# Inspected Towing Vessel Inspector Job Aid

**Name of Vessel**

<table>
<thead>
<tr>
<th>Official Number</th>
<th>Activity Number</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Date Completed</th>
<th>Third Party/Class</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Location**

**Routes**

- [ ] Oceans
- [ ] Coastwise
- [ ] Limited Coastwise
- [ ] Great Lakes
- [ ] Lakes/Bays/Sounds
- [ ] Rivers

**Coast Guard Option:**

- [ ] Inspection for Certification (COI)
- [ ] Annual
- [ ] Drydock

**TSMS Option**

- [ ] Inspection for Certification (COI)
- [ ] Damage Survey
- [ ] Other:

**Marine Inspectors & Vessel Examiners**

1. __________________
2. __________________
3. __________________
4. __________________

---

Job Aid ITVI
Rev. November 2018

DCN: MPS-JA-TCY-ITVI(1)
Use of Inspected Towing Vessel Inspection Book:

This examination book is intended to be used as a job aid by Coast Guard inspected towing vessel inspectors and examiners for use on towing vessels regulated under Subchapter M. Each book contains an extensive list of possible inspection items. The depth and scope of the inspection must be determined by the Marine Inspector or Vessel Examiner based on their observations.

Marine Inspectors and Vessel Examiners must pay close attention to the applicability dates of the regulations when conducting inspections to determine which regulations and/or standards apply.

The tasks contained within this Job Aid are not intended to limit the scope or depth of inspection. The following symbols indicate:

- The check box should be a running record of what has been inspected and does not imply that the entire system has been inspected or that all or any items are in full compliance.

- “T” This symbol indicates items that should be inspected during a Towing Safety Management System (TSMS) COI for renewal or initial. There is no requirement for the CG to conduct annual exams or endorse a COI for a TSMS vessel on an annual basis.

- Indicates items that are examined during a CG annual certificate for inspection. Annual inspections are less detailed in scope and should focus on essential systems. Other systems may be inspected if objective evidence warrants expansion of the exam. Objective evidence can include failure to meet inspection requirements listed in this job aid or failure of the Safety Management System.

This document does not establish or change Federal laws or regulations. References given are only general guides. Refer to CFRs, IMO publications, NVIC’s, CG-CVC Policy Letters, CG-CVC MMS documents, and any locally produced cite guides for specific regulatory references. This Job Aid does not constitute part of the official inspection record. Additional decision aids for Subchapter M can be found via the Towing Vessel National Center of Expertise (TVNCOE) website: TugSafe and TugSafe Central.
# Table of Contents:

## Section 1: Pre-Inspection Items
- **Vessel Information** ................................................................. 1
- **Applicability** ........................................................................ 2
- **Involved Parties** .................................................................... 2

## Section 2: Inspection Items ................................................................. 4

## Section 3: Appendices
- **Confined Space Entry** ........................................................... 9
- **Operational Risk Assessment** ................................................. 11
- **Notes** .................................................................................. 12
- **Conversions** ......................................................................... 15
Section 1: Pre-Inspection Items

**Vessel Information:**

- Research vessel details: MSM I/12.G.5

<table>
<thead>
<tr>
<th>Third Party Organization</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Last Drydocking Date</td>
<td>Next Drydocking Date</td>
</tr>
<tr>
<td>Location of Last Drydocking</td>
<td></td>
</tr>
<tr>
<td>Date of Last Audit and Survey</td>
<td></td>
</tr>
<tr>
<td>Audit:</td>
<td>Survey:</td>
</tr>
<tr>
<td>Outstanding deficiencies/conditions or TPO non-conformities:</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>International Route</th>
<th>Conversions / Modifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Call Sign</td>
<td></td>
</tr>
<tr>
<td>Gross Tons</td>
<td></td>
</tr>
<tr>
<td>Built Date (use delivery date)</td>
<td></td>
</tr>
<tr>
<td>Overall Length (in feet)</td>
<td></td>
</tr>
</tbody>
</table>

- Reviewed history (narrative, deficiencies, and special notes).
- Verified user fees.
- Generate a new activity.
- Verified Certificate of Financial Responsibility is valid.
- Verified TSMS option
- Vessel current on audits/surveys.
**Applicability:**

- Verified authority.  
  - 46 USC 3301(15)  
  - 46 CFR 136.212

- Verified route (freshwater/saltwater service).  
  - 46 CFR 137.300  
  - 46 CFR 136.230

- Verified inspection option.  
  - 46 CFR 137.200  
  - 46 CFR 137.202

**Involved Parties:**

- Identified vessel’s representative.  
  - 46 CFR 137.202

- Determined location and time of inspection.  
  - 46 CFR 137.202

- Discussed inspection expectation (scope).  
  - MPS-PR-SEC-01

<table>
<thead>
<tr>
<th>Owner or Representative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual</td>
</tr>
<tr>
<td>Phone Number</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Third Party Company</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual</td>
</tr>
<tr>
<td>Phone Number</td>
</tr>
</tbody>
</table>
Safety and Potential Hazards (See section 3).

- Identified potential hazards.
  - NFPA 306
  - 29 CFR 1910
  - 29 CFR 1915.4

- Identified possible confine space issues.
  - MSM I/10 App.A

- Prepare personal protective equipment.
  - MSM I/10 App. A
  - Quattro Operator's Manual

- Verify team knowledge on policy for leaving a space due to hazardous condition.
  - MSM I/10 App. A

- Verify competent person scope of responsibilities.
  - MSM II/A.5
Section 2: Inspection Items

1. Inspect external portions of vessel prior to embarkation
   - 46 CFR 144.160(a) & (b)
   - 46 CFR 67.121

2. Inspect Vessel Security Plan or Alternative Security Program
   - 46 CFR 140.660
   - 33 CFR 104.120(a)

3. Inspect security records
   - 33 CFR 104.235(b)(1)
   - SOLAS 14 XI-2/4.2

4. Inspect security equipment
   - 33 CFR 104.405(a)(9)
   - SOLAS 14 XI-2/6

5. Evaluate crew competency
   - 33 CFR 104.200(b)(2)
   - SOLAS 14 XI-2/4.2

6. Review Certificate of Inspection (COI)
   - 46 CFR 136.200
   - 46 CFR 136.220

7. Verify vessel's stability documents
   - 46 CFR 144.300(a)
   - 46 CFR 144.305

8. Inspect Merchant Mariner Credentials (MMCs), Medical Certificates & Transportation Worker Identification Credentials (TWICs)
   - 46 CFR 15.515
   - 46 CFR 15.805(a)(5)

9. Inspect compliance with Drug and Alcohol Program
   - 46 CFR 16.401

10. Inspect personnel records and emergency duty station assignments
    - 46 CFR 140.400(a)
    - 46 CFR 140.400(b)

11. Verify State Registration
    - 33 CFR 173.21
    - 33 CFR 173.23

12. Verify Certificate of Documentation (COD)
    - 46 CFR 67.7
    - 46 CFR 67.313

13. Inspect Federal Communication Commission (FCC) documents
    - 47 CFR 80.403

14. Review Health and Safety Plan
    - 46 CFR 140.500
    - 46 CFR 140.505

15. Inspect logbooks, towing vessel record (TVR) or TSMS record
    - 46 CFR 140.905

16. Inspect Nontank Vessel Response Plan (NTVRP)
    - 33 CFR 155.5015

17. Oil Record Book (if required)
    - 33 CFR 151.25(a)
    - 33 CFR 151.25(i)

18. Inspect garbage management plan and placard(s)
    - 33 CFR 151.51
    - 33 CFR 151.57(a)

19. Inspect ballast water management documents
    - 33 CFR 151.2060

20. Verify compliance with the Vessel General Permit (VGP)
    - VGP 1.5.1.1 & 10
    - VGP Table 1
21. Verify crew training
46 CFR 140.410
46 CFR 140.415

22. Verify documentation applicable Towing Safety Management System (TSMS)
46 CFR 138.115
46 CFR 138.305(f)

23. Inspect navigation assessment
46 CFR 140.635
46 CFR 140.640

24. Inspect charts and publications
46 CFR 140.705(b)(1)
33 CFR 164.72(b)(1)

25. Inspect radar(s)
46 CFR 140.710
33 CFR 164.72(a)(1)

26. Inspect communications equipment
46 CFR 140.715(a)
33 CFR 164.72(a)(3)

27. Inspect navigation lights and dayshapes
46 CFR 140.720
46 CFR 143.415

28. Inspect sound signaling device(s)
46 CFR 140.720
33 CFR 83.33 (Rule 33)

29. Inspect fathometer/echo depth-sounding device
33 CFR 164.72(a)(5)

30. Inspect vessel search lights
46 CFR 140.725(b)
33 CFR 164.72(a)(2)

31. Inspect electronic position fixing device (GPS)
46 CFR 140.725(c)
33 CFR 164.72(a)(6)

32. Inspect magnetic compass/swing meter
46 CFR 140.725(d)
33 CFR 164.72(a)(4)

33. Inspect general alarm system
46 CFR 143.235
46 CFR 143.245

34. Inspect alarms at operating station(s)
46 CFR 143.230(a)

35. Inspect internal communications
46 CFR 143.240(b)

36. Inspect pilothouse alerter system or Bridge Navigation Watch Alert System (BNWAS)
46 CFR 143.450(a)
SOLAS 14 V/19.2.2.4

37. Inspect Automated Identification System (AIS)
33 CFR 164.46

38. Verify operating station visibility
46 CFR 144.905(b)

39. Inspect survival craft
46 CFR 141.305
46 CFR 141.330

40. Inspect life jackets
46 CFR 141.340

41. Inspect immersion suits
46 CFR 141.350

42. Inspect ring life buoy
46 CFR 141.360
46 CFR 160.050

43. Inspect distress signals
46 CFR 141.375
46 CFR 141.375(c)

44. Inspect Emergency Position Indicating Radio Beacon (EPIRB)
46 CFR 141.380
47 CFR 80.1085(a)(6)
45. Inspect line throwing equipment 46 CFR 141.385
46 CFR 160.040
46. Verify fire hazards minimized 46 CFR 142.220(a)
46 CFR 143.220(a)
47. Inspect fire fighter’s outfit 46 CFR 142.226(a)
48. Inspect fire axe 46 CFR 142.227
49. Inspect portable firefighting extinguishers 46 CFR 142.230(d)
SOLAS 14 II-2/10.3
50. Inspect semi-portable firefighting equipment 46 CFR 142.300
46 CFR 142.315(a)
51. Inspect fixed fire-extinguishing system 46 CFR 142.240(a)
46 CFR 142.215
52. Inspect portable fire pump and equipment 46 CFR 142.325(e)
53. Inspect fixed fire pump and fire main 46 CFR 142.325(a)
54. Inspect fire-detection system 46 CFR 142.330(a)
55. Inspect main propulsion system 46 CFR 143.205(c)
56. Inspect fuel system 46 CFR 143.255
46 CFR 143.265
57. Inspect bilge system 46 CFR 143.275
46 CFR 143.205
58. Examine unfired pressure vessels (UPVs) 46 CFR 143.300(c)
59. Inspect steering gear 46 CFR 137.220(d)
60. Verify additional requirements for vessels that move tank barges carrying oil or hazardous materials in bulk
46 CFR 143.585(a)
46 CFR 143.600
61. Inspect electrical conductors, connections and equipment 46 CFR 143.575(a)(1)
46 CFR 143.575(a)(9)
62. Inspect main service generator(s) and prime mover(s) 46 CFR 143.555(a)(2)
46 CFR 143.555(b)(1) & (b)(3)
63. Inspect battery installation 46 CFR 143.555(b)(9)
64. Inspect distribution panels and switchboards 46 CFR 143.560
65. Inspect hatches and Class-1 watertight doors 46 CFR 144.305
46 CFR 144.330
66. Inspect watertight bulkhead penetrations 46 CFR 143.400(h)
46 CFR 143.265(d)(2)(iii)
46 CFR 144.200 & .215
ABS 7-4-1/1
67. Inspect hull structure
68. Inspect Marine Sanitation Device (MSD) 33 CFR 159.7(a)(1)
33 CFR 159.7(a)(2)
69. Inspect oil transfer procedures and pollution placard 33 CFR 155.720
33 CFR 155.730
70. Inspect transfer hose(s)/piping, fittings and containment 33 CFR 154.500(a)
71. Inspect Oily Water Separator (OWS)  
   33 CFR 155.380  
   MARPOL I/14
72. Inspect handrails, bulwarks, storm rails & fall overboard prevention procedures  
   46 CFR 144.800  
   46 CFR 144.810
73. Inspect freeing ports and scuppers  
   46 CFR 137.325  
   46 CFR 144.135
74. Inspect air ports, dead covers and vent openings  
   46 CFR 144.605
75. Inspect fuel tank vents  
   46 CFR 143.265(c)
76. Inspect towing gear for towing along side or pushing ahead  
   46 CFR 140.801 & .805  
   46 CFR 140.820
77. Inspect terminal gear - towing astern  
   46 CFR 140.801 & .805  
   33 CFR 164.74
78. Inspect emergency procedures  
   46 CFR 140.801(c)
79. Inspect hull for defects during an underwater survey  
   46 CFR 137.335(b)  
   NVIC 01-89 Encl. 1/2.a
80. Inspect steel and aluminum hulls  
   46 CFR 144.200  
   46 CFR 144.205
81. Inspect hull markings  
   46 CFR 144.160  
   46 CFR 67.120
82. Inspect main propulsion propeller(s)  
   46 CFR 137.330  
   46 CFR 144.200
83. Inspect tailshaft(s) and stern bearing(s)  
   46 CFR 137.300  
   46 CFR 137.330(a)(2)
84. Inspect rudder installation  
   46 CFR 137.330 & 143.550  
   ABS 3-2-14/1
85. Inspect hull appendages  
   46 CFR 137.220/.330  
   ABS 7-4-1/1
86. Inspect non-propulsion thruster(s)  
   46 CFR 137.330  
   ABS 7-4-1/1 & 7-9-6/1.3
87. Verify confined spaces are safe for entry  
   29 CFR 1915.12(f)  
   CIM 5100.47A 13.B.3
88. Inspect vessel's internal structures  
   46 CFR 137.330(b)  
   46 CFR 137.300(a)
89. Evaluate structural repair proposals  
   46 CFR 137.330(a)(1)  
   NVIC 07-68
90. Verify welder is qualified to perform repair work  
   46 CFR 144.200  
   46 CFR 144.205
91. Inspect fit-up  
   46 CFR 144.200 & .205  
   NVIC 07-68 V  
   ABS 2-4-1/5.9  
   NVIC 07-68 V(G)(2)  
   ABS 2-4-1/5.15.1  
   MSM II/A.5
92. Inspect back gouge  
   46 CFR 137.200  
   MSM II/A.2.C.4.b
93. Inspect welds  
   46 CFR 136.200  
   46 CFR 136.212(c)
96. Complete MISLE Activity
MSM I/12.G.2.a

97. Verify deficiency corrections or referred to TPO
MSM II/A.2.C.4
Section 3: Appendices

Confined Space Entry Checklist

Sources for Policy
- COMDTINST M5100.47, Chapter 6, change 11
- MSM Vol. 1, Chapter 10 & Appendix A, C, D to chap. 10
- MSM Vol. 2 Ch. 1, Section D, Chapter 6
- 29 CFR 1915, Part B

A Confined Space for the purpose of this checklist is:
A space that possess all of the following three distinct characteristics –

1. Is large enough and so configured that an employee can bodily enter & perform assigned work;
2. Has limited or restricted means for entry or exit; and
3. Is not designed for continuous employee occupancy

Hazards associated with confined space entry
- Oxygen deficient or enriched atmosphere
- Flammable atmosphere
- Toxic atmosphere
- Extreme temperature (hot or cold)
- Engulfment hazard (such as grain, coal, sand, gypsum or similar material)
- Extreme noise
- Slick / wet surfaces & tripping hazards
- Falling objects
- Potential for rapidly changing atmosphere

USCG Confined Space Entry Requirement
A certified Marine Chemist shall conduct the initial inspection & certify all confined spaces on merchant vessels “Safe for Workers” before entry by USCG personnel.

In rare circumstances, if a Marine Chemist is not available, the OCMI may designate a USCG Competent Person to certify a confined space “Safe for Workers”
IMMEDIATELY LEAVE ANY CONFINED SPACE IF:

- A personal monitor alarms;
- You feel dizzy or lightheaded;
- The forced air ventilation stops or is apparently ineffective; or
- If you sense any unexpected chemical through smell or dermal sensation that concerns you. This is a judgment call; however, you should depart any time there is a burning sensation in your lungs or you experience a shortness of breath. Any of these sensations may indicate a life threatening situation and you must react promptly to avoid injury.

Note: Climbing (other than on ladders) shall be limited to 5ft.

Steps to Take After Entry for All Confined Spaces

☐ Immediately contact your chain of command if you left a confined space for any of the reasons noted above. Do not reenter any confined space until notification of appropriate senior personnel and direction from your supervisor is obtained.

☐ Report any inconsistencies in the marine chemist certificate or competent person log to your supervisor and follow-up with a letter to Commandant CG-1134 via your District (industrial hygienist).

☐ In the event of overexposure, personnel should be evacuated to appropriate medical facilities by the most expeditious means. Medical personnel should be provided with all known information on the suspected exposure, including concentration and duration of exposure. This should include the most probable route of exposure. Also provide the medical authority with the phone number to American Toxic Substance and Disease Registry (ATSDR).
Operational Risk Assessment

☐ Discussed Unit’s Operational Risk Procedures and Emergency Contacts.

Risk Assessment Concerns:

Emergency Contacts:
**Conversions:**

### Distance and Energy

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Kilowatts (kW)</td>
<td>X</td>
<td>1.341</td>
<td>= Horsepower (hp)</td>
<td></td>
</tr>
<tr>
<td>Feet (ft)</td>
<td>X</td>
<td>3.281</td>
<td>= Meters (m)</td>
<td></td>
</tr>
<tr>
<td>Long Ton (LT)</td>
<td>X</td>
<td>.98421</td>
<td>= Metric Ton (t)</td>
<td></td>
</tr>
</tbody>
</table>

### Liquid  **(NOTE: Values are approximate.)**

<table>
<thead>
<tr>
<th>Liquid</th>
<th>bbl/LT</th>
<th>m³/t</th>
<th>bbl/m³</th>
<th>bbl/t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshwater</td>
<td>6.40</td>
<td>1.00</td>
<td>6.29</td>
<td>6.29</td>
</tr>
<tr>
<td>Saltwater</td>
<td>6.24</td>
<td>0.975</td>
<td>6.13</td>
<td>5.98</td>
</tr>
<tr>
<td>Heavy Oil</td>
<td>6.77</td>
<td>1.06</td>
<td>6.66</td>
<td>7.06</td>
</tr>
<tr>
<td>DFM</td>
<td>6.60</td>
<td>1.19</td>
<td>7.48</td>
<td>8.91</td>
</tr>
<tr>
<td>Lube Oil</td>
<td>7.66</td>
<td>1.20</td>
<td>7.54</td>
<td>9.05</td>
</tr>
</tbody>
</table>

### Weight

<table>
<thead>
<tr>
<th>1 Long Ton</th>
<th>= 2240 lbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Short Ton</td>
<td>= 2000 lbs</td>
</tr>
<tr>
<td>1 Cubic Foot</td>
<td>= 7.48 gal</td>
</tr>
<tr>
<td>1 Barrel (oil) = 5.61 ft = 42 gal = 6.29 m³</td>
<td>1 psi = .06895 Bar = 2.3106 ft of water</td>
</tr>
</tbody>
</table>

### Temperature: Fahrenheit = Celsius  *(°F = 9/5 °C + 32 and °C = 5/9 (°F – 32))*

<table>
<thead>
<tr>
<th>°F</th>
<th>°C</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>-17.8</td>
</tr>
<tr>
<td>32</td>
<td>0</td>
</tr>
<tr>
<td>40</td>
<td>4.4</td>
</tr>
<tr>
<td>50</td>
<td>10.0</td>
</tr>
<tr>
<td>60</td>
<td>15.6</td>
</tr>
<tr>
<td>70</td>
<td>21.1</td>
</tr>
</tbody>
</table>

### Pressure: Bars = Pounds per square inch

| 1 Bar | 14.5 psi |
| 5 Bars| 72.5 psi |
| 9 Bars| 130.5 psi|
| 2 bars| 29.0 psi |
| 6 Bars| 87.0 psi |
| 10 Bars| 145.0 psi|
| 3 Bars| 43.5 psi |
| 7 Bars| 101.5 psi|
| 4 Bars| 58.0 psi |
| 8 Bars| 116.0 psi|