Alabama Oil Burn

Tom Pritchett, US EPA Environmental Response Team: The whole purpose behind this study is to answer some questions that have been raised about the possibility of burning oil during an oil spill particularly because of what'll come out in the smoke and the health impact of this smoke.

Narrator: Impact is a critical word in the assessment of any oil spill. The earlier a problem can be contained and controlled, the lesser the impact on the environment. At present most oil spills are handled mechanically, using booms and skimmers to recover the oil off the water. In some cases, chemical dispersants are used, but with these methods only about 20 to 30% of the oil is collected before it reaches the shoreline. Once there the oil needs to be cleaned manually greatly adding to the cost and impact of the spill.

Greg Halley, Environment Canada: The time period to burn oil as compared to manually cleaning it up is beneficial, and plus the cost, the cost of mechanically cleaning up oil at sea as compared to burning oil at sea is quite a difference.

Narrator: The fact is that burning oil at sea is not a new technology. Canada has done so for years typically in icy conditions where the use of mechanical means would be impossible. What is new about the Alabama experiment is the detail in which the potential harm to the environment is carefully being measured.

The test consisted of a series of burns confined to a holding tank on Sand Island. To simulate the appropriate conditions, engineers pumped oil into the large soft

water tank. Once ignited the oil was allowed to burn until consumed, approximately 20 minutes in each case. Though small in scale, each was large enough to accurately represent a genuine burn at sea. The resulting cloud was then sampled for concentrations of airborne particulates. In addition to sampling the plume, engineers also measured the emissions rate of the un-ignited oil to determine any impact to the atmosphere that floating oil itself may present. The data gathered to this test will greatly add to an ever-growing pool of information.

David Evans, NIST: In 1986 we began with tests in the laboratory. We came here about a year ago to begin a test and this is a 2nd series for those tests at mezzo scale, which means in our terms middle scale. The final scale of application for burning on major oil spills is a full-scale test with offshore components that uh actual responders would use.

Narrator: A test of this scale required the cooperation of a number of agencies from both the U.S. and Canada. To collect the body of information required, the different teams used a variety of analytical equipment from ground-based remote optical sensors to helicopters equipped with sampling devices. Also on hand were 3 blimps, 1 equipped with a sampling package, 1 with a weather platform, and a 3rd with a video camera providing observers with an elevated view of the plumes movements.

As a test site, the Alabama burn provided researchers with a controlled environment in which to familiarize themselves with the complexities of positioning and operating their equipment. In addition, responders could see how

local weather conditions impacted upon the movements of both the fire and the dense, black cloud.

Tom Pritchett, US EPA Environmental Response Team: Particularly, site coordinators are concerned about, if they start the fire, how far downwind are they going to have to evacuate. Until now no one has really looked at what comes out of the smoke in these fires and that's the whole purpose behind the study is to start finding out what's coming out of the smoke prior to trying to do this on a larger scale in the ocean.

Narrator: A larger scale test is planned for the summer of '93 25 miles from the coast of Newfoundland. This cold-water burn will provide the most realistic scenario to date. Because of this Environment Canada has taken full advantage of the Alabama test in order to prepare for the logistical demands of this next phase of the experiment.

Greg Halley, Environment Canada: Well in the Newfoundland burn, which you know is on water as proposed, as compared to on land, so there's a lot of variables there. We will be using all boats and different type vessels so actually here would give us an idea of the heat we have, and distances we have to stay from the fire and how our smoke plume reacts in different wind patterns. And it will give us a good idea of things we can do in Newfoundland.

Narrator: The oil burn program is just one of many ongoing research programs aimed at bringing oil spill technologies up to date. These efforts have garnered

support from numerous international sponsors all in an effort to better manage threatening spills.

Edward Tennyson, US Department of Interior / MMS: Minerals Management Service has a responsibility to assure that the companies that operate off shore oil and gas facilities and pipelines, have a capability to respond to a major spill should it occur. Its unlikely but they do occur from time to time. As part of that, it funds a research program that is designed primarily to ensure that the capabilities for response to spills are state-of-the-art and can be improved over a period of time. The biggest one is the oil spill in situ burning program, which is occurring, has been going on since '83 and now we have some 12 sponsors internationally.

Narrator: As interest and the available pool of information grows, so too does the level of anticipation toward the full-scale test off the coast of Newfoundland. If all goes well, and results show that concentrations of contaminants inside the plume are within acceptable limits, in situ burning may prove to be the technological solution that responders and environmentalists have been searching for.