ASME B30.8 Interpretations

Replies to Technical Inquiries
December 1989 — December 1995

FOREWORD

This publication includes all of the written replies issued between the indicated dates by the Secretary, speaking for the ASME B30 Committee, Safety Standards for Cableways, Cranes, Derricks, Hoists, Hooks, Jacks, and Slings, to inquiries concerning interpretations of technical aspects of B30.8, Floating Cranes and Floating Derricks.

These replies are taken verbatim from the original letters except for a few typographical corrections and some minor editorial corrections made for the purpose of improved clarity. In some few instances, a review of the interpretation revealed a need for corrections of a technical nature: in these cases a corrected interpretation follows immediately after the original reply.

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STD.ASME B30.8 INT-ENGL ■ 0759670 0589680 790 ■

Interpretation: 8-8

Subject: ASME B30.8-1993

Date Issued: December 12, 1995

Question (1): For the purpose of designing the crane/barge unit, are the operating list and trim limitations in para. 8-1.2.2(a) applied using:

(a) the loads given in the crane manufacturer's load chart ratings for marine service (including de-rate for machine list); or

(b) the conditions given in para. 8-1.2.2(b)?

Reply (1): Both (a) and (b) apply, but initial design must begin with the crane manufacturer's load chart ratings, then size the barge to meet the requirements of (a) and (b) with that crane mounted on the barge under specified conditions.

The first part of your question, (a), is an operating condition that specifies the maximum allowable list and trim of the barge with the crane operating at the capacities allowed by the crane manufacturer.

The second part of your question, (b), is a design loading condition for a crane or derrick designed for barge mounting that requires the crane to be stable under the various specified conditions. Operation under these conditions depends on both the limitations of the crane as specified by the crane manufacturer and the barge manufacturer; however, the operating list and trim limitations shall not exceed the crane manufacturer's load chart.

Question (2): How is machine list incorporated into stability analysis?

Reply (2): The classical naval architect's approach to designing adequate stability begins with the premise that there will be increasing positive righting arms throughout the range of operation.

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ASME B30.8-1993 Interpretations

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Interpretation: 8-5

Subject: ASME / ANSI B30.8-1988

Date Issued: September 22, 1994

Question (1): In the event that a crawler crane working on a barge cannot be tied down because of the operation, but the crane is blocked (as in stop log), could that also mean secured?

Reply (1): No. The crawler crane is blocked with a stop log only when the stop log engages the tracks to prevent movement fore and aft. Securing is accomplished by tie-downs or other means to prevent shifting or uplifting.

Question (2): If a marine engineer calculates maximum working loads for a land-based crane within the perimeter of a specified working radius on a barge to include machine list, barge list, trim, wave action and wind, and certifies those calculations, could that be considered secured?

Reply (2): No. Securing is accomplished by tie-downs or other methods of physically preventing the shifting or uplifting of the crane.

Question (3): Could a contractor utilizing a crawler crane on a barge using a combination of stop logs and calculations described above meet the definition of "blocked and secured"?

Reply (3): No. Although the term "blocked and secured" is not defined in the volume, the intent of para. 8-1.2.2(b)(2)(e) is to place a land crane in a location on the barge or pontoon that has been established with consideration of the "modified rating" for lifting and be physically blocked to prevent fore and aft or lateral movement. Likewise, the crane should be secured by tie-downs or other means to prevent shifting or uplifting. To block and secure is to physically secure the crane in position to prevent movement during lifting.

Interpretation: 8-6

Subject: ASME B30.8-1993

Date Issued: December 20, 1994

Question (1): Exactly how do you interpret the term "seagoing barges or pontoons"?

Reply (1): The B30.8 volume does not have a definition of "seagoing barge or pontoon." For your information, the U.S. Coast Guard uses the following definition: "Means a nonself-propelled vessel of at least 100 gross tons making voyages beyond the boundary line."

Question (2): Does para. 8-1.3.2(a) apply to seagoing barges or inland barges?

Reply (2): Para. 8-1.3.2(a) applies only to seagoing barges and pontoons.

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Interpretation: 8-6R

Subject: ASME B30.8-1993

Date Issued: March 16, 1995

Question (1): Exactly how do you interpret the term "seagoing barges or pontoons"?

Reply (1): As stated previously, the B30.8 volume does not have a definition of "seagoing barge or pontoon." The definition supplied by the U.S. Coast Guard, who issues the load line certificate for towing beyond the boundary line, is applicable: "Means a nonself-propelled vessel of at least 100 gross tons making voyages beyond the boundary line."

To further clarify the matter, a seagoing barge must be classed "Maltese Cross A-1" to voyage beyond the boundary line established by the Coast Guard. Also, the load line criteria for international unmanned voyage (towing) applies to the floating crane in its towing configuration.

Question (2): Is there a distinction between inland and offshore barges?

Reply (2): The distinction between inland barges and seagoing barges, simply put, is that a barge not meeting criteria of Reply (1) cannot voyage beyond the boundary line, and, therefore, is not a seagoing barge.

Question (3): What is the rationale for requiring "enough watertight compartments for stability," in para. 8-1.3.2(a)?

Reply (3): The rationale for enough watertight compartments is to prevent capsizing or sinking when any two compartments are flooded and the boom stowed and fully loaded with design deck load while making a voyage beyond the boundary line (on the open sea). Additionally, this requirement is not intended to be applicable to barges with less than 100 gross tons capacity or those that remain inside the established boundary.

The concept being that, the safety of a floating crane or floating derrick under tow beyond the established boundary line, is the measure of damage the barge may encounter and survive.

Interpretation: 8-7

Subject: ANSI B30.8-1971 and ASME B30.8-1993

Date Issued: March 16, 1995

Question: What is the rationale for having a supervisor in charge of heavy-lifting operations in Section 8-3.1.3(c) of ASME B30.8-1993 as compared to the requirement found in Section 8-3.2.3(d) of ANSI B30.8-1971?

Reply: Section 8-3.2.3(d) of ANSI B30.8-1971 reads: "The operator shall be responsible for those operations under his direct control. Whenever there is any doubt as to safety, the operator shall have the authority to stop and refuse to handle loads until safety has been assured."

Section 8-3.1.3(c) of ASME B30.8-1993 reads essentially the same: "Each operator shall be held responsible for those operations under the operator's direct control. Whenever there is any doubt as to safety, the operator shall consult with the supervisor before handling the loads."

The current wording of B30.8 was developed to include the responsibility of management in maintaining a safe work environment.

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Interpretation: 8-3

Subject: ASME/ANSI B30.8-1988

Date Issued: March 11, 1993

Question: Does paras. 8-1.2.2(a)(1) and 8-1.2.2(b)(1) apply to the crane (or derrick) only or do they apply to the barge with the crane as a complete system?

Reply: Sections 8-1.2.2(a)(1) and 8-1.2.2(b)(1) of B30.8-1988 applies to the crane and barge as a complete system or unit. Section 8-1.2.2 applies only to stability and therefore considers the crane structurally integral with the barge or pontoon in accordance with Section 8-1.2.1, Structural Competence.

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ASME B30.8-1993 Interpretations

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January 1990 – June 1993

FOREWORD

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Interpretation: 8-4

Subject: ASME/ANSI B30.8-1988

Date Issued: June 21, 1993

Question: A four-drum friction hoist on a 145-ton lattice boom floating crane equipped with an Eddy current coupling, or magnetic clutch, is powered by an AC wound rotor induction motor and is driven through a reduction gear at the output end of the Eddy current coupling. Through the coupling by means of a clutch operating handle, the boom hoist/lower speed can be varied from zero to maximum while motor speed and direction remain constant. When the coupling is de-energized, through either the clutch operating handle or by loss of power, electric brakes at the coupling output shaft engage.

Lowering of the boom may be accomplished by either using Eddy current clutch or allowing the boom to free-fall by releasing the air clutches and using the air brakes to control lowering. If the air-operated frictions were interlocked with the Eddy current clutch such that it would preclude "live" lowering of the boom, would this fulfill the intent of Section 8-1.6?

Reply: Yes, if the air-operated frictions are interlocked with the Eddy current clutch such that it would preclude "live" lowering of the boom.

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