



INTERNATIONAL ASSOCIATION OF DRILLING CONTRACTORS

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6 September 2005

Docket Management Facility
[Docket: USCG 2005-20052]
U.S. Department of Transportation
400 Seventh Street SW
Washington, DC 20593-0001

Re: Potable Water on Inspected Vessels

To Whom It May Concern:

The International Association of Drilling Contractors is a trade association representing the interests of the owners and operators of oil, gas, and geothermal well drilling equipment worldwide. Our membership includes all companies currently operating mobile offshore drilling units (MODUs) under U.S. flag, all companies operating MODUs in areas subject to the jurisdiction of the United States, and all companies operating MODUs competitively, worldwide.

We are pleased that the Coast Guard has presented industry with the opportunity to address the issues associated with implementation of Section 416 of the Coast Guard and Marine Transportation Act of 2004 at this early stage. We offer the following comments and observations with respect to the request for specific comments and information presented in the 11 July 2005 *Federal Register* (70 FR 39700):

A. What other factors should be considered in determining the amount of potable water that should be available on a vessel?

1. In response to this question, and others below, we believe that it is necessary for the Coast Guard to differentiate between vessels that may be designed after the promulgation of regulations to implement Section 416 of the Coast Guard and Marine Transportation Act of 2004 and those designed prior to this date. Design standards are extremely difficult to implement retrospectively, and operational or testing standards may need to be tailored to the individual potable water system and its source(s) of supply.
2. By “other factors” we presume that the Coast Guard means factors in addition to those specified in the statute. In this regard, two significant factors are:
 - a. Whether or not the vessel is (or will be) equipped to generate its own supply of potable water, and
 - b. If so equipped, whether or not the area and nature of its operations would restrict the operation of potable water generation plant.

It may be stating the obvious, but a vessel that reliably generates potable water does not require the same capacity of tankage for storage of potable water as a vessel that relies upon external sources of supply.

3. Notwithstanding the language of the statute, we could not find guidance from the Centers for Disease Control or Prevention and the Public Health Service that speaks to the amount or quality of water to be carried by ships other than “cruise ships.”
4. Another factor that must be considered is the provision of bottled water. Where water production systems are used, both the required quantity and quality of the water production system can be affected if bottled water is provided for drinking.

B. What design practices and policies are used for potable water systems on vessels?

1. It seems to us that it would have been appropriate for the Coast Guard to compile an initial list of known design practices and policies and enter it into the docket, rather than asking that the public provide this information. Nonetheless, we note the existence of the following which may be relevant to water supply on certain classes of inspected vessels:
 - a. *MSC Guidelines for Review of Potable Water Systems*, Procedure Number: E1-21, Revision Date: 01/04/2000. Appears to be applicable to all inspected vessels and includes references to applicable Coast Guard regulations. The referenced regulations must be considered industry standards, such as the ISO standards referenced in the notice, are to be considered.
 - b. *Vessel Sanitation Program Construction Guideline*, (July 2005, Centers for Disease Control and Prevention) Contains no clear statement of applicability, but clearly focused on the cruise vessel industry.
 - c. *Handbook on Sanitation of Vessel Construction*, (1965, U.S. Public Health Service) Predecessor to the above, but not so limited in scope.
 - d. *Vessel Sanitation Program Operations Manual* (August 2005, Centers for Disease Control and Prevention) Contains no clear statement of applicability, but clearly focused on the cruise vessel industry.)
 - e. *21 CFR 1240*. (Food and Drug Administration (FDA) – Control of Communicable Diseases.) Includes provisions applicable to watering points, pier water systems, treatment aboard conveyances, and water boats employed by conveyances (including vessels) engaged in interstate traffic. Cross references to 40 CFR 141.
 - f. *21 CFR 1250*. FDA – Interstate Conveyance Sanitation. Provisions applicable to potable water systems on vessels in interstate traffic.
 - g. *40 CFR 141*. Environmental Protection Agency (EPA) – National Primary Drinking Water Regulations. Applicable to “public water systems, with exceptions – excludes carriers in interstate commerce. Establishes maximum contaminant levels. Unlikely to be directly applicable to water systems on most vessels.
 - h. *40 CFR 142*. (EPA – National Primary Drinking Water Regulations Implementation.) Provides for State administration of regulations under approved programs – excludes carriers in interstate commerce.
 - i. *40 CFR 143*. (EPA – National Secondary Drinking Water Regulations.) Provides guidelines for control of contaminants the primarily affect the aesthetic qualities of drinking water.
 - j. *42 CFR 71*. (Public Health Service – Foreign Quarantine.) Provides for implementation of International Health Regulations of the World Health Organization (WHO), which include provisions relating to water supply.
 - k. *WHO Guidelines for Drinking-Water Quality* (Third edition, 2004).
 - l. *Rolling Revision of the WHO Guidelines for Drinking-Water Quality – Guide to Ship Sanitation* (October 2004). “Not for citation” but under development by the World

Health Organization and publicly available as a draft for review and comment – will address water production, storage and distribution on board ships, and intended to apply to “all types of ships.” It is noteworthy that U.S. Coast Guard personnel acknowledged as participants in the development of the draft.

- m. *International Health Regulations* (WHO, May 2005) These Regulations will enter into force in 2007 and Member States have five years following the date of entry into force to bring their surveillance and response capacities into line with the legislation. Article 20 of the Regulations includes provisions for Ship Sanitation Control Certificates and examinations addressing adequacy of shipboard water source, storage and distribution. The status with respect to the U.S. is not clear; however, the existing International Health Regulations are enforced by the Public Health Service under 24 CFR 71.
 - n. *Manual of Naval Preventive Medicine: Chapter 6: Water Supply Afloat* (2005). Provides useful guidance on operation and testing.
 - o. *Water Supply and Wastewater Disposal Manual-- COMDTINST M6240.5*. (October 1999) Provides useful guidance on operation and testing. We would note in particular that the manual only calls for routine testing of pH and residual halogen, and for vessels operating in seawater, salinity (per desalination unit instructions).
2. We would suggest that the above, along with any additional standards identified by the public, and any additional overlapping regulations, be identified in the docket for consideration as this project progresses to rulemaking.
 3. The provisions of 21 CFR 1240 and 1250 are applicable to certain inspected vessels engaged in “interstate traffic” and there could be substantial overlap with any regulations proposed by the Coast Guard. Similarly, 42 CFR 71 is applicable to certain inspected vessels in foreign trade. Accordingly, the Coast Guard should consult with the FDA, EPA, CDC and PHS to assure that any regulations developed under this docket are consistent with those of these agencies and that control and enforcement responsibilities are defined and understood, both by the agencies and the public. It may be appropriate to develop and make available to the public, a Memorandum of Understanding among the involved agencies to clarify authorities and responsibilities, including investigation and enforcement
 4. We would also note the possibility that States or municipalities may enforce standards relating to potable water supply on certain inspected vessels. If regulations are proposed, the Coast Guard should clearly state to what extent, if any, that its regulations would preempt State or local standards relating to potable water supply.

C. Are periodic water tests conducted on U.S. vessels to determine continued potability?

1. Our members report employing a variety of tests on a periodic (weekly, quarterly, semi-annually, or annually) and “on occasion” basis (*e.g.*, when water is taken from a supply boat.). The tests are, appropriately, dependent upon how the water is supplied and, if produced on board, the treatment system being used. Weekly testing for residual halogen is common.
2. Use of shore-based laboratories is considered necessary for some tests, but can be problematic for MODUs as there are time limits on the testing of samples. This can generally be overcome in the United States, but can be extremely difficult in isolated foreign locations.

D. What protocols or test methods are being used and who is conducting the testing?

1. Our members report using a variety of commercially available water test kits for on-board testing by qualified rig personnel as well as using periodic (quarterly, semi-annually or annually) testing by certified laboratories.

E. What industry standards could be applied to the design and testing of potable water systems on vessels?

1. We are unaware of any industry standard that we believe can be generally applied across the range of inspected vessel types.

F. Should the Coast Guard consider incorporating the International Organization for Standardization (ISO) standards 15748-1 on Ships and marine technology—Potable water supply on ships and marine structures— Part 1: Planning and Design and 15748- 2 on Ships and marine technology— Potable water supply on ships and marine structures—Part 2: Method of calculation?

1. No. For the reasons identified in the enclosed analysis of the standards, IADC does not believe that they should be incorporated by reference into Coast Guard regulations.

We would also ask that, if this is progressed to a rulemaking, that the Coast Guard clearly define the intended applicability of the rule. Our primary concerns in this regard are:

- *The applicability to foreign flag vessels coming under U.S. jurisdiction.* We note that 46 USC 3303 does not distinguish between vessels of the United States and foreign vessels. Does the Coast Guard believe that the provisions of 46 USC 3303 would apply and generally exclude foreign vessels from regulations to implement Section 416 of the Coast Guard and Marine Transportation Act of 2004?
- *The potential extension to foreign flag MODUs operating on the Outer Continental Shelf.* Under the provisions of 33 CFR 146.205 (issued under the authority of the OCS Lands Act, not the vessel inspection statutes), the Coast Guard has applied the operating standards of 46 CFR part 109 to foreign flag MODUs operating on the OCS. If future rulemaking to implement Section 416 of the Coast Guard and Marine Transportation Act of 2004 results in operating standards in 46 CFR part 106, it would have the effect of extending the standards to foreign flag MODUs. We believe that it would be inappropriate for the Coast Guard to extend standards for potable water to foreign flag MODUs without applying similar standards to all OCS facilities.

If you have any questions regarding this matter, please contact me by phone at: (713) 292-1964.

Sincerely,



Alan Spackman
Director, Offshore Technical
and Regulatory Affairs

IADC analysis of the suitability of ISO 15748-1 and 15748-2 for incorporation by reference

Regarding 15748-1

Section 2 contains normative references that “contain provisions which, through reference in this text, constitute provisions of this part of ISO 15748.”

Comment: Many of the normative references are developed only for SI system of units, making their acceptability as normative references difficult, if not impossible, for installations where U.S. Customary units are used for design. Also, the normative references may not comply with Coast Guard regulations relating to design of shipboard piping systems. Will the U.S. Coast Guard accept the ISO standards listed for material qualification under its regulations?

Section 3.8 defines “potable water” as “water suitable for human consumption and use in compliance with the quality requirements laid down in the applicable statutory provisions,”

Comment: Thus, irrespective of any regulatory incorporation by reference of this standard, it would still be necessary for the Coast Guard to define quality requirements for potable water. If the Coast Guard does set such standards, it must address the issue of whether or not there will be Federal preemption of State or local water quality standards for inspected vessels in certain services.

Section 4 provides that: “Any accommodation areas on ships and marine structures that are not provided with a dispensing facility from a central potable water supply shall be equipped with a sufficiently sized potable water container.”

Comment: If taken literally, this would require that a potable water container be provided in any accommodation area, irrespective of size or use, not served by a central potable water supply.

Section 5.1 provides that potable water “shall be free of pathogenic microorganisms” (emphasis added).

Comment: Standards for public water supply systems in the United States generally do not require absolute elimination of pathogenic microorganisms, rather they require that testing establish that the levels of certain indicator organisms are below threshold levels. For example:

EPA’s surface water treatment rules require systems using surface water or ground water under the direct influence of surface water to (1) disinfect their water, and (2) filter their water or meet criteria for avoiding filtration so that the following contaminants are controlled at the following levels:

- Cryptosporidium (as of 1/1/02 for systems serving >10,000 and 1/14/05 for systems serving <10,000) 99% removal.
- Giardia lamblia: 99.9% removal/inactivation.
- Viruses: 99.99% removal/inactivation.
- Coliform: No more than 5.0% samples total coliform-positive in a month. (For water systems that collect fewer than 40 routine samples per month, no more than one sample can be total coliform-positive per month.) Every sample that has total coliform must be analyzed for either fecal coliforms or E. coli if two consecutive TC-positive samples, and one is also positive for E. coli fecal coliforms, system has an acute MCL violation.

IADC analysis of the suitability of ISO 15748-1 and 15748-2 for incorporation by reference

Section 5.1 also provides that potable water "shall be colourless, clear, cool, odourless and acceptable with respect to taste" is excessive.

Comment: Colorlessness, clarity, and odourlessness are not typically mandatory standards applied to public water supplies. Hot potable water is required for some services, so "cool" temperature cannot be a requirement. Acceptability with respect to taste is highly subjective, as evidenced by the sale of "designer" bottled water in areas where adequate public water supplies are readily available.

Section 4 and 5 state that "potable water characteristics shall comply with the potable water regulations stated by the authorized national governmental bodies."

Comment: If incorporated by reference, it would be necessary to define the authorized national governmental body for the purposes of these provisions.

Section 5.2.7 requires that "Plastics and other non-metallic materials shall conform to the requirements and recommendations concerning the suitability of these materials to potable water, stated by the authorized national bodies."

Comment: If incorporated by reference, it would be necessary to define which requirements and recommendations, if any, of "national bodies" apply.

Section 7.1 requires that "the following regulations and directives shall be observed:
-- rules for classification and construction of seagoing ships stated by the relevant classification society;
-- technical rules given by a marine employer's liability insurance (if applicable) . . ."

Comment: It is inappropriate to require or imply that all vessels must meet classification society rules, particularly the rules for "seagoing" ships. It is also inappropriate to imply that an undefined list of technical rules that may be developed by a marine insurance underwriter would apply – this is entirely a commercial matter.

Section 7.2 states: "Fittings and appliances shall be marked legibly and permanently with the manufacturer's designation or name in order to readily provide identification of the product at any time. The marking shall comply with the applicable regulations."

Comment: It is neither practicable nor necessary that all fittings are legibly marked so as to provide identification of the product at any time: E.g., internal fittings on an appliance, valve or faucet.

Section 7.3.1 states: "For safety reasons all components shall be designed to sustain the same working pressures; this pressure shall comply with the highest set pressure of a safety valve within the system."

Comment: This clause is contradictory to clause 15.3.1. If a pressure reducer is installed in a portion of a system, it should not be necessary to have components downstream of the pressure reducer rated at the same pressure as the highest pressure portion of the system.

IADC analysis of the suitability of ISO 15748-1 and 15748-2 for incorporation by reference

Section 8.1 states: “For air pipes, filling pipes and overflow pipes see the requirements of the relevant classification society. The filling connection for drinking water tanks shall be in accordance with ISO 5620-1.”

Comment: Conformance with ISO 5620-1 is unnecessarily restrictive.

Section 10.1 states “Taking installation and operating instructions into consideration, the fittings and flanged joints to be selected for the pipes listed in Tables B.1 to B.3 may be used without special proof of suitability.”

Comment: Fittings and flanged joints should be subject to the same tests of suitability and any other components of the system. Further Tables B.1 to B.3 are developed only for SI system of units; if this approach is accepted an analogue in U.S. Customary units would need to be developed.

Section 10.3.7 states: “Brazing and soldering compounds shall not contain lead.”

Comment: A dangerous absolute. At a minimum, a test method and threshold value for lead content should be stated.

Section 12 provides that: Potable water supply systems shall be fitted with approved non-return valves downstream of the supply pump or water reservoir in order to prevent water from flowing back into the potable water tank. Only protective fittings carrying the test label (sic) of the national approving authority shall be used (if applicable).

Comment: This presumes that there is a “national approving authority” for such fittings.

Section 14.3 states: “Only non-controllable safety valves may be used. They shall be fitted in the water area.”

Comment: What is “the water area”?

Section 15.3.1 states: “Closed water heaters for potable water operating at a nominal pressure of PN 6 may only be used if a pressure reducer (setting pressure of 6 bar) is integrated into the cold water feed line upstream of the water heater. The pressure reducer may be dispensed with if operating pressures of more than 4,8 bar cannot occur at the connecting point of the water heater.”

Comment: “PN 6” is undefined within the standard.

Section 16.1 states “It cannot always be taken for granted that on-loaded or shipboard-converted potable water always meets or maintains the quality defined by the authorized national bodies. Hence, a microbiological examination of the quality of the potable water shall be conducted annually (sic).”

Comment: Inflexible – conditions may warrant the testing be done more frequently.

IADC analysis of the suitability of ISO 15748-1 and 15748-2 for incorporation by reference

Section 17.6 requires: "Potable water lines shall be marked adequately-recommended at distances of 5 m and in areas of branch-offs in such a way that they may be unmistakably identified as lines carrying potable water. Potable water hoses shall be marked correspondingly. Identification marking shall occur in compliance with ISO 14726-1 and 14726-2.

Comment: Marking in accordance with ISO 14726-1 & 2 is excessive.

Regarding 15748-2

Section 2 contains normative references that "contain provisions which, through reference in this text, constitute provisions of this part of ISO 15748."

Comment: Many of the normative references are developed only for SI system of units, making their acceptability as normative references difficult, if not impossible, for installations where U.S. Customary units are used for design. Will the U.S. Coast Guard accept the ISO standards listed for material qualification under its regulations?

Section 3.1 states: The consumption of potable water depends on the type of ship, underway time (time the crew and passengers are embarked), number of potable water dispensing and supply points and the cruising area.

Rough calculations of the daily potable water requirements should be based on the guide values in Table A.1.

Determination of potable water consumption with respect to the planned/existing dispensing points should be based on the guide values in Table A.2 for cargo ships and in Table A.3 for passenger ships. (emphasis added)

Comment: The drafters of the standard were careful to indicate that they presented "guide values" that would not necessarily be appropriate in all circumstances. For some vessel types and services it is appropriate to ask if potable water service, of any type, is required, or even if it may be sufficient to offer bottled water for sale.