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**COMMENTS ON THE OIL SPILL RESPONSE PLAN FOR THE CHAD  
CAMEROON PIPELINE PROJECT**

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## **INTRODUCTION**

In mid-November 2002, a tanker "The Prestige" carrying 77,000 metric tons of heavy fuel oil – similar in nature to the heavy crude oil that will originate from Chad's oil fields, broke apart in waters off the coast of Spain, killing tens of thousand of birds and causing an estimated \$100 million dollars of damage. See:

[http://www.panda.org/news\\_facts/crisis/spain\\_oil\\_spill/impacts.cfm](http://www.panda.org/news_facts/crisis/spain_oil_spill/impacts.cfm)

It is wise to evaluate COTCO's Area-Specific plan with the lessons of this recent disaster in mind.

### **1. COTCO'S AREA-SPECIFIC PLAN FAILS TO IDENTIFY TIER 3 RESPONSE RESOURCES**

One of the most important elements on any site-specific oil spill response plan include what equipment will be used in case of a major (tier 3) spill and where this equipment is located.

For this reason, U.S. law requires the following: "Equipment list and records. This appendix must include the information specified in this paragraph. (i) The appendix must contain a list of equipment and facility personnel required to respond to an average most probable discharge, as defined in § 154.1020. The appendix must also list the location of the equipment. (ii) The appendix must contain a detailed listing of all the major equipment identified in the plan as belonging to an oil spill removal organization(s) that is available, by contract or other approved means as described in § 154.1028(a), to respond to a maximum most probable or worst case discharge, as defined in § 154.1020. The detailed listing of all major equipment may be located in a separate document referenced by the plan.

Either the appendix or the separate document referenced in the plan must provide the location of the major response equipment." 33 C.F.R section 154.1035(e).

Appendix D of COTCO's Area-Specific Response Plan lists the response equipment that would be used to respond to spills within the project area. While this Appendix contains lists of equipment that would be used to respond to minor (Tier 1) and moderate (Tier 2) spills, the Appendix contains no information about what equipment would be used to respond to a major (Tier 3) spill. This Appendix states merely that: "Additional equipment and resources necessary to conduct activities for a Tier 3 spill response would be obtained from external sources when needed."

This is unacceptable. Without detailed information about the type and location of response resources that COTCO would deploy in the event of a Tier 3 spill, decision-makers and the public are unable to assess whether these critical response resources have adequate capacity or could be deployed in time to prevent major ecological and economic damage.

### **2. COTCO'S AREA-SPECIFIC PLAN IMPROPERLY RELIES ON DISPERSANTS TO RESPOND TO A SPILL OF HEAVY OIL**

The crude oil that will originate from Chad's oil fields poses special difficulties to authorities that must respond to a spill of this oil. Chapter 4 of COTCO's Area Specific Plan provides information about such oil. According to the information on page 4.2, such oil is a dense, viscous oil that would be almost completely refractory to the use of chemical dispersants.

According to a recent technical paper: "Recent development of chemical dispersants have improved their ability to disperse more viscous oils, but conventional dispersants still remain ineffective on viscous oils. A classic example is provided by the ELEN V spill of 7,500 tonnes of heavy fuel oil when 900 tonnes of dispersant was applied by 22 vessels during three weeks, but to no effect. Virtually all of the oil came ashore .... The heavy fuel oil spilled from the EVOIKOS was of moderate viscosity (2,000 mPa at 20 C) and in the high ambient temperatures in Singapore waters was initially dispersible, but after 3 to 4 days dispersant application trials with both old and new generation dispersants revealed that none was able to disperse the oil." Ansell, D.V, et al. (2001) "A Review of the Problems Posed by Spills of Heavy Fuel Oils," Paper presented at: 2001 International Oil Spill Conference, March 26-29 2001, Tampa, Florida. Pages 11-12.

For this reason, it is wrong for COTCO to place primary reliance on the use of chemical dispersants in the event of a spill of the heavy crude oil originating from Chad's oil fields.

Page 6-8 of COTCO's Area-Specific Plan states: "Dispersant application is the primary strategy for dealing with crude oil spills. ... Laboratory test results of the effectiveness of Corexit 9500 on the Chad crude oils show that a dispersant-to-oil ratio of 1:15 should be used. Dispersant effectiveness on Chad crude oils is considered 'average' (dispersability between 45-59%)."

COTCO's characterization of the dispersability of the Chad crude oils is entirely at odds with published information and the opinions of experts about the dispersability of heavy crude oil, which show that Corexit 9500 would disperse only a small fraction of such oil. At the least, COTCO should reveal its laboratory data to support its remarkable claim that Corexit 9500 could disperse even half of the Chad crude oil under actual conditions.

### **3. COTCO'S AREA-SPECIFIC PLAN LACKS ADEQUATE EQUIPMENT TO CONTAIN AND RECOVER SPILLED OIL**

#### **3.1. Inadequate booms**

Containment booms for deployment at sea must be sufficiently deep in order to prevent oil from escaping beneath the booms in rough sea states.

For this reason, U.S. law requires that containment booms for use in the sea have a boom height (draft plus freeboard) of no less than 42 inches (3.5 feet). Appendix C to Part 154 - Guidelines for Determining and Evaluating Required Response Resources for Facility Response Plans,  
Table 1 - Response Resource Operating Criteria Oil Recovery Devices.

Appendix D of COTCO's Area-Specific Response Plan lists the response equipment that would be used to respond to spills within the project area. Table 2 of Appendix D lists the containment booms that COTCO would have available to respond to a Tier 2 spill. It is important to note that none of the containment booms that COTCO lists would be adequate to contain a spill at sea!

The lack of proper containment booms is particularly troublesome considering the kind of heavy crude oil that would spill from the floating, storage and offloading (FSO) vessel, which

has a high tendency to escape beneath booms. A recent technical paper discusses the particular difficulties of responding to a spill of heavy oil: "Numerous heavy fuel oil spills with serious economic consequences have occurred in Japan and South Korea. .... The oil spills pose a threat of business interruption in the fisheries sector as well as causing contamination of fishing gear and catches. They may also affect industrial seawater intakes by virtue of the high density of heavy fuel oil and its tendency to travel subsurface, out of sight. Booms deployed to protect sensitive resources will then become ineffective." Ansell, D.V, et al. (2001) "A Review of the Problems Posed by Spills of Heavy Fuel Oils," Paper presented at: 2001 International Oil Spill Conference, March 26-29 2001, Tampa, Florida. Pages 11-12.

### **3.2. Inadequate oil recovery capacity**

For an oil spill containment operation to be effective, the responder must have adequate temporary oil storage capacity. Without this capacity, the volume of spilled oil that enters containment will overwhelm its capacity.

For this reason, U.S. law mandates that response resources included in oil spill response plans: "must include ... storage capacity for any recovery of up to the maximum most probable discharge planning volume." 33 CFR section 154.1045(d)(1).

Chapter 4 of COTCO's Area Specific plan illustrates a Tier 2 spill, involving a subsea pipeline rupture, that would release 430 metric tons (more than 25,000 barrels) of heavy crude oil, nearly all of which would reach the shore within 13 to 51 hours (in Summer) or within 11 to 119 hours (in Winter).

Table D-2 of Appendix D shows that COTCO would have only 1,020 barrels of storage capacity – far less than would be needed to sustain a containment operation for a subsea pipeline rupture.

## **4. COTCO'S AREA-SPECIFIC PLAN LACKS RESOURCES THAT CAN RESPOND TO SPILLED OIL IN A RAPID MANNER**

It is not enough for an oil spill response plan to list necessary equipment that might be used in the event of an oil spill. Time is of the essence. Delayed responses to oil spills can have catastrophic, irreversible consequences.

For this reason, U.S. law mandates that response resources included in oil spill response plans must be positioned such that they can arrive to the location of a spill with certain maximum times. U.S. law states: "The response plan for a facility that handles, stores, or transports Group I through Group IV petroleum oils must identify response resources that are available ... to respond to the facility's average most probable discharge. The response resources must include, at a minimum— (1) 1,000 feet of containment boom or two times the length of the largest vessel that regularly conducts petroleum oil transfers to or from the facility, whichever is greater, and the means of deploying and anchoring the boom available at the spill site within 1 hour of the detection of a spill; and (2) Oil recovery devices and recovered oil storage capacity capable of being at the spill site within 2 hours of the discovery of a petroleum oil discharge from a facility." 33 CFR section 154.1045(c).

Table D-2 of Appendix D shows that COTCO would have only eleven boats for delivering containment booms and oil recovery devices to an oil spill, which would most likely occur in waters near the FSO. However, only one of these boats – a pontoon vessel with a 40-horsepower outboard motor, would be located in Kribi. The other ten boats would be located in Douala or other locations more distant to the FSO. Boats in Douala are more than 100 kilometers away from the FSO. The minimal fleet of boats that COTCO has committed to an oil spill response, and the location of these boats, would render it impossible for COTCO to deploy containment booms within one hour of detecting a spill; or to deploy oil recovery devices and recovered oil storage capacity within two hours of detecting a spill.

Under COTCO's plan, responses to Tier 1 and Tier 2 spills would be too little, too late.

## **5. COTCO'S AREA-SPECIFIC PLAN FAILS TO DESCRIBE THE EXTENT OF A MAJOR OIL SPILL**

Oil spill plans must demonstrate adequate resources and strategies for minimizing the environmental impact of a "worst-case" spill scenario. Therefore, for any specific facility, it is vitally important to know the quantity of oil that might be released as a result of a worst-case scenario.

This requirement is part of U.S. law ... "The response plan must use the appropriate criteria in this section to develop the worst case discharge. ... For a mobile facility it means the loss of the entire contents of the container in which the oil is stored or transported." 33 CFR section 154.1045(e)

COTCO's Area-Specific plan utterly fails to describe the extent of worst-case scenario spill. Chapter 4 of COTCO's Area Specific plan describes three spill scenarios. The worst of these three scenarios involves a ship collision with the FSO, releasing its contents. COTCO's Area Specific plan assumes that this scenario will result in the release of 7100 metric tons of crude oil (approximately 450,000 barrels).

This is an understatement of the worst-case scenario. According to earlier project documents: "Current plans call for a single hull crude oil tanker converted to stationary duty to be used as the FSO vessel. This tanker is targeted to have a crude oil storage capacity of 318,000 cubic meters (2 million barrels), roughly one week of pipeline output at peak capacity."

It is contrary to U.S. law and common sense to assume that a ship collision with the FSO – a converted single-hull tanker – would only release less than 25% of its contents. U.S. law would require COTCO to plan for the worst-case discharge of the entire contents of the FSO - 2,000,000 barrels.

The recent oil spill disaster off the coast of Spain (The Prestige) shows why COTCO's worst-case scenario is anything but that. Like the FSO off the coast of Kribi, the Prestige was a single-hull tanker carrying heavy oil. The Prestige disaster resulted in the release of more than one-fourth of its contents, or 20,000 metric tons (nearly 1.3 million barrels) of heavy oil. That is, the Prestige disaster, a recent event involving a single hull tanker, released three times more heavy oil than COTCO's Area Specific plan assumes would be the worst-case scenario involving the FSO.