June 2, 2014
BY CERTIFIED MAIL

Ginny McCarthy, Administrator
U.S. Environmental Protection Agency
Ariel Rios Building
1200 Pennsylvania Avenue NW
Washington, DC 20460

SUPPLEMENT TO
PETITION FOR RULEMAKING
Under the Clean Water Act, 33 U.S.C. § 1321(d)(2)(G) and
the Administrative Procedures Act Title 5. Sec. 553(e)
TO AMEND NATIONAL CONTINGENCY PLAN (NCP) PRODUCT SCHEDULE and Other Subparts Relating to Product Use

Dear Administrator McCarthy,

On November 12, 2012, a coalition of concerned citizens filed a petition for rulemaking to amend the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), particularly but not exclusively the Subpart J Product Schedule. The EPA replied on January 3, 2013, confirming receipt with assurances that EPA was considering a proposed rulemaking to Subpart J and would welcome public comment on the proposed rule during the public comment period.

In its response letter EPA also stated that "the Agency has already used information and lessons learned from the BP Deepwater Horizon oil spill to make recommendations for Area Committees and Regional Response Teams to revise Area Contingency Plans and Regional Contingency Plans, respectively, until the Subpart J regulations are amended."

However, EPA has not even addressed internal concerns about inadequacies in the NCP, raised by the EPA OIG in August 2011, despite reporting that the concerns would be closed by early 2013, and that the proposed rulemaking would appear in the Federal Register by August 30, 2012.[1] Yet is now 2014, and none of the issues of concern, raised by the EPA OIG, have actually been closed, including several we addressed in our petition. Further, EPA has given no confirmation of when it might open the public comment period.

While we agree with EPA that lessons learned from the BP DWH disaster do necessitate revisions to the NCP, we find it disrespectful of EPA to make recommendations to the RRTs, while not inviting the public to formally comment and share lessons that *we* have learned. In our original petition, like the EPA OIG, we

[1] EPA Office of Inspector General, 2011, *Revisions Needed to National Contingency Plan Based on the [BP] Deepwater Horizon Oil Spill*, Report No. 11-P-0534, August 25, 2011. See also, EPA Office of Solid Waste and Emergency Response, letters to the EPA OIG, dated January 12 and February 7, 2012.

focused on lessons learned from the BP DWH disaster, a major spill of conventional oil, and our foremost concern was the unprecedented consequences to health from widespread application of chemical dispersants during the disaster response. Many citizens, organizations, and Alaska Tribes, including some members of our coalition, have filed or endorsed resolutions, petitions and lawsuits, calling for a ban in the use of chemical dispersants, because of concerns about harm to human health and the environment.

However, workers and residents were also sickened from exposure during major fresh water discharges of nonconventional oil, in particular, blended tar sands oil and extremely volatile shale oils. These more recent spills have demonstrated a need for a systemic revision of the NCP—which hasn't been revised for twenty years. This overhaul is urgent as crude oil by rail shipments terminating in the U.S. in 2010 have *increased by 5,600 percent* over the five-year average from 2005 through 2009, and this increase is largely due to unconventional oils.[2] The NCP was largely designed for conventional crude oil spills at sea, not tars sands oil that sinks or extremely volatile (frack) oil that explodes when spilled. This means that shippers are transporting oil without viable contingency plans in violation of the law—and in defiance of common sense.

In sum, EPA's proposed rulemaking on the NCP, including Subpart J and related subparts concerning product use, is long overdue. We find it necessary to supplement the requests in our original petition, based on new evidence and scientific information and the U.S. Dept. of Transportation's recent emergency regulations for handling crude oil by rail (discussed below). We have undertaken a comprehensive rewrite of Subparts A, B, C, D, and J as these all relate to use of dispersants and other chemical agents. We have noted where revisions are needed in other subparts and in the appendices, in particular C, but have not rewritten these sections at this time. Our supplement includes an overview and justification comments, and **working draft** revision language for the purpose of inviting discussion about our concerns.

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[2] American Association of Railroads, 2013, Moving Crude Oil by Rail, a report, December 2013. https://www.aar.org/keyissues/Documents/Background-Papers/Crude-oil-by-rail.pdf

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Justification for Supplement & Proposed Revisions

Supplement Overview
Synopsis of Proposed Revisions
Issues & Justification for Proposed Revisions
I. Subpart A—Introduction
A. Updating definitions relating to containment and removal of oil
1. Sinking agents
2. Other chemical agents
B. Updating definitions relating to oil and hazardous substances
1. Hazardous by nature
2. Calling a spade, a spade

II. Subpart B—Responsibility and Organization for Response
A. Contributing factors: Examining the evidence
1. Unlearned lessons from the *Exxon Valdez*: Sick workers
2. History repeats: Sick workers and sick general public
3. Conflicts of interest
4. Complacency
5. Addressing regional and area concerns
B. Proposed revisions
1. Adding permanent co-chairs
2. Adding Citizens' Advisory Councils and Indian Tribes
3. Adding training for local residents and individuals

III. Subpart C—Planning and Preparedness
A. Integrating changes into planning structure
B. Creating Citizens' Advisory Councils
C. Expanding the function of the ACPs
D. Eliminating conflicts of interest

IV. Subpart D—Operational Response and Phases for Oil Removal
A. Integrating changes into response structure
B. Integrating Citizens' Advisory Councils into ACPs
C. Expanding the function of the ACPs
D. Eliminating conflicts of interest

V. Subpart E—Hazardous Substance Response

VI. Subpart G—Trustees for Natural Resources

VII. Subpart J—Use of Chemical Agents and Other Products
A. Adding threshold criteria for product use
B. Consultation under the Endangered Species Act (ESA)
C. General prohibitions
D. General data requirements for all products
E. Specific data requirements for all products
F. Removal products from Schedule

Supplement Overview

The federal government has a fiduciary duty to protect public health, public trust resources that support health and wellbeing of present and future generations, and public access to our collective public assets. In essence, this means that federal, state, and local governments are trustees, charged with managing trust assets on behalf of the citizens who are trust beneficiaries. It also means that the government, all levels and all branches, is responsible for creating, implementing, and enforcing laws and policies to protect trust assets by holding polluters who despoil trust assets accountable to the laws and policies.[3]

This is especially relevant during responses to discharges or releases of oil and hazardous substances because the despoiler—the spiller—is duty-bound to its shareholders to minimize its liability, which often comes at the expense of protecting human safety and health and the environment. The fiduciary duties of government to protect public assets during spill response conflict with the fiduciary duties of the spiller to protect its stakeholders. Therefore, it is critical that government trustees recognize this inherent conflict of public versus private interests and establish, implement, and enforce laws and policies that make protecting public health and welfare and the environment in the best financial interests of the spiller.

This starts by passing strong laws and updating them based on science and lessons learned during spills to keep the laws relevant and useful. Unfortunately, the pollution laws have not been kept current. The most egregious example involves the use of dispersants.

The first large-scale use of dispersants occurred after the tanker *Torrey Canyon* grounded off the coast of England in 1967 and spilled over 36 million gallons of oil. Less than 12 hours after the *Torrey Canyon* grounded, the Royal Navy sprayed a dispersant produced by British Petroleum, BP1002, onto the oil slick.[4] The resulting damage to the environment sparked a public aversion to use of dispersants that remains to this day. Two years later, a Union Oil drilling platform blew out, spewing up to 42 million gallons of oil off the coast of Santa Barbara. The Coast Guard used chemical dispersants on the oil near shore. The general lack of preparedness and failed disaster response triggered sustained public outrage, leading to massive legal and regulatory reforms during the 1970s. This included a major overhaul of the 1948 Federal Water Pollution Control Act in 1972, which established a national response system for oil spills. 33USC 311(j). Congress incorporated dispersants and dispersant use into these amendments. 33 USC 311(d)(2)(F) and (G).

As pointed out in our original petition, the science began to catch up and, by the 1980s, it was evident that dispersants use in shallow seas could cause more harm than good.

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[3] Wood, Mary Christina, 2014, *Nature's Trust: Environmental Law for a New Ecological Age* (Cambridge University Press, 2014), p. 207.

[4] Queale, Abbey J., 2012, Responding to the response: Reforming the legal framework for dispersant use in oil spill response efforts in the wake of Deepwater Horizon, Hastings West-Northwest Journal of Environmental Law, Policy, Winter 2012.

The *Exxon Valdez* oil spill in 1989 was the first wide-scale experimental use of dispersants in the United States. Once again, national preparedness and response for oil disasters was found lacking. The resulting law passed in the wake of the nation's newest, largest maritime oil disaster, the Oil Pollution Act of 1990, once again ignored warnings from the public and science about harmful effects from dispersants. The new law created protocol mandating an expedited decision-making process for dispersants alone over other chemical agents and assigning this task to newly created Area Committees. 33 USC 311(d)(2)(F) and (G) and (j)(4), respectively. The Area Committees were made part of new national planning and response organizational and structural framework, implemented through the NCP. In essence, dispersant use became institutionalized as part of, and integrated into, this new national response system. Meanwhile, the science continued to build, showing evidence of harm to wildlife and people from dispersant use, as discussed in our original petition and in this supplement.

The pollution laws also require the President to protect public health by first making a determination that there may be an imminent and substantial threat to the public health or welfare and then by directing all federal, state, tribal, and private actions to remove the discharge or to mitigate or prevent the threat of the discharge. 33 USC 311(e)(1) and (c)(2), respectively. The implementing regulation, the NCP, essentially restates this as priorities during oil spill response to: first, protect safety of human life; second, stabilize the situation to prevent the event from worsening; and, third, minimizing adverse impact to the environment by using containment and removal tactics. 40 CFR §300.317(a) to (c).

It is logical to assume, therefore, that any operations undertaken during spill response must support safety, i.e., protection of human life and health; stabilizing the situation by preventing more harm and, by implication, doing no more harm; and by using methods that contain and remove oil. However, we find this not to be the case.

For example, dispersants do not remove oil from the environment, they act to sink oil and spread it throughout the water column. There is no consideration for the possibility that dispersant use, or use of any other chemical agents for that matter, may do more harm than good; there is no protocol for stopping use of products that behave differently in the field than in the lab and cause unanticipated harm to people and wildlife. There are no protocols or criteria for making a determination when a situation poses an imminent or substantial threat to public health or welfare; there are no protocols or criteria for protecting public health and welfare in situations that are determined to be or pose a substantial threat. There is an organizational structure that gives far too much authority to the "responsible party"—the spiller—and far too little to the citizenry whose effective engagement is critical to the proper functioning of industry, government, and civil society. There is a decision-making process that allows any product to be used anytime, even ones not on the Product Schedule, which negates the entire pre-spill planning process and ignores science. There are technical data requirements for testing products that are so pathetically outdated that the data give little indication of the product's true toxicity in or to the environment.

To add to these critical issues, oil spill response since inception has focused on large maritime spills of conventional oil and use of chemical agents, in particular, dispersants. The 1970s standards are grossly inadequate to protect public health and welfare and the environment from spills of unconventional, ultra-hazardous oils such as tar sands oil, blended tar sands oil (dilbit), and extremely volatile oil produced by hydraulic fracturing or similar technologies. The rapid expansion of oil and gas activities and increased frequency of spills, especially of ultra-hazardous oil, have created large areas with at-risk populations, not just in remote areas, but also populated urban areas[5]… yet the NCP is silent on how to "minimize the threat to public health and welfare and the environment" from these unconventional oils.

We have proposed revisions to the NCP to address these issues. However, our revisions only partially fix the problems we have raised because some of these problems are rooted in the pollution laws—the Clean Water Act and the Oil Pollution Act. In particular, the statutory requirement for dispersants locks in an outdated and harmful response tool that is demonstrably contrary to the overall goal of the national contingency plan; i.e., to contain and remove oil from the environment. This requires a Congressional remedy. It's as if we are playing a game with broken rules, but they are rules nonetheless, so we have patched and mended, ripped and replaced, and woven new bits, all within the boundaries of the broken rules. A synopsis of our proposed revisions precedes a more detailed justification for each subpart.

Synopsis of Proposed Revisions

Subpart A: Definitions have been updated, revised, or added: to accommodate recent science findings that oil is more toxic than thought in the 1970s; to recognize that chemical agents can cause unintended harm, that use does not guarantee intended (or any) results, and that the ability of a substance to sink oil is not limited to its specific gravity; to allow for establishing criteria and protocol for protecting worker and public health and safety; and to allow for effective citizen oversight.

Subpart B: The organizational structure was changed to accommodate, during planning and response activities, meaningful protection of human safety and health, public welfare, and the environment from a (now recognized as) hazardous oil discharge and from additional hazards posed by use of chemical agents by: adding two permanent co-chairs from OSHA and HHS to the NRT and RRT; assigning the OSHA and HHS PCCs authority and responsibilities, and providing protocol and criteria, to effectively and efficiently conduct their assigned duties to protect human safety and health; adding lead agency representatives from the 13 RRTs (chair, vice-chair, and permanent co-chairs) to the NRT to increase the likelihood that the NCP will accommodate regional needs to make the NCP more effective and efficient; adding a Citizens' Advisory Council for every Area Committee and adding representatives from the CACs and Indian Tribes to RRTs to increase the likelihood that RCPs will accommodate area/ local needs to make the RCPs more effective and efficient; expanding duties throughout the structure to not

[5] Lowy, Joan, 2014, Pipeline oversight called inadequate, *Associated Press,* 5/9/14. http://bigstory.ap.org/article/federal-watchdog-pipeline-safety-oversight-shoddy

only implement plans, but to monitor, evaluate, report, and revise the NCP, RCPs, and ACPs on regular basis; and establishing oil spill removal organizations at appropriate locations along coasts and inland along conventional and ultra-hazardous crude-carrying pipeline and rail car corridors with trained personnel in sufficient numbers to immediately remove a worst case discharge.

Subpart C: Planning and preparedness was revised to provide meaningful protection of human safety and health, public welfare, and the environment by: integrating the above changes into the planning structure; creating the Citizens' Advisory Council, providing it structure, and assigning it authority and duties; expanding the function of the ACPs; and eliminating situations that create conflicts of interest between the government and the responsible party.

Subpart D: Operational response was revised to provide meaningful protection of human safety and health, public welfare, and the environment by: integrating the above changes into the response structure; integrating authority and duties of the Citizens' Advisory Councils into the ACPs and RRTs; expanding the function of the ACPs; and eliminating situations that create conflicts of interest between the government and the responsible party.

Subpart J: Use of chemical agents and other products was revised to provide meaningful protection of human safety and health, public welfare, and the environment by: adding threshold criteria for product use; integrating the above changes into the decision-making structure and creating a consensus process for decision-making; eliminating the preference for use of dispersants; requiring an emergency stop use plan (as well as a preauthorization plan) for product use; prohibiting certain elements or conditions in chemical agents; requiring data and testing for all chemical agents and products; creating new tests to determine if products are sinking agents and requiring use of updated toxicity tests; adding a requirement to retest products when testing protocols are updated or product is reformulated; and adding a process and criteria for removing products from the Product Schedule.

In addition, changes were made to Subpart E to address intentional releases of potentially hazardous chemical agents during oil spill response and to Subpart G to integrate Indian Tribes as Trustees for Natural Resources.

Issues & Justification for Proposed Revisions

I. Subpart A—Introduction

A. Updating definitions relating to containment and removal of oil

1. Sinking agents

Sinking agents are expressly prohibited by Subpart J regulations, 40 CFR 300.910(e): "Sinking agents shall not be authorized for application to oil discharges." The reason for banning sinking agents is obvious: sinking oil makes mechanical containment and recovery impossible. Sinking agents do not reduce the amount of oil entering the environment but instead act to move the oil into the water column.

For forty years, EPA has regarded sinking agents as substances that can physically sink the pollutant below the water's surface. Sinking agents are defined as "those additives applied to oil discharges to sink floating pollutants below the water surface." 40 CFR 300.5. If the specific gravity is greater that 1.0, the product becomes a "sinking agent" and cannot be used on or near water during oil spills. The substances envisaged were clay, sand and cement, and the NCP regulations have prohibited their use in oil spill response.

The NCP also defines dispersants as "those chemical agents that emulsify, disperse, or solubilize oil into the water column or promote the surface spreading of oil slicks to facilitate dispersal of the oil into the water column." 40 CFR 300.5. *In other words, dispersants act on oil to sink it in some form or other, thereby impeding mechanical containment and recovery.* However, since dispersants have a specific gravity near or slightly less than 1.0, the product has not been considered a sinking agent.[6]

This is pure semantics and defies common sense. Studies conducted after the BP DWH disaster on fate of dispersant and oil combined found that surface application of dispersants resulted in subsurface plumes of emulsified oil that have persisted, impeding containment and removal of oil from both water and land and prolonging recovery.[7]

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[6] Dispersant and oil combined is also more toxic than oil alone, which conflicts with the stated NCP priorities to do no more harm to people or the envirionment, as was addressed in our original petition and below in Subpart B comments.

[7] Kujawinski, EB, et al., 2011, Fate of Dispersants Associated with the [BP] Deepwater Horizon Oil Spill, *Environmental Science & Technology* 45(4):1298-1306.

Paris, CB, et al., 2012, Evolution of the Macondo well blowout: Simulating the effects of the circulation and synthetic dispersants on the subsea oil transport, *Environmental Science & Technology* 46(24):13293-13302.

Sammarco, Paul, et al., 2013, Distribution and concentrations of petroleum hydrocarbons associated with the BP/Deepwater Horizon Oil Spill, Gulf of Mexico, *Mar. Poll. Bull*. 73: 129–143.

Wade, Terry, et al., 2011, Analyses of water samples from the deepwater horizon oil spill: Documentation of the subsurface plume, in American Geophysical Union, Monitoring and Modeling the Deepwater Horizon Oil Spill: A Record-Breaking Enterprise, Geophysical Monograph Series, 195: 77–82.

Zuijdgeest A, and M Huettel, 2012, Dispersants as Used in Response to the MC252-Spill Lead to Higher Mobility of Polycyclic Aromatic Hydrocarbons in Oil-Contaminated Gulf of Mexico Sand. PLoS ONE 7(11): e50549. doi:10.1371/journal.pone.0050549.

THEREFORE, WE RECOMMEND an updated definition of sinking agents and a new product testing requirement (in Subpart J) to determine if the product directly or indirectly sinks oil.

2. Other chemical agents

There are two issues of concern. First, it is not uncommon for dispersants to be labeled by the manufacturer as surface-washing agents, bioremediation agents, or other chemical agents. According to EPA, the agency "is concerned that these categories are often interchanged, which leads to misuse of the products. Surface-washing agents (SWAs) have been used on open-water spills, while dispersants have been used to wash oil from sandy beaches, driving the oil deeper into the substrate. Both misuses may cause further harm to the environment than the oil alone."[8]

For example, during the *Exxon Valdez* oil spill response, Inipol EAP22, an experimental product listed as a "bioremediation" agent, was sprayed directly on beaches. Inipol contained a carrier solvent, 2-butoxyethanol, also found in the dispersant Corexit 9527A. Inipol behaved more like a dispersant than a bioremediation agent: It stripped oil off rocks, sickened workers who reported symptoms characteristic of overexposure to 2-butoxyethanol, killed wildlife, despite "scary balloons" posted on beaches to, allegedly, warn away both people and animals.[9] Alaska Natives from Chenega Bay reported seeing thick windrows of dead juvenile salmon washed up on one Inipol-treated beach with the first flood tide after treatment.[10] After two seasons of field work, three independent reviewers "found no significant difference between treated and untreated areas" and concluded, "given the degradation rates of untreated versus treated being essentially the same, the recommended best course of action is ***not*** to add fertilizer" (emphasis in original).[11] Inipol is still listed as a bioremediation agent on the NCP Product Schedule, although Exxon no longer manufactures it.

Second, in oil spill response, there seems to be a mindset among the lead agencies and the Coast Guard, in particular, that oil is "the enemy" and that any "countermeasure" (chemical agent) may be used to mitigate the threat from the oil. There is little or no

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[8] Nichols,W. J. 2001. The U.S.EPA: National oil and hazardous substances pollution contingency plan, Subpart J Product Schedule (40 CFR 300.900). Inernatl. Oil Spill Conf. 2001:1479–1483, on p. 1481.

[9] City of Cordova, Alaska, 1989, ADEC report: Notice of violation issued to Exxon for improper application of Inipol, Cordova Fact Sheet, September 6, 1989: 2[34].

McDowell, T, 1989, Seldovia town meeting with spill agency representatives, August 24. VHS. ARLIS, Anchorage, AK. videos.

Ott, Riki, 2004, *Sound Truth and Corporate Myths,* Dragonfly Sisters Press: Cordova, AK, pp. 97–111, 118–121.

Spence, H, 1989, Fertilizer blamed for illnesses, *Homer News*, August 24.

Spence, H, 1989, Seldovians charge workers' health neglected, *Homer News*, August 31.

[10] Pete Kompkoff, Native Village of Chenega, pers. comm., August 1989, *in* Ott, *Sound Truth,* p. 99.

[11] Capuzzo, J., J. Farrington, and S. Kellogg, 1990, Summary of reviewers' comments, *in* Prince, R.C., J.R. Clark, and J.E. Lindstrom 1990, 1990 Bioremediation Monitoring Program, Water Research Center, Fairbanks, AK:University of Alaska.

Capuzzo, J., J. Farrington, and S. Kellogg, 1990, Reviewers' executive summary, in Prince, Clark, and Lindstrom, 1990.

consideration that many of the products currently listed on the NCP Product Schedule are quite harmful to people and wildlife, and no consideration the oil and product combined may be even more toxic than the oil itself, as discussed in our original petition and elsewhere in this supplement.

THEREFORE, WE RECOMMEND updating definitions of all chemical agents to clarify that product use "is likely to" effect a certain state, rather than a stated certainty; that products "may," not will, be used; and that a qualifier that product use will not cause harm to public health or welfare or the environment.

B. Updating definitions relating to oil and hazardous substances

1. Hazardous by nature

This section addresses two issues of concern. First, so-called "conventional" oil is more toxic than thought in the 1970s as we addressed in our original petition.[12] It is now well established in the scientific literature that exposure to, ingestion or inhalation by, or assimilation into humans (or other organisms) of oil in any kind or form may reasonably be anticipated to cause death, disease, behavioral abnormalities, cancer, genetic mutation, endocrine disruption or other physiological malfunction (including reproductive problems), or physical deformations in humans or their children (or organisms or their offspring)—to borrow language from the definition of "pollutants or contaminants" in 40 CFR 300.5. In other words, conventional oil is now recognized as causing the same health issues as hazardous substances because crude oil ***is a hazardous substance*** and has finally been recognized as such.

Secondly, so-called "nonconventional" oil is even more hazardous than conventional oil by nature. Tar sands oil is concentrated in heavy metals and the polycyclic aromatic hydrocarbons or PAHs.[13] Extremely volatile oil or "light tight oil" produced by hydraulic fracturing is concentrated in lighter, more volatile aromatic hydrocarbons. The human and environmental health impacts of PAHs and VOCs (such as BETX) were discussed in our original petition. These "ultra-hazardous" oils are made even more hazardous by the addition of diluents or drilling fluids, which are human health hazards in and of themselves,[14] similar in nature to the dispersants that were discussed at length in our original petition.

Not surprisingly, more recent studies on these ultra-hazardous oils have confirmed that exposure has caused increased cancer rates, prenatal developmental problems, and a

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[12] Peterson, Charles, et al., "Long-term Ecosystem Responses to the *Exxon Valdez* Oil Spill," *Science* 2003; 302:2082–2086.

[13] Bailey, Diane and Danielle Droitsch, 2014, Tar sands crude oil: Health effects of a dirty and destructive fuel, NRDC. http://www.nrdc.org/energy/tar-sands-health-effects.asp

Tenenbaum, David, 2009, Oil Sands Development: A Health Risk Worth Taking? *Environ Health Perspect.* Apr 2009; 117(4): A150–A156. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2679626/

[14] Schlettler, Ted, Gina Solomon, Maria Valenti, and Annette Huddle, 1999, *Generations at Risk: Reproductive Health and the Environment* (MIT Press).

Song, Lisa, 2012, A Dilbit Primer: How it is different from conventional oil, Inside Climate News, June 26. http://insideclimatenews.org/news/20120626/dilbit-primer-diluted-bitumen-conventional-oil-tar-sands-Alberta-Kalamazoo-Keystone-XL-Enbridge

range of cardiovascular, dermal, gastrointestinal, neurological, ocular, renal, and respiratory impacts.[15] Further the increased accident rate of crude rail car derailments and fiery explosions near populated areas has led to fines for violations of safety codes, and calls from first responders and others for stronger safety measures.[16] In late February, the US DOT issued an emergency order requiring shippers to test oil product from the Bakken region for proper hazard classification, while also requiring transport of crude oil in the most sturdy state-of-art tanker cars. In May, DOT issued another emergency order requiring railroads to disclose the expected routes across counties and states, volume of oil being shipped, and a responsible party.[17]

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[15] Bailey, Diane and Danielle Droitsch, 2014, Tar sands crude oil: Health effects of a dirty and destructive fuel, NRDC. http://www.nrdc.org/energy/tar-sands-health-effects.asp

Federman, Adam, 2014, Hazardous Cargo: Shipping Highly Flammable Bakken Crude Oil by Rail, *Earth Island Journal*, summer 2014. http://www.earthisland.org/journal/index.php/eij/article/warning_highly_flammable/

Huffling, Katie, 2014, "Susceptibility During Pregnancy: What You Need to Know," Alliance of Nurses for Healthy Environments, webinar hosted by the Center for Environmental Health on May 5, 2014. http://www.ceh.org/news-events/events/content/fracking-maternal-health-what-it-means-for-your-family/

Kwiatkowski, Carol, 2014, "Natural Gas Development, Public Health, and Protecting the Most Vulnerable Populations," The Endocrine Disruption Exchange, webinar hosted by the Center for Environmental Health on April 21, 2014. http://www.ceh.org/news-events/events/content/fracking-maternal-health-what-it-means-for-your-family/The Endocrine Disruptor Exchange maintains a publicly available database, papers, lectures, and other material on the potential health effects of chemicals used during natural gas operations, including fracking. http://endocrinedisruption.org/chemicals-in-natural-gas-operations/chemicals-and-health

Michigan Dept. of Community Health, 2010, Acute Health Effects of the Enbridge Oil Spill, rev. Dec. 20, 2010.

Paulson, Jerome, 2014, "Unconventional Natural Gas Extraction and Special Vulnerabilities for Children," webinar hosted by the Center for Environmental Health on April 21, 2014. http://www.ceh.org/news-events/events/content/fracking-maternal-health-what-it-means-for-your-family/

Stanbury, Martha, et al., 2010, Acute Health Effects of the Enbridge Oil Spill, Michigan Dept. of Community Health, rev. Dec. 20, 2010.

[16] Brown, Matthew and Joan Lowy, AP, 2014, Oil train wrecks spur railroad safety measures, *SFGate*, 2/22/14.

Brown, Matthew and James MacPhearson, AP, 2014, Warning issued about oil shipped from ND, Mont., *Yahoo News,* 1/3/14. http://news.yahoo.com/warning-issued-oil-shipped-nd-mont-185942105.html

Gold, Russell, and Laura Stevens, 2014, US issues emergency testing order to crude oil shippers, *The Wall Street Journal,* Feb. 26. http://online.wsj.com/news/articles/SB10001424052702303880604579405412862500426

Karnowski, Steve, AP, 2014, Lawmakers: Minn. needs stronger oil spill response, *Statesman.com*, 2/12/14. http://www.statesman.com/ap/ap/environment/minn-bill-to-protect-against-oil-derailments/ndLpX/

MacPherson, James, N.D. oil leaks go unreported, *Associated Press,* Dec. 27, 2013.

McNish, Jacquie and Grant Robertson, 2013, The deadly secret behind the Lac Megantic inferno, *The Globe and Mail,* 12/3/13. http://www.theglobeandmail.com/report-on-business/industry-news/energy-and-resources/the-hazardous-history-of-the-oil-that-levelled-lac-megantic/article15733700/

[17] HazMat staff, 2014, US issues emergency order for crude-by-rail: Emergency orders protect the public, environment from harm created by imminent hazard, *HazMat Management, Daily News,* Feb. 27. http://www.hazmatmag.com/news/us-issues-emergency-order-for-crude-by-rail/1002936904/?&er=NA

Lowy, Joan, AP, 2014, Government issues emergency order on oil trains, *Associated Press,* May 8, 2014. http://www.houstonchronicle.com/business/energy/article/Government-issues-emergency-order-on-crude-oil-5461208.php

These findings, and the fact that the NCP was designed for spills of conventional crude oil that foul surface waters and shores rather than oils that sink or explode,[18] call into question the forty-plus year distinction between oil and hazardous substances in the NCP.

2. Calling a spade, a spade

At a minimum, we find that ultra-hazardous oils are, and should be designated as, hazardous substances, pollutants, or contaminants—at least for the purposes of the NCP, for the following reasons. First, it's hazardous! If the stuff requires extra precautions and safety procedures during normal handling and transportation to minimize harm to first responders and the public, then logic dictates that ***ultra-hazardous oils would also require extra precautions and safety procedures during spill response.***

Second, *none of products currently on the Schedule apply to ultra-hazardous oil.* Testing protocols in appendix C to this part require use of standard reference oils—conventional oils—to test products, not ultra-hazardous oils. The NCP itself was designed for conventional oil that *floats* with a priority for mechanical containment and removal: This entire premise is a nonstarter for oil that is likely to sink or explode. This means ultra-hazardous oil is currently being shipped without a viable contingency plan, which is not legal. It also means that the rapid expansion of ultra-hazardous oil and gas activities and increased frequency of spills have created large areas of our country with at-risk populations, not just in remote areas, but also populated urban areas. This is a recipe for disaster.

Finally, based on the 2010 Enbridge tar sands oil and diluent (dilbit) release in Battle Creek, Michigan, the largest non-maritime release of oil and ultra-hazardous oil in the U.S., the response resembled more of a hazardous substance response than an oil spill response,[19] minus adequate PPE for workers, adequate protection for public health, an informed public, a community relations plan, and community participation in decision-making about remedial activities. Billed as the most expensive "oil" spill cleanup on record, costs of $1,185 per gallon were also on par with a release of hazardous substances rather than an oil discharge.[20]

Given this situation, we find there are present and reasonable-beyond-doubt risks of substantial threats to public health or welfare from releases of ultra-hazardous oils. This is a situation where lack of full scientific certainty should not be a basis for postponing effective actions to reduce the threat and to protect human lives and public health.

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[18] Peterson, Charles, et al., 2012, A tale of two spills: Novel science and policy implications of an emerging new oil spill model, *BioScience* 62: 461–469.

[19] Nikiforuk, Andrew, 2013, Michigan's mysterious tar-like rocks, The Tyee, Dec. 16, 2013. http://thetyee.ca/News/2013/12/16/Michigan-Tar-Rocks/

Nikiforuk, Andrew, 2013, Mystery of Michigan tar rocks solved?, *The Tyee,* Dec. 17, 2013. http://thetyee.ca/News/2013/12/17/Michigan-Tar-Rocks/

[20] Linnitt, Carol, 2013, Official price of the Enbridge Kalamazoo spill, a whooping $1,039,000,000, *DesmogCanada,* August 26, 2014. http://desmog.ca/2013/08/26/official-price-enbridge-kalamazoo-spill-whopping-1-039-000-000

THEREFORE, WE RECOMMEND that the EPA **immediately** adopts a precautionary approach regarding ultra-hazardous oils and promulgates emergency regulations designating ultra-hazardous oils as a hazardous substance for the purposes of the NCP. A cost-benefit analysis should not be required for this emergency designation. These protections may be relaxed only if further scientific findings emerge that provide sound evidence that no harm will result to the populations most at-risk from the threat posed by ultra-hazardous oils.

FURTHER, WE RECOMMEND that:

a) the definition of *oil* includes language to accommodate the post-*Exxon Valdez* science paradigm shift that PAHs cause long-term harm to humans and wildlife;
b) a new definition is included for *ultra-hazardous oils;*
c) the definition of *hazardous substance* includes ultra-hazardous oils and other natural gas substances and derivatives that are currently exempted;
d) the definition of *pollutant or contaminant* includes ultra-hazardous oils and other natural gas substances that are currently exempted, as well as chemical agents intentionally released during oil spill response that contain known or suspected toxic or hazardous ingredients;
e) the definition of discharge does not include ultra-hazardous oils (which will be considered as “releases” rather than discharges); and
f) the definition of *remove or removal* is made identical for oil and for hazardous substances.

C. Updating definitions relating to public health and welfare

Definitions have been added or revised to allow for creation of protocols and a plan to protect worker safety and health and public health and welfare, including threshold criteria and requirements to implement, monitor, and evaluate the plans, as discussed in the following subparts.

D. Updating definitions relating to organizational structure and responsibilities

Definitions have been added or revised to better protect worker safety and health and public health and welfare, as discussed in the following subparts.

Subpart B—Responsibility and Organization for Response

In this section, we address one issue of concern, namely that workers and the general public get sick during oil spill response, and we discuss the multiple factors that we believe contribute to this.

Illnesses from exposure to oil and chemicals associated with oil activities occur despite an elaborate legal and regulatory framework in the U.S. supposedly designed to protect worker safety and health, public health and welfare, and the environment. As

documented in our original petition, exposure to spills of conventional oil harms health of workers and residents alike, revealing that a much broader segment of the population is at-risk during oil discharges than response workers alone. However, similar harm has since been found, following exposure to spills of nonconventional oil such as blended tar sands oil and extremely volatile shale oils, as discussed earlier.

Thus, we find it necessary to examine this framework in light of past major spills in the U.S. to determine why it has consistently failed to protect people—and to supplement our original petition with additional or revised recommendations for the NCP rulemaking to support the stated number one priority during spill response: protecting human lives and human health.

A. Contributing factors: Examining the evidence

1. Unlearned Lessons from the *Exxon Valdez* Oil Spill: Sick workers

The *Exxon Valdez* was the first oil spill response conducted under the OSH Act's Hazardous Waste Operations and Emergency Response (HAZWOPER) standard,[21] even though oil spill waste had previously been designated as a hazardous substance.[22] Within weeks, the Alaska Dept. of Labor reduced the required 40-hour HAZWOPER training to 4-hours at Exxon's request. Although OSHA's research arm, NIOSH, deemed Exxon's 4-hour training adequate, critics found numerous flaws with the training and overall Worker Safety Program. For example, workers were not prescreened for medical issues that may have been exacerbated or triggered by exposure to oil; they were not properly trained to recognize symptoms of chemical exposure; they were not properly equipped with respirators and Personal Protective Equipment (PPE) as required under the HAZWOPER standards; and when workers started to get sick, there were no feedback loops to determine the cause of the problem and address it, much less to provide follow up monitoring and health care for sick workers.[23]

In addition, there were long-standing problems with OSHA standards and inspections.[24] First, OSHA still relies on inappropriate surrogates such as mineral oil and particulate dust to establish safety standards for oil mist and PAHs, respectively, when these surrogates do not even come close to accurately representing the health hazards of the original chemicals. Second, OSHA did not reduce the standard Personal Exposure Levels (PELs) to accommodate the extended work hours during oil spill response and the fact that many workers were housed on vessels near or in contaminated sites. Third,

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[21] OSHA, 1989. Hazardous Waste Operations and Emergency Response Standard, 29 CFR 1910.120 (Federal Register 54 [42]:9294-9336). U.S. Department of Labor, March 6, 1989.

[22] 40 CFR 300.5 definition of hazardous substance.

[23] Stuart, T. 1989, Alaska Dept. of Labor letter to Dr. Knut Ringen, Director, Laborers' National Health and Safety Fund, April 21, in U.S. Congress House, 1989a, 1061–1062.

Teitelbaum, Daniel T., MD, 1994. Deposition, October 12, in *Stubblefield v. Exxon* (1994) in Riki Ott, *Sound Truth and Corporate Myths,* (Dragonfly Sisters Press, 2004).

VECO, Inc., 1989, VECO EVOS hazardous waste cleanup training video. VHS, Alaska Resource Library and Information Services, Anchorage, AK.

[24] Documentation for this paragraph is found in two main sources: the Teitelbaum deposition and Ott, *Sound Truth*, especially chapters 1–3 and 10.

regarding inspections: OSHA did not have anywhere near a sufficient number of personal to monitor and evaluate Exxon's Worker Safety Program for the scale of the response; OSHA was prevented from inspecting on-the-water operations because of competing jurisdiction with the U.S. Coast Guard; and OSHA never subpoenaed Exxon's medical records and air quality monitoring data because of budget issues.[25] Fourth, OSHA authorities did not recognize Inipol EAP 22 and Corexit 9580 as hazards "likely to cause death or serious harm if appropriate monitoring and measuring is not performed" until 1990, the year after the main response operations,[26] despite ample warnings on the MSD Sheets.

Finally, OSHA's authority for worker health and safety was (and is) limited by geographic considerations. In particular during on-the-water response operations involving vessels, the U.S. Coast Guard and OSHA are responsible for different elements of worker health and safety under a complex and nuanced regulatory framework that looses the primary focus–worker safety and health–in a maze of competing jurisdictional requirements. But the bottom line is that the Coast Guard is the wrong agency to be in charge of worker health and safety in a hazardous waste response.[27]

For example during the EVOS response, the U.S. Coast Guard, as the lead agency with authority to protect worker health and safety during offshore oil spill response, appeared to have focused on physical injuries rather than chemical illnesses,[28] which are now known to be a consistent health hazard associated with oil spill response or exposure.[29] Four years after the EVOS in 1993, the Coast Guard federal on-scene coordinator concluded that the matter of whether there were long-term or delayed ill effects from the cleanup on worker health "is likely to remain unresolved for some time, and worker health issues may ultimately be litigated, perhaps in significant numbers." [30] In other words, the Coast Guard OSC simply observed that there was likely to be a problem and that the legal system would somehow resolve it.

Significant numbers of illnesses were reported to Exxon medical clinics during the 1989 EVOS response operations. Exxon's own clinical data reveal 6,722 cases of respiratory problems from a total workforce of about 15,000.[31] Exxon medical doctors diagnosed

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[25] NIOSH, 1991, Health Hazard Evaluation Report, prepared by R.W. Gorman, S. P. Berardinelli, and T. R. Bender. U.S. DHHS, May. HETA, 89-200 & 89-273-2111, Exxon/Valdez Alaska Oil Spill.

[26] U.S. Coast Guard, 1993, T/V EVOS: Federal On-Scene Coordinator Report, Washington, DC:USCG, U.S. Department of Transportation, p. 403.

[27] OSHA Instruction CPL 2-1.20 November 8, 1996 Directorate of Compliance Programs, Subject: OSHA/U.S. Coast Guard Authority Over Vessels. https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_id=1526&p_table=DIRECTIVES

[28] USCG EVOS report, p. 399, Table 17.1.

[29] Barry Levy and William Nassetta, "The Adverse Health Effects of Oil Spills: A Review of the Literature and a Framework for Medically Evaluating Exposed Individuals," *Int J Occup Environ Health* 2011; 17:121–167.

[30] USCG EVOS report, p. 404.

[31] Exxon Company, USA, 1989. Clinical data on upper respiratory infections: URIs–Breakdowns. In *Garry Stubblefield and Melissa Stubblefield v. Exxon Shipping Company, Exxon Corporation,VECO, Inc., and Norcon, Inc.* 3AN–91–6261 CV (HBS), AK Superior Court, Third Judicial District at Anchorage (1994); in Ott, *Sound Truth*.

the "Valdez crud" or upper respiratory *infections* despite lack of evidence of a virus. This allowed Exxon to circumvent OSHA's strict reporting requirements for "recordable illnesses" during hazardous waste cleanups by using the exemption for colds and flu [29 CFR 1904(5)(b)(2)viii], despite the fact that initial symptoms for chemical illness mimic cold and flu-like symptoms.[32] Exxon reported a near zero work-related illness rate to Alaska health officials.[33]

Thus, despite the Coast Guard OSC's assumption, significant numbers of EVOS workers did not litigate likely because most did not connect their lingering illnesses to their occupational exposure. But they had been given no reason to believe their illness was connected: their training had not forewarned them, they had been told repeatedly that the oil was "as safe as pancake syrup," and Exxon had circulated waivers indemnifying the company from any work-related harm—and had paid workers to sign it.[34]

OSHA officials never subpoenaed Exxon's health records. In a domino effect OSHA investigators at the federal and state levels separately concluded, *based on available evidence*—which they lacked, but which was not lacking—that there was no need for long-term health monitoring. Further, the Alaska Worker Compensation Board controverted (dismissed) cases of sick EVOS workers, partly because of lack of evidence and partly because OSHA lacks proper diagnostic codes for chemical illnesses.[35] Four years after the disaster, the incriminating records surfaced briefly in the only successful toxic tort from this disaster, only to be sealed by court order for 30 years (until 2024). Thirteen years later, a Yale study found a significant number of former EVOS workers self-reported lingering symptoms characteristic of oil spill exposure.[36] As one anonymous former worker said to a researcher, "I thought I had the Valdez Crud in 1989. I didn't think I would have it for thirteen years."

Med-Tox, 1989a. Air monitoring results for oil mist: VOCs master by task and VOCs master by date. In *Stubblefield v. Exxon* (1994), in Ott, *Sound Truth.*

Med-Tox. 1989b. Results of air sampling for PAHs. In *Stubblefield v. Exxon* (1994), in Ott, *Sound Truth.*

Med-Tox, 1989c. Statistical summary of industrial hygiene monitoring. In *Stubblefield v. Exxon* (1994), in Ott, *Sound Truth.*

Ott, *Sound Truth*, Appendix Table A.1. Exposure levels of some hazardous compounds present during the 1989 EVOS cleanup compared to OSHA PEL and NIOSH REL, p. 450.

[32] OSHA regulations include exemptions to reporting work-related injuries and illnesses: "Exclude from record keeping those injuries/illnesses that do not provide information useful to the identification of occupational injuries and illnesses and thus would skew natural injury/illness data" [29 CFR 1904.5(b)(2)]. The list includes: "Colds and flu will not be considered work-related" [29 CFR 1904.5(b)(2)(vii)].

[33] Phillips, N. 1999. Still painful.10 years later, front-line spill workers link physical ailments to cleanup work. *Anchorage Daily News*, 23 March.

Alaska Dept. of Labor, 1990, Prince William Sound oil spill, in Occupational Injury and Illness Information–AK, 1989, 25–34, Juneau, AK: ADOL, in Ott, *Sound Truth*, p. 33.

[34] ADOL, Alaska Workers' Compensation Board,1992, Partial compromise and release regarding recovery of overpayment of benefits, filed 2 October, in ADOL, AWCB 1992, in Ott, Sound Truth.

[35] Ott, *Sound Truth,* pp. 127–135.

[36] O'Neill, Annie, 2003, Self-reported exposures and health status among workers from the EVOS cleanup. Master's thesis M. P. H. Yale University, Department of Epidemiology and Public Health.

Most of the former workers never connected their debilitating health problems with their oil spill response work. No public policies were adjusted to better protect human safety and health during oil spill response.

2. History repeats: Sick workers and sick general public

Learn to Recognize the Symptoms of Toxic Poisoning
Be prepared to seek medical assistance if you have any of the following symptoms: difficulty breathing; irritation of the eyes, skin, throat, or respiratory tract; changes in skin color; headache or blurred vision; dizziness, clumsiness or lack of coordination; cramps or diarrhea." ~ Air Force Emergency Management[37]

During the twenty years after the *Exxon Valdez* oil spill, science advanced and found that polycyclic aromatic hydrocarbons or PAHs were linked with respiratory problems, central nervous system problems, skin and blood disorders, immune system dysfunction, and chronic problems such as liver and kidney damage. Further, the field of "environmental medicine" emerged as medical researchers began to understand the symptoms and effects of environmental exposure to oil and synthetic chemicals, and other toxins, on the human body and the individual's physical, mental, and emotional responses to the toxins. Medical researchers found that people exposed to low levels of oil over a long duration of time could experience the same symptoms and illnesses of people (workers) exposed to high concentrations over short periods of time. However, Occupational and Environmental Medicine (OEM) remain a specialty field, outside the knowledge of most general healthcare practitioners and the general public, although references to toxic exposure in the environment are increasingly found in government manuals, such as the quote above.

Thus, the public is largely unprepared to protect itself during large-scale oil and chemical disasters. For example, unlike the *Exxon Valdez* oil spill, the BP DWH disaster impacted a densely populated coast. In 2010, some six million people resided or visited the counties and parishes immediately adjacent the coast in the area directly impacted by the BP DHW disaster.[38] More recent studies continue to support the concerns advanced in our original petition, namely, that a significant portion of this population was at-risk of exposure to oil and dispersants in the environment, expressed symptoms characteristic of this exposure, and remain at risk of long-term health problems stemming from this exposure. Studies have reported that 40 percent or more of residents and workers directly exposed to crude oil and dispersants in the environment reported symptoms characteristic of oil exposure, that children were especially vulnerable, and that the combination of oil and dispersants is far more toxic to humans than oil alone .[39]

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[37] Air Force Emergency Management, 2006, pocket guide for oil and hazardous substance disasters, AFEM. Helpdesk@tyndall.af.mil

[38] Based on 2010 census data and Mobile, Alabama, visitor information statistics.

[39] Abramson, David, et al., 2013. "Children's Health after the Oil Spill: A Four-State Study. Findings from the Gulf Coast Population Impact (GCPI) Project." National Center for Disaster Preparedness, NCDP Briefing Report 2013_1. Columbia University Mailman School of Public Health, New York. http://academiccommons.columbia.edu/item/ac:156715

Human exposure to oil-solvent combinations is not limited to maritime oil disasters. The oil industry mixes large volumes of oil-based solvents and other chemicals with oil, as dispersants to break up oil slicks, as diluents to thin tar sands for transportation, and as fracking fluids to extract oil from oil-bearing shale. These solvents share similar chemicals, and the properties that facilitate their movement through oil also facilitate their movement into the bodies of humans and organisms. Particles become more soluble as well as airborne making exposed body barriers, like the skin and lungs, easily penetrable and allowing a direct pathway into vital areas of the body. Not surprisingly, people impacted by oil and gas activities such as the BP DWH disaster along the Gulf coast (solvent-crude oil combined), dilbit spills in Michigan and Arkansas (solvent-tar sands oil combined), and fracking activities and spills (solvent-shale oil combined), are reporting symptoms characteristic of exposure to crude oil and/or oil-based solvents.[40]

Bosch, X, Exposure to oil spill has detrimental effect on clean-up workers' health. *Lancet*. 2003 Jan 11; 361(9352):147.

D'Andrea, Mark and Kesava Reddy, 2013. "Health consequences among subjects involved in Gulf oil spill clean-up activities," *The American Journal of Medicine*, Vol. 126(11):966-974. http://download.journals.elsevierhealth.com/pdfs/journals/0002-9343/PIIS0002934313004944.pdf

Devine, Shanna and Tom Devine, Government Accountability Project, 2013. Deadly Dispersants in the Gulf: Are Public Health and Environmental Tragedies the New Norm for Oil Spill Cleanups?

Jamail, Dahr, "BP's 'widespread human health crisis', *Aljazeera English,* Oct. 27, 2013. http://www.aljazeera.com/indepth/features/2013/10/bp-widespread-human-health-crisis-201310271783122773 2.html

Kirby, James "Rip" III, "Findings of Persistency of Polycyclic Aromatic Hydrocarbons in Residual Tar Product Sourced from Crude Oil Released during the Deepwater Horizon MC252 Spill of National Significance," supported by the Surfrider Foundation, April 14, 2012, http://surfrider.org/images/uploads/publications/Corexit_Connections.pdf

Laffon, Blanca, et al., 2013. "Endocrine and immunological parameters in individuals involved in Prestige spill cleanup tasks seven years after the exposure," *Environment International* 59 (2013):103–111. *http://www.whistleblower.org/program-areas/public-health/corexit*

Riles, Eric, 2010, Health effects related to the sinking of the [BP] Deepwater Horizon oil rig, *Medicine at Michigan,* fall 2010, vol 12(3)

Subra, Wilma, 2010, "BP spill blood test results – Louisiana residents: Evaluation of the test results of whole blood volatile solvents testing." http://leanweb.org/our-work/community/public-health/bp-spill-blood-test-results-louisiana-residents

Subra, Wilma, 2011, Results of Health Survey of Individuals in Mississippi Impacted by the BP Deepwater Horizon Oil Disaster, Environmental Pollutants Released by Industrial Facilities in Southeast Mississippi, Subra Company/Louisiana Environmental Action Network.

U.S. Centers for Disease Control and Prevention. Oil Spill Dispersant (COREXIT ®EC9500A and EC9527A) Information for Health Professionals. Accessed Aug 18, 2010. In Riles, Health Effects.

Young, Jeff, 2011, "Toxic Tide – Discovering the Health Effects of the [BP] Deepwater Disaster (sic)," Part 1, NPR Living on Earth, week of Feb. 11, 2011. http://www.loe.org/shows/segments.html?programID=11-P13-00007&segmentID=3

Young, Jeff, 2011, "Toxic Tide – Discovering the Health Effects of the [BP] Deepwater Disaster (sic)," Part 2, week of Feb. 21, 2011. Including segment on oil rain confirmed by scientist: Clouds from Gulf did "rain oil" on land (video). http://www.loe.org/shows/segments.html?programID=11-P13-00007&segmentID=3

[40] Bailey, Diane and Danielle Droitsch, 2014, Tar sands crude oil: Health effects of a dirty and destructive fuel, NRDC. http://www.nrdc.org/energy/tar-sands-health-effects.asp

Colburn, Theo, The Endocrine Disruption Exchange: health effects of chemicals in natural gas operations *http://endocrinedisruption.org/chemicals-in-natural-gas-operations/chemicals-and-health*

Earthworks, 2013, Reckless Endangerment in the Eagle Ford Shale: Government fails, public health suffers and industry profits from the shale oil boom. http://www.earthworksaction.org/files/publications/FULL-RecklessEndangerment-sm.pdf

The rapid expansion of oil and gas activities and increased frequency of spills, noted above, have created large areas with at-risk populations, not just in remote areas, but also populated urban areas, dramatically increasing the risk of human population exposure to oil, solvents, and other chemicals. Domestic oil production is at a 24-year high and is rapidly increasing as the IAE recently projects the U.S. to be the world's top oil producer by 2015. Meanwhile, the U.S. has aging infrastructure, outdated laws, and demonstrably inadequate regulations to protect first responders, workers, public health and welfare, and the environment. It is a recipe for disasters like Lac Megantic.

In summary, we find that OSHA has consistently failed to protect worker health during oil spill response for a number of reasons, including fractured jurisdiction, waivers or exemptions that prevented proper record-keeping and reporting, outdated standards and diagnostic codes that fail to even recognition of chemical illnesses, and inadequately staffed and trained personnel. In such a system of compounding errors, even a blatant epidemic of work-related chemical illness, such as occurred during the *Exxon Valdez* response as demonstrated below, remains invisible to OSHA officials. In a self-fulfilling feedback loop, lack of evidence of chemical illnesses kills impetus for more protective policies. Meanwhile, HHS has been unable to translate scientific advances in understanding the epidemiology of chemical illnesses[41] into policy-driven protections for public health during oil spills or hazardous substance releases. Thus, chemical illnesses still remain largely invisible in a policy and regulatory regime that was created before science understood chemical illnesses even existed.

3. Conflicts of interest

"One of the things we complained about the most was the rampant use of the Coast Guard to do what BP wanted. That was out of the box." ~ George Barrisch, Louisiana fisherman[42]

"The Coast Guard was not there to do what was best for the waterways, the birds, or the people. They were there to cover BP's butt." ~ Billy Nungesser, Plaquemines Parish president

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Faulkner County Citizens Advisory Group, 2013, Independent air tests at Mayflower Hill, a report. http://www.gcmonitor.org/article.php?id=1672

Jamail, Dahr, 2011, The pipeline of 'poison'. *Al Jazeera English*, Oct. 17. http://www.aljazeera.com/indepth/features/2011/10/2011101151776808.html

Michigan Dept. of Community Health, 2010, Acute Health Effects of the Enbridge Oil Spill, rev. Dec. 20, 2010.

Savage, Karen, 2013, No relief in sight for Alabama community sickened by chemical spill, Bridge the Gulf. http://leanweb.org/rss/1/Page-2

Stanbury, Martha, et al., 2010, Acute Health Effects of the Enbridge Oil Spill, Michigan Dept. of Community Health, rev. Dec. 20, 2010.

Tenenbaum, David, 2009, Oil Sands Development: A Health Risk Worth Taking? *Environ Health Perspect.* Apr 2009; 117(4): A150–A156. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2679626/

[41] Agency for Toxic Substances and Disease Registry, 2009, Safeguarding communities from chemical exposures. http://www.atsdr.cdc.gov/docs/APHA-ATSDR_book.pdf

[42] Quotes by Kindra Arneson, George Barrisch, Billy Nungesser, and Aaron Viles are from the documentary DIRTY ENERGY (Cinema Libre Studio, 2013).

"The government and BP claimed dispersants were not used near shore, but oil slicks that were reported near shore "disappeared" overnight. Oil don't leave that quick. Microbes don't eat it that quick. Trust me." ~ George Barrisch

"You would think federal government would send a mobile medical facility down with some doctors that we control, not BP, and give everyone physicals—document occurrence of harms. It seems like government would want to know, but with the Coast Guard running interference for BP, maybe the federal government don't want to know the long-term effects." ~ Billy Nungesser

"We fought these people for months about respirators. I mean right off the bat the fight started. Under OSHA law, there is a right to wear respirators. But because BP held contracts, our fishermen weren't even allowed to bring their own respirators and wear them. BP said, 'If you wear a respirator, we will relieve you of your duties.'" ~ Kindra Arneson, Louisiana fisherman

"The failure of the government to force BP to use the proper equipment—that encroaches upon negligent homicide…" ~ George Barrisch

"The government and business collusion has been so troubling in this. The way the oil spill acts and response plans are written, they leave BP with far too much power. The government was basically acting like security for BP. The Coast Guard, every agency, seemed to be deferring to BP. BP's messaging is what the public is hearing." ~ Aaron Viles, Gulf Restoration Network

"We cannot continue to have Exxon and its contractors substituted for the state in taking responsibility for the recovery. A person run over by a drunken driver does not hand over to that driver the primary responsibility for determining the type of medical treatment, the hiring of the doctor, and the determination of therapy." – John Havelock, former Attorney General for Alaska [43]

In this section, we address two problems created by the 1994 revisions to the NCP, namely, an organizational structure that gives far too much authority to the spiller and far too little to the citizens. In response to two Executive Orders, the 1994 revisions to the NCP attempted to create a mostly flat Unified Command Structure with shared responsibilities and authority among the government agencies for planning purposes, while retaining the OSC as the lead agency for spill response. As EPA explained, "The emphasis during oil spill response is on coordination and cooperation, rather than on a more rigid system of command and control." [44]

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[43] City of Cordova, Alaska, 1989, Time to organize, Cordova Fact Sheet, May 12, 1989: 1[26].

[44] According to EPA, "although the national response system meets the requirements of 29 CFR 1910.120 as an incident command system, it is not one of the several systems currently in use by local fire fighters around the country and separately referred to as 'the' traditional incident command system. Most of these other response management systems are patterned after systems developed by such organizations as the National Fire Academy and the National Interagency Fire Center. These systems were developed for operations where control of resources and personnel is placed on a

The organizational structure for planning—from the NRT to RRTs to Area Committees––involves government agencies with little provision for meaningful participation from citizens and one that is ripe for agency capture by industry, as discussed in the next section. Other problems arise in the organizational structure for response, which uses an incident command system comprised of the federal OSC, the state (or states), and the spiller. However, the inherent conflict of interest between government and industry over fiduciary duty sets up a dysfunctional dynamic within the highest level of decision-making authority and forces compromises that are not in the best interests of citizens or the environment, simply to move forward with spill response. By default, this situation gives the spiller a veto vote that can compromise public trust assets and public health.

For example, during the EVOS response in Alaska, experimental use of the ICS created a Coast Guard–Exxon front that overruled the State on many issues, especially ones concerning environmental sensitivities.[45] During the BP DWH response, institutionalized use of the ICS created a Coast Guard–BP front that overruled other agencies and deafened the government's ears to demands from its citizens on issues concerning environmental sensitivities, worker safety, public health, and seafood safety. One glaring example is the Coast Guard's daily approval of dispersants at BP's request after EPA's order to scale back use to emergency situations.[46] Other examples include the US Coast Guard restricting access of citizens, media, and even public officials to public waterways and beaches; Coast Guard and OSHA support of "BP's rules" to not allow response workers to wear respirators; and the spiller's mishandling of injured wildlife, presumably because a dead or disappeared animal is much less expensive than rehabilitation of an injured animal (as learned in Alaska).

All the media interviews with the spiller while the Coast Guard stands silently behind the spiller lend further credence to public's argument that the spiller is, defacto, in charge.[47] The spiller's motivation is transparent: It has a fiduciary duty to its shareholders to minimize damages—or the appearance of damages—to minimize its liability. Under-estimating spill volume and carcass counts, restricting access or not permitting respirator use for workers, ignoring public health harm, and more, are all tricks to minimize financial liability and bad publicity. Clearly the "spiller's rules" are not in the best interests of the public trust beneficiaries. Nor is it in the government's interest to be perceived by the public as acting like an agent for the spiller.

In sum: "Good plan. Didn't work. Raaagh!" [48] There is a fine line between coordinate and co-opt. The 1994 revisions to the NCP's organizational structure have been interpreted in subsequent spills to give broad authority to the spiller (which presumably was not intended), and the clear impression that the spiller is in charge of spill response. The Clean Water Act authorizes the OSC to direct spill response in the case

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single incident commander. The emphasis during oil spill response is on coordination and cooperation, rather than on a more rigid system of command and control." FR Doc No: 94-22347.

[45] Alaska Dept. of Environmental Conservation, 1993, The *Exxon Valdez* Oil Spill, Final Report, State of Alaska Response, prepared by Ernie Piper, Anchorage, AK, June.

[46] Fox, James, 2014, *Pretty Slick,* a documentary film distributed by Specialty Studios/ Video Project.

[47] Fox, *Pretty Slick.*

[48] Boris (The Animal), the Boglodite in the sci-fi film, *Men in Black III* (1997).

of substantial threat to public health, and to direct or monitor all other response actions to remove a discharge. 33USC 311(c)(1) and (2). However, it is clear that the organizational structure needs regulatory tweaking.

4. Complacency

As mentioned in the preceding section, the 1994 revisions to the NCP involved the government in all levels of planning from federal to local, but they did not create a parallel structure for meaningful participation from citizens, despite the authority to do so under the OPA.

The OPA90 created two Regional Citizens' Advisory Councils in Alaska, because of the common belief that industry-government complacency was one of the main contributing factors to the *Exxon Valdez* oil spill, and that "one way to combat this complacency is to involve local citizens in the process of preparing, adopting, and revising oil spill contingency plans." 33 USC §2732(a)(2)(B).

We find that the government and industry complacency observed before an oil disaster amounts to nothing less than collusion after an oil disaster, and that the same logic that prevailed to increase the role of citizens in spill prevention in Alaska must also be applied to increase the role of citizens in spill response and remediation everywhere to combat this collusion.

OPA90 created the authority to "eventually" establish similar programs "in other major crude oil terminals in the United States because the recent oil spills in Texas, Delaware, and Rhode Island indicate that the safe transportation of crude oil is a national problem."
33 USC §2732(a)(2)(J).

Given the exponential increases in transportation of ultra-hazardous tar sands oil and extremely volatile shale oil, and the increased frequency of spills of these products, we find that safe transportation of crude oil is still a national problem; that the problem is escalating rapidly; and that problem now includes not just terminals, but also pipelines, crude-carrying rail cars and trucks, inland facilities, and the transportation corridors, which are often routed through urban areas. "Eventually" in NOW.

5. Addressing regional and area concerns

Effective citizen engagement and oversight of energy operations has been found to be critical to the proper function of industry, government, and civil society. In part, this is attributed to reducing complacency, as noted above, but in part, this is attributed to infusing local knowledge and practicalities into the theories and concepts that dominate agency planning, in particular, and response. For example, the Regional Citizens' Advisory Councils established under OPA 90 have proven their effectiveness at increasing trust and communication between citizens, the oil industry, and government, and they have resulted in greater environmental safeguards and performance of petroleum operations within their scope of responsibility. Such local knowledge is critical

for disaster planning and response, yet often overlooked, ignored, or disrespected by government and academics rather than meaningfully integrated into this process.

Effective citizen engagement requires consultation and coordination with federally-recognized Indian Tribes as part of the federal government's duties and responsibilities under Executive Order 13175, the EPA Policy on Consultation and Coordination with Indian Tribes, the Public Trust Doctrine, and the Marine Mammal Protection Act Section 19, among others. We recognize the right of Indian Tribes to consult and coordinate as government-to-government participants on the NRT, RRTs, and CACs

B. Proposed revisions

1. Adding permanent co-chairs

Any changes made to the planning structure of the NRT are mirrored in the RRT. The existing NRT and RRT structure designates two co-chairs, the USCG and the EPA, that alternate as the lead agency for spills originating in marine or inland areas, respectively. Neither of these agencies is specifically charged with protecting human health or safety in hazardous conditions; i.e., oil spill response. If the number one stated priority of spill response is human safety and health, then oversight for this priority should be agencies dedicated to and charged with this specific duty, specifically, OSHA for worker health and safety, and HHS for public health and safety. The authorities and duties must extend well beyond the existing authorities and duties in the present planning structure, which is demonstrably inadequate.

THEREFORE, WE RECOMMEND creating two permanent co-chairs (PCCs) within the planning structures for the DOL/OSHA and HHS/CDC representatives as illustrated in Figure 1b—Planning. Unlike the alternating co-chairs, the permanent co-chairs would retain their designation and authority during periods of activation regardless of where the spill originates. During activation, the OSHA PCC would collect and analyze records related to worker safety and health, including copies of clinical records and environmental monitoring data (such as air quality) collected by the responsible party and other agencies. The HHS PCC would collect and analyze records related to preventing and controlling chemical illnesses outbreaks and associated diseases; promote environmental health and health education, including mental health; and provide information to health care professionals and the public. The PCCs would work closely with the OSC, but also act as a check and balance by having authority to take independent action to protect worker and public safety and health, as described below.

FURTHER, WE RECOMMEND specifically expanding section §300.150 to describe authorities, duties and responsibilities for the OSHA permanent co-chair to include:

(a) √ OSHA HAZWOPER training requirements for all on-site workers;
√ mandatory reduction of OSHA Personal Exposure Limits to accommodate extended-hour shifts;
√ a list of OSHA-reportable symptoms characteristic of exposure to oil;
√ criteria for reporting OSHA-recordable illnesses, notwithstanding 29 CFR 1904.5(b)(2)(viii);
√ health care monitoring for workers with OHSA-recordable illnesses;

√ mandatory designation of oil waste as a hazardous substance, subject to hazardous waste management regulations

(b) designation of the OSHA PCC as the lead agency providing oversight of worker safety and health with jurisdiction extending to all discharges of oil and releases of hazardous substances, pollutants or contaminants into the environment;

(c) oversight scaled to response operations to conduct on-site monitoring and evaluation of worker safety and health programs; to conduct any environmental or health testing; to provide regular communications with the OSC/RPM and RRT members; to establish and implement a process for record-keeping, data management, data analysis and synthesis of all health records, and public reporting;

(d) threshold criteria for temporary shut down of any or all response activities and for reopening those activities;

(e) integrating the OSHA oversight program for a response action taken by a responsible party;

(f) integrating the OSHA oversight program for a response taken under the NCP by a lead agency;

(g) integrating the OSHA oversight program when a state, or political subdivision of a state, without an OSHA-approved state plan is the lead agency for response;

(h) integration with OSHA standards not directly referenced; and

(i) a reporting requirement for governmental agencies and the responsible party.

FURTHER, WE RECOMMEND specifically creating a new section §300.152 to describe authorities, duties and responsibilities for the HHS permanent co-chair to include:

(a) establishment of the HHS PCC as the lead agency to assist with developing Human Health and Safety Plans and to provide oversight of public safety and health during spill response;

(b) oversight consisting of rapid health assessments on at-risk populations; threshold criteria, evidence, and factors to make a determination of substantial threat to public health or welfare; appropriate actions following a determination of a substantial threat;

(c) authority to take appropriate actions; threshold criteria for evacuation or temporary relocation of the populace at-risk; threshold criteria for returning and monitoring the populace; and

(d) establishing and implementing a process for record-keeping, data management, data analysis and synthesis of records, and public reporting.

FURTHER, WE RECOMMEND creating a feedback loop in the ACPs and RCPs to make planning and response more effective by requiring RRTs, CACs, and Area Committees, along with the NRT, to monitor and evaluate response activities, to have a process for revising plans on a regular basis, and to make reports to the public on their activities.

2. Adding Citizens' Advisory Councils and Indian Tribes

Given the concerns described above relating to conflict of interest and complacency, and the fact that the U.S. Transportation Department has recently issued a string of emergency regulations based on human safety concerns regarding handling and transportation of crude by rail shipments, we find the EPA must similarly take emergency action based on human safety concerns regarding disaster preparation and response.

THEREFORE, WE RECOMMEND that the EPA issue emergency regulations:

a) establishing Citizens' Advisory Councils (CACs) as part of every Area Contingency Plan within one year of the notice (with duties and responsibilities described in Subpart C);

b) requiring integration of Indian Tribes into organizational structure of the RRT and CACs;

c) requiring that representatives of CACs (or of citizens' interest groups reflective of CAC membership diversity prior to CAC formation), Indian Tribes or their representatives, and Area Committees, become part of the RRT planning structure;

d) requiring that the two permanent co-chairs of each of the thirteen RRTs become part of the NRT planning structure;

e) requiring that during spill response, the Unified Command System is immediately expanded to include the permanent co-chairs from the RRT, and representatives of Indian Tribes and CACs from the impacted area; and

f) requiring that the responsible party is a non-voting member of the Unified Command System and is required to abide by decisions of the voting members (OSC, vice chair, PCCs, Indian Tribes, states, and CACs).

3. Adding training for local residents and individuals

The Oil Pollution Act required additional equipment and trained personnel requirements specific to Prince William Sound. Sec. 5005. We find similar requirements are needed inland along conventional and ultra-hazardous crude-carrying pipeline and rail car corridors.

THEREFORE, WE RECOMMEND
a) the establishment of oil spill removal organizations at appropriate locations in other maritime regions with active oil activities and inland along conventional and ultra-hazardous crude-carrying pipeline and rail car corridors, consisting of trained personnel in sufficient numbers to immediately remove a worst case discharge;

b) training in oil removal techniques (including HAZWOPER training by OEM-trained personnel consistent with our earlier recommendations) for local residents and individuals through the Local Emergency Planning Committees or Community Emergency Response Teams;

c) practice exercises not less than 2 times per year which test the capacity of the equipment and personnel required under this paragraph; and

d) periodic testing and certification of equipment required under this paragraph.

Subpart C—Planning and Preparedness

Following the justification provided in Subpart B, this subpart was revised to integrate our recommended changes into the planning structure; require Area Committees to establish Citizens' Advisory Councils; expand the function of the ACPs; and eliminate situations that create conflicts of interest between government and the responsible party.

FURTHER, WE RECOMMEND specifically creating Citizens' Advisory Councils, providing structure, and assigning authority and duties by creating a new section §300.206 to include:

(a) a requirement that Area Committees involve local citizens in the process of preparing, adopting, monitoring, evaluating, and revising oil spill contingency plans by establishing Citizens' Advisory Councils;

(b) voting members representing a broad diversity of stakeholders, as listed, and non-voting members for prescribed situations;

(c) terms of jurisdiction, duration, and appointment;

(d) authority for self-government;

(e) conflicts of interest;

(f) duties including but not limited to those granted to the Committees created in Prince William Sound and Cook Inlet under the OPA 90 or equivalent duties for each area to:

√ provide advice and recommendations on all aspects of energy exploration, development, and transportation (including protection of worker and public safety and health) in the geographic area covered under the ACP;
√ monitor oil spill prevention and contingency plans in the area;
√ monitor impacts to human health and the environment and recommend mitigation efforts;
√ recommend standards and stipulations for area deferrals and other site-specific regulations;
√ recommend protocols for expediting use or stopping use of products or chemical agents authorized under Subpart J;
√ monitor occupational health, worker safety, public health, and mental health impacts of energy activities and make recommendations;
√ monitor the conduct of the responsible party's economic damages claims process;
√ monitor the economic, social and cultural impacts of energy development and oil spills on socially vulnerable communities;
√ monitor the development and implementation of plans for the restoration, rehabilitation, replacement, or acquisition of equivalent resources;
√ serve on the Unified Incident Command in the event of a spill of national significance;
√ conduct other activities, as appropriate;
√ meet quarterly, and convene an annual meeting that rotates throughout the area; and
√ conduct outreach.

(g) committees as necessary to carry out the duties with requirements for membership and reporting;

(h) no estoppel;

(i) authorization to conduct research and review industry or government research;

(j) requirements for agency cooperation;

(k) authority to issue and enforce subpoenas and obtain information from federal agencies;

(l) non-binding recommendations;

(m) requirements for location and compensation;

(n) a funding mechanism and amount, scaled to energy activities in the region with provisions to adjust as needed; and

(o) a requirement for an assessment of CAC function by the Government Accountability Office.

FURTHER, WE RECOMMEND specifically creating a new section §300.210(c)(5) to require Area Committees and CACs to create a Human Health & Safety Plan as part of ACPs to:

(a) identify and establish priorities for protecting workers, volunteers, and the general public, human habitations, and critical human resources;

(b) provide the necessary information and procedures to immediately and effectively respond to discharges to minimize harm to human safety and health;

(c) provide mechanisms to be used during a spill response for timely identification of protection priorities;

(d) identify and evaluate potential short- and long-term safety and health effects of oil and chemical agents,

(e) establish priorities for use of chemical agents and mitigating devices to minimize exposure, and identify areas where the movement, storage, or disposal of oiled debris including chemical agents may pose the least risk;

(f) provide for pre-approval of, if necessary, and emergency stop use plans for certain products; develop and implement a monitoring plan to evaluate effectiveness of the Human Health and Safety Plan in consultation with OEM-trained health professionals;

(g) identify and plan for the acquisition and utilization of necessary response capabilities for protection, diagnosis, and treatment options for humans in consultation with OEM-trained health professionals;

(h) identify appropriate federal and state agencies to assist, identify and plan for monitoring, diagnosis, and treatment; evaluate effectiveness of procedures and protocols in the plan, and establish a process for public record-keeping;

(i) identify and secure means for providing the full 40-hour EPA or OSHA HAZWOPER training for volunteers who assist with injured or ill humans; and

(j) define the requirements for evaluating the compatibility between this annex and non-federal response programs.

Subpart D—Operational Response Phases for Oil Removal

Following the justification provided in Subpart B, this subpart was revised to integrate our recommended changes into the operational response structure; integrate authority and duties of the Citizens' Advisory Councils into the ACPs and RRTs; expand the

function of the ACPs; and eliminate situations that create conflicts of interest between the government and the responsible party.

FURTHER, WE RECOMMEND providing funding for the OSHA and HHS permanent co-chairs' worker and public safety and health programs through the OSLTF.

Subpart E—Hazardous Substance Response

As mentioned in the justification for Subpart A, there seems to be a mindset among the lead agencies and the Coast Guard, in particular, that oil is "the enemy" and that any "countermeasure" (chemical agent) may be used to mitigate the threat from the oil without consideration of harmful effects to humans of the product or oil-product combinations. In essence, adding dispersants or other products containing solvents to oil is like throwing fuel on a fire—it just makes a hazardous situation even more hazardous.

Specifically, we find it makes no sense to use chemical agents such as dispersants and other products that:

√ may contain ingredients that are known or suspected human health hazards—and not fully inform the public and workers of the risk or allow public participation in the decision-making process;

√ carry warnings of potential health impacts for people exposed to the product—and then spray the product into the environment essentially guaranteeing that the general public would be exposed and at-risk without providing the means to protect people from exposure; and

√ carry warnings about and procedures for accidental releases of the product into the environment such as "Do not contaminate surface water," or "Keep product out of sewers and watercourses by diking or impounding"—and then <u>intentionally releasing</u> this same product into surface water, watercourses, etc.

THEREFORE, WE RECOMMEND revising this entire subpart to accommodate the intentional release of such products as a hazardous substance response, as we have done for only the first section.

Subpart G—Trustees for Natural Resources

As justified under Subpart B, we find that Indian Tribes should be members of the Trustees for Natural Resources.

THEREFORE, WE RECOMMEND revising this entire subpart to include representatives of Indian Tribes as Trustees, as we have done for only the first section.

Subpart J—Use of Chemical Agents and Other Products

Following the justifications provided in the earlier subparts, this subpart was revised to integrate our recommended changes with use of chemical agents and other products. In addition, this section addresses other concerns, namely: the lack of threshold criteria; the need for consultation under the Endangered Species Act prior to product use; the need for general prohibitions regarding product use or ingredients; the need for a sinking test; and including sorbents and burning agents as chemical agents covered under Subpart J.

A. Lack of threshold criteria

As discussed in our original petition and this supplement, science has established that conventional oil is has properties similar to hazardous substances in that various routes of exposure can cause long-term harm to humans and other organisms and is particularly harmful to the young and unborn. Recent court rulings have recognized this harm and acted to minimize the threat to public health.

For example, in late April, the U.S. Supreme Court upheld an Obama administration regulation that requires states with coal-fired power plants to reduce the air pollution that drifts across Midwest and East Coast states. The cross-state air pollution rule covers 28 states in the eastern half of the nation. EPA estimated that downwind pollution from these coal-fired plants triggered more than 400,000 asthma attacks a year and caused 34,000 premature deaths in neighboring states.[49] The pollutants included fine particulate matter (PAHs) and chemicals.

Also, two weeks later, the U.S. Court of Appeals for the District of Columbia Circuit supported EPA's stricter nationwide standards for fine particulate matter or "lung-damaging soot," including PAHs. As noted by the Los Angeles Times, "The tiny, chemical-laden particles and liquid droplets are emitted by power plants, diesel trucks, refineries and factories. They lodge deep in the lungs when inhaled and are linked to heart and lung disease, respiratory illnesses and premature deaths." [50] As discussed, these harmful particulates are also emitted during oil spills and associated with harm to human health and the environment.

THEREFORE, WE RECOMMEND adopting the threshold criteria for hazardous substances to oil spill response and, in particular, to use of chemical agents.

B. Consultation under the Endangered Species Act (ESA)

A successful lawsuit was brought in EPA Region 9 under the ESA Section 7 consultation with U.S. Fish and Wildlife Service and National Marine Fisheries Service.

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[49] Savage, David, 2014, Supreme Court upholds EPA rule to reduce cross-state pollution, *Los Angeles Times,* 4/29/14. http://touch.latimes.com/#section/-1/article/p2p-80048830/

[50] Barboza, Tony, 2014, Obama administration limits on soot pollution upheld by appeals court, *Los Angeles Times,* 5/9/14. http://touch.latimes.com/#section/-1/article/p2p-80155728/

A court settlement filed in May 2013 requires EPA and the Coast Guard to ensure that toxic oil-dispersing chemicals used in federal waters in Region 9 off California will not harm sea turtles, whales and other endangered species or their habitats by requiring the government to determine the dispersants' safety for endangered species ***prior to their use***—not afterward, as occurred during 2010's BP DWH oil disaster.[51]

The policy of allowing product use prior to determining its safety for endangered species and prior to consultation with UWFWS and NOAA/ NMFS makes no sense. It also doesn't make sense to protect endangered species in one region without protecting them across their range, which can include multiple states (and countries). This is an interstate issue that begs for a national solution, rather than region-by-region lawsuits and a patchwork of regulations.

THEREFORE, WE RECOMMEND that EPA issue emergency regulations to adopt a progressive pre-planning requirement for ESA consultation at the regional level to determine product safety for endangered species *prior to use*, for all products not just dispersants, because of the problem of misclassification of products as discussed earlier.

C. Need for general prohibitions

This section addresses two concerns, namely, that product use may increase rather than minimize the overall harm from the oil discharge, and that products containing ingredients that are "trade secrets" impede efforts to protect public health and welfare and the environment.

Human health impacts from exposure to oil and dispersants were addressed in the original petition and elsewhere in this supplement. It is important to consider that more recent non-industry funded studies are also consistently finding that oil and dispersants combined is far more toxic to dolphins[52] and other sea life[53] than oil alone. As Dr.

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[51] Center for Biological Diversity et al. v. EPA, Case No. 3:12-cv-01920-WHA http://www.biologicaldiversity.org/campaigns/toxics_and_endangered_species/pdfs/59-Signed_Settlement_Agreement.pdf

[52] Carmichael, Ruth, et al., "Were Multiple Stressors a 'Perfect Storm' for Northern Gulf of Mexico Bottlenose Dolphins (Tursiops truncatus) in 2011?" PLoS ONE 2012; 7(7): e41155. http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0041155

Schwacke, Lori, et al., Health of Common Bottlenose Dolphins (Tursiops truncatus) in Barataria Bay, Louisiana, Following the Deepwater Horizon Oil Spill, dx.doi.org/10.1021/es403610f Environ. Sci. Technol. 2014, 48, 93−103, http://pubs.acs.org/doi/abs/10.1021/es403610f

[53] Almeda R, Wambaugh Z, Wang Z, Hyatt C, Liu Z, et al. (2013) Interactions between Zooplankton and Crude Oil: Toxic Effects and Bioaccumulation of Polycyclic Aromatic Hydrocarbons. PLoS ONE 8(6): e67212. doi:10.1371/journal.pone.0067212

Goodbody-Gringley G, et al., 2013, Toxicity of [BP] Deepwater Horizon Source Oil and the Chemical Dispersant, Corexit® 9500, to Coral Larvae. PLoS ONE 8(1): e45574.doi:10.1371/journal.pone.0045574

Jamail, Dahr, "Gulf seafood deformities alarm scientists," *Aljazeera English*, April 20, 2012. http://www.aljazeera.com/indepth/features/2012/04/201241682318260912.html

William Rea, an international pioneer and practitioner in the field of environmental medicine noted, "If you have sick people and you have sick animals, and if they are sick because of exposure to the same chemical, then you have the strongest evidence possible that that chemical is causing a problem."[54]

Further, many products contain proprietary ingredients protected as confidential business information. Without knowledge of a product's ingredients, researchers are unable to fully determine the potential safety and health effects of the products, and the toxicity testing and product information that necessarily underlie such determinations. The lead agencies, including EPA, OSHA, and HHS lack critical information on which to plan and make decisions to allow product use. Further, the OSC, PCCs, worker safety trainers, spill responders, and the general public lack critical information to make determinations to minimize impacts to human health. If companies are not willing to fully disclose their product's ingredients, then such products be banned from use in oil spill response.

THEREFORE, WE RECOMMEND adding a new section §300.915 to create a list of general prohibitions to minimize use of products that are likely to cause additional harm to public health or welfare or the environment to include:

(a) products containing industrial solvents, known or suspected human health hazards, proprietary ingredients, or any undisclosed ingredients, including trade secrets;

(b) products that list on their MSDS or SDS warnings of potential health impacts or warnings against accidental release or other similar precautions that indicate potential harm to humans or the environment; and

(c) products that are regulated under, or include ingredients that are regulated under, or that have been exempted from, certain federal, state and international laws.

Jamail, Dahr, "Gulf ecosystem in crisis after BP spill," *Aljazeera English,* Oct. 20, 2013. http://www.opednews.com/articles/Gulf-ecosystem-in-crisis-a-by-Dahr-Jamail-Corporation-BP_Ecosystems_Gulf-Oil-Spill-Disaster_Gulf-Shrimping-Industry-131020-15.html

Jung, SW, et al., 2012, Stronger impact of dispersant plus crude oil on natural plankton assemblages in short-term marine mesocosms, Journal of Hazardous Materials, Volumes 217–218, Pages 338-349, ISSN 0304-3894, 10.1016/j.jhazmat.2012.03.034.

Mendelssohn, Irving A., et al., 2012, Oil impacts on coastal wetlands: Implications for the Mississippi River delta ecosystem after the [BP] Deepwater Horizon oil spill, *BioScience* 62: 562–574.

Rico-Martinez, Roberto, Terry Snell, and Tonya Shearer, 2013. "Synergistic toxicity of Macondo crude oil and dispersant Corexit 9500A® to the *Brachionus plicatilis* species complex (*Rotifera*)." *Environ. Pollution,* 173:5–10. http://www.sciencedirect.com/science/article/pii/S0269749112004344

Sahagun, Louis, 2014, Toxins released by oil spills send fish hearts into cardiac arrest, *Science Now,* 2/13/14. http://www.latimes.com/science/sciencenow/la-sci-sn-tuna-hearts-oil-spill-toxins-20140213,0,5212912.story#axzz2tKbuS7Oy

[54] Personal communication with Riki Ott, 1992, Cordova, Alaska. Dr. William Rea founded and practices at the Environmental Health Clinic-Dallas.

D. General data requirements for all products

This section includes a set of general data and tests that should be required of all products. For example, currently only dispersants and bioremediation agents are required to demonstrate a minimum acceptable performance criteria. However, surface washing agents, surface collecting agents and miscellaneous oil spill control agents need not demonstrate any effectiveness, but the required "recommended application procedures, concentrations, and conditions for use depending upon water salinity, water temperature, types and ages of the pollutants, and any other application restrictions" indicate these agents have limitations. §300.915(b), (c), and (f). Therefore, these products should also have minimum acceptable performance criterion, and they should only be used only in conditions under which the minimum criterion can be achieved.

Further, as noted in our original petition, the tests are deficient in terms of type, protocol, and standards. There are no tests to determine if products are sinking agents, which are prohibited. The standard reference oils required for testing product efficacy and toxicity are Alaska North Slope Crude and Louisiana Sweet Crude: This is not realistic for determining product efficacy and toxicity on oil and products commonly transported in other states; nor is it realistic for the range of oils being transported at present. The specific laboratory conditions for determining efficacy represent quite unrealistic field scenarios: Requiring realistic field conditions, such as particulate organic matter (POM) including bacteria, and varying salinities, and temperatures, would likely yield different results.

For example, dispersants have been found to be ineffective at temperatures and salinities most common in Alaska marine waters.[55] The two most commonly used dispersants, Corexit 9527 and Corexit 9500, were found to be less than 10 percent effective at dispersing fresh or weathered Alaska North Slope crude in laboratory tests.[56] The EPA requires at least 45% efficacy for products to be listed on the national Product Schedule.

Also, as noted in our original petition, Subpart J is biased towards products that provide a superficial, cosmetic "cleaned up" appearance, often at the expense of the three stated priorities in oil spill response. This bias is used to justify all manner of toxic or dangerous chemical agents and other products to, allegedly, minimize a threat to human life *from the oil alone* while ignoring the threat from the chemical agents themselves or oil-product combinations.

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[55] Prince William Sound Regional Citizens' Advisory Council (PWSRCAC), 2002, A Review of Literature Related to Oil Spill Dispersants Especially Relevant to Alaska, prepared by Merv Fingas, Environment Technology Centre, Environment, Canada

PWSRCAC, 2008, A Review of Literature Related to Oil Spill Dispersants Especially Relevant to Alaska, 2002–2008, prepared by Merv Fingas, Spill Science, Edmonton, Alberta, Canada.

[56] Adam Moles, Larry Holland, and Jeffrey Short, 2002, "Effectiveness in the Laboratory of Corexit 9527 and 9500 in Dispersing Fresh, Weathered, and Emulsion of Alaska North Slope Crude Oil under Subarctic Conditions," *Spill Science and Technology*. Volume 7, Issues 5-6: 241–247.

The limited toxicity tests required by EPA to list products on the NCP Product Schedule convey little or no information about a product's ingredients, potential toxic effects, or criteria for safe use. None of the chemicals have to meet any toxicity criteria to be listed. The regulatory approach merely seeks to provide baseline data for comparison of products on a national basis, instead of what is needed for EPA to fulfill its duties under the Clean Water Act.[57] Despite this lack of information and guidance, any chemical on the schedule can be preauthorized or approved for use. This approach has led to situations like the BP DWH disaster, in which the prescribed "cure" for the oil spill was worse than the original harm caused by the oil.

Further, chemical and biological products released into the environment can form unanticipated byproducts as they weather and degrade. The breakdown products can be more toxic or interactive or can persist longer than the parent compounds. Products, or derivatives, may persist in the environment, causing harm long after the product was released or long after the initial exposure. For example, during the BP disaster, EcoRig divers under contract to NOAA to collect water samples under the oil slick were told that the dispersant Corexit had a half-life of 90 minutes and that it was safe to dive, according to affidavits collected by the Government Accountability Project. Now some of those divers are very sick and they link their illness to their exposure to chemicals they were told were not likely to be in the water.[58]

THEREFORE, WE RECOMMEND adding a new section to apply to for all products, §300.916—General data requirements, to include:

(a) General data description and a current MSDS.

(b) General testing conditions and protocols such as:
- √ realistic field scenarios;
- √ a range of oils commonly found in areas where the product may be used;
- √ tests conducted on individual oils;
- √ prohibiting manipulation of test results to achieve performance criteria;
- √ a requirement for sinking tests with minimum performance criteria;
- √ an effectiveness value of 80 percent ± 5 percent *or more*; and
- √ updated toxicity tests that convey information about a product's ingredients, potential toxic effects, and criteria for safe use, including quantities that can be used safely under realistic field scenarios using a range of oils commonly found in the areas where the product may be used.

(c) General data requirement specifications; concentrations of heavy metals, cyanide, and chlorinated hydrocarbons; and analytical laboratory requirements.

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[57] Earthjustice, 2010, Petition under the Clean Water Act to Establish Toxicity Criteria and Require Toxicity Testing and Public Disclosure of Ingredients for Products on the National Contingency Plan Product Schedule, sent to EPA Administrator Lisa Jackson, Oct. 13, 2010.

[58] GAP, Deadly Dispersant. http://www.whistleblower.org/program-areas/public-health/corexit

David Kirby, 2013, Corexit: An oil spill solution that is worse than the problem? *Huffington Post,* 4/23/13. http://www.huffingtonpost.com/2013/04/23/corexit-oil-spill-gulf_n_3134963.html

FURTHER, WE RECOMMEND requiring that product use during oil spill response is contingent upon a demonstration that the range of *in-situ* physical conditions is optimal to meet the minimum acceptable performance criterion.

E. Specific data requirements for all products

This section (formerly §300.915) only applies to products that have meet general prohibition requirements and the general data requirements. The specific data requirements refer to where the testing methodologies should appear in Appendix C of this part; however, we have not provided revisions to Appendix C as developing such testing protocol is beyond the range of our expertise.

THEREFORE, WE RECOMMEND that Appendix C is updated and revised to accommodate the all the recommended tests, protocols, and methodologies, as discussed under this part.

FURTHER, WE RECOMMEND that EPA require technical product data submissions for synthetic sorbents and mineral sorbents and that EPA does include these sorbents on the NCP Product Schedule.

FURTHER, WE RECOMMEND that EPA requires products already listed on the Product Schedule to be retested when tests, protocols, and criteria are revised and updated, and to provide a deadline for such retesting.

F. Removal of products from Product Schedule

FINALLY, WE RECOMMEND adding a new section §300.925 with criteria and conditions to remove products from the Schedule that do not perform as expected, as per the justification in our original petition and this supplement.