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**INDUSTRY STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

SY/T 6430-2017

**Safety regulation for petroleum crane vessel hoisting
operations in shallow sea
(English Translation)**

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1 Scope

This standard specifies the general requirements for safety and emergency response before, during, and after petroleum crane vessel lifting operations in shallow sea.

This standard applies to petroleum crane vessel lifting operations in shallow sea.

2 Normative references

The following documents are essential to the application of this document. For the dated documents, only the versions with the dates indicated are applicable to this document;

for the undated documents, only the latest version (including all the amendments) is applicable to this standard.

GB/T 5082-1985 Cranes - Hand signals

GB/T 29639-2013 Guidelines for enterprises to develop emergency response plan for work place accidents

SY/T 6346 The safety provisions for towing and mooring of mobile platforms in shallow sea

SY/T 6564 The safely rules for tying-up utensils during offshore petroleum operations

Technical Rules for Statutory Inspection of Maritime Towage Ship Inspection

Bureau of the People's Republic of China CGZ (1999) No.018

3.1 Ship and rigging selection

3.1.1

A safe and reliable crane vessel shall be selected according to the needs of lifting operations.

3.1.2

A suitable auxiliary ship shall be selected, based on the performance of the crane vessel and the needs of the lifting operation.

3.1.3

The selection of riggings shall comply with the provisions of SY/T 6564.

3.2 Lifting design

3.2.1

The building organization shall prepare a lifting design plan.

3.2.2

The lifting design plan includes the design of the lifting lugs, the calculation of the center of gravity, the design of the sling, the drag slip design, the ship loading design, the stability design, etc.

3.2.3

The lifting design plan shall be approved by the certification inspection agency.

3.3 Towing and positioning

3.3.1

Before towing a crane vessel that does not have self-propulsion capability, it shall apply to a ship inspection agency to conduct inspections of the crane vessel and auxiliary ships and obtain a certificate of fitness for towing.

3.3.2

The towing and positioning operations of crane vessels shall comply with the provisions of the Technical Rules for Statutory Inspection of Maritime Towage Ship

[Inspection Bureau of the People's Republic of China CGZ (1999) No.018] and SY/T 6346.

3.4 On-site lifting design

3.4.1

Before the operation, the construction party shall prepare an on-site lifting plan based on the characteristics of the operation and obtain the approval of all parties involved in the operation.

3.4.2

The on-site construction plan includes the positioning plan of the crane vessel and the auxiliary ship, the lifting plan, the emergency plan, etc.

3.5.1 Before the operation, the construction party organizes relevant parties to conduct

risk analysis and risk assessment on all aspects of the operation; formulate corresponding safety precautions; carry out technical disclosure on construction plan and safety to the relevant workers.

3.5.2 The lifting operation commander, crane driver, rigger shall be familiar with the lifting plan and strictly follow the lifting plan.

3.6.1 Before lifting, according to regulations, an application for crane vessel registration

shall be made to the relevant departments of the Offshore Petroleum Operation Safety Office of the State Administration of Work Safety.

vessel shall meet the safe operation requirements of the crane and be recorded.

- b) Review the anchor points and keep records.
- c) The anchor cables (chains) of the front and rear windlasses are evenly stressed.
- d) The status and capabilities of the load regulating system and backup load regulating pump are normal.
- e) The vessel's main engine, power supply system, control system are normal.

6.2 Crane inspection

After the crane vessel is in position, the crane shall be inspected but not limited to the following:

- a) The crane braking device, transmission device, pulley block, control system are normal.
- b) The hook height limiter and boom limiter are normal.

- c) The lifting span indicator and lifting weight indicator are normal.
- d) All operating handles, buttons, signals and alarm devices, communication equipment in the crane operating cab are normal.
- e) The boom, crane vessel deck and operating site lighting shall meet the operating requirements.

6.3 Inspection of lifted objects

After the crane vessel is in position, the lifted objects shall be inspected but not limited to the following:

- a) The lifting points of the lifted object, snap rings, rigging, struts, towing system rigging, barge deck, strength and stability analysis of piers, etc. shall meet safety technical requirements.
- b) The specifications and models of rigging and snap rings shall be consistent with the lifting design plan.
- c) Rigging and snap rings shall be inspected by professional inspection agencies.

7 Lifting operations

7.1

Situations where lifting is prohibited

Lifting operations shall not be carried out under any of the following circumstances:

- a) The weight of the lifted object exceeds the rated load of the crane or the weight is unclear.
- b) The fixtures of the lifted objects are not completely released.
- c) The crane brake or safety device fails, the hook nut anti-loosening device is damaged, the wire rope is damaged to the point of being scrapped.
- d) There is no padding between the edges and corners of the lifted object and the wire rope.
- e) The longitudinal and transverse angles of the ship are greater than the vessel's stability requirements.
- f) Poor visibility makes it impossible to clearly see the vessel's deck, lifted objects and command signals.
- g) The wave height and sea conditions in the operating sea area do not meet the requirements for safe operation of crane vessels.