

Job Task Analysis (JTA) Documentation for Tower Crane Operator Certification

1. Convening Meetings

1.1 Subject Matter Experts (SMEs)

A meeting was convened with selected SMEs in accordance with the established criteria.

1.2 Goals

The meetings aimed to initiate the JTA process and review the Tower Crane operator certification program. The key objectives were:

1. Reaffirm the characteristics of the target certificant.
2. Determine the required level of competence for certification, i.e. work behaviors.
3. Define task and knowledge domains required for successful performance on each job role.
4. Determine the gaps between target audience knowledge and skills and those required for certification.
5. Determine necessary examinations, experience, and eligibility requirements for certification.
6. Determine whether separate and distinct certifications for various tower crane types are necessary to adequately assess candidate skills and knowledge.
7. Determine and/or verify other eligibility requirements for certification.

1.3 Target Audience

Discussion reaffirmed the definition of the "minimally competent candidate," ensuring alignment with prior JTAs. This candidate is defined as possessing the minimum knowledge, skills, and abilities to safely and effectively operate a tower crane in a professional capacity.

1.4 Tasks & Knowledge

Introduced key terminologies:

- **Work Behavior:** Actions performed to achieve job objectives identified in the JTA. These include observable and cognitive components but exclude knowledge, skills, and abilities (KSAs).
- **Behavior Objective:** A concise statement of what an examinee must be able to demonstrate on an examination. Each behavior must tie directly to a work behavior.

The work behaviors were converted into measurable behavior objectives and categorized into three primary domains:

1. **Pre-Operations:** Those aspects of the job that encompass any of the pre-operational checks, inspections, preventive maintenance and/or meetings necessary to ensure safe and efficient crane operations.
2. **Operations:** Those aspects of the job that pertain to the actual operation of the crane during the workday. This includes communications, load movement, load charts safety rules/regulations, emergency response actions, and crane shutdown procedures.
3. **Technical:** Those aspects of the job that primarily pertain to the physical characteristics of the crane including erection and dismantling, crane nomenclature, of electrical, hydraulic, and mechanical systems.

Domain weightings were determined using SME expertise and validated through a structured weighting process.

1.5 Certification Competence Requirements

It was reaffirmed the certification program aims to certify a minimally competent candidate, assessing only industry-standard KSAs to safely and effectively operate a tower crane.

1.6 Gaps Between Candidate Knowledge and Certification Requirements

The OECP assesses candidate qualifications but does not provide training. The certification focuses on industry-accepted KSAs required for safe and effective Tower crane operations.

1.7 Examination and Eligibility Requirements

Consensus was reached on maintaining both written and practical examinations to comprehensively assess candidates.

Eligibility Criteria:

- Membership in good standing with the International Union of Operating Engineers.
- Possession of a valid DOT or state-issued DMV medical certification.
- Successful completion of a substance abuse test within 90 days of application.
- Minimum of 1,000 hours of documented crane-related experience and/or training within the last five years, of which 500 hours of this 1,000-hour requirement must be in documented, tower related experience and/or training.
- Passing both written and practical examinations.

1.8 Review of Crane-Type Certifications

The group reviewed the validity of separate certifications for different crane types. The group agreed that ultimate responsibility for ensuring competency beyond certification rests with employers and operators. A discussion was held concerning the current use of only one (1) universal and combined written examination that encompasses all the various tower crane categories, i.e. hammerhead, luffing, self-erector, etc. A consensus was reached that many more similarities existed between the various crane types and any unique or distinct aspects associated with any of these cranes could be assessed on a combination written examination. The certification establishes a baseline level of competence necessary for general industry operations.

2. Survey Validation Process

2.1 Survey Distribution

In an effort to validate the developed behavior objectives, a survey was devised and disseminated electronically. The primary purpose of the survey was to obtain from professional tower crane operators the importance and frequency-of-use of identified behavior objectives in tower crane operations.

2.2 Survey Results

The data was analyzed by Prometrics, an independent third-party statistical consulting firm.

3. SME Review Meeting

3.1 Subject Matter Experts (SMEs)

A meeting was convened with selected SMEs in accordance with the established criteria.

3.2 Meeting Goals

The objective was to finalize domain classifications and weightings based on survey results.

3.3 Domain Weightings

Survey results were compared to prior SME weightings and current program data.

3.4 Finalization of Behavior Objectives

The SMEs finalized wording for work behaviors and behavior objectives.

3.5 Adjournment