Crane Assessment

COURSE: API – CRANE LEVEL ASSESSMENT FOR OPERATORS

SCOPE AND APPLICABILITY:

This course will provide theoretical and practical training for offshore personnel in safe crane operations, in accordance with the requirements of the 2D RP API, 7th Edition and industry best practices.

REGULATIONS & STANDARDS

- HSE Lifting Operations and Lifting Equipment Regulations (LOLER) 1998, revised 2013;
- PUWER 1998 (Provision and Use of Work Equipment Regulations), revised 2013;
- NORSOK standard R-003;
- API RP 2D 6th Edition;
- OSHA-1998 29 CFR 1910, 179;
- NORMAS REGULAMENTADORES 11, 34 (MTE – Brasil).

COURSE CONTENT:

1. Discussion of the types of cranes used at sea, including mechanical and non-mechanical cranes;
2. Identification and description of standard components in each type of crane;
3. Identification and description of the basic terminology of the crane and its definitions;
4. Identification and description of the boom angle and load radius and how the load weight directly affects the lifting capacity of any crane, as well as how to use the various tools available (boom angle indicator, load rating tables) to assess and perform a safe lift;
5. Identification and description of the basic principles of lifting, which are affected by different variables, including angle, length and radius of the boom, as well as load weight;
6. Discussion of the following items: lever principles, lifting principles, types of elevators, static loading / on board and dynamic / off-board;
7. Knowledge and understanding of how to read a load classification table;
8. Identification and description of the number of parts of the line and the relationship with the nominal load;
9. Knowledge and understanding of the limitations of the size and type of steel cable used in the boom winch lines, pendants and load winch line;
10. Knowledge and understanding of the lifting capacity of the main and auxiliary hook;
11. Knowledge and understanding of the lifting and load drums of the boom (speed versus traction on the line);
12. Knowledge and understanding of the construction, mechanics, classes, designation and characteristics of the steel cable;
13. Identification and description of the mounting features of the rotary superstructure;
14. Knowledge and understanding of the types of bar structure;
15. Knowledge and understanding of limit devices;
16. Demonstration of how to make pre-departure, pre-operational and post-operation checks;
17. Demonstration of how to fill out a pre-use inspection form;
18. Demonstration of how to perform basic manual signals;
19. Demonstration of how to perform lifting procedures, rotating crane and load control, depth perception, interpretation of the load graph during lifting exercises;
20. Demonstration of how to make an elevation plan and perform three unique types of elevators.

COURSE DESIGN:

Theoretical – 24 hours
Practical – 16 hours
TOTAL: 40 hours

PREREQUISITE(S):

Have a valid certificate of Rigging and Slingging training according to the unit of operation.

In Brazil, it is required to have also a valid NR for crane operators according to the maritime unit.

MINIMUM/MAXIMUM NUMBER OF DELEGATES

This course requires a minimum of 2, and a maximum number of 12 trainees.

To offshore trainings, the course number of attendees will comply with the vessels/rig necessity.

MAIN SAFETY ISSUES:

- Do not put your hand on the load;
- Do not pass under load;
- Do not position body parts between suspended loads;
- Maximum attention during communication between team and operator;
- Hold pre-shift meetings;
- Perform risk analysis;
- Atmospheric conditions;
- Night work.

REQUIRED EQUIPMENT:

- Sling;
- Guide cable/stick;
- Crane.

PROCEDURE FOR PRACTICAL EXERCISES:

- Carrying out the planning of the operation that will be carried out;
- Equipment verification to ensure that it is in accordance with the maintenance schedule;
- Conducting different exercises based on situations of actual operations or simulations according to the level of the operator;
- Point and highlight theoretical concepts during the operation;
- Practical exercises for level 1 operators, he must perform daily inspections on the crane, perform basic movements of operation on equipment without load, inspection of squeaking equipment and knowledge of manual signals;
- Practical exercises of level 2 operators, he must perform daily inspections on the crane, inspection of the squeaking equipment, perform static and dynamic lifts within the vessel or platform, know and have mastery of manual signals, have clear communication with the lifting team, have total mastery and safety in the lifts within the unit;
- Practical exercises for level 3 crane operators, he should perform daily inspections on the crane, check if the equipment is always on the maintenance schedule, have high knowledge of manual signals, communicate with the lifting team, check that all media are operating, perform static and dynamic lifts, operations with boats, inspection of the basket transfer of people, and safety in operations.

CERTIFICATION:

Training certificate signed by responsible Engineer accredited by Brazilian CREA.

CERTIFICATE VALIDITY PERIOD:

Recommendable: 4 years.