



MICHIGAN ENVIRONMENTAL LAW JOURNAL
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Message from the Chair

By Anna Maiuri, Miller Canfield



My, how time flies!!! I hope you all are enjoying the summer months in our resource rich state. Summer also gives us an opportunity to catch up on some good reading and the folks who put together our Michigan Environmental Law Journal (MELJ) have supplied another fine issue for us. In fact, this particular issue of the MELJ has several informative articles including explaining: significant changes to Michigan's Leaking Underground Storage Tank Program, a recent Court of Appeals decision denying intervention by environmental groups to challenge a MDEQ air permit and issues related to national security and the power grid.

As this issue goes to print, we have just had our new revamped Summer Program in Detroit. Many thanks to our program committee (Co-chairs Bill Schikora and Jim O'Brien) and especially to our partners from the Federal Bar (particularly Paul Sax) for putting together such a fine program. A huge highlight was the opportunity to have EPA's Region 5 Administrator, Susan Hedman as the keynote. I really enjoyed the bike ride on the Riverwalk to the former Uniroyal site and the update that Jeff Haynes gave when we got there. As usual, it was a delight to see so many of you there.

Please do not hesitate to register for the September 20, 2012, Annual Meeting in Grand Rapids. I will be passing the gavel to Dustin Ordway. I want to thank each of you for your support and the privilege for having served as your Chair this past year. It has been a wonderful experience and I encourage you all to get actively involved in State Bar activities. I have found it very rewarding and a pleasure to get to know my bar colleagues even better. See you all soon.

Anna M. Maiuri, Chair
maiuri@millercanfield.com

REPORT OF ENVIRONMENTAL LAW SECTION NOMINATING COMMITTEE

August 3, 2012

On April 18, 2012, Anna Maiuri, Chair of the Environmental Law Section, appointed a Nominating Committee consisting of Dustin Ordway (Chair of the Committee), Kurt Brauer, Tammy Helminski, and Scott Steiner. Their task was to recommend a slate of candidates for the offices of Chair-Elect, Secretary-Treasurer, and members of the Council of the Section to succeed those whose terms will expire at the close of the next annual meeting, in accordance with Article IV, Section 1, of the Section Bylaws.

Dustin Ordway submitted an oral report to the Environmental Law Section Council at its meeting on August 3, 2012. Kurt Brauer has been nominated for Chair-Elect, and S. Lee Johnson has been nominated for Secretary-Treasurer. Tammy Helminski, Kelly Martorano, and James Enright were each nominated to serve as Council members for initial three-year terms expiring in 2015. George F. Curran, III and Kurt Kissling were each nominated to serve as Council Members for second three-year terms expiring 2015.

To be considered by the Nominating Committee, a prospective nominee must meet the eligibility criteria set forth in Article IV, Section 2, of the Section Bylaws. To be eligible for election to the Council, a person "shall have served no less than two years as an active member of a Section Committee." To be eligible for election as an officer of the Section a person "shall have served not less than four full years as a voting member of the Section Council." In addition to imposing these mandatory qualifications, Article IV, Section 2, directs the Nominating Committee to weigh other factors in nominating candidates, including the need for representation on the Council of women, racial/ethnic minorities, and diverse legal viewpoints and geographic locations, as well as past contributions to the Section in the nature of "sweat equity."

In accordance with the Section Bylaws, other nominations for these positions may be made from the floor at the annual meeting, and thereafter the Chair-Elect, Secretary-Treasurer, and members of the Council of the Section for the following year will be elected by the Section members.

**REPORT OF THE
ENVIRONMENTAL LAW SECTION
NOMINATING COMMITTEE
(August 2012)**

The Nominating Committee of Dustin Ordway (Chair of the Committee), Kurt Brauer¹, Tammy Helminski and Scott Steiner conferred on several occasions, most recently on July 17, 2012, to consider potential candidates consistent with the requirements for service as officers and as members of the Environmental Law Section Council.² Based on its review, the Nominating Committee makes the following recommendations:

Chair:	Dustin Ordway will automatically become Chair by operation of the Bylaws
Chair-Elect:	Kurt Brauer
Secretary-Treasurer:	S. Lee Johnson
Second 3-year term on Council:	Kurt Kissling George F. Curran, III
First 3-year term on Council:	Tammy Helminski Kelly Martorano James Enright

Voting on these positions will be held at the Environmental Law Section annual meeting at 4:30 p.m. in Grand Rapids, Michigan on September 20, 2012. In accordance with the Section Bylaws, other nominations for these positions may be made from the floor at the annual meeting, and thereafter the officers and members of the Council of the Section for the 2012-2013 year will be elected by Section members. The nominees' addresses and brief summaries of their qualifications are provided below:

¹ While Mr. Brauer participated in the identification of candidates for each of the positions set forth in this report, and in the evaluation of candidates for the Secretary-Treasurer position and of the Council Member nominees, he did not participate in any discussion regarding candidates for the position of Chair Elect.

² While Ms. Helminski participated in the identification of candidates for each of the positions set forth in this report, and in the evaluation of candidates for the Secretary-Treasurer position, she excused herself while the remainder of the committee evaluated the potential council member nominees.

OFFICERS

Chair:

Dustin P. Ordway
Ordway Law Firm, PLLC
300 Ottawa Avenue, N.W., Suite 801
Grand Rapids, MI 49503



Dustin P. Ordway has specialized in environmental law since 1986 and practices throughout Michigan and in other jurisdictions. His environmental practice includes both litigation and regulatory compliance work. In addition to his environmental practice, Mr. Ordway has served as a certified facilitative mediator since the 1990s, and works with counsel and clients on state and federal court matters, as well as pre-litigation disputes and other facilitations. After serving on the Environmental Section Council for six years, he is currently serving as Chair-Elect of the Environmental Law Section. Mr. Ordway is the author of the Underground Storage Tanks chapter of the Section's Deskbook (2nd Edition).

Chair-Elect:

Kurt M. Brauer
Warner Norcross & Judd LLP
2000 Town Center Ste 2700
Southfield, MI 48075



Mr. Brauer is a partner in the Firm's Environmental Law Practice Group, practicing in its Southfield, Michigan office. His practice focuses on environmental matters and Brownfield Redevelopment. He currently serves as Co-chair of the Firm's Economic Incentives Group. He

assists clients in all manner of economic development, environmental compliance and regulatory matters. He specializes in assisting clients in acquiring, managing and redeveloping brownfield properties, including negotiating redevelopment incentive packages with local and state government units and resolving complex real estate matters. He has assisted clients in securing a broad array of financial incentives. Representative clients include pharmaceutical manufacturers, real estate developers, alternative energy producers and equipment manufacturers, film production entities, retail centers, mining concerns, and clients in the food production, high-tech manufacturing and aerospace industries. Mr. Brauer has been actively involved in the program committee since 2002, serving as Chair of the committee from 2006-2010. He has also served as Chair of the membership committee from 2010 to 2012. After serving on the Environmental Section Council for six years, he is currently serving as Secretary-Treasurer of the Environmental Law Section. Mr. Brauer is an author of the Administrative Law chapter of the Section's Deskbook (2nd Edition).

Secretary-Treasurer:

S. Lee Johnson
Honigman Miller Schwartz & Cohn LLP
660 Woodward Avenue, Suite 2290
Detroit, MI 48226



Mr. Johnson is a partner in the Honigman Miller Schwartz and Cohn's Environmental Law Practice Group. He counsels large and small manufacturers, real estate developers, mining firms and utilities regarding environmental regulation, with particular emphasis on air pollution regulation, and the environmental aspects of commercial transactions. He represents businesses and individuals in administrative disputes with the United States Environmental Protection Agency, the Michigan Department of Environmental Quality and other state regulatory agencies, and in environmental law litigation. He also assists firms that are seeking permits and other authorizations from environmental regulatory agencies, including installation permits for major and minor air emission sources and renewable operating permits. Mr. Johnson has been actively involved in the ELS Air Quality Committee since 1994, serving as Vice-Chair of the committee in 1996-1999 and Chair of the committee in 1999-2000 and from 2006-present. Mr. Johnson served on the Environmental Law Section Council for six years, from 2000 to 2006. He is also involved with the Air & Waste Management Association ("AWMA"), having served as Secretary of the East Michigan Chapter from 2005 to 2008, as Vice-Chair in 2008-2009

and Chair in 2009-2010. Since 2007, Mr. Johnson has been instrumental in coordinating a very successful series of annual joint programs with the Environmental Law Section, and the East and West Michigan Chapters of AWMA. Mr. Johnson is the author of the Air Resource Protection chapter of the Section's Deskbook (2nd Edition).

COUNCIL MEMBERS

Second Three-Year Term:

George F. Curran, III
Kotz Sangster Wysocki PC
400 Renaissance Center, Suite 3400
Detroit, MI 48243



Mr. Curran is the Practice Group Leader of Kotz Sangster Wysocki P.C.'s Environmental Law and Insurance Risk Management/Litigation Practice Groups, working primarily from the firm's Detroit office. Mr. Curran has extensive experience in the areas of environmental and insurance law and is involved with virtually all aspects of the firm's environmental and insurance practices. He counsels and represents the firm's corporate, insurance, reinsurance and municipal clients in Michigan and nationwide on environmental compliance and insurance issues in business transactions and litigation; evaluating coverage and negotiating insurance and risk management mechanisms in complex mergers and acquisitions; counseling clients in the evaluation of environmental due diligence in business and real estate transactions; providing 1st and 3rd party defense under Property and Casualty Policies including No-Fault, Products/Completed Operations, Builders Risk and Construction Liability Coverage, as well as Professional Liability, E&O and D&O claims. Mr. Curran negotiates facility siting and operating permits under state and federal environmental programs, represents firm clients before regulatory bodies including OSHA/MIOSHA, and counsels firm clients on wetlands, land use, liability and emerging energy issues. Appointed to the Michigan Climate Action Council Residential Commercial and Industrial Workgroup by gubernatorial Executive Order, Mr. Curran counsels firm clients on bio fuel, alternative fuel, alternative energy, "Green" building codes, and economic development incentives, including pollution prevention grant and assistance programs, Brownfield Redevelopment funding and other incentives to assist clients in competing in the current economy. Mr. Curran was elected to his first three-year term in 2009. He has served as the Co-Chair of the Sustainability and Climate Change Committee from 2008

to the present. Mr. Curran is the author of the Climate Change chapter of the Section's Deskbook (2nd Edition).

Kurt Kissling
Pepper Hamilton LLP
4000 Town Center, Suite 1800
Southfield, MI 48075



Kurt A. Kissling is of counsel in the Environment and Energy Practice Group of Pepper Hamilton LLP, resident in the Detroit office. He also is a member of the firm's Sustainability, CleanTech and Climate Change Team. Mr. Kissling focuses his practice on environmental law and specializes in addressing issues under the Clean Air Act and its state/local counterparts. He routinely counsels national and regional clients regarding environmental compliance, defends them in civil and criminal enforcement proceedings, assists with shaping and challenging regulatory changes, and represents them in related litigation. Mr. Kissling counsels clients in the utility, petroleum, chemical manufacturing, steel, pulp and paper, automotive, glass, cement and wood products industries. Mr. Kissling regularly contributes to the Michigan Manufacturers Association's Air Quality Advisory Committee, the Air & Waste Management Association, the Southeast Michigan Council of Governments' Task Force on Air Quality, the Southeast Michigan Ozone Study, and the Michigan and Detroit Regional Chambers of Commerce. Mr. Kissling has taught courses on the Clean Air Act at the University of Detroit-Mercy School of Law and lectured in other settings on Clean Air Act compliance and enforcement, Brownfield redevelopment and water rights. Mr. Kissling has been actively in the Program, Membership and Air Committees over the past six years. He has served as Vice Chair of the Air Committee from February 2006 to the present. Mr. Kissling has been instrumental in coordinating a very successful joint program with the Environmental Law Section, and the East and West Michigan Chapters of AWMA.

New Three-Year Term:

Tammy Helminski
Barnes & Thornburg LLP
171 Monroe Avenue, N.W., Suite 1000
Grand Rapids, MI 49503



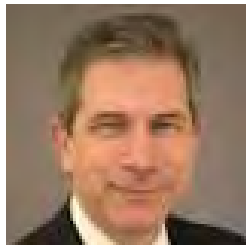
Ms. Helminski is an associate in the Grand Rapids office of Barnes & Thornburg, LLP, where she is a member of the firm's Environmental Law Department. She has experience with environmental due diligence and risk evaluation, project management of large-scale remediation sites involving numerous parties, and assisting manufacturing and developer clients with environmental auditing and compliance. Her litigation experience includes representing clients in cases involving CERCLA, NEPA, RCRA and NREPA, as well as product liability, mold, asbestos, construction and contract litigation matters. Prior to joining Barnes & Thornburg, Ms. Helminski was an attorney at the firm of Dickinson Wright PLLC in Detroit, and during law school was an intern for the Honorable Robert H. Cleland in the United States District Court for the Eastern District of Michigan. Prior to her legal career, Ms. Helminski was a pollution prevention coordinator at the NASA Ames Research Center and an environmental engineer at Ford Motor Company. Ms. Helminski has served as the chair of the Hazardous Substances and Brownfields Committee from 2009 to 2011, and served as the vice chair of that committee from since 2011. She co-authored an article "Significant Changes to Michigan's Underground Storage Tank Program," forthcoming publication in the Summer 2012 MELJ.

Kelly Martorano
Miller Canfield Paddock & Stone PLC
840 W. Long Lake Road, Suite 200
Troy, MI 48098



Ms. Martorano is an associate in Miller Canfield's Environmental Practice Group, specializing in identifying, managing, and negotiating environmental issues and risks associated with domestic and international mergers and acquisitions and real property transactions. She advises corporate, commercial real estate, and municipal clients regarding Phase I and II environmental assessments, hazardous materials surveys, due care, clean-up and remediation, Michigan's Baseline Environmental Assessment procedures, permitting, and compliance. In addition, Ms. Martorano has represented electric and gas utilities before the Michigan Public Service Commission in regulatory rate proceedings. Kelly has experience with both the technical and legal aspects of environmental and energy law. As an environmental professional for large and mid-size corporations and as an environmental consultant prior to joining Miller Canfield, she brings a breadth of experience regarding the day-to-day issues related to environmental management, permitting, and compliance. She has assisted clients with a multitude of matters including: obtaining environmental permits, complying with various local, state, and federal environmental laws and regulations, internal, third-party, and government agency audits and enforcement matters, transferring permits, and closing a facility in accordance with environmental laws and regulations. In addition, Ms. Martorano's experience has involved various aspects of local, state, and federal environmental laws such as CERCLA, RCRA, the Clean Water Act, and their state counterparts. In 2011, Ms. Martorano was elected to the board of directors of the East Michigan Chapter of AWMA. Ms. Martorano has been the secretary of the ELS Energy Committee from 2010 to the present. Ms. Martorano is an author of the Solid Waste chapter of the Section's Deskbook (2nd Edition).

James Enright
Enright Law Firm PLLC
2522 Woodmeadow Drive, S.E.
Grand Rapids, MI 49546



Mr. Enright has practiced in Michigan for over 20 years. His practice focuses on environmental law, representing businesses, local governments, and individuals. He has been active in the Environmental Law Section since 1991. Mr. Enright has served as the Vice-Chair of the Natural Resources Committee from October 2010 to the present. He and Chair Dan Bock are reviving this committee at the Section's initiative. He has been a member of the Hazardous Substances and Brownfields Committee since the mid-1990s. He has participated in development of several section programs including: June 2011 ELS summer meeting, Natural Resources Committee presentation on *Glass v. Goeckel* after 5 years and status of the public trust doctrine; the Natural Resources Committee presentation at the upcoming August 2012 summer program regarding hydraulic fracturing; the Hazardous Substances and Brownfields Committee presentation on Part 201 due care requirements at the fall 2011 annual meeting; the February 2012 Hazardous Substances and Brownfields Committee conference call presentation by DEQ's Anne Couture on the status of the Part 201/213 programs; and the May 2012 Hazardous Substances and Brownfields Committee webinar featuring Anne Couture providing an update on the Part 201/213 programs (as well as moderating the webinar). Mr. Enright is a regular participant in Council meetings since November 2010 on behalf of Natural Resources Committee. Mr. Enright prepared and article that was published in the Spring 2012 MELJ entitled "A Wetland, Not a Wonderland . . ."

Respectfully submitted,

Dustin Ordway
Nominating Committee Chair

Environmental Law Section Summer Program 2012



The Summer Program was held August 3, 2012, at the Damon J. Keith Center for Civil Rights at Wayne State University Law School. Pictured are Paul Sax, U.S. Army Corps of Engineers; Anna Maiuri, Section Chair; Susan Hedman, EPA Administrator, Region 5 and Dustin Ordway, Chair-Elect. Please visit the Environmental Law Section website for presentation materials and our Facebook page for more pictures.

Upcoming Events

ELS Annual Meeting, Program, & Dinner

Date: Thursday, September 20, 2012

Time: Program: 1:30 p.m.–4:30 p.m., Meeting: 5:00 p.m.–6:30 p.m., dinner afterward - location TBD

Registration is requested to allow for proper facilities planning. Please contact Joan O’Sullivan at jmosullivan9@comcast.net or 248/884-1517

2012 Fall Environmental Conference

The conference is scheduled for November 14 at the LCC-West Campus. As in prior years, this is a joint conference with co-sponsorship from East and West Michigan Chapters of the A&WMA. More information will be available soon.

Help Promote Section Events and Activity! Connect with the Environmental Law Section on Facebook and LinkedIn

Follow ELS on [Facebook](#) and [LinkedIn](#) to stay informed of environmental law seminars, forums, education, and networking.

Michigan Court of Appeals Affirms Denial of Intervention to Environmental Groups in Lawsuit Challenging MDEQ Air Permit

By Charles M. Denton and Valerie B. Mullican

On March 1, 2012, a [majority panel](#) of the Michigan Court of Appeals upheld a lower court decision denying environmental groups permission to intervene in an action to compel the issuance of an air permit. *City of Holland and Holland Bd of Pub Works v. Dep't of Natural Resources & Environment et al.*, unpublished opinion per curiam of the Court of Appeals, issued March 1, 2012 (Docket No. 302031). The Sierra Club and the Natural Resources Defense Council (together, the “environmental groups”) sought to intervene in an action filed by the City of Holland to compel the issuance of an air emissions permit for a proposed coal-fired power plant expansion at its James DeYoung generating facility. A majority panel of the Court of Appeals concluded that the lower court properly denied the environmental groups intervention by right because the groups’ interests were adequately represented by MDEQ, the groups did not have standing, and the groups had not met the procedural requirements for intervention because they failed to file a proposed responsive pleading with their motion to intervene. The panel also held that the lower court did not abuse its discretion in denying permissive intervention.

The City of Holland, acting by and through its Holland Board of Public Works (“Holland BPW”), filed suit against the Michigan Department of Natural Resources & Environment (now the Michigan Department of Environmental Quality, or “MDEQ”) in August 2010, seeking to compel action on its nearly four-year-old application for an air emissions permit. When MDEQ denied the application, Holland BPW amended its complaint to seek review of that decision, as well as a writ of mandamus compelling MDEQ to act on the application within a certain time period and consistent with standards in effect on the date of the permit denial.

Shortly after Holland BPW amended its lawsuit, the environmental groups moved to intervene as Defendants aligned with MDEQ. Holland BPW successfully opposed the environmental groups’ intervention, persuading the Ottawa Circuit Court, inter alia, that their interests were adequately represented by MDEQ and that they failed to comply with procedural rules governing intervention. In December 2010, the lower court awarded summary disposition to Holland BPW, ruling that MDEQ’s denial of the air permit – which was based on a purported lack of electric generating “need” for the proposed project – was unauthorized and unlawful. The court reversed MDEQ’s denial of the air permit, and issued a writ of mandamus directing MDEQ to act on Holland BPW’s permit application within 60 days, without considering electric generating need as a basis to deny the application, and based on the air quality standards in effect on the date of the wrongful permit denial. MDEQ issued the air permit to Holland BPW in February 2011, and did not pursue an appeal of the Ottawa Circuit Court’s decision. The

environmental groups, however, appealed the trial court's order denying intervention to the Michigan Court of Appeals.

In an unpublished opinion, the Court of Appeals affirmed the denial of intervention to the Sierra Club and NRDC. Judges Kathleen Jansen and David H. Sawyer agreed with Holland BPW that the environmental groups' interests were adequately represented by MDEQ. Acknowledging that a government agency may not always adequately represent an intervener's interests, the Court nonetheless found the interests of MDEQ and the environmental groups to be coextensive because: (i) both MDEQ and the environmental groups sought to defend denial of the permit, and (ii) both MDEQ and the environmental groups sought to protect Michigan's environment and public health. The Court's ruling makes clear that the sometimes differing agendas of government agencies and special interest groups do not automatically justify a conclusion of inadequate representation. The Court specifically rejected the environmental groups' argument that MDEQ could not serve as an adequate representative because it was influenced by changes in electoral politics – a clear reference to the transition from the administration of Governor Jennifer Granholm to that of Governor Rick Snyder.

Of critical interest to any party seeking or opposing intervention based on purported harm to an organization's members, the Court – despite finding that the environmental groups demonstrated an interest in the subject of the lawsuit – also agreed with Holland BPW that those groups lacked standing to intervene. Citing the Michigan Supreme Court's decision in *Lansing Schools Ed Ass'n v. Lansing Bd of Ed*, 487 Mich 349, 373; 792 NW2d 686 (2010), the Court held that the environmental groups would only have standing to intervene if their members' rights or interests would be affected in a manner different from the citizenry at large. The Court found that all citizens of Ottawa County could experience the same adverse impacts cited by the environmental groups as a basis for intervention (alleged impacts to their members' personal health, recreational activities and aesthetic interests from air pollution caused by the proposed coal plant), so the requisite standing was lacking.

Additionally, the Court found that the environmental groups failed to comply with MCR 2.202(C)(2) when they did not file the proposed responsive pleading mandated for an intervener, a procedural defect that the Court deemed also warranted the denial of intervention. The Court's opinion is a stark warning to any party seeking intervention that it must stringently comply with all applicable court rules.

Finally, the Court affirmed the trial court's denial of permissive intervention to the environmental groups. The Court cited the discretionary nature of that determination and found no error with the trial court's conclusion that their participation could have prejudiced Holland BPW by further delaying resolution of its claims.

Judge Douglas Shapiro authored an unpublished [dissenting opinion](#), in which he disagreed with the majority that the environmental groups did not meet the requirements for intervention as a matter of right. The dissent was not convinced MDEQ would adequately represent the environmental groups' interests, citing the minimal burden of demonstrating inadequate

representation under Michigan law. Judge Shapiro contrasted MDEQ's obligation to represent a number of different objectives and concerns, including economic and political considerations, with the environmental groups' "much more narrowly restricted" focus on environmental issues. He also disagreed that the environmental groups lacked standing to intervene, finding, inter alia, that their members could be presumed to suffer greater injury to their aesthetic interests than other citizens of Ottawa County – some of whom might not perceive air pollution as an aesthetic injury at all – and quoted from the Court of Appeals' decision in *Karrip v. Cannon Twp*, 115 Mich App 726, 733; 321 NW2d 690 (1982), that "standing is not to be denied simply because many people suffer the same injury." Judge Shapiro also disagreed that the environmental groups' failure to file a proposed pleading warranted the denial of intervention, opining that an overly technical reading of MCR 2.209 was not appropriate, and that the environmental groups' motion to intervene put Holland BPW on full notice of the claims and defenses they planned to raise.

The environmental groups did not seek leave to appeal to the Michigan Supreme Court.

Significant Changes to Leaking Underground Storage Tank Program

By Ken Vermeulen and Tammy Helminski, Barnes & Thornburg LLP

Part 213 Amendments

New legislation governing cleanups of contamination from leaking underground storage tanks (USTs) in Michigan became effective on May 1, 2012. The six-bill package, 2012 Public Acts 108 – 113, amends [Part 213](#) of Michigan's Natural Resources and Environmental Protection Act (NREPA) and makes several important changes to the framework within which liable parties address contamination from leaking underground storage tanks (LUSTs).

This legislation represents over five years of effort and negotiation between representatives of industry and the Michigan Department of Environmental Quality ("MDEQ") to improve the process and efficiency of LUST investigations and cleanups, and even more important, to eliminate unnecessary obstacles to achieving closure at LUST sites. The legislation also clarifies that the new process and procedures will be "separate and distinct from the process, procedures and criteria" used for non-UST cleanups under Part 201 of NREPA. See M.C.L. §324.21301a(1). Nevertheless, Part 213 does incorporate the same "causation-based" liability scheme that has developed since 1995 under Part 201, including the same procedures and requirements for Baseline Environmental Assessments ("BEAs"), "Due Care" obligations, and liability exemptions.

Many of the changes to Part 213 relate to technical requirements for investigation and cleanup. For example:

All the provisions in Part 213 relating to the investigation, reporting and cleanup of "free product" have been replaced with procedures adopted by ASTM for addressing "Non-Aqueous Phase Liquids" ("NAPL") under the Risk-Based Corrective Action ("RBCA") process.

The statute now confirms that during the investigation phase, parties do not have to implement the more time consuming and expensive “low flow sampling” methodology that MDEQ had previously required. Low flow sampling techniques are now required only for closure sampling. See MCL §324.21312a.

Other changes relate primarily to the submittal and MDEQ review of reports. For example:

The Initial Assessment Report (“IAR”) will now be due 180 days after discovery of a release, rather than 90 days, as was previously required.

MDEQ may audit only Final Assessment Reports (“FAR”) and Closure Reports, and must notify the owner or operator within 90 days of submittal of a report that it will be audited. The audit must be completed within 180 days, and any subsequent audit may only address the correction of deficiencies identified in the initial audit.

If a FAR or Closure Report is not audited, it is considered approved.

Last, the amendments changed many of the appeal options and procedures available to owners and operators. For example:

Disputes with MDEQ relating to IARs, FARs, and Closure Reports may be brought before the Response Activity Review Panel that was recently instituted under Part 201. See M.C.L. 324.21315(7).

Alternatively, owners and operators are now entitled to an administrative contested case with respect to disputes over corrective action, site specific cleanup levels, penalties, or MDEQ audits. See M.C.L. 324.21332.

An owner or operator may now appeal to circuit court if MDEQ “red-tags” a UST system. See M.C.L. 324.21333.

UST Operator Certifications Due By August 8, 2012

MDEQ recently promulgated new UST Operator certification regulations that impose new training requirements on operators of regulated UST systems. Under these new regulations (required as a result of the 2005 federal [Energy Policy Act](#), 42 U.S.C. §13201 *et. seq.*), operators of UST systems must pass certification tests to become a “Class A” or “Class B” operator, and must receive certain training to become a “Class C” operator. An MDEQ flyer describes the different classes of operators as follows:

Class A: This is the person who has primary responsibility to operate and maintain the underground storage tank system. For a typical gas station, it is the owner of the station or his designee. For large corporations, this is the manager or designee responsible for tank operations. The Class A operator can also be designated as a Class B operator as long as he/she has passed the Class B operator exam.

Class B: This designation is for the individual or individuals who implement day-to-day aspects of operating, maintaining, and record keeping for underground storage tank systems at one or

more facilities. For a typical gas station, it is the owner or the person/company contracted by the owner to maintain the tanks. For large corporations, it is the employee, or person/company contracted by the corporation to maintain the tanks. A broad knowledge base is required for a Class A operator, but the Class B operator must have in-depth knowledge of tank system operation and maintenance.

Class C: This is an individual who is responsible for responding to alarms or other indications of emergencies caused by spills, releases, or overfills associated with an underground storage tank system. For a typical gas station, this is the cashier. Though a test is not required, this person must be trained in responding to releases, alarms, and emergency conditions. Training can be performed by the Class A operators, Class B operators, or third-party vendors. Class C operator training is required to be documented.

For a complete copy of the MDEQ flyer, go to www.michigan.gov/documents/deq/deq-rrd-UST-OwnersOperatorsNotification_386932_7.pdf.

Beginning August 8, 2012, each UST system must have a Class A and Class B operator designated on its registration form, and a Class C operator must be present at all times when the UST system is in operation (except for designated un-manned locations). The same person may qualify as one, two, or all three classes of operator, provided that the person meets all the requirements, and passes the tests for Class A and Class B certification, but a Class B operator maybe responsible for no more than 45 UST systems. Consequently, Owner/Operators with more than 45 locations will need to have multiple Class B operators certified. Because the Class A and B operators must be identified on the UST registration forms, amended registration forms for existing UST systems should also be submitted to MDEQ by the August 8, 2012 deadline. Amended registration forms should also be re-submitted whenever there is a change in the Class A or Class B operator. Because of the short time between promulgation of the rules and the stated compliance deadline, MDEQ has indicated that it will not begin enforcement of the new requirements until January, 2013.

Certification testing and training materials are available through the International Code Council ("ICC"). For Michigan-specific test times, registration requirements, and designated testing sites, go to the ICC website at www.iccsafe.org. Training may also be offered at several locations throughout Michigan by the Michigan Petroleum Association.

Outsmarting America's Smart Grid: National Security and the Power Grid

By Trevor H. Smith, 2012 graduate University of Montana School of Law

I. Introduction

Iran's nuclear program recently received a critical blow. This setback was not caused by a bomb or a conventional weapon of war. The damage was caused by a computer worm.¹ A very stealthy worm caused the uranium centrifuges to spin recklessly, unrestrained by their Iranian operators until damage was done.² The Stuxnet computer worm remained hidden from view while one fifth of Iran's nuclear centrifuges were ruined.³ Amazingly, the Iranian operators may never have known there was a problem.⁴ The nuclear facility was operating at a normal level, according to the control room's gauges.⁵ Stuxnet was cunning in its methods. This worm secretly recorded the gauges and replayed them as if the facility was operating normally.⁶ The leader of Mossad, Israel's intelligence agency recently reported to the Knesset that Iran's nuclear program has experienced some technological difficulties.⁷

The identity of the Stuxnet's creator remains unknown.⁸ Evidence shows that the worm infiltrated the centrifuge's control system.⁹ A control system "provides remote monitoring and centralized control" for process oriented activities.¹⁰ Control systems are very generic, meaning they are basically designed the same way and widely used across different industries.¹¹ This makes control systems vulnerable to the same threats.¹² Control systems are also used in the United States power grid¹³ and Smart Grid.¹⁴

¹ William J. Broad, John Markoff & David E. Sanger, *Israeli Test on Worm Called Crucial in Iran Nuclear Delay*, N.Y. Times (Jan. 15, 2011) (available at www.nytimes.com/2011/01/16/world/middleeast/16stuxnet.html)

² *Id.*

³ *Id.*

⁴ *Id.*

⁵ *Id.*

⁶ *Id.*

⁷ *Id.*

⁸ *Id.*

⁹ *Id.*

¹⁰ Rolf Carlson, Sandia Natl. Laboratories, *Sandia Report, Sandia SCADA Program, High-Security SCADA LDRD Final Report* (April 2002) (available at www.sandia.gov/ccss/documents/020729.pdf)

¹¹ Gerry Cauley, Pres. & Chief Exec. Officer of N.A. Elec. Reliability Co., Remarks, *The DHS Cybersecurity Mission: Promoting Innovation and Securing Critical Infrastructure*, (remarks before H.R. Homeland Sec. Subcomm. on Cybersecurity Infrastructure Protection and Security Technology, April 15, 2011) (available at www.nerc.com/fileUploads/File/News/House%20Homeland%20Security%20Subcommittee%20Cauley%20Testimony%20%20April%2015%202011.pdf).

¹² *Id.*

¹³ Idaho National Laboratory, *National Security, SCADA/Cyber/Power Grid Security*, www.inl.gov/nationalsecurity/capabilities/security/ (accessed May 16, 2011).

¹⁴ IO Active, *SCADA_and_Smart_Grid_and_Security_Services*, www.ioactive.com/pdfs/SCADASmartGrid.pdf (accessed May 16, 2011).

America's power grid serves 334 million people, contains 211,000 miles of high voltage power lines, and consists of more than \$1 trillion worth of assets.¹⁵ This paper explains the national security threat to this important infrastructure with the implementation of Smart Grid. The purpose of this paper is to highlight the vulnerabilities of Smart Grid and to discuss potential reforms that could make Smart Grid more secure. The first section is an overview of the power grid's status quo. The second section highlights the direct national security threats to Smart Grid. The third section focuses on key government security efforts. The last section contains several legislative recommendations that could help make Smart Grid safer and more secure.

The key distinction between the current power grid and Smart Grid is software.¹⁶ America's power grid is controlled by computers in central locations with little computing power.¹⁷ In contrast, Smart Grid contains both computing power and software.¹⁸ This enables Smart Grid to "think" for itself with little human direction.¹⁹ Currently, Smart Grid is still in the early stages of being implemented.²⁰ Both grid systems are vulnerable to the same threats, but Smart Grid is more vulnerable to cyber threats because of its reliance on computing power and software.²¹

II. The Status Quo

In order to understand the national security vulnerabilities of Smart Grid, an overview of the structure of the current grid is essential. This section discusses the weakness of the current grid's design. Federal officials have recognized these issues and unveiled a new design for the power grid, called Smart Grid. Efforts are underway to implement Smart Grid technologies.

A. The Birth of Smart Grid

America's power grid was created to move power from a big producer to a small consumer, shifting energy over small geographic areas.²² Deregulation has caused energy producers to be more responsive to the energy market, leading to large amounts of power being transferred over long distances for short periods of time.²³ These activities have increased the congestion of the old and aging power lines, which dramatically "increases the risk of major power outages."²⁴ Concerns have been expressed about this type of usage because this was not the purpose for which the grid was designed.²⁵

¹⁵ Congressional Hearing, *What Should the Department of Defense's Role in Cyber Be?* (remarks before H.R. Subcomm. on Emerging Threats and Capabilities, Feb. 11, 2011) (available at www.fas.org/irp/congress/2011_hr/dod-cyber.pdf)

¹⁶ Interview with Joel Henry, Professor of Computer Science at The University of Montana (May 18, 2012).

¹⁷ *Id.*

¹⁸ *Id.*

¹⁹ *Id.*

²⁰ *Id.*

²¹ *Id.*

²² Joshua J. Franklin, *Upgrading the National Power Grid: Electric Companies Need an Economic Incentive to Invest in New Technology*, 31 *Rutgers Computer & Tech LJ* 159, 159-160 (2004).

²³ *Id.* at 160.

²⁴ *Id.*

²⁵ *Id.* at 159-160.

Federal officials recognized these concerns and determined a course of action. In 2005, the United States Department of Energy gave the National Energy Technology Lab an assignment: create a plan to modernize the grid.²⁶ After careful research, planning, and meetings with key industry leaders, the principles of Smart Grid were created.²⁷ First, the grid would be framed in a manner that would allow millions of small energy producers to contribute power to the grid.²⁸ Second, the grid would allow two-way power flow, meaning power could flow to a homeowner and the homeowner could also put excess power back onto the grid.²⁹ This is a paradigm shift because the grid was originally designed to send energy one way, from the big energy producer to the energy user.³⁰ Third, the grid would allow two-way information flow between power users like homeowners and transmission operators.³¹ The two-way information flow includes the electrical consumption rate of power users and the amount of power available on the grid.³²

These ideas became the foundation of Smart Grid as reflected in The Energy Independence and Security Act of 2007 (EISA).³³ The policy of the United States is to support Smart Grid.³⁴ This means that the transmission and distribution system is to be modernized with more information technology based systems embedded within the grid that makes decisions in real time with little human intervention.³⁵ ³⁶ The grid is “smart” in that software operates within computing resources throughout the grid.³⁷ Software makes decisions as to the flow of energy, the volume of energy, and even self-repairs in the event of equipment failures, natural disasters, or unusually high demands of energy.³⁸ Decisions that are made by humans in the current power grids can be made faster, better, and more efficiently with Smart Grid.³⁹

Smart Grid requires human maintenance, just like all other computers and software require maintenance.⁴⁰ Generally, most Smart Grid maintenance is performed remotely by information technology professionals through internet connections.⁴¹ These internet connections expose

²⁶ Jeff Dennis, Joe Miller, Kevin Kelly, Paul Demartini, & Barbara R. Alexander, Panel Discussion, *Energy Bar Association Panel Discussing the Smart Grid*, (Washington D.C., Dec. 4, 2009) in 31 *Energy L J* 81, 83-84 (2010).

²⁷ *Id.*

²⁸ *Id.* at 84.

²⁹ *Id.*

³⁰ *Id.*

³¹ *Id.*

³² *Id.*

³³ 42 U.S.C.A. §17381 (West Supp. 2012).

³⁴ Congressional Research Service, *Energy Independence and Security Act of 2007: A Summary of Major Provisions*, SN044 ALI-ABA 63 (Dec. 17, 2007).

³⁵ Government Accountability Office, *Report to Congressional Requesters, Electricity Grid Modernization, Progress Being Made on Cybersecurity Guidelines, but Key Challenges Remain to be Addressed* (Jan. 2011) (available at www.gao.gov/new.items/d11117.pdf).

³⁶ Henry, *supra* n. 16.

³⁷ *Id.*

³⁸ *Id.*

³⁹ *Id.*

⁴⁰ *Id.*

⁴¹ *Id.*

Smart Grid to many of the same security challenges as other computers connected to the Internet.⁴²

The current grid is being transformed into a new grid distinguished by the implementation of new technologies.⁴³ Because there is a major reliance on technology, it is essential that this equipment be secure. Consider the fact that \$9.5 billion have already been invested to advance Smart Grid as of March 2010.⁴⁴ This highlights the importance of ensuring that the technology is secure.

III. Outsmarting Smart Grid⁴⁵

Smart Grid may not be so smart after all. The first section discusses how the Internet can be used to disrupt the power grid. The second section features recent events that are indicative of what cyber spies have already done and can possibly do in the future. The third section explains why interference from cyber spies is a national security risk. The fourth section discusses the vulnerabilities raised by applying Smart Grid technologies to America's grid.

A. The Internet – A Weapon of War

An attack on America's power grid "represents the battleground for the future," said Leon Panetta, Director of the Central Intelligence Agency (CIA), during a Congressional hearing.⁴⁶ Director Panetta believes "[t]he potential for the next Pearl Harbor could very well be a cyber attack."⁴⁷ The power grid and the Internet are connected because many computer networks, the Internet, and control systems are linked.⁴⁸ A computer network is a group of computers that are linked so they can share information and coordinate decisions and actions through software.^{49 50} These networks are commonly connected to the Internet, and authorities are concerned that cyber spies may be able to hack into these networks through the Internet.⁵¹ The

⁴² *Id.*

⁴³ *Id.*

⁴⁴ Patricia Hoffman, Acting Asst. Sec. for Elec. Delivery & Energy Reliability, U.S. Dept. of Energy, Statement, *FY 2011 Appropriations Hearing*, (statement before H.R. Appropriations Subcomm. on Energy and Water Development, Mar. 17, 2010) (available at http://energy.gov/sites/prod/files/oeprod/DocumentsandMedia/OE_Budget_Testimony_final_3-15.pdf)

⁴⁵ This paper does not debate the merits of Smart Grid. Instead, suggestions are made with the implementation of Smart Grid in mind. In light of the serious national security concerns that exist and the expansion of a national oversight body, which the author believes would eventually be necessary, the author questions whether Smart Grid, in its current form, is a viable solution to meet America's energy needs.

⁴⁶ Richard A. Serrano, *U.S. Intelligence Officials Concerned about Cyber Attack*, L.A. Times (Feb. 11, 2011) available at <http://articles.latimes.com/2011/feb/11/nation/la-na-intel-hearing-20110211>

⁴⁷ *Id.*

⁴⁸ Cauley, *supra* n. 11.

⁴⁹ Stephen Haag, Maeve Cummings & Alan I. Rea, Jr., *Online Learning Center, I-Series Computing Concepts, Nuts and Bolts of Networks and Computers*, McGraw Hill Companies, http://highered.mcgraw-hill.com/sites/0072464011/student_view0/chapter6/glossary.html (accessed May 1, 2011).

⁵⁰ Henry, *supra* n. 16.

⁵¹ Peter Behr, *A Smart Grid Will Expose Utilities to Smart Computer Hackers*, N.Y. Times, (Apr. 19, 2011) available at www.nytimes.com/cwire/2011/04/19/19climatewire-a-smart-grid-will-expose-utilities-to-smart-28110.html

problem is that many of the control systems are also now being connected to business networks.⁵² Generally, if a cyber spy can access the business network, then the cyber spy may also be able to access the control system.⁵³ Unlike wars of the past, no boots on the ground are needed to blow up equipment or destroy key infrastructure. The only weapon of war needed is knowledge of Smart Grid software and access to the Internet.

B. Cyber Spies

Cyber spies are mysterious by nature, and their capabilities are often underestimated. In order to understand what damage can be done through the power grid, the reader must understand the past record of cyber spies.

In 2010, an individual from China attempted to hack into the Lower Colorado River Authority's power generation network.⁵⁴ After 4800 failed attempts to login and control the power generators, the hacker finally stopped trying to hack into the network.⁵⁵ This incident was not unprecedented. In 2009, the Wall Street Journal reported that Russian and Chinese spies secretly installed software in the United States' power grid.⁵⁶ Luckily, these spies did not cause disruption, but many experts are concerned that spies like these could strike during times of crisis,⁵⁷ or they could work to hold a city's power supply for ransom. This scenario is closer to reality than previously thought.

Tom Donahue, a CIA official, recently revealed that a power grid outside the United States had been infiltrated.⁵⁸ The power was cut, crippling several cities.⁵⁹ Donahue acknowledged that the identity of the cyber spy was unknown, but the infiltrations occurred directly through the Internet.⁶⁰ Donahue also said that a cyber attack had destroyed power equipment in several areas outside of the country and extortion demands followed.⁶¹

Donahue's statement regarding cyber attackers destroying equipment is reinforced by a recent demonstration at the Idaho National Laboratory called the Aurora Test. Video clips of the Aurora Test show a power generator as it was being accessed through cyberspace.⁶² The generator was destroyed within minutes.⁶³ First, the power generator shakes for a moment, and then it emits plumes of smoke.⁶⁴ Key equipment was ruined.⁶⁵

⁵² Cauley, *supra* n. 11.

⁵³ *Id.*

⁵⁴ Behr, *supra* n 51.

⁵⁵ *Id.*

⁵⁶ Siobhan Gorman, *Electricity Grid in U.S. Penetrated by Spies*, Wall St. J. (Apr. 8, 2009) (available at <http://online.wsj.com/article/SB123914805204099085.html?KEYWORDS=spies+and+power+grid>)

⁵⁷ *Id.*

⁵⁸ Andy Greenberg, *Hackers Cut Cities' Power*, Forbes.com (Jan. 18, 2008) (available at www.forbes.com/2008/01/18/cyber-attack-utilities-tech-intel-cx_ag_0118attack.html)

⁵⁹ *Id.*

⁶⁰ *Id.*

⁶¹ Gorman, *supra* n. 56.

⁶² Bret Stephens, *Hiroshima, 2.0*, Wall St. J. (Apr. 14, 2009) (available at <http://online.wsj.com/article/SB123966785804815355.html?KEYWORDS=Georgia+and+Russia+and+cyberattack>)

⁶³ *Id.*

⁶⁴ *Id.*

Cyberspace is the nervous system of critical infrastructure.⁶⁶ Russian and Chinese spies have recognized this and have harnessed the Internet to gain access to the power grid. The significance of this event may lie in the fact that the CIA made the general public aware of this problem. Typically, the CIA does not reveal these types of incidents. Silence is its friend. Society should recognize that the CIA may have revealed these events for a specific reason. A release of this information may prompt the perpetrators to take actions that can be detected. This could lead to their isolation or capture.⁶⁷ Additionally, the purpose of this revelation may be to raise awareness because the root problem may not have been solved.

C. A Widespread Power Outage is a National Security Danger

If the grid is accessed and damage occurs, the national security impact would be great. Society is so dependent on electricity that any widespread power outage could have a direct impact on national security.⁶⁸ To highlight this point, simply consider the possible effects of a power outage on America's economy. In 2003, the Midwest and the Northeast, as well as Ontario, Canada, were affected by a power outage.⁶⁹ The outage lasted for four days in some areas of the United States while portions of Canada were without full power for a week.⁷⁰ Estimates for the total amount of American economic loss ranged between \$4 billion and \$10 billion.⁷¹ In Ontario, manufacturing was down by \$2.3 billion Canadian.⁷²

"If you shut down power for about three days, it causes little damage," says Scott Borg, an economist and leader of U.S. Cyber Consequences Unit, a nonprofit that advises government officials about potential cyber attacks.⁷³ Mr. Borg went on to say:

We can handle a long weekend. But if you shut down power longer, all kinds of other things begin to happen. After about 10 days, the curve levels off with about 72% of all economic activity shut down. You don't have air conditioning in the summer; you don't have heating in the winter. Thousands of people die.⁷⁴

Potential damage is not limited to cooling or heating units, or even economic damage. Another direct threat to national security is the effect of a power outage on America's military. Many of

⁶⁵ *Id.*

⁶⁶ The White House, *The National Strategy to Secure Cyberspace*, 755 PLI/Pat 1073 (July 2003).

⁶⁷ Henry, *supra* n. 16.

⁶⁸ U.S.-Canada Power System Outage Task Force, *Final Report on the August 14, 2003 Blackout in the United States and Canada, Causes and Recommendations* (April 2004) (available at <https://reports.energy.gov/BlackoutFinal-Web.pdf>)

⁶⁹ *Id.*

⁷⁰ *Id.*

⁷¹ *Id.*

⁷² *Id.*

⁷³ Stephens, *supra* n. 62 .

⁷⁴ *Id.*

the military installations located within United States borders are connected to the grid.⁷⁵ The seriousness of this issue was recognized by the leader of the United States Navy's 10th Fleet, Vice Admiral Barry McCullough.⁷⁶ Admiral McCullough said the military could experience major problems maintaining operational status if the power supply is destroyed.⁷⁷ "These systems [including water] are vulnerable to attack" because many of the military bases are served by one provider.⁷⁸ Backup capabilities do exist, but are very limited.⁷⁹ If an attack on a power supply prevents electricity from reaching a military base for weeks or months, the military could be effectively crippled.⁸⁰

D. Voluntary Security Protocols and Smart Grid Technology

Without the proper security safeguards, Smart Grid technologies could invite added hazards. These potential vulnerabilities are rooted in the actions or inactions of the National Institute of Science and Technology (NIST) and the Federal Energy Regulatory Commission (FERC). For purposes of cyber security, responsibility for a significant portion of EISA lies with NIST.⁸¹ This agency's role is to develop "protocols and model standards" for implementing Smart Grid in an effort "to contribute to an efficient, reliable electricity network."⁸² FERC is also mentioned as having "responsibilities related to coordinating the development and adoption of Smart Grid guidelines and standards."⁸³

In August 2010, NIST issued cyber security guidelines for the implementation of Smart Grid.⁸⁴ These guidelines identified strategies in securing Smart Grid and highlighted potential vulnerabilities and design issues.⁸⁵ This report also developed mitigation methods in the event of a security breach and potential cryptography issues among other things.⁸⁶ However, several key issues were not analyzed including a cyber attack orchestrated with a physical attack on the power grid.⁸⁷ The problem is that utilities could be implementing Smart Grid without the benefit of addressing these known concerns, which means that Smart Grid is unsecure and vulnerable to cyber attack.⁸⁸ NIST officials say that these guidelines were not ignored, but "they had not yet fully developed these sections by the June 2010 issuance date [of a Government Accountability Office report]."⁸⁹

⁷⁵ James R. Langevin, Rep. in U.S. Cong., Remarks, *What Should the Department of Defense's Role in Cyber Be?* (remarks before H.R. Subcommittee on Emerging Threats and Capabilities, Feb. 11, 2011) (available at www.fas.org/irp/congress/2011_hr/dod-cyber.pdf)

⁷⁶ *Id.*

⁷⁷ *Id.*

⁷⁸ *Id.*

⁷⁹ *Id.*

⁸⁰ *Id.*

⁸¹ *Id.*

⁸² 42 U.S.C.A. § 17385 (West 2011).

⁸³ Government Accountability Office, *supra* n. 35.

⁸⁴ Government Accountability Office, *supra* n. 35, at 15.

⁸⁵ *Id.*

⁸⁶ *Id.*

⁸⁷ *Id.*

⁸⁸ *Id.*

⁸⁹ *Id.*

Other problems relate to enforcement of these cyber security guidelines. Under EISA, FERC has the authority to adopt Smart Grid standards once “the NIST process has led to sufficient consensus.”⁹⁰ There are two problems. First, there has been no consensus.⁹¹ As a result, these standards are currently voluntary.⁹² Second, the North American Electrical Reliability Corporation (NERC) needs to initiate the process for adopting Smart Grid standards before they can be approved by FERC.⁹³ There are concerns that NERC would not adopt mandatory cyber security standards because of the key role industry plays in NERC’s rule making process.⁹⁴ The reasoning is that industry may not be agreeable to the idea of implementing safeguards that could increase costs.⁹⁵

To further complicate matters, FERC and NERC may not be the only authorities in determining Smart Grid standards. State and local policymakers may play a role in requiring cyber standards. This is a result of FERC’s limited jurisdiction. Because state and local policy makers have authority over the distribution systems within their territories, and Smart Grid is connected to the distribution systems, authority for these standards may be beyond the authority of FERC and NERC.⁹⁶

Cyber spies could potentially cause great damage without being inside the United States.⁹⁷ Through cyberspace, spies can access the grid and destroy key equipment.⁹⁸ Such manipulation of the grid could cause great damage to the economy and hamper military defense efforts. Other dangers lie within the new Smart Grid technologies. Since there are no mandatory cyber security safeguards, and the process for adopting standards would leave important sectors of the electrical system outside FERC’s jurisdiction, then serious questions are raised about the safety of applying Smart Grid technology. A vibrant economy, a strong defense force, and a secure electrical supply and transmission system are areas of national security concern because they are intertwined with America’s success and viability. If these areas are in disrepair, the country is weak and vulnerable to attack.

IV. Guarding Against the Threat

The power grid is unique because its safety depends on the safety of other infrastructures, such as the Internet and private computer networks. Because these infrastructures have such a wide scope, authorities in many different jurisdictions must be involved. The first section discusses the responsibilities of the federal government for securing the relevant infrastructure. The second section highlights a program led by two government agencies that helps strengthen the

⁹⁰ Government Accountability Office, *supra* n. 35, at 18.

⁹¹ *Id.*

⁹² *Id.*

⁹³ *Id.*

⁹⁴ Government Accountability Office, *supra* n. 35, at 19.

⁹⁵ *Id.*

⁹⁶ *Id.*

⁹⁷ Stephens, *supra* n. 62.

⁹⁸ *Id.*

security of control systems. The third section highlights the broad roles that FERC, NERC, and the utility organizations play in ensuring grid safety. The fourth section outlines NERC's responsibilities in ensuring the grid's reliability as related to national security.

A. Federal Leadership

While the Pentagon is responsible for securing military networks⁹⁹ and the Department of Homeland Security is responsible for the security of nonmilitary government networks,¹⁰⁰ private networks remain almost exclusively protected by the private sector.¹⁰¹ This dramatically escalates the importance of ensuring that the power industry's networks are secure. If the power industry is not protecting its networks, then the networks are unprotected. As discussed above, cyber spies can cause much damage to the power grid by accessing computer networks. Unprotected networks can be a national security risk.

B. Strengthening Design Systems

Efforts are underway to strengthen the security of American control systems. In the Stuxnet incident, the creators of the worm exploited hidden vulnerabilities in the control system.¹⁰² Through those holes, the perpetrators were able to damage Iran's nuclear centrifuges and manipulate the control system's gauges.¹⁰³ The Department of Homeland Security and the Department of Energy have worked to eliminate this threat by creating a program at the Idaho National Laboratory.¹⁰⁴ The program's purpose is to "examine the components of a functioning system and look for inherent vulnerabilities."¹⁰⁵ Among other things, this information is used to improve "industry standards applicable to control system security."¹⁰⁶

C. FERC, NERC, and the Utilities

FERC, NERC, and the utilities are on the frontlines of this battle to protect the energy grid. FERC regulates the "interstate transmission of electricity, natural gas, and oil."¹⁰⁷ In 2007, FERC gave NERC authority to enforce mandatory reliability standards.¹⁰⁸ NERC's mission is to ensure the reliability of the bulk power grid.¹⁰⁹ The bulk power grid "refers to facilities and control systems necessary for operating the electric transmission network and certain generation facilities

⁹⁹ Spencer S. Hsu & Ann Scott Tyson, *Pentagon to Create Command Focusing on Cyber Security*, Wash. Post, (Apr. 22, 2009) (available at www.washingtonpost.com/wp-dyn/content/article/2009/04/22/AR2009042202742.html).

¹⁰⁰ Eric A. Greenwald, *History Repeats Itself: The 60-Day Cyberspace Policy Review in Context*, 4 J. Nat'l Sec L & Policy 41, 43 (2010).

¹⁰¹ *Id.*

¹⁰² *Id.*

¹⁰³ *Id.*

¹⁰⁴ Idaho National Laboratory, *Research Fact Sheets, SCADA Test Bed, The Invisible Threat*, www.inl.gov/research/scada-test-bed/ (accessed May 3, 2011).

¹⁰⁵ Idaho National Laboratory, *Research Fact Sheets, SCADA Test Bed, The Invisible Threat, Full Scale Testing*, www.inl.gov/research/scada-test-bed/ (accessed May 3, 2011).

¹⁰⁶ Idaho National Laboratory, *National SCADA Test Bed Program*, www.inl.gov/scada/ (accessed May 3, 2011).

¹⁰⁷ Federal Energy Regulatory Commission, *About FERC, What FERC Does*, www.ferc.gov/about/ferc-does.asp (accessed May 2, 2011).

¹⁰⁸ North American Electric Reliability Corporation, *About NERC*, www.nerc.com (accessed May 2, 2011).

¹⁰⁹ *Id.*

needed for reliability.”¹¹⁰ NERC’s duties include drafting and enforcing mandatory rules known as Standards.¹¹¹ Those proposed reliability standards are then sent to FERC for consideration.¹¹² FERC determines whether the standards are “just, reasonable, not unduly discriminatory or preferential, and in the public interest.”¹¹³ However, no modifications are allowed to the proposed standards.¹¹⁴ If changes need to be made, then FERC sends the proposed standards back to NERC.¹¹⁵ NERC also works closely with representatives from industry and state public utility commissions to ensure that regional interests are represented.¹¹⁶

The purpose of this jurisdictional framework is to demonstrate the crucial role that national entities play in ensuring a safe and reliable power supply for the United States while balancing local governmental and private interests. The national security danger to America’s power grid lies within the gaps of jurisdiction. Authority has been granted to multiple entities with limited jurisdiction, and their rulemaking processes can be characterized as being long and arduous.¹¹⁷ This can be a risky strategy during times of imminent danger because the authorities may not be able to act quickly to avert or respond to a disastrous attack.

D. NERC’s Cyber Standards

NERC has taken specific steps to mitigate potential security dangers to the power grid by establishing mandatory cyber security standards.¹¹⁸ Critical Infrastructure Protection (CIP) Standards 002 through 009 address cyber security assets.¹¹⁹ These

eight standards require certain users, owners, and operators of the bulk power system to establish policies, plans and procedures to safeguard physical and electronic access to control systems; identify and protect critical cyber assets; train personnel on security matter; report security incidents; and be prepared from a cyber incident.¹²⁰

One event demonstrates the difficulty of creating clear standards when the threat is so unclear. NERC Reliability Standard CIP-002-1 – Critical Cyber Asset Identification required industry stakeholders to identify, document, and self report “Critical Cyber Assets associated with the

¹¹⁰ Government Accountability Office, *supra* n. 35, at 11.

¹¹¹ *Id.*

¹¹² Ltr. from Jon Wellinghoff to Hon. Darrell E. Issa & Hon. Elijah Cummings (Mar. 10, 2011) in *Report to Congressional Requesters, Electricity Grid Modernization, Progress Being Made on Cybersecurity Guidelines, but Key Challenges Remain to be Addressed, Appendix V* (available at www.gao.gov/new.items/d11117.pdf)

¹¹³ *Id.*

¹¹⁴ *Id.*

¹¹⁵ *Id.*

¹¹⁶ Government Accountability Office, *supra* n. 35, at 11.

¹¹⁷ *Id.*

¹¹⁸ Cauley, *supra* n. 11.

¹¹⁹ North American Electric Reliability Corporation, *Standards: Reliability Standards, Critical Infrastructure Protection (CIP)*, www.nerc.com/page.php?cid=2|20 (accessed May 16, 2011).

¹²⁰ Government Accountability Office, *supra* n. 35, at 11.

Critical Assets that support the reliable operation of the Bulk Electric System.”¹²¹ The results of these reports are compiled and a list of all critical assets that could have a significant effect on the bulk power system was then made. A critical asset is defined as “facilities, systems, and equipment which, if destroyed, degraded, or otherwise rendered unavailable, would affect the reliability or operability of the Bulk Electric System.”¹²² The problem is that few industry stakeholders identified their assets as critical.

According to Michael Assante, Vice President and Chief Security Officer of NERC,

Certain qualifying assets may not have been identified as ‘Critical.’ Of particular concern are qualifying assets owned and operated by Generation Owners and Generation Operators, only 29 percent of which reported identifying at least one Critical Asset, and Transmission Owners, fewer than 63 percent of which identified at least one Critical Asset.¹²³

There are several possible reasons for a lack of action. First, NERC may not have advanced clear guidelines for identifying a critical asset.¹²⁴ As a result, industry stakeholders may have overlooked or underestimated the importance of their assets. In response to requests from industry stakeholders, NERC later issued a more methodical approach to identifying critical assets, entitled “Identifying Critical Assets.”¹²⁵ Second, with the advance of new technology, new threats are hard to identify. In the old days, the grid could withstand an unexpected event without much effect on the power users.¹²⁶ Today, “system planners and operators will need to consider the potential for the simultaneous manipulation of all devices in the substation or, worse yet, across multiple substations.”¹²⁷ A single intrusion or disturbance can potentially affect power across large geographic areas.¹²⁸ NERC is also encouraging industry to consider the potential loss or manipulation of a substation and that effect on power generation.¹²⁹ NERC says that “we must recognize the potential for simultaneous loss of assets and common modal failure in scale identifying what needs to be protected. That is why protection planning requires additional, new thinking on top of sound operating and planning analysis.”¹³⁰

¹²¹ Ltr. from Michael Assante to Industry Stakeholders (Apr. 7, 2009), in Wall St. J. (available at <http://online.wsj.com/public/resources/documents/CIP-002-Identification-Letter-040609.pdf>

¹²² *Id.*

¹²³ *Id.*

¹²⁴ Robert M. Lamkin, *Implications of Cyber-Spies in the U.S. Power System: From Russia with Love or From NERC with Monetary Penalties?* Private & Data Security L J 2009.07-1 (July 2009).

¹²⁵ North American Energy Reliability Corporation, *Standards Announcement, Correction and Q & A for Reference Document “Identifying Critical Cyber Assets,”* www.nerc.com/docs/standards/announcements/20100820_Announcement_Correction_ID_Critical_Cyber_Assets.pdf (accessed May 2, 2011).

¹²⁶ Assante, *supra* n. 121.

¹²⁷ *Id.*

¹²⁸ *Id.*

¹²⁹ Assante, *supra* n. 121.

¹³⁰ *Id.*

This incident is significant because it demonstrates that an unclear threat makes it difficult for NERC to create clear standards. It is also challenging for industry to comply because the full scope of the threat is largely unknown. Without explicit guidance from NERC, dangers may not be able to be mitigated.

V. Ideas for a More Secure Power Grid

From the military to the Department of Homeland Security, many government agencies are responsible for America's security. Generally, there are three organizations that focus their efforts on the power grid: FERC, NERC, and the utilities. A higher level of cooperation and leadership is needed to guard against future threats. A discussion of challenges and proposed solutions follows.

A. Create a Clear Line of Authority

Congress needs to determine clear duties and roles for FERC, NERC, the utilities and each national security organization involved with protecting the power grid. The power industry is unique because so many different entities are involved with the production and distribution of electricity. Power generators, transmission operations, state utility boards, local electrical districts, FERC, NERC and others each have a role in the electrical industry.¹³¹ By adding the federal government's national security organizations to this mix, confusion is bound to result. This was recognized by Mr. Gerry Cauley, the head of NERC, during recent testimony to Congress.

We have had very collegial consultation with a variety of agencies, and they are very helpful. I think it is just confusion over leadership and the relationships between the organization, and the relationships between government and private sector.... They [government security agencies] are learning from us. We are learning from them, but it is not clear what the delineation of responsibilities, who is in charge¹³²

B. Expand FERC and NERC's Jurisdiction

A patchwork of local, state, and regional organizations is not a good defense against cyber warfare. Centralized leadership is needed to help identify and combat threats to Smart Grid. From the national security perspective, the authority of FERC and NERC needs to be expanded, at some level, beyond the bulk power system.¹³³ The bulk power system does not extend to local distribution lines.¹³⁴ Amazingly, Smart Grid equipment will be applied to local distribution facilities, but FERC and NERC do not have authority to govern distribution facilities or require cyber security standards for them.¹³⁵ Large geographic areas of the country fall outside FERC's

¹³¹ Government Accountability Office, *supra* n. 35, at 19.

¹³² Congressional Hearing, *supra* n. 15, at 19.

¹³³ *Id.*

¹³⁴ *Id.*

¹³⁵ *Id.*

jurisdiction. Grid facilities in cities such as New York¹³⁶ and states such as Alaska, Hawaii,¹³⁷ and even most of Texas remain outside the scope of FERC's jurisdiction.¹³⁸

This is significant because FERC, through NERC, is responsible for setting standards for Smart Grid technologies. If these large areas of the country fall outside FERC's jurisdiction, then Smart Grid standards are voluntary for many parts of the country. Local authorities may not be fully aware of the national security threats to Smart Grid and may not require cyber standards. This jeopardizes United States security because these geographic areas play important roles in national commerce. In effect, the entire nation has an interest in the security of their power facilities.

The authority of FERC and NERC needs to be expanded because there are many unprecedented threats to Smart Grid. Years ago the decentralized management of grid security may have worked well. However, America faces unprecedented dangers with the implementation of Smart Grid. With the advent of new technologies, damage can be done to the homeland with the click of a button from an individual overseas. The authority of FERC and NERC needs to be expanded because centralized leadership is needed to guard against the new threats to America's Smart Grid.

C. Consider Giving NERC Emergency Powers

NERC may also need emergency powers to defend against cyber attacks. Outside the rulemaking process, NERC cannot independently create mandatory standards.¹³⁹ Every standard must be approved by FERC.¹⁴⁰ During an imminent threat, NERC may not have the luxury of waiting for FERC to act.¹⁴¹ In extraordinary situations, attacks may be deflected by focused and immediate actions taken by a federal authority working in conjunction with the power industry. Granting NERC emergency power may help prevent devastating attacks against the power grid.

D. Utilities Need Greater Support from the Intelligence Community

The utilities need greater support from the intelligence community because the utilities play a pivotal role in the security of the power grid. Experts suggest that utilities can prevent most of the cyber security risks by practicing good security protocols.¹⁴² However, there is a significant number of sophisticated cyber attackers who can breach the standard safety levels.¹⁴³ In this case, the private sector may not be able to withstand an attack without support from the

¹³⁶ *Id.*

¹³⁷ *Id.*

¹³⁸ Federal Energy Regulatory Commission, *ERCOT*, www.ferc.gov/industries/electric/indus-act/rto/ercot.asp (accessed May 16, 2011).

¹³⁹ Congressional Hearing, *supra* n. 15, at 12.

¹⁴⁰ Wellinghoff, *supra* n. 112.

¹⁴¹ Also, there is the issue of how much government involvement is needed during an imminent threat, but that is outside the scope of this paper.

¹⁴² Congressional Hearing, *supra* n. 15, at 20.

¹⁴³ Congressional Hearing, *supra* n. 15, at 20-21.

intelligence community.¹⁴⁴ Recent congressional testimony suggests that classified information sharing is not occurring between the intelligence community and the power industry.¹⁴⁵ The United States government should consider allowing some utility employees to receive classified briefings regarding the threat to their infrastructure.¹⁴⁶ While the government should certainly follow the proper procedures to ensure that state secrets do not fall into the wrong hands, industry must know what the problem is in order to guard against it.

There is also precedent for private industry to work with classified material.¹⁴⁷ The United States government hires many defense contractors that handle classified material.¹⁴⁸ If America's intelligence agencies have information that can quell an attack, then they should fully brief the appropriate people in the private sector.

VI. Conclusion

With the click of a computer button, cyber spies have an unprecedented opportunity to cause great damage to America's power grid. This opportunity is enhanced by the fact that the grid is being upgraded with new information technology based systems, called Smart Grid.¹⁴⁹ At this time, there are no mandatory cyber security standards, and Smart Grid equipment may therefore be vulnerable to attack.¹⁵⁰ These problems are significant, but can be addressed with four key legislative modifications. First, there needs to be clear lines of authority among FERC, NERC, the utilities, national security organizations, and all others who work to ensure the safety of America's power supply. Second, FERC and NERC's jurisdiction needs to be expanded beyond the bulk power system for national security purposes with the implementation of Smart Grid. Third, Congress should consider giving NERC emergency powers. Fourth, utilities need greater support from the intelligence community.

A national strategy that relies on a unified, more centralized approach is necessary to guard against the power grid, which "represents the battleground for the future."¹⁵¹ These actions should be taken because the danger of America's Smart Grid being outsmarted is real.

¹⁴⁴ Congressional Hearing, *supra* n. 15, at 23.

¹⁴⁵ *Id.*

¹⁴⁶ *Id.*

¹⁴⁷ *Id.*

¹⁴⁸ *Id.*

¹⁴⁹ Government Accountability Office, *supra* n. 35, at 9.

¹⁵⁰ Government Accountability Office, *supra* n. 35, at 15.

¹⁵¹ Serrano, *supra* n. 46.

The Treatment of Oil Spills Under Four Major Federal Environmental Statutes: Gaps in Jurisdiction and How Criminal Liability Affects Civil Liability

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I. Introduction

Damages to personal property, public property, and natural resources, as well as economic losses sustained and cleanup costs incurred by private parties and local and state governments, have resulted in a staggering 50,000 claims filed against British Petroleum as of September, 2010 for its involvement in the Deepwater Horizon oil spill of April 20, 2010.¹ In addition to civil liabilities mounting on a remarkable scale, Attorney General Eric Holder publicly pledged to investigate the potential criminal liability of any and all responsible parties under applicable federal environmental statutes.²

Nevertheless, the overwhelming magnitude of the environmental and personal harm coupled with the seemingly interminable number of civil claims arising from the Deepwater Horizon oil spill, along with discussions and debates over the mechanisms and administrative framework created by several laws to handle them, have managed to overshadow the criminal liability investigations by the Department of Justice. Under several environmental statutes dealing with oil spills and contamination, such as the Clean Water Act, 33 U.S.C. 1251 et seq. (CWA), the fines and penalties sought in criminal prosecutions can far exceed those paid to settle asserted civil claims.³ The primary federal statute implementing a regime for civil damages and cleanup of oil spills, the Oil Pollution Act of 1990, 33 U.S.C. 2701 et seq. (OPA), places a \$75 million limit (excluding cleanup costs incurred and any interest owed on time-delayed awards) on the civil damages for which a responsible party involved in an offshore facility accident is liable.⁴ These limits on liability cease to apply if a responsible party is proven to have been grossly negligent.⁵ Still, viewed in this light, the criminal liability aspects of oil spills can carry greater consequences than news coverage in months following the disaster may suggest.

This paper will survey four major federal environmental laws-- the CWA, the OPA, the Resource Conservation and Recovery Act, 42 U.S.C. 6901 et seq. (RCRA), and the Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. 9601 et seq. (CERCLA)-- giving special attention to their criminal proscriptions and regulations regarding oil and oil spills. While Congress has provided structure and direction to federal government responses to oil spills and has created avenues of recovery and compensation, these statutes have also created a veritable patchwork of intermingled provisions and overlapping schemes. For

¹ David Hammer, *About 15,000 oil spill claims OK'd by BP remain unpaid*, The Times-Picayune (September 17, 2010), www.nola.com/news/gulf-oil-spill/index.ssf/2010/09/about_15000_oil_spill_claims_o.html.

² Peter J. Henning, *Looking for Liability in BP's Gulf Oil Spill*, White Collar Crime Watch (June 7, 2010), www.dealbook.nytimes.com/2010/06/07/looking-for-liability-in-bps-gulf-oil-spill

³ Niki L. Pace, *Who Will Clean Up the Gulf Oil Spill?*, 30:1 WATER LOG 3 (2010).

⁴ 33 U.S.C. § 2704(a)3.

⁵ *Id.* § 2704(c)1(A).

example, while one statute addresses the cleanup and damages facet of a spill (such as OPA),⁶ another may focus on the criminal liability of responsible parties (CWA),⁷ yet another concerns the regulation of used oil or oil waste (RCRA), and still another addresses damages to migratory birds that a spill may cause (Migratory Bird Treaty Act).⁸

Because these statutes were not enacted contemporaneously, Congress allowed for potential gaps in criminal regulations concerning the contamination of land and non-navigable waters by oil spills. This paper will argue that these jurisdictional gaps exist as a result of the plain language of the statutes themselves and have been confirmed by judicial decisions. After exploring the contours of these jurisdictional gaps, this paper will explain that these gaps serve no practical purpose of value and are inconsistent with the objectives of the federal environmental statutory scheme as a whole. It will be concluded that Congress should revisit these statutes and eliminate these gaps.

Further, the imposition of stiff criminal penalties in a few of the statutes, and the varying standards of culpability prescribed in each, could produce substantial adverse effects on the civil liability schemes in the other statutes. In particular, some of the criminal provisions in federal environmental statutes impose the low standard of negligence as the level of culpability required to obtain a conviction.⁹ A few of these environmental statutes employ a strict liability standard,¹⁰ which is even less burdensome on the prosecution than a negligence standard. This paper argues that the low culpability standards of negligence and strict liability invite criminal prosecution of those who spill oil, even when such prosecution is not appropriate, simply because of the ease of obtaining a conviction or plea deal.

Criminal fines levied can reduce the pool of funds available to compensate victims, and thus detract from the speed and completeness of compensating civil claimants. Additionally, a criminal conviction has the potential to remove statutory limits on civil liability and to permit guarantors or insurers to release themselves from their obligations to compensate victims. This circumvention of the statutory cap on damages, release of insurers and guarantors from their coverage obligations, and imposition of stiff criminal fines, all in addition to the civil claims submitted, creates a recipe for bankruptcy for those who cause major oil spills and who also tend to experience immediate losses in capital and reductions in sales and profits. An entity that has caused a major oil spill and files a bankruptcy petition can ruin the chances of spill victims, which include federal and state governments as well as private entities, from fully recovering for damages inflicted by an oil spill.

⁶ *Id.*

⁷ 33 U.S.C. § 1319(c).

⁸ 16 U.S.C. § 707(a).

⁹ CWA, 33 U.S.C §§ 1319(c)1(A), 309(c)1(A) & (B); ; Clean Air Act, [42 U.S.C.S. §§ 7413\(c\)\(4\)](#), 113(c)(4).

¹⁰ Migratory Bird Treaty Act of 1918; Refuse Act; 1899 Rivers and Harbors Act.

II. The Land Gap in Criminal Liability

Depending on the circumstances and results of an oil spill, several provisions in each of the four primary environmental statutes may become relevant to a given situation. Additionally, the following statutes, among others, with narrowly tailored objectives may also become implicated in a spill; the Migratory Bird Treaty Act of 1918, 16 U.S.C. 703 (MBTA), the Refuse Act, 33 U.S.C 407, and the Endangered Species Act, 16 U.S.C. 1531 et seq. (ESA).¹¹ The sometimes inconsistent nature of these statutes and the need to utilize several of them to address the consequences of one spill can prove befuddling. Nonetheless, if wielded skillfully by a knowledgeable prosecutor, these statutes can be used to address a large variety of situations. This is not to say that the patchwork arrangement has no anomalies. The most prominent anomaly produced by the four major criminal environmental statutes is what I call the “land gap.”

A) Criminal Liability for Oil Contamination on Land

What I mean by the term “land gap” is that none of these major statutes addresses oil spills, discharges, or releases on land. It probably would seem counterintuitive for the CWA to include within its province the discharge of oil on land. Yet, while it certainly is easy to understand why an act that deals with the nation’s waters excludes spills that occur on land, it is not easy to understand why the OPA also excludes spills on land. Nonetheless, like the CWA, OPA’s sphere of influence is limited to the “navigable waters or adjoining shorelines or the exclusive economic zone.”¹² The term “exclusive economic zone” has no commonly understood meaning. A creative individual may initially think that this term includes protections for land under OPA. However, this term, as defined in OPA, is limited to water:

[exclusive economic zone is] the zone established by Presidential Proclamation Numbered 5030, dated March 10, 1983, including the ocean waters of the areas referred to as “eastern special areas” in Article 3(1) of the Agreement between the United States of America and the Union of Soviet Socialist Republics on the Maritime Boundary, signed June 1, 1990.¹³

Unlike CWA and OPA, which are restricted to spills on water, CERCLA and RCRA apply to releases that occur on or in land, water, and air. CERCLA, for example, prohibits unauthorized discharges of hazardous substances into the environment, with “environment” defined broadly to include water, land, and air:

(A) the navigable waters, the waters of the contiguous zone, and the ocean waters of which the natural resources are under the exclusive management authority of the United States . . . and

¹¹ Peter J. Henning, *Looking for Liability in BP’s Gulf Oil Spill*, White Collar Crime Watch (June 7, 2010), <http://dealbook.nytimes.com/2010/06/07/looking-for-liability-in-bps-gulf-oil-spill>

¹² 33 U.S.C. § 2702(a).

¹³ *Id.* § 2701(8).

(B) any other surface water, ground water, drinking water supply, land surface or subsurface strata, or ambient air within the United States or under the jurisdiction of the United States.¹⁴

The ability of CERCLA to reach contamination of land is promising until one remembers that CERCLA *excludes* oil from the definition of “hazardous substance,”¹⁵ thus removing CERCLA from the land-oil discussion. What of RCRA, then? RCRA begins promisingly, since it clearly applies to land, even going so far as to report in the body of the statute Congressional findings that “disposal of solid waste and hazardous waste in or on the **land** without careful planning and management can present a danger to human health and the environment.”¹⁶ Moreover, unlike CERCLA, it does not wholly excise oil from its provisions. RCRA, though, has its own limitations. For instance, RCRA governs only *hazardous wastes*¹⁷ and *solid wastes*.¹⁸ While it includes provisions for “used oil” or “waste oil” it does not necessarily include oil in other forms.¹⁹ Oil per se is not regulated under RCRA since the statute concerns only hazardous *waste*, and spilled oil may not necessarily be deemed discarded or unusable.²⁰ In line with this specific purpose, RCRA does regulate some mixtures and compounds of “used oil” and “waste oil,” although some “used oil” is exempt from RCRA.²¹

Therefore, three of the four statutes (CWA, OPA, and RCRA) address oil in some fashion. Two of the four include oil in all its forms (CWA and OPA). And two of the four apply to contamination of land (CERCLA and RCRA). However, none of the four contains provisions for both oil in all its forms *and* the contamination of land by oil. This is the land gap. The reason, if there is any, for this gap in coverage is not clear. The gap is especially hard to understand in the light of Congress’s finding in RCRA that “land is too valuable a national resource to be needlessly polluted by discarded materials”²²

Perhaps the reason why there is no prominent statute that clearly protects land from oil spills has more to do with the perceived nature of spills on water in contrast with spills that occur on land. It may be argued that spills on land do not spread as quickly as spills on water’s surface: water currents can spread spilled oil and its damage far and wide in a matter of hours, if not minutes. Or perhaps it may be unusual for large quantities of oil to be spilled on land, while water-borne tankers transport enormous quantities of oil on a routine basis. Therefore, it may have been concluded that oil spills or leaks on land lack capacity for widespread damage that

¹⁴ 42 U.S.C. § 9601(A) and (B) (*emphasis added*).

¹⁵ *Id.* § 9601(14).

¹⁶ *Id.* § 9601(b)2 (*emphasis added*).

¹⁷ 42 U.S.C. § 6903(5)(B): any waste “[posing] a substantial present or potential hazard to human health or environment.”

¹⁸ *Id.* § 6903(27): solid waste is “any garbage, refuse, sludge . . . and other discarded material.”

¹⁹ *Id.* § 9601a.

²⁰ U.S. National Response Team Science and Technology Committee, *Applicability of RCRA Hazardous Wastes Management Regulations to the In Situ Burning of Oil Spills*, (April 1996).

²¹ *Id.* § 6928(d)(7)

²² *Id.* § 9601(b)1.

spills on water can engender, and harsh criminal sanctions and comprehensive cleanup plans were considered unnecessary for land spills.

However, if Congress considered land to be too valuable to be polluted by discarded materials, then how about the contamination of this valuable resource by oil? Is land damaged only when discarded materials are released on or within it? Is not land also worthy of the criminal and civil protections of one or more of the four most important environmental statutes? One would think that Congress's desire to protect land found in RCRA would also cause Congress to protect land under OPA, or under CERCLA by removing its petroleum exclusion, or in the enactment of an altogether new statute that expressly applies to both land and oil and possibly synthesizing the provisions of the other four statutes. I think it is clear that CERCLA, which does indeed cover releases on land, should have included oil as a hazardous substance instead of expressly excluding it. Congress had a chance to correct this irrational omission after the Exxon Valdez disaster in 1989. But the legislation that was enacted, OPA, was written to apply only to the navigable waters of the United States, and thus Congress failed to capitalize on an opportunity to make the federal law of oil pollution truly coherent.

As it stands now, several of the positive and well crafted features of these four major statutes, such as the potential for stiff criminal penalties to help deter recalcitrant or egregious polluters, the cleanup and quick response procedures, the apparatuses for recovering response costs and natural resource damages, the clear identification of responsible parties, and the streamlined administration of claims against the responsible party or a Fund established to compensate victims, are features from which oil spills or discharges on land do not benefit. An additional benefit of some of these statutes is that fines collected from criminal convictions pursuant to them will usually be allocated back into the Funds set up (i.e. the Superfund and the Oil Spill Liability Trust Fund),²³ thereby providing means to finance the cleanup efforts and compensate the injured.

III. The Non-Navigable Water Gap in Criminal Liability

As discussed in the foregoing section, the four major environmental statutes that impose criminal penalties were drafted to leave oil contamination of land unaddressed. There is a similar anomaly in the statutes that is best described as a "non-navigable water gap."

A) Criminal Liability for Oil Contamination of Water

As explained above, each of the four statutes includes within its statutory ambit certain proscriptions for discharges and releases of certain substances into water.²⁴ However, they lack uniformity in what types of bodies of water each protects. CERCLA applies to a broad grouping

²³ Brian J. Donovan, *BP Oil Spill: Failure to Act by the Obama Administration and Congress Threatens the Financial Viability of the Oil Spill Liability Trust Fund (OSLTF)* (December 6, 2010), <http://donovanlawgroup.wordpress.com/2010/12/06/bp-oil-spill-failure-to-act-by-the-obama-administration-and-congress-threatens-the-financial-viability-of-the-oil-spill-liability-trust-fund-osltf-and-leaves-bp-oil-spill-victims-with-an-uncertain/>.

²⁴ RCRA, 33 U.S.C. § 2702(a). CWA, 33 U.S.C § 1319(c)1(A). OPA, 33 U.S.C. § 2702(a). CERCLA, 42 U.S.C. § 9601(A) and (B).

of the nation's waters, including waters beyond those that are navigable. It includes within its jurisdiction "navigable waters, the waters of the contiguous zone, and the ocean waters of which the natural resources are under the exclusive management authority of the United States . . . and . . . any other surface water, ground water, drinking water supply."²⁵ Nevertheless, the same flaw still remains in that CERCLA, despite its broad coverage, explicitly excludes oil from its definition of hazardous substances, and thus from the far reaching power of the statute.²⁶

Both OPA and CWA, which have provisions dealing with oil, unfortunately have narrower geographic jurisdictions than CERCLA and RCRA. OPA covers "the navigable waters or adjoining shorelines or the exclusive economic zone."²⁷ In similar language, with slight variation, the CWA regulates "navigable waters of the United States, adjoining shorelines, [and] the waters of the contiguous zone"²⁸ OPA and CWA omit the inclusive language of CERCLA for surface water, ground water, and drinking water supply. This presents the land gap problem again; except that in this instance it is non-navigable water that finds itself on the outside of the statutory scheme for oil spills looking in.

The 2006 Supreme Court decision in *Rapanos v. United States*²⁹ may have increased the types of bodies of water left unprotected by these statutes. The impact is not entirely clear because no opinion was endorsed by a majority of the Justices, but the types of bodies of water that the CWA protects has been substantially restricted. Before *Rapanos*, the EPA had employed a broad interpretation of "navigable waters" that included "traditional navigable waters . . . their tributary systems (and adjacent wetlands)"³⁰ as well as "waters 'neighboring' traditional navigable waters."³¹ Relying on this, the United States argued that the wetland in question could be categorized as "navigable water" or "waters of the United States," and the criminal and civil provisions of the CWA therefore applied to an individual who filled the wetland without obtaining a CWA permit.

Justice Scalia, writing for a plurality of the Court, criticized the EPA's broad interpretation of navigable waters and waters of the United States. He determined that both of these terms as used in the CWA should be limited in scope to refer to only "relatively *permanent* bodies of water."³² Justice Scalia utilized *Webster's Dictionary* and ordinary parlance to determine that the term "waters of the United States" encompassed those bodies "forming geographic features"³³ and that the definition referred primarily to "rivers, streams, and other *hydrographic features more conventionally identifiable as 'waters'* [rather] than the wetlands

²⁵ 42 U.S.C. § 9601(8) (A) and (B).

²⁶ *Id.* § 9601(14).

²⁷ 33 U.S.C. § 2702(a).

²⁸ 33 U.S.C. § 1319(c)1(A).

²⁹ *Rapanos v. United States*, 547 U.S. 715, 126 S.Ct. 2208, 165 L.Ed.2d 159 (2006).

³⁰ Richard L. Revesz, *Environmental Law and Policy* 980 (Thomson/Foundation Press, New York, New York. 2008).

³¹ *Id.*

³² *Id.* at 982 (*emphasis* in original).

³³ *Id.* at 983.

adjacent to such features.”³⁴ Thus, according to Justice Scalia, only those wetlands with a “contiguous surface connection to bodies that are ‘waters of the United States’”³⁵ fall under the purview of CWA.

Justice Kennedy wrote a concurring opinion in which he explained his approach to defining “navigable waters” and “waters of the United States.” Justice Kennedy adopted a potentially broader definition than Justice Scalia’s, but one more restricted than the definition provided in the dissenting opinion. He argued that a wetland or other non-navigable body of water is within the jurisdiction of the CWA if there is a “significant nexus” between it and a traditional navigable waterway.³⁶ He contended that because Congress enacted the CWA to “restore and maintain the chemical, physical, and biological integrity of the Nation’s waters”³⁷ that a significant nexus would exist where the wetland or body of water was found to significantly affect the physical, biological, and chemical integrity of a navigable waterway.

Since *Rapanos* was decided, the Seventh Circuit in *United States v. Gerke*,³⁸ the Ninth Circuit in *Northern California River Watch v. City of Healdsburg*,³⁹ and the Eleventh Circuit in *United States v. Robison*⁴⁰ have adopted Justice Kennedy’s construction of navigable waters and waters of the United States as because, in accord with *United States v. Marks*,⁴¹ Justice Kennedy’s concurrence is the opinion based upon the narrowest grounds. The First Circuit in *United States v. Johnson*⁴² and the Eighth Circuit in *United States v. Bailey*⁴³ have held that jurisdiction may be satisfied by applying either Justice Scalia’s “contiguous surface water connection” test or Justice Kennedy’s “significant nexus” test. One Texas District Court has held that Justice Scalia’s plurality opinion is the controlling standard in *United States v. Chevron Pipe Line Co.*⁴⁴ Regardless of whether the “significant nexus” or the “contiguous surface water connection” test is adopted, the result will be to limit substantially the waters subject to CWA criminal and civil liability for impermissible filling, dumping, discharging, or releasing of pollutants, including oil. This non-navigable water gap could be easily rectified if Congress were to amend the CWA to adopt the EPA regulations in effect before *Rapanos*.⁴⁵ Or Congress could simply take the expansive language in CERCLA defining waters and transfer it to CWA and OPA.

³⁴ *Id.* at 982 (*emphasis in original*).

³⁵ *Id.* at 984.

³⁶ *Id.* at 987.

³⁷ *Id.*

³⁸ *United States v. Gerke*, 464 F.3d 723 (7th Cir. 2006).

³⁹ *Northern California River Watch v. City of Healdsburg*, 496 F.3d 993 (9th Cir. 2007).

⁴⁰ *United States v. Robison*, 521 F.3d 1319 (11th Cir. 2008).

⁴¹ *United States v. Marks*, 430 U.S. 188, 193 (1977) (In *Marks*, the Supreme Court provided guidance to lower courts trying to grapple with plurality opinions. The Court stated that the “holding of the Court may be viewed as that position taken by those Members who concurred in the judgments on the narrowest grounds.”).

⁴² *United States v. Johnson*, 467 F.3d 56 (1st Cir. 2006).

⁴³ *United States v. Bailey*, 571 F.3d 791 (8th Cir. 2009).

⁴⁴ *United States v. Chevron Pipe Line Co.*, 437 F. Supp. 2d 605, 613 (N.D. Tex. 2006).

⁴⁵ Senator Russell Feingold introduced Senate Bill 787 “The Clean Water Restoration Act” on April 2, 2009, to amend the CWA and clarify the jurisdiction of “waters of the United States.” The intent of the bill is to restore protections for rivers, streams and wetlands that may be subject to question due to the recent Supreme Court rulings in *Rapanos*. Representative James Oberstar introduced House Bill 5088 “America’s Commitment to Clean

IV. The Effect of Criminal Liability on Civil Liability

Each major statute discussed above requires a mens rea of *knowingly* as an element of its crimes.⁴⁶ The Eleventh Circuit in *United States v. Hayes Int'l Corp.* held that knowledge means that a defendant was aware that the consequences of his action were *practically* certain; not that he knew with absolute certainty that the results would follow from his conduct.⁴⁷ Further, this knowing state of mind need not include specific knowledge of the illegality of the action or of the hazardous nature of the substances being mishandled, because courts have ruled that these statutes create regulatory offenses or crimes that are intended to protect public safety and thus are "public welfare legislation."^{48 49} The public welfare doctrine was most notably expressed in *Morissette v. United States*;⁵⁰ in which the Court held that for certain regulatory crimes the Government need not demonstrate traditional mens rea to establish criminal liability.⁵¹

While this is the accepted interpretation, there is some ambiguity among the courts whether knowledge of the illegality of the action or knowledge of the hazardous quality of the substance is necessary to prove a criminal violation. This uncertainty has been spawned by courts that have included in their opinions statements that obfuscate their final stance on the issue. For example, the Sixth Circuit in *United States v. Buckley*⁵² held that simple knowledge of a defendant's actions was sufficient mens rea for the crime charged under CERCLA, but at the same time the court remarked that "the very nature of hazardous substances such as asbestos puts individuals controlling the substances on notice that criminal statutes probably regulate the handling and release of the substances."⁵³ This poses an important question: is knowledge presumed because it is necessary for the crime or was the court just noting the reality of the

Water Act," on April 21, 2010. The bill would restore the definition of "waters of the United States" to that in place before the *Rapanos* decision.

⁴⁶ CERCLA, 42 U.S.C. § 9603(b).

CWA, 33 U.S.C. § 1319(c)2.

RCRA, 42 U.S.C. § 6928(d)-(e).

⁴⁷ *United States v. Hayes Int'l Corp.*, 786 F.2d 1499, 1504 (11th Cir.1986) (knowledge does not require certainty, the defendant must be aware that the result is practically certain to follow from his conduct), quoting *United States v. Gypsum Co.*, 438 U.S. 422, 445 (1978)

⁴⁸ *United States v. Weitzenhoff*, 1 F.3d 1523, 1530 (9th Cir.1993)

(The court ruled that the government does not need to prove that defendants knew their acts violated the permit provision of the CWA. The government only needs to show that the defendants had a general knowledge of the wrongfulness or illegality of their actions, not a knowledge of the particular statute or part thereof that they were violating.)

⁴⁹ *United States v. Hopkins*, 53 F.3d 533, 540 (2d Cir.1995), *cert. denied*,

114 S.Ct. 773 (1996) (Congress meant that the CWA would be violated if the defendant's acts were proscribed, even if the defendant was not aware of the proscription. Thus, the government is not required to prove that defendant knew his acts violated CWA or any particular provision of the law or the permit).

⁵⁰ [Morissette v. United States, 342 U.S. 246, 258-59 \(1952\).](#)

⁵¹ Lawrence Friedman & H. Hamilton Hackney III, *Questions of Intent: Environmental Crimes and "Public Welfare" Offenses*, 10 Villanova Environmental Law Journal 1 (1999).

⁵² *United States v. Buckley*, 934 F.2d 84 (6th Cir.1991).

⁵³ *Id.* at 89.

situation: that in some instance the defendant will probably have constructive knowledge of the illegality of his act, even though such knowledge is not necessary for prosecution?

This ambiguity notwithstanding, simple knowledge is the preferred mens rea choice of the major environmental criminal statutes. The CWA deviates from this approach to culpability by including a provision for *negligent* criminal violations, including violations relating to the spill or discharge of oil.⁵⁴

Additionally, there are a few specifically tailored environmental statutes such as the MBTA and the Refuse Act that employ the infrequently used criminal culpability standard of *strict liability*, and thus do not concern the state of mind of the responsible party when determining whether a crime has been committed.⁵⁵ It is not uncommon for these narrow-purpose statutes to become implicated by oil spills or other environmental violations.⁵⁶

A) The Effect of Criminal Liability on Recoupment, Claims, & Insurance

The use of negligence or strict liability standards in certain statutes can have substantial and possibly unintended adverse effects on the civil liability schemes and goals established by other statutes. Negligence and strict liability can place an oil business in a precarious position after a spill. Under the OPA, guarantors who insure against liability can avoid their obligation to indemnify and defend the responsible party for its civil obligations if it is shown that the responsible party acted with willful misconduct.⁵⁷ Yet, a company faced with criminal charges under the CWA or MBTA may accept a plea deal even if it believes it has a meritorious defense, for fear of being too easily convicted under negligence or strict liability standards. This fear of the high likelihood of conviction under strict liability is readily apparent, but is not quite as obvious under a negligence standard.

Typically, when a criminal statute contains a mens rea requirement of negligence, it is interpreted to require a showing of something more than simple negligence for civil liability.⁵⁸ A common paradigm of criminal negligence is found in this New York Penal law:

A person acts with criminal negligence with respect to a result or circumstance when he ***fails to perceive a substantial and unjustifiable risk*** that such result will occur or that such circumstance exists. The risk must be of such nature and degree that the failure to perceive constitutes a ***gross deviation*** from the standard of care that a reasonable person would observe in the situation.⁵⁹

⁵⁴ 33 U.S.C § 1319(c)1(A).

⁵⁵ Peter J. Henning, *Looking for Liability in BP's Gulf Oil Spill*, White Collar Crime Watch (June 7, 2010), <http://dealbook.nytimes.com/2010/06/07/looking-for-liability-in-bps-gulf-oil-spill/>

⁵⁶ *Id.*

⁵⁷ 33 U.S.C. § 2716(f)(1).

⁵⁸ Thomas Russo, *Criminal Liability in Maritime Accidents*, DRI Admiralty and Maritime Law: Selected Topics 43-56 (1999), www.freehill.com/articles/crimliab_maritime.cfm.

⁵⁹ *Id.* (emphasis added).

However, the criminal negligence provisions of the CWA have been construed to require only proof of simple negligence rather than a showing of “gross deviation from the reasonable standard of care” and “substantial risk.”⁶⁰

Although an oil spiller may enter into a plea deal to mitigate criminal penalties or costs associated with a long trial, its guarantors may interpret the plea deals as proof of intentional acts, and exercise their right under OPA⁶¹ to avoid their obligations to provide coverage. This is a heightened possibility if other crimes under a knowing or gross negligence standard are coupled with the charges for strict liability or simple negligence crimes, and included in the plea deal.

The apparent ease of securing a criminal conviction under strict liability or a negligence standard may divert the government's attention away from the practical effect of those convictions or plea deal agreements on the defendant's obligations under civil laws. A criminal conviction or plea deal can have the effect of allowing a guarantor to avoid its obligations under an insurance agreement. This abrogation of the guarantor has the ill effect of making the full recovery of cleanup costs or the full compensation for various harms caused by the oil spill uncertain. Those responsible parties may lack the financial ability to reimburse the cleanup costs, pay meritorious civil claims, and at the same time pay the criminal and civil penalties imposed upon them without being able to turn to the guarantor for assistance. The prosecution of the responsible party can thus push it into bankruptcy, since there are only so many times the Government and other claimants can go to the well before it runs dry.

The risks of not getting paid or the recoupment process being drawn out over a long period of time, as the responsible party struggles to generate funds and handle backed-up claims, may very well discourage entities that have the means, equipment, and knowledge to cleanup from doing so. The manner in which the laws are enforced also makes it difficult for salvors. “What happens now when a ship has a casualty, because of the risk and concern for criminal liability, everybody shuts up, and the salvor does not get the information he needs from the most readily available sources.”⁶² Salvors must obtain the information required to perform their functions on their own. It can take a long time to collect information from tight-lipped parties wary of criminal prosecution or from third parties with piecemeal knowledge of the situation, during which the vessel remains in the water as an environmental hazard.⁶³

A responsible party to an oil spill entering bankruptcy would even pose substantial risks to the ability of the Federal Government to recover its response costs and natural resource damages. When a responsible party files a bankruptcy petition it expects to receive a discharge of its

⁶⁰ *Id.*

⁶¹ 33 U.S.C. § 2716(f)(1).

⁶² *Rising Risks to Mariners of Criminal Prosecution*, Professional Mariner: Journal of the Maritime Industry (August/September 2005), www.professionalmariner.com/February-2007/Rising-risks-to-mariners-of-criminal-prosecution/.

⁶³ *Id.*

obligations, including environmental ones.⁶⁴ The Federal Government may not be able to achieve priority status against other creditors and lien-holders when the company is reorganized under Chapter 11 of the bankruptcy code.⁶⁵ The Second Circuit in *United States v. LTV Corp. (In re Chateaugay Corp.)* held that claims by the government or approved third parties under CERCLA for reimbursement of cleanup costs and damages must arise before bankruptcy is entered (prepetition) in order for the government to recover outside the bankruptcy reorganization plan.⁶⁶ Moreover, the term “claims” in the bankruptcy code is to be construed broadly.⁶⁷ Therefore, in accord with this principle, the Second Circuit held that claims arise under bankruptcy when there is a threatened or actual release by the responsible party, not when the government actually initiates cleanup and makes expenditures.⁶⁸ The Second Circuit’s decision may address CERCLA, but because of the similar construction of response and cleanup provisions under OPA, the reasoning in the court’s opinion may be translatable to OPA, and thus to claims arising from oil spills.

B) Normative Arguments against Low Standards of Culpability for Environmental Crimes

In addition to the argument that lower standards of culpability can interfere significantly with Congressional goals of streamlining the compensation process, avoiding costly and time consuming litigation, and creating incentives for quick response to oil spills or other types of contamination, a moral or normative argument could be formulated that standards less stringent than recklessness or gross negligence are inappropriate for some environmental crimes, including those that result from oil spills.

Crimes and criminal penalties are mechanisms to punish egregious acts, not innocent accidents. While accidents free of fault, or even ones that are the products of negligence, may inflict harm upon others, they may occur without any intent to do so or may be done without blatant disregard for the welfare of others or their property. The Supreme Court in *Morissette v. United States* reflected on the philosophical importance of intent for the infliction of criminal punishment when it explained that “[a] contention that an injury can amount to a crime only when inflicted by intention is . . . as universal and persistent in mature systems of law as belief in freedom of the human will and a consequent ability and duty of the normal individual to choose between good and evil.”⁶⁹ When a defendant has no intent to violate the law, there is little need to demonstrate to the defendant that society does not condone such conduct. For the defendant may very well already understand that, or may come to understand that once shown the unreasonableness of his ways through civil liability. Also, it is unfair to impose the stigma of a criminal conviction in order to “deter” future actions, when the defendant may never have meant for the event to occur or may never have realized it was happening.

⁶⁴ Adam P. Stochak, Jennifer L. Wine, et al. *A Collier Monograph: Environmental Issues in Bankruptcy Cases* 46 (Matthew Bender & Company, Inc. July 2009).

⁶⁵ 11 U.S.C. § 1141(d)(1)(A).

⁶⁶ *United States v. LTV Corp. (In re Chateaugay Corp.)*, 944 F.2d. 997 (2d Cir. 1991).

⁶⁷ Adam P. Stochak, Jennifer L. Wine, et al. *A Collier Monograph: Environmental Issues in Bankruptcy Cases* 47 (Matthew Bender & Company, Inc. July 2009).

⁶⁸ *United States v. LTV Corp. (In re Chateaugay Corp.)*, 944 F.2d. 997 (2d Cir. 1991)

⁶⁹ *Morissette v. United States*, 342 U.S. 246, 250 (1952).

In such circumstances, the primary objective of the law should be to make the injured party whole. The legal mechanism best suited for this remedial objective is civil liability. And if it so happens that actions by a defendant are more harmful than we are willing to accept, that multiple violations by the same defendant have occurred, or that invidious motivations are suspected (but are hard to prove “beyond a reasonable doubt”), then several of the major environmental statutes have provisions for the imposition of stiff *civil* penalties,⁷⁰ which if imposed can effectively demonstrate society’s disapproval, exact retribution beyond mere compensation, and serve as a powerful deterrence to those motivated by making a profit over the welfare of others or the environment.

Using negligence as a *mens rea* standard is more tenable as a policy choice than resorting to strict liability. As mentioned briefly above, the MBTA and the Refuse Act are some of the few criminal statutes that choose the latter alternative.⁷¹ Strict liability is familiar to those who have studied statutory rape crimes. The nature of statutory rape illustrates the principle that strict liability should be reserved, if used at all, for acts that in themselves are abhorred by society (e.g., sexual relations with minors).

If this tenet is accepted, then is not dealing in, transporting, and manufacturing oil something that is not only desirable, but also necessary to society and the economy? Oil spills and accidental contamination have the capacity to cause widespread harm and damage. However, because of the dangerous nature of drilling for oil (burrowing deep into high pressure pockets containing a highly flammable substance) and because of the dangers that accompany the transportation of petroleum on the high seas, accidents will be inevitable, even if corporations try to prevent them with all reasonable safeguards. These are risks incidental to conducting business in oil; a business that for better or worse provides the lifeblood of our economy and our way of living.

With the acts of producing and transporting oil being condoned as non-egregious and socially necessary, it seems harsh or inappropriate to impose strict liability for accidents that arise from business ventures required by society. The public needs businesses to produce and use in oil, and at the same time demands that if a company does not conduct operations perfectly and avoid the inevitable occurrence of a spill, then it will be hit with criminal sanctions as if it had been involved in terrible, reprehensible dealings.

V. Conclusion

The major criminal environmental statutes create a patchwork of regulation. Anomalies created by the non-contemporaneous passage of these various acts, such as the land gap and non-navigable water gap with regard to oil spills, call for the amendment of the OPA or CERCLA to include provisions to correct these problems.

⁷⁰ CWA: 33 U.S.C. § 1319(g)

⁷¹ Peter J. Henning, Looking for Liability in BP’s Gulf Oil Spill, White Collar Crime Watch. (June 7, 2010), <http://dealbook.nytimes.com/2010/06/07/looking-for-liability-in-bps-gulf-oil-spill/>

The use of low standards of criminal culpability, such as negligence and, in particular, strict liability, in a few environmental statutes poses threats to the important policy goals of Congress with regard to oil spills and the civil liability and claims processing procedures enacted to carry out these goals. Either the uniform use of gross negligence or knowingly standards should be substituted for the lower standards in the statutes, or prosecutors should think carefully before charging criminal violations, which may be tempting because of the ease of obtaining convictions,⁷² and should reserve criminal sanctions for the most egregious actors or instances where the harm created is of such a scale as to make criminal punishment appropriate.

⁷² *Rising Risks to Mariners of Criminal Prosecution*, Professional Mariner: Journal of the Maritime Industry (August/September 2005), www.professionalmariner.com/February-2007/Rising-risks-to-mariners-of-criminal-prosecution/ (Between 1989 and 1999, the Department of Justice indicted more than a dozen ship-operating companies and more than two dozen crew members and corporate officers with environmental crimes.)