



**BC Association for
CRANE SAFETY**

Crane Operator Qualification

INDUSTRY WORKSHOP REPORT

MOBILE CRANE TASK GROUP MEETING #1
WorkSafeBC, Richmond British Columbia
November 21, 2005

Introduction

The BC Association for Crane Safety (BCACS) was established in November 2005 to promote the development of an industry-driven crane operator qualification system in British Columbia.

The association board has representation from various private bodies that have a stake in the development of that system, and includes:

Larry Sinclair	Marine & Pile Driving Contractors Association
Bob Fedderly	Fedderly's Construction
Jim Barkman	Eagle West Tower Cranes Inc.; Eagle West Truck & Crane Inc.
Geoffrey Nielsen	BC Hydro
Gary Kroeker	IUOE Local 115
Peter Sperlich	Log and Timber Building Industry Association
Brian Savage	Western Industrial Contractors
Mike Stekelenburg	Alcan (Heavy Industry Training Advisory Committee)
Rob Magee	GWIL Industries

There are important differences between industries that use similar hoisting devices, and these differences need to be understood and accommodated in order to create a system that works for everyone. The BCACS has therefore initiated a series of stakeholder workshops to gather information and to identify consensus in areas including:

- a) Creating standards and competencies according to industry, site and usage, and equipment type
- b) Including incumbent crane operators as well as new entrants
- c) Supporting the development of appropriate WorkSafe BC regulations and guidelines for the industry
- d) Creating a system to help crane operators achievement and maintain competency
- e) Developing training and testing materials
- f) Making the industry attractive to talented potential new entrants.

The November 21st mobile crane workshop was the first in a series that also includes workshops involving the owners and operators of both tower cranes and mobile cranes. These workshops are the first step in developing a crane operator qualification system that makes sense and has value for all stakeholder groups. The BCACS will take direction from the out comes of these workshops to ensure that the resulting crane operator qualification system is meaningful, enforceable and accessible.

The primary goal of the workshop was to complete a DACUM for a mobile crane operator. Occupational analyses developed by the Construction Sector Council and Alberta Apprenticeship and Industry Training were utilized to expedite the

process. Subsequent roundtable discussions focused on the applicability of a modular system of competency development and explored the diverse cultures of different parts of the mobile crane industry in order to find areas of commonality and to identify differences that need to be respected and accommodated.

MOBILE CRANE TASK GROUP MEETING #1
WorkSafeBC, Richmond British Columbia
November 21 2004

In Attendance:	Rod Griffiths	Griffiths Pile Driving Inc.
	Larry Sinclair	Marine & Pile Driving (Work Group Coordinator)
	Gordon Lindberg	Operating Engineers Local 115
	Bob MacMillan	GWIL Industries
	Mike Maitland	Sterling Crane
	Kerry Hawley	Mega Cranes
	Michael Pelletier	Emil Anderson Construction
	Fraser Cocks	BCACS (Executive Director)
	Betty-Ann Lee	WorkSafe BC (Recorder)
	Andrew Klukas	Andrew Klukas & Associates (Facilitator)

Part 1. DACUM

1.1 Description

A DACUM (“Develop A Curriculum”) process is used to define the various tasks, regular duties and procedures that workers perform in their occupation. This is achieved by gathering together representatives from industry to describe each skill set required to become a competent crane operator. The resulting information is used to develop training guidelines and programs and to define and develop meaningful testing criteria.

1.2 Purpose

The DACUM process was the foundational work required to achieve the goals of this project. In order to streamline and speed up the development process, various sources were brought together and compiled in a single document.

Source materials have already been developed in other jurisdictions and in BC jurisdictions as well as in BC. Rather than starting over from the beginning, we presented these materials to the mobile crane workshop participants. During the workshop the participants selected from these materials to define crane operation competencies that describe how they do business in BC.

1.3 Results

Appendix A contains the document resulting from this work. The content of each competency is a guide and is not intended to be exhaustive. Nonetheless, this definition of competencies was a critical step in developing a meaningful and workable crane operator qualification regime. With a strong solid foundation we can move forward and build a standardized qualification regime that is based on the principle of documented proof of competency.

Part 2. Roundtable Discussion

At the beginning of the workshop a system of training ‘modules’ was outlined whereby various elements of the Mobile Crane Operator DACUM would form discreet training units or ‘modules. This system would allow crane operators to choose a career path based on the progressive accumulation of competencies. As shown in the diagram below, there might be three or four levels of competency in “Rigging”, and various levels for “Operation,” along with other factors. Operators could select the levels appropriate to the equipment they wish to operate or the career paths they are choosing.

As with earlier workshops involving tower crane and boom truck operators, it was agreed that there should be some method of **evaluation** which:

- is standardized
- is tiered or modular with a series of levels that might be based on the type of crane being operated and/or characteristics of the operator
- contains a practical component
- contains a theoretical component

It was agreed that not all of the DACUM would apply to all employers – for example, there would be some backing off for groups like the log home builders and other that make limited and/or site-specific use of equipment. However, companies do not want to see the basic operator requirements to be thinned out through modularization. A basic core requirement should remain intact.

The workshop participants expressed strong interest in a modular system that would create the following scenario: If Boom Truck operators want to get into Mobile or Tower crane (or vice-versa), they will know:

- **what they have**
- **what they need**
- **how to get there**

2.1 Issues Discussed

a) Modules

- How many modules should there be? It was agreed that operators should not have to do a large number of modules just to achieve basic competencies. There would be a limited number that will allow people to start out and work safely.
- Boom truck, tower cranes and mobile crane operator competencies might share many modules in common. However, there would also be some modules that are specific to each.
- The industry will need to determine which modules will include a practical test and what the test will be.

b) **Testing services:** Workshop participants broadly agreed that testing services should be mobile with examiners coming to your yard/site and testing operators on the equipment they normally operate. However, some tests cannot be performed on site and it will be necessary to have a place for operators to go for testing.

c) Cost of training:

- Companies making limited, site-specific use of low capital (old) equipment would prefer not to invest a large amount in training under a system that improves prospects for career development, because they will likely see more workers leaving the industry to become fully qualified crane operators.
- As is done in other industries, the industry can sponsor training through an increase in their WorkSafe BC assessments. If employers decide to sponsor training as part of the resulting crane operator qualification system this would result in a flat cost for each student regardless of region.

2.2 Industry culture and recommendations observations regarding a modular system

Participants were asked to discuss the industry and training from their perspective. A variety of needs and preferences emerged along with several recommendations related to the development of a modular system.

- In the log home building industry the vast majority of work is repetitive and involves lifting less than 2000kg on low capital (old) equipment. Rigging is probably exclusive to the industry as it involves the use of tongs and straps. The industry is concerned about an onerous requirement for crane operation but would like to see basic competencies that cover their safety requirements.
- Companies that use very large cranes require operators who know the basics and have hands-on experience, and who can be evaluated in order that they

can operate 600 tonne crane for several years.

- The piledriving industry typically requires people to work on the ground before they can step up to operate a crane. The industry would like to see a modular approach in order that operators can gauge their level of qualification. The industry uses many attachments that are not typically used in other industries. The industry would benefit a system that produces qualified crane operators and could add its own teaching in the proper use of attachments.
- Companies that make limited use of cranes and crane rental companies would benefit from the assurance that operators have a good basic understanding of load charts, ground pressure, hand signals and rigging. Those renting cranes from other jurisdictions would appreciate the assurance that BC has standards in place.
- Construction companies that make use of cranes tend to be highly supportive of a system that uses a modular approach to create common ground, as this would support greater transferability within the workforce.