AURORA COLLEGE

Training Manual

Spill Response in the Beaufort

Aboriginal Affairs & Northern Development Canada

The Beaufort Regional Environmental Assessment (BREA)

April 2014

Preface

Background

The Beaufort Regional Environmental Assessment (BREA) under the leadership of the Oil Spill Preparedness and Response Working Group identified the need for, and funded, the development of a spill response training course for Inuvialuit and Northerners. This manual provides information complementary to overheads prepared for the five-day course. The modular course materials lend themselves to updating.

Mr. Lauri Solsberg of Counterspil Research Inc. was hired by BREA, and contracted through Aboriginal Affairs and Northern Development Canada, to develop the course. Lauri has focused on oil and chemical spill countermeasures, response planning, and training since 1973. Mr. Solsberg was assisted by Mr. Ed Owens (Owens Coastal Consultants Limited) who since 1973 has specialized in the treatment of oiled shorelines and the Shoreline Treatment Assessment Technique (SCAT) which he developed. The work of both Mr. Solsberg and Dr Owens has included many projects in the Beaufort as well as applied research with a northern focus.

Objectives and Course Overview

It is assumed that in addition to large offshore spills from blowouts, pipelines, and tankers, it is more likely that smaller spills from other sources of up to several thousand litres of petroleum products such as heating oil, diesel, and jet A will occur at Beaufort communities in the immediate future during resupply or as the result of other events. Information relating to all relevant scenarios, including, spill sources, causes, and properties, along with response strategies, equipment, and application methods are addressed in the training.

The course focuses on training Northerners to respond to relatively minor incidents of local and regional concern known as Tier 1 and 2 incidents. Instructional information applies to the role that Northerners might also play in larger Tier 3 spills, typically in shoreline protection and treatment as well as nearshore countermeasures - cleanup will likely rely on local knowledge of coastal waters, affected shorelines, and mitigation options.

The course ensures participants are aware of the regulatory framework and possible emergency response roles that formally or informally reflect an Incident Command System (ICS) organization or that are outlined in a contingency plan. Regulations, ICS, and contingency planning are introduced in the course.

Course participants will become familiar with the behavioural and health and safety aspects associated with spills of various petroleum products as well as the practical application of all items comprising the basic spill kits that are kept at communities. Once trained, it is expected that Northerners will be able to effectively use the kits. Their day-to-day experience of living in remote areas also plays a key role in being able to contribute effectively to spill response.

The course will ensure that emergency response needs are met at outlying communities where spills could affect many local resources. Seasonal concerns are addressed for freeze-up, breakup, winter, and open water conditions. A review of commercially available options for each major category of equipment will provide an understanding of selecting and using spill countermeasures according to the logical steps considered in an oil spill response.

Spill response is addressed in the course in terms of the following operations:

- Containment, deflection, protection - booms and other containment methods
- Removal – skimmers, vacuum trucks, sorbents
- Transfer and Storage – pumps, drums, fish totes, tanks, etc.
- Shoreline Treatment – flushing, beach cleaners, manual methods
- Disposal – incinerators, burn pits

In situ burning and chemical dispersants are more sophisticated oil removal techniques than other response options and require considerable logistical support. They are not considered to be feasible response alternatives for the relatively small spills of likely concern. Introductions to burning and dispersants are, however, are included in the course.

A schedule is outlined for 17 sessions that include two field trips and a final exam. Overheads for each session (except for the field work and exam) were prepared separately. To most readily consult information in the manual, refer to the modules listed in the Table of Contents on the next page rather than the Summary of Sessions and Schedule below.

Summary of Sessions & Schedule

	0900-1015	Break	1030-1145	Lunch	1300-1415	Break	1430-1600
Monday	**1.Course Introduction Regulations, Sources, Causes of Spills**		**2. Prevention, Spill Tiers ICS, Response Plans, Roles, Reporting**		**3. Fate, Behaviour & Impacts of Spills in Open Water**		**4. Spill Fate & Behavoiur in Ice**
Tuesday	**5. Health & Safety**		**6.Containment in Open Water**		**7.Containment in Ice**		**8. Removal in Open Water**
Wednesday	**9. Removal in Ice**		**10.Dispersants & In situ Burning**		**11. Storage, Transfer, & Disposal**		**12.Transportation & Logistics**
Thursday	**13.Shoreline Types & Protection**		**14. Shoreline Treatment**		**15. Shoreline Treatment (Field Session)**		
Friday	**16. Review of Equipment Depot (Field Session)**				**17. Test and Course Summary**		

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