

# CRANE OPERATOR COMPETENCIES

## Mobile Hydraulic – 80 Tonnes & Under

K: Indicates that it is a theory competency (knowledge of the crane operator)

W: Indicates that it is a workplace competency (an activity an operator performs)

### 1. Safety (CS)

- |     |   |                          |
|-----|---|--------------------------|
| 1.1 | Demonstrate knowledge of safe working practices for crane operators (K)               | <input type="checkbox"/> |
| 1.2 | Demonstrate knowledge of Workplace Hazardous Materials Information System (WHMIS) (K) | <input type="checkbox"/> |
| 1.3 | Manage first aid in emergency situations (K)  | <input type="checkbox"/> |
| 1.4 | Demonstrate knowledge of power line hazards and high voltage equipment (K)            | <input type="checkbox"/> |
| 1.5 | Comply with WorkSafe BC and OH&S regulations (W)                                      | <input type="checkbox"/> |
| 1.6 | Respond to fire emergencies (W)   | <input type="checkbox"/> |

### 2. Communications (CCOM)

- |     |  |                          |
|-----|--|--------------------------|
| 2.1 | Demonstrate knowledge of personnel involved in crane operations (K)              | <input type="checkbox"/> |
| 2.2 | Demonstrate knowledge of hand signals (K)  | <input type="checkbox"/> |
| 2.3 | Demonstrate knowledge of radio communications (K)                                | <input type="checkbox"/> |
| 2.4 | Demonstrate knowledge of workplace communications (K)                            | <input type="checkbox"/> |
| 2.5 | Use hand signals in the workplace (W)  | <input type="checkbox"/> |
| 2.6 | Use radio communications in the workplace (W)                                    | <input type="checkbox"/> |
| 2.7 | Communicate information clearly and check for understanding in the workplace (W) | <input type="checkbox"/> |

### 3. Cranes (CC)

- |     |  |                          |
|-----|--|--------------------------|
| 3.1 | Demonstrate knowledge of types of cranes and classifications (K)                 | <input type="checkbox"/> |
| 3.2 | Demonstrate knowledge of crane components and attachments (K)                    | <input type="checkbox"/> |
| 3.3 | Demonstrate knowledge of terminology related to craning and craning concepts (K) | <input type="checkbox"/> |
| 3.4 | Demonstrate knowledge of engines and ancillary systems (K)                       | <input type="checkbox"/> |
| 3.5 | Demonstrate knowledge of power transfer for cranes (K)                           | <input type="checkbox"/> |
| 3.6 | Demonstrate knowledge of hoisting terminology, functions and systems (K)         | <input type="checkbox"/> |
| 3.7 | Demonstrate knowledge of regulatory requirements pertaining to cranes (K)        | <input type="checkbox"/> |

**4. Rigging (CR)**

- 4.1 Demonstrate knowledge of lifting theory and forces (K)
- 4.2 Demonstrate knowledge of rigging hardware, materials, tools and manuals (K)
- 4.3 Demonstrate knowledge of types and function of wire rope and chains (K)
- 4.4 Demonstrate knowledge of installation, inspection and storage of wire rope (K)
- 4.5 Demonstrate knowledge of rigging techniques (K)
- 4.6 Use rigging hardware and tools in the workplace (W)

**5. Load Charts (CLC)**

- 5.1 Demonstrate knowledge of determining weight loads using fundamental math functions and calculations (K)
- 5.2 Demonstrate knowledge of loading and lifting (K)
- 5.3 Interpret load charts and load study drawings to configure crane for workplace operation (W)

**6. Transportation & Delivery (ATD)**

- 6.1 Demonstrate knowledge of BC Ministry of Transportation - Commercial Transport rules and regulations as they pertain to transportation of cranes (K)
- 6.2 Demonstrate knowledge to prepare and to transport a mobile crane (K)
- 6.3 Demonstrate knowledge of to assemble and disassemble a crane at a worksite (K)
- 6.4 Prepare and transport a mobile crane to a worksite following all highway and traffic rules and regulations (W)
- 6.5 Assemble and disassemble a crane at a worksite (W)

**7. Site Planning & Crane Positioning (ASPCP)**

- 7.1 Demonstrate knowledge of accurate site assessment tools (K)
- 7.2 Demonstrate knowledge to locate and safely position crane (K)
- 7.3 Conduct an accurate site assessment and safely position a crane in the workplace (W)

**8. Crane Operations (CO)**

- 8.1 Demonstrate knowledge of pre-operational requirements in crane operations (K)
- 8.2 Demonstrate knowledge of crane operations (K)
- 8.3 Demonstrate knowledge to leave a crane unattended (K)
- 8.4 Demonstrate crane set-up per manufacturer’s instructions (including Task 4) (W)
- 8.5 Use a mobile crane to safely pick and carry loads in a workplace (W)
- 8.6 Leave a crane unattended (W)

**9. Maintenance & Service (CMS)**

- 9.1 Demonstrate knowledge of inspecting engines, monitoring devices and hydraulic systems (K)
- 9.2 Demonstrate knowledge of servicing and maintenance procedures on mobile cranes (K)
- 9.3 Complete maintenance checklists (engine on / engine off) and maintain engines to manufacturer’s specifications (W)
- 9.4 Perform routine inspections and maintenance of hydraulic systems (W)
- 9.5 Inspect monitoring devices and control mechanisms (W)
- 9.6 Perform service on engine cooling systems on mobile cranes (W)
- 9.7 Maintain an equipment logbook to retain a permanent written record of maintenance and repairs (W)