Change Oil Spill Response Alliance ARRT Formal Request
Addendum 1

Proposal for Standardized Criteria Assessment of Sustainable Oil Spill Cleanup Methodologies

The following proposal quotes extensively from the April 2013 publication of a position paper entitled "A Call for a Twenty-First-Century Solution in Oil Spill Cleanup."[i] (All quotes from that publication will be cited here in green.) We strongly advise that guidance document be carefully studied in full by each of the members of the ARRT. That oil spill response guidance, written by the Science and Technology Advisory Board of the Lawrence Anthony Earth Organization (LAEO), clearly lays out a vitally important, yet simple set of assessment criteria based on both scientific principles of achievable requirements aligned with the mandates laid out by the Clean Water Act, as well as common sense.

We, the Change Oil Spill Response Global Alliance (COSRGA) strongly advocate for and propose that these guidelines be adopted by the ARRT when making any decisions related to what spill cleanup measures will be implemented for oil and hazardous substances in all Alaskan waters.

We maintain that:

> "**the *purpose* of oil/ chemical spill cleanup is to remove the pollutants/toxicity from the environment as rapidly as possible so that living organisms can survive."**
>
> "Utilizing this principle as a fundamental standard for oil spill cleanup guidance and policy establishes a valuable frame of reference by which one can evaluate response methods— mechanical cleanup, dispersants, and nontoxic agents—as to their effectiveness and economic viability.

We further maintain that:

> **"**The protection of human health should be the foremost concern of any oil spill cleanup decision-making process. Human health is dependent upon the relative health of the surrounding environment; hence it is important to understand the criteria by which cleanup methods must be gauged as to their value and effectiveness. To reiterate, the primary reason to clean up an oil spill or hazardous materials is to rapidly reduce the impact of their toxicity so that all living organisms can survive. And again, if even the smallest organisms can survive, then the ecosystem will be able to sustain itself."

The Clean Water Act (CWA) must be maintained as the most fundamental guidance reference underlying any decisions related to the use of any substances in Alaskan waters related to oil spill cleanup. The CWA establishes

"*it is the national policy that the discharge of* ***toxic pollutants*** *in* ***toxic amounts*** *be* ***prohibited***"[ii] [emphasis added].

Toxic pollutant defined: Toxic pollutants, a subset of hazardous substances, include pollutants that "after discharge and upon exposure, ingestion, or inhalation ... [by] any organism" will "cause death, disease, behavioral abnormalities, cancer, genetic mutations, physiological malfunctions, ... or physical deformations in such organisms or their offspring" (33 U.S.C.A. § 1362).[iii]

"...Common sense would indicate that when introducing any chemical substance into a freshwater or marine ecosystem that is not native to that environment (for instance, crude oil or hydrocarbon-based dispersants), any toxicity level other than **nontoxic** would be of concern for the health of the local environment, let alone potential impacts on the regional human populations. For example, according to the New Jersey Department of Health, the presence of 2-butoxyethanol (a surfactant ingredient in Corexit 9527 and evident in 9500 per EPA 1999 NCP Notebook) has no *nontoxic* range.[iv] The MSDS (Material Safety Data Sheet) states clearly: "*Do not contaminate surface waters* [with this product]."[v]

After a quarter of a century of on-going negative impacts of the Exxon Valdez spill response it is abundantly clear that the use of chemical dispersants were inadequate to the task, and primarily served to introduce additional toxicity to the already oil-stressed eco system from the spill itself.

Additionally, as subsequent studies have shown,[vi] dispersants do not even work to break up and sink the oil in temperatures below 40 degrees Farenheit, making their use in Alaskan waters highly questionable, even if the toxicity factor is set aside.

We therefore propose that the following standards be adopted by the ARRT when adjudicating the viability and efficiency of a proposed cleanup product or methodology:

"**1. Must swiftly** and thoroughly **detoxify** the oil or hazardous substances as a first step in order to protect the indigenous microbial populations and all life forms.

2. Must nullify the oil's **adhesive qualities** so that it does not stick to marine life, wildlife, marsh grass, rocky shorelines, sandy beaches, or seabed sediment.

3. Must keep the oil on the surface so that it can most rapidly be digested by indigenous microbes, utilizing existing airborne oxygen and protecting the 60 percent of marine life that resides in the subsurface area. (Note: This also makes it accessible for physical removal methods working in tandem with nontoxic agents.)

4. Understanding that nature uses surfactants in the natural process of cleaning up an oil spill, an effective product would have **no** *toxic* **surfactants.**

5. Must have a scientifically substantiated **and predictable end point** that could be standardly achieved from its proper application."

This end point would be that within a matter of days to, maximally, a few weeks, close to 100 percent of the oil will have been removed from the environment, with no "trade-offs" related to it's application, thereby protecting the responders, wildlife, and marine life in our precious and fragile Alaskan water eco systems.

6. Its application must be **economically viable**—for example, comparable in cost to current methods and, ideally, significantly less."

This would ensure that the responsible party(ies) for the oil or hazardous substance spills are not being called upon to unnecessarily waste funds on inadequate and destructive cleanup methods.

7. For Preauthorization to be considered it must have a track record of at least 5 years of demonstrated effectiveness in the field with no resulting negative impacts to human health, wildlife and marine life during that time.

> "The value of a product could be rated and characterized by how rapidly and thoroughly it meets the above criteria while introducing no additional toxicity to the scene already created by the hazardous spill."

Because of advanced developments in the field of Bioremediation over the past 25 years, these standards have been achieved by at least one product that is currently on the official EPA's National Oil and Hazardous Spill Cleanup Contingency Plan's Product Schedule. It is currently the only product in its specifically defined category by the EPA: Bioremediation Sub-Category Enzyme Additive Type. The product is called Oil Spill Eater 2 (OSE II) and is being used...

> "...in over 30 countries. Its results contrast strongly with those derived from dispersants predominantly used in US navigable waters. Additionally, it costs a fraction of the other methods and would therefore represent an economic boon, not only to the responsible parties, who could avoid damage claims and heavy fines, but also to those living in the environment, reducing business disruptions with rapid cleanup, bringing a quick return to their livelihoods."

> "...the EPA's National Contingency Plan (NCP) currently lists a ***category*** of oil spill cleanup technology, applicable in all environments, that safely and effectively removes hydrocarbons from a spill site, resulting in full and swift restoration of the environment to pre-spill conditions with no negative environmental "trade-offs."

> "...This method not only detoxifies and diminishes the adhesive qualities of a spill (and, if need be, detoxifies any deployed dispersants) but it's endpoint is a conversion of close to 100 percent of the toxic spill components to harmless carbon dioxide and water in a matter of a few days to a few weeks."

So, there is no question that the above standards can be achieved. Therefore, the utilization of any product or methodology that introduces negative impacts is unwarranted, unnecessary, and can be construed as willfully destructive.

> "Oil spills may result in only temporary disruption to the company and industries that cause them, but they are permanent injuries for the rest of us. The purpose of the Clean Water Act is to protect us and future generations from irresponsible actions that do not take into account the long-term impacts."

> "...The effective cleanup of oil-polluted waters is a life-or-death proposition for future generations."

Therefore, the Change Oil Spill Response Global Alliance Alaskan Delegation formally requests, herein, that the ARRT officially adopt the above 7 guidelines for the standardization of decisions related to the pre authorization or FOSC approval of any products or methods to be used for oil and other hazardous hydrocarbon-based spill cleanup response.

It is expected that an official response to this proposal, in writing, will be received by us from the ARRT in a timely manner.

Respectfully Submitted,

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Citations:

[i] "A Call for a Twenty-First-Century Solution in Oil Spill Cleanup" by the Lawrence Anthony Earth Organization's Science and Technology Advisory Board. © 2013
Downloadable version of full paper available at www.ProtectMarineLifeNow.org.
[ii] 33 U.S.C. §§ 1251 et seq. (1972), http://www.epa.gov/regulations/laws/cwa.html.
[iii] *Toxipedia*, Toxicity of Dispersant Chemicals, Summary of 57 chemical ingredients (January 25, 2012), http://toxipedia.org/display/toxipedia/Potential+Effects+of+Oil+Dispersant+Chemicals+on+Human+Health+and+the+Aquatic+Environment; USCG Dispersants, On-Water Oil Removal Capacity: Dispersant Preapproval Listings, https://homeport.uscg.mil/mycg/portal/ep/contentView.do?contentTypeId=2&channelId=-30095&contentId=125795&programId=114824&programPage=%2Fep%2Fprogram%2Feditorialjsp&pageTypeId=13489; see also Section 307 of CWA.
[iv] Right to Know Hazardous Substance Fact Sheet: 2-Butoxy Ethanol, NJ Department of Health & Senior Services (August 2008), http://nj.gov/health/eoh/rtkweb/documents/fs/0275.pdf; Agency for Toxic Sub- stances and Disease Registry ToxFAQs (August 1999), 2-BUTOXYETHANOL and 2-BUTOXYETHANOL ACETATE, CAS # 112-07-2 and 111-76-2, http://www.atsdr.cdc.gov/toxfaqs/tfacts118.pdf. [It has been stated by the manufacturer of Corexit 9500 that it does not contain 2-Butoxyethanol. Minimally, since the 1999 EPA NCP Notebook record showed that Corexit 9500 contained 2BE, failure to update the NCP listing with this information made this product questionable for use. If Corexit 9500 does not contain 2BTE, then it does contain chemicals equally toxic (e.g., propylene glycol and DOSS at minimum); because when the MSDS's of 9500 and 9527 are compared, they are identical, i.e., causing kidney failure and mortality, etc.]
[v] Right to Know Hazardous Substance Fact Sheet: 2-Butoxy Ethanol, NJ Department of Health & Senior Services (August 2008), http://nj.gov/health/eoh/rtkweb/documents/fs/0275.pdf; Agency for Toxic Sub- stances and Disease Registry ToxFAQs (August 1999), 2-BUTOXYETHANOL and 2-BUTOXYETHANOL ACETATE, CAS # 112-07-2 and 111-76-2, http://www.atsdr.cdc.gov/toxfaqs/tfacts118.pdf. [It has been stated by the manufacturer of Corexit 9500 that it does not contain 2-Butoxyethanol. Minimally, since the 1999 EPA NCP Notebook record showed that Corexit 9500 contained 2BE, failure to update the NCP listing with this information made this product questionable for use. If Corexit 9500 does not contain 2BTE, then it does contain chemicals equally toxic (e.g., propylene glycol and DOSS at minimum); because when the MSDS's of 9500 and 9527 are compared, they are identical, i.e., causing kidney failure and mortality, etc.]