, Congress prescribed criminal penalties for knowing violations of plans and orders . . .” *Tennessee Valley Auth. v. Whitman*, 336 F.3d at 1256.
14. In *Solar Turbines, Inc. v. Seif*, 879 F.2d 1073, 1080 (3d Cir. 1989) a cover letter that accompanied the ACOs stated that “[f]ailure to comply with this Order could subject your firm to civil and criminal penalties pursuant to the Clean Air Act.”
15. *Tennessee Valley Auth. v. Whitman*, 336 F.3d at 1256.
16. *Id.* at 1258.
17. If a court were to remand a case with an order to adjudicate a dispute it would, in effect, amend the statute which is impermissible because amending statutes is a legislative function. The Court stated that “no canon of statutory interpretation can trump the unambiguous language of a statute.” *Id.* at 1255.
18. “Before the Government can impose severe civil and criminal penalties, the defendant is entitled to a full and fair hearing before an impartial tribunal ‘at a meaningful time and in a meaningful manner.’” *Id.* at 1258, citing *Armstrong v. Manzo*, 380 U.S. 545 (1965). Additionally, if an ACO were adjudicated by the

EPA it would be unconstitutional because the EPA is a non-Article III tribunal.

19. *Id.* at 1240.

20. *Id.* at 1260.

* * *

Spitzer v. Farrell, 100 N.Y.2d 186 (2003).

Environmental Assessments under SEQRA: The Court of Appeals upholds the right of agencies to issue a negative declaration in regard to environmental assessments when using the best available scientific technology available at the time of assessment.

Facts: When the state required the New York City Department of Sanitation (DOS) to stop dumping waste at the Fresh Kills Landfill in 2002, the DOS implemented a plan to dump waste in New Jersey.¹ The plan was called the “Manhattan Plan,” “which required diesel-powered sanitation trucks to transport waste to facilities in New Jersey daily via the George Washington Bridge and the Holland and Lincoln Tunnels.”²

As required by the State Environmental Quality Review Act (SEQRA), the DOS reviewed all relevant concerns that were associated with the plan. After reviewing the available data using a current technologically feasible standard of a 10 micron (PM10) test to test air quality, the DOS issued a negative declaration for the Manhattan Plan.³ This meant that the DOS was not required to issue an Environmental Impact Statement (EIS).

After issuing the negative declaration, the Attorney General commenced an action to “(1) null[ify] and vac[ate] the negative declaration, (2) decl[are] the DOS’s implementation of the Manhattan plan without first preparing an environmental impact statement was unlawful, and (3) comp[el] DOS to prepare a draft environmental impact statement and to mitigate all adverse air quality impacts disclosed therein.”⁴

State Supreme Court dismissed the Attorney General’s petition.⁵ The Appellate Division found that the DOS had to prepare a new environmental declaration, and therefore reversed the Supreme Court’s decision.⁶ The Court of Appeals in this decision reversed the Appellate division and held that the DOS had used the current “feasible” technology to assess the environmental impact and therefore SEQRA did not impose any further requirements on the DOS in regard to their environmental assessment.⁷

Issues: The core issue in this case is determining the standards that the DOS or any other agency must use when making an environmental assessment under SEQRA. In this regard, the question is what must be done when issuing a negative declaration, or a finding that an EIS is required. The court in this decision held

that the agency is still obligated to take a hard look and make a reasonable determination.⁸

Furthermore, the Court recognized that the DOS was using the standards “imposed by the Clean Air Act.”⁹ The Court held that the DOS had properly used the standards that were in place, and was not required to use the technologically infeasible standard of PM2.5, as the Attorney General argued was necessary.

Reasoning: The Court held that the DOS had analyzed the appropriate materials in making their decision. Specifically, the court stated that the “DOS identified the relevant environmental concern—the impact of the diesel garbage trucks on air quality.”¹⁰ The Court stated that because there was no feasible way to use the PM2.5 test, the DOS had properly used the PM10 test.¹¹

Therefore the Court held that the DOS analysis was reasonable at the time conducted and therefore its negative declaration should be upheld.

Conclusion: This case stands for two important propositions. The first is that when an agency is not an expert in a field that must be analyzed to make an environmental assessment, the agency is permitted to rely upon the standards that another “expert” agency promulgated. The second important realization is the fact that the Court upheld the idea that agencies are only required to conduct tests that are technologically feasible at the time that they conduct their environmental assessment.

Brian S. Smetana

Endnotes

1. *Spitzer v. Farrell*, 100 N.Y.2d 186, 189, 791 N.E.2d 394, 761 N.Y.S.2d 137 (2003).
2. *Id.* at 189.
3. *Id.* at 189–190. The problem here was that the EPA had issued a newer test under the National Ambient Air Quality Standards in order to measure the “criteria” air pollutants. *Id.* at 190. The EPA’s new standard required agencies to use a 2.5 micron (PM2.5) test rather than the older PM10 test. However, the EPA realized that the new test was technologically infeasible and issued a memorandum dated October 1997 that stated the “new standards would not be enforced until 2002.” *Id.* at 189. The key was that DOS relied on the EPA requirements because DOS was not an expert on air quality.
4. *Id.* at 189–190.
5. “Holding that DOS had identified and taken a hard look at the relevant areas of environmental concern.” *Id.* at 190. The Court in essence held that the DOS had complied with the SEQRA requirements.
6. *Id.* at 190.
7. *Id.* at 191.
8. *Id.* at 191.
9. *Id.* at 191. “Although SEQRA review could have been conducted without reliance on the federal standards, here it was rational for the agency, which is not an expert on air quality, to use such standards in its analysis.” *Id.* at 191.

10. *Id.* at 191.

11. *Id.* at 191, citing *In re Mirant Bolwine, LLC.*, 2001 N.Y. Env. LEXIS 22, *55-56, 2001 WL 429863, *20 [NYSDEC Mar. 30, 2001].

* * *

Arbor Hill Concerned Citizens Neighborhood Association v. City of Albany, New York et al., 250 F. Supp. 2d 48, 56 ERC 1822 (N.D. 2003).

Facts: Plaintiff Arbor Hill Concerned Citizens Neighborhood Association is an unincorporated, not-for-profit association of residents who live in the Arbor Hill neighborhood of Albany. The association's goal is to protect and improve the quality of life and public health of the community. Defendant city of Albany received federal grant money to develop a program that would reduce lead-based paint hazards in low-income housing within its city limits.

Plaintiff alleged that the city ignored sections of the Toxic Substances Control Act's (TSCA) lead paint abatement requirements, specifically those that require abatement professionals to be certified by the Environmental Protection Agency and that require specific steps to be taken regarding inspections, risk assessments, abatements and post-abatement clearance.¹ Defendants dispute these allegations, claiming that all work performed complied with the TSCA requirements. Defendant then moved to dismiss the complaint on the grounds that the neighborhood association lacked standing and that part of the relief sought by the association was not within the scope of the TSCA.

Issues: There are two issues that the court had to address in deciding whether to grant defendant's motion to dismiss. First, the court had to determine if the neighborhood association had standing to bring the suit. To decide this issue, the court used a three-pronged test that was laid out by the U.S. Supreme Court in *Hunt v. Washington State Apple Advertising Commission*.²

The second issue decided by the court was whether the relief sought by the neighborhood association was within the scope of the TSCA. To decide this issue, the court interpreted the purpose of the TSCA.

Reasoning: In utilizing the three-pronged test laid out in *Hunt*, the court determined that the plaintiff could not satisfy the first prong of the test.³ To satisfy the first prong of the *Hunt* test, the association's mem-

bers would have to have standing to sue on their own, individual right. To have such standing, the court said, the individual plaintiff must have suffered an "injury in fact" that is concrete and particularized.⁴ The court said the plaintiff failed here because it could not establish that its individual members suffered any such injury in fact. It said the plaintiff could amend its complaint to plead specific injuries to individual members of the association.⁵

On the second issue, the court determined that part of the relief sought by the association was outside the scope of the TSCA. The court, along with both parties, agreed that, "the TSCA only authorizes citizen suits 'to restrain' violations of its substantive provisions."⁶ Therefore, plaintiff may request injunctive relief to permanently enjoin defendants from violating any provisions of the TSCA. They cannot, however, seek any relief that would order defendants to remedy the alleged violations, order defendants to guarantee that all improperly abated dwellings are safe for habitation or order defendants to medically monitor residents living in such dwellings. These types of relief would seek to remedy alleged violations instead of restrain them.

Conclusion: Defendant's motion to dismiss the complaint was conditionally granted. Plaintiff was given the opportunity to amend its complaint to include specific allegations of injuries suffered by its members. Plaintiff's amended complaint could not request any relief that was found to be outside the scope of the TSCA.

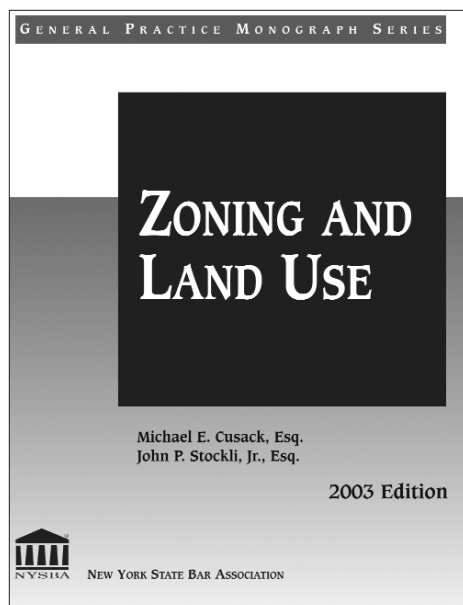
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Endnotes

1. 40 C.F.R. §§ 745.225-745.227, 745.233.
2. 432 U.S. 333 (1977).
3. "Under the test, associational standing is established if: (1) the association's members would otherwise have standing to sue on their own, individual right; (2) the interest the association seeks to protect through the lawsuit is germane to its purpose; and (3) neither the claim asserted nor the relief requested requires participation in the lawsuit by the individual members of the association." *Arbor Hill Concerned Citizens Neighborhood Ass'n v. City of Albany, et al.*, 250 F. Supp. 2d 48, 56 ERC 1822 (N.D. 2003).
4. *Id.*
5. The court stated that "if plaintiff can so establish an injury in fact to its individual members, it is here opined that satisfaction of the remaining two prongs is likely." *Id.* at 55.
6. *Id.*

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