

## **Category 3 Non-Cab Operated Crane Safety Instructor Guide Revisions**

### **Introduction**

1. Changed the title of “Introduction to Category 3 Crane Safety” to “Introduction”.
2. Modified the narration in the Welcome topic.
3. In the Learning Objectives topic, modified the screen text (bulleted items) and the narration text.
4. Deleted the Navigating Through This Course, Knowledge Checks, Fill-in-the-Blank, Drag-and-Drop, Multiple Choice – Single Answer, Multiple Choice – Multiple Answer, True and False, Exam Directions, and Ready to Begin topics in the Introduction module. These items were modified and added to the next module (NAVFAC P-307 Training Overview).

### **NAVFAC P-307 Training Overview**

5. Added a NAVFAC P-307 Training Overview module.

### **NAVFAC P-307**

6. Changed the Instructional Objectives topic title to “Learning Objectives” and modified the screen text in the third and fourth bulleted items (added the word “NAVFAC” in front of “P-307” and added “for operation” at the end of the last bulleted item). Similar changes were made to the narration wording.
7. In the Purpose topic, modified the wording of the third and fourth bulleted items and added a Note in the screen text. In addition, changed/modified the wording of the first sentence and added the Note sentence to the end of the narration.
8. In the Applicability topic, changed the wording of the first and second sentences, or paragraphs. Also, modified the screen text and added a fourth bulleted item.
9. In the WHE Maintenance and Inspection topic, modified the title text in the IG to match the course topic title (changed the title to Maintenance and Inspection Requirements) and added a new background and animation to the screen.
10. In the Certification Posting topic, changed the screen title to Posting of Certification Information and changed the picture and text on the screen to a picture of a Certification of Load Test and Condition Inspection.
11. In the Types of Equipment Covered topic, removed the 2<sup>nd</sup> bulleted item from the screen text (Rigging Gear), and added 3 bulleted items (information from the narration) to the screen text
12. Added a Knowledge Check with 2 questions after the Types of Equipment Covered topic.
13. In the Overview (Section 1) topic, modified the narration text and screen text (bulleted items).
14. Removed/deleted the Knowledge Check after the Category 1 Cranes topic.
15. In the Cat 1 Cranes topic/tab, added the following text to the narration text:  
“Category 1 cranes include: Portal cranes, Hammerhead cranes, Locomotive cranes, Derricks, Floating cranes, Tower cranes, Container cranes, Mobile cranes,

Aircraft crash cranes, Mobile boat hoists including self-propelled and towed types, and Rubber-tired gantry cranes. They are considered Category 1 cranes regardless of capacity.” Also, added the following text to the screen text: “Category 1 cranes include:”

16. Added a Crane Components topic, including a picture, screen text, and narration text, after the Cat 1 Cranes topic.
17. In the Mobile Boat Hoist topic, removed the word “dual” from the narration text and added “Supported by four sets of wheels” to the screen text, or bulleted items. The screen picture was also replaced.
18. In the LCRU topic, changed the screen title text from “Mobile Boat Hoist” to “Landing Craft Retrieval Unit”.
19. In the Rubber Tire Gantry topic, changed the spelling of the word “shone” to “shown” in the narration text. Also, replaced the crane picture on the screen, modified the screen text, and added an additional bulleted item.
20. In the Category 2 and 3 Cranes topic, revised the screen and narration text (added additional wording, revised the crane types, and added additional bulleted items).
21. Added a Cat 2 and 3 Crane Examples topic after the Capacity topic.
22. Added a Knowledge Check with five questions after the Category 2 and 3 Cranes topic.
23. Moved/relocated the Category 4 topic/tab after the Components topic/tab.
24. Added a Maintenance, Certification, and Alterations (Sections 2, 3, and 4) topic after the Category 4 Cranes topic.
25. Added an Operator Training topic after the Licensing (Section 6, 7, and 8) topic.
26. Deleted the Knowledge Check prior to the Accidents (Section 12) topic.
27. Added an “Operator Checks (Section 9)” topic after the “Operator Training” topic.
28. Added an Operation Safety and Additional Requirements (Sections 10 and 11) topic after the Operator Checks (Section 9) topic.
29. Added the following wording to the end of the first sentence in the narration text of the Accidents (Section 12) topic: “and 5100.23.” In addition, added the following wording to the screen text after the Overload bullet of the Crane Accident Definition link: “(This includes load tests when the test load tolerance is exceeded)”
30. In the Training (Section 13) topic, modified the screen and narration text/wording to include “operation, maintenance, inspection, and testing”.
31. In the Rigging Gear and Miscellaneous Equipment (Section 14) topic, added the following wording to the narration text after “test requirements”: “and specific use criteria and precautions”.
32. In the Knowledge Check prior to the Summary, deleted the one question and added three additional questions.
33. Deleted the NAVFAC P-307 Module Exam Questions and Answers section
34. Deleted the Category 3 Crane Types topic.

## **Crane Components**

35. Added a Crane Components module.

## **Crane Pre-Use Checks**

36. Moved the Learning Objectives topic in front of the Introduction topic.

37. In the Learning Objectives narration and screen text, changed the word “inspections” to “checks” or “check”, and reformatted the bulleted items in the screen text.

38. In the Introduction topic, removed the words “or inspection” from the first sentence. Also, changed the word “Cat” to “Category” in the screen text.

39. In the Pre-Use Check Purpose topic, changed the narration text by replacing the words “inspection” and “test” to “check” throughout the narration. Also, performed the same in the screen text, and modified the wording of the numbered items on the screen.

40. Removed/deleted the Documented Inspection topic.

41. In the Operator’s Daily Check List (ODCL) topic, changed/modified the narration and screen text.

42. In The ODCL Form topic, modified the narration and screen text and ODCL form picture.

43. Removed the Knowledge Check after The ODCL Form topic.

44. Added a Certification topic, including narration text, screen text, and picture, after The ODCL Form topic.

45. Added a Warning Tags topic, a Who Can Remove These Tags? topic, and a Finding Deficiencies topic after the Certification topic.

46. Changed the title of the Walk Around Inspection topic to Walk Around Check. In addition, changed/modified the narration and screen text and added additional items to the check list.

47. In the Area Safety topic, modified the wording of the first sentence/paragraph in the screen text. Also, reformatted the narration text (removed the bullets from the text).

48. In the Structural Integrity topic, modified/changed the word “inspection” to “check” in the narration and screen text.

49. Added a Wire Rope and Reeving topic, Block and Hook topic, Stops and Bumpers topic, and a Wheels and Tracks topic after the Structural Integrity topic.

50. In the Leak Checks topic, made minor grammatical and sentence structure changes to the narration text. Also, changed the word “hoists” to “cranes” in the narration and screen text. In addition, the Warning box was removed from the screen.

51. In the Power Source topic, changed the picture and removed the Warning Box on the screen. The Warning Box statement: “Do not open crane electrical panels due to the possibility of Arc Flash!” was added to the narration text.

52. Deleted the Certification topic and the Knowledge Check after the Power Source topic. The Certification topic was moved/relocated to a position earlier in the module.

53. In the Warning Tags topic, modified the narration text, screen text, and screen picture.

54. Deleted/removed the Danger Tags, Caution Tags, Out-of-Service Tags, Lockout Tags, and the Who Can Remove Warning Tags (this topic was relocated) topics after the Warning Tags topic.
55. In the Knowledge Check after the Controls/Controllers topic, deleted the first Matching question, changed the word “inspection” to “check” in the “During the walk around inspection you notice a loose bolt on the crane. You should: ...” question, and added three additional questions.
56. Moved/relocated the Operational Checks topic in front of the Checking Buttons topic. Changed the title to No-Load Operational Check. Changed the word “Test” to “Check”. Also added a sentence to the narration, modified the wording of the second paragraph, and modified the bulleted or numbered items in the screen text.
57. In the Checking Buttons topic, made minor grammatical changes to the narration text. Also, modified the screen text and changed the screen text to bullet format.
58. Changed the title of the Controller Action topic to Operational Check. Also, modified/changed the narration and screen text in the Operational Check topic.
59. In the Safety Devices topic, modified the wording of the first sentence/paragraph of the screen text and removed the numbered items from the screen.
60. Deleted the Safety Guards and Plates topic after the Safety Devices topic.
61. Added an Emergency Stops topic after the Safety Devices topic.
62. Added a General Safety Devices topic after the Emergency Stops topic.
63. In the Upper Limit Switch topic, modified the narration and screen text.
64. In the Upper Limit Switch Test topic, deleted the numbering from the 4<sup>th</sup> item/text (numbered item) and deleted the 5<sup>th</sup> item from the screen text.
65. In the Lower Limit Switch topic, modified/changed the narration and screen text, and removed/deleted the Warning box at the bottom of the screen.
66. In the Lower Limit – Minimum Wraps topic, added a new paragraph at the beginning of the narration text, and removed the 1<sup>st</sup> and 4<sup>th</sup> paragraphs from the screen text.
67. In the Checking Brakes topic, changed the screen and narration text titles from Testing Brakes to Checking Brakes.
68. Added a question to the Knowledge Check after the Checking Brakes topic.
69. Deleted/Removed the Emergency Stop Test topic after the Knowledge Check.
70. Changed the title of the Testing Bridge and Trolley Functions topic to “Checking Bridge and Trolley Functions”. The words “test” and “testing” were also changed to “check” and “checking” in the narration text.
71. In the Wire Rope or Chain topic, deleted the word “inspection” in the first sentence and change it to “check” in the 2<sup>nd</sup> and 3<sup>rd</sup> sentences in the narration and the screen text. The picture was also replaced on the screen.
72. Changed the name of the Chain Inspection topic to “Chain”. Also, changed the word “Inspect” to “Check” in the screen text.
73. Changed the Hook Block Inspection topic to “Hook Block”. The screen title was changed to “Hook Block”, and the word “inspect” was changed to “check” in the narration and screen text.
74. Changed the Hook Inspection topic and screen title to “Hook”. The first sentence of the screen text was changed to: “Check the hook for:”, and the Warning box text on the screen was revised.

75. Changed the Boom Truck Inspection topic and screen title to “Boom Truck Checks”. The following text was removed from the screen text: “Cat 3 Boom Truck Pre-Use inspection includes:”, and the wording of #1 and #2 was also changed in the screen text.
76. The Finding Deficiencies topic after the Boom Truck Check topic was removed.
77. Added a Knowledge Check with 9 questions after the Boom Truck Check topic.
78. Deleted the Crane Pre-Use Checks Module Exam.

## **Complex and Non-Complex Lifts Module**

79. Moved the Complex and Non-Complex Lifts module in front of the Determining Load Weight module.
80. In the Learning Objectives topic, changed the word “Identify” to “Define” in the screen text of the first bulleted item.
81. In the Complex Lifts Overview topic, modified the 2<sup>nd</sup> and 3<sup>rd</sup> bulleted items by rewording and combining the two bullets.
82. In the Complex Lift Categories topic, added the complex lift categories to the narration text and modified the wording of several bulleted items in the screen text.
83. Changed the Identification, Procedures, and Oversight topic to “Procedures”. Also, changed the screen title to “Complex Lift Procedures” and revised the wording of the fourth and fifth sentences in the narration text. The screen text was also revised and/or reworded.
84. In the Lift Exceptions topic, the last two sentences in the narration text were combined and reworded to state: “Ordnance lifts covered by NAVSEA OP 5 in lieu of the NAVFAC P-307 are also excluded; except for lifts using tilt fixtures, lifts where binding may occur, lifts of submerged loads, multiple crane or multiple hook lifts.” The fourth bulleted item in the screen text was also changed or reworded.
85. Added a Knowledge Check with 4 questions after the Lift Exceptions topic.
86. In the Hazardous Materials topic, changed the word “Poisons” to “Toxic Material” in the 1<sup>st</sup> bulleted item of the screen text.
87. In the Large Complex Geometrical Shapes topic, changed the picture on the screen.
88. In the Personnel Lifts topic, reworded several sentences and bulleted items in the narration text and screen text.
89. Added a Submerged Lifts topic after the Lifts Over 80% Capacity topic.
90. In the Multiple Crane Lifts topic, revised and added additional narration text.
91. Added a Constrained Loads topic, Other Lifts topic, and a Knowledge Check with 4 questions after the Multiple Crane Lifts topic.
92. Added the following wording to last sentence in the Summary topic narration text: “; except for lifts exceeding 80 percent of the capacity of the crane’s hoist, lifts using tilt fixtures, lifts where binding may occur, lifts of submerged loads, and multiple crane or multiple hook lifts.”
93. Deleted/removed the Complex and Non-Complex Lifts Module Exam.

## **Determining Load Weight Module**

94. In the Load Weight topic, the two bulleted items in the screen text were reworded.
95. In the Acceptable Methods topic, added the word “documentation” to the first sentence and added the following sentences to the narration text: “When using a load-indicating device (LID) to determine load weight, the rigger-in-charge shall have a reasonable estimate of the weight to be lifted. An appropriate stop point shall be established and the load indicating device shall be carefully monitored to ensure the stop point is not exceeded.”
96. In the Unacceptable Methods topic, added the following wording to the narration text: “Word of mouth may be used as a starting point for sizing the crane and rigging gear so the component can be weighed with a load indicating device, but never shall it be used as the final determination of load weight.  
To avoid overloading any equipment used in a crane lift, the rigger-in-charge shall know or have a reasonable estimate of the weight to be lifted. If the weight is estimated to exceed 50% of the capacity of the hoist or 80% of the capacity of the rigging gear, platform/skid, below-the-hook lifting device, etc., the weight shall be verified by performing an engineering evaluation or using a local procedure approved by the certifying official or activity engineering organization. Alternatively, a load indicating device shall be used.”
97. In the Finding Weight topic, removed the words “two-dimensional” from the second sentence in the narration text. Also, changed the Bullet headings to “Using Area:” and “Using Volume”, respectively.
98. In the Calculating Area topic, changed the wording of the second sentence in the narration text to read: “The area is always expressed in units of square feet or square inches.”
99. In the Triangle Area topic, added the following sentence to the narration text: “The height of a triangle is the perpendicular distance from the point opposite from the base to the base.”
100. Added a Knowledge Check with 6 questions prior to the Calculating Volume topic.
101. In the Calculating the Weight of a Cylinder topic, changed “1,884” to “188.4” in the next to last sentence of the narration text.
102. Added a Knowledge Check after the Cylinder Weight - Salt Water topic.
103. Deleted the Determining Load Weight Module Exam.

## **Load Weight Distribution Module**

104. In the Center of Gravity topic, added the following statement to the narration text: “The hook must be centered over the CG before lifting.”
105. In the How many legs really carry the load topic, modified the wording of the last two sentences in the narration text.
106. In the Determining Leg Weight topic, removed the following sentence from the narration text, and screen text: “Weight distribution is proportional to the distance between the object’s Center of Gravity and its attachment points.”
107. Added two additional questions to the Knowledge Check.

## Rigging Gear Marking and Record Requirements Module

108. In the Learning Objectives topic, modified the bulleted items in the screen text.
109. In the NAVFAC P-307 Section 14 topic, added the following wording to the narration text: "These requirements also apply to covered equipment used with multi-purpose machines, material handling equipment (e.g., forklifts), and equipment covered by NAVFAC P-300. Except for BOS contracts, these requirements do not apply to contractor owned equipment used with contractor owned cranes, forklifts, backhoes, excavators, and front-end loaders." The first sentence was also added to the bottom of the screen text.
110. In the Test and Inspection Program topic, added the word "NAVFAC" in front of "P-307 ..." in the first sentence of the narration text.
111. In the Why Test and Inspect topic, removed the fourth bulleted item and added a Note to the screen text.
112. In the Covered Equipment topic, changed the wording of the last sentence in the narration to: "These requirements also apply to portable load indicators, portable manual and powered hoists, and crane structures without permanently mounted hoists." Also, added "Portable manual and powered hoists" to the bulleted items in the screen text.
113. In the Additional Covered Equipment topic, added the following wording to the last sentence of the narration text: "container spreaders, personnel platforms, portable gantry/A-frames, and portable floor cranes used for general lifting, and cranes and hoists procured with, integral to, and used solely in support of larger machine systems." Also, added "Miscellaneous equipment identified in ASME B30.20" to the bulleted items in the screen text.
114. In the Equipment Not Covered topic, added the following sentence to the narration text: "Where OEM provided specialized rigging equipment is used, the activity shall ensure that the equipment is in good condition and that personnel using the equipment know how it is to be used."
115. Added a Knowledge Check with three questions after the Equipment Not Covered topic.
116. In the Equipment Markings topic, added the following wording and additional sentence to the end of, and following the second sentence in the narration text: "..., and a unique serial number that will allow it to be traced to its test and inspection documentation. Below the hook lifting devices weighing more than 100 pounds shall be marked with the weight of the device."
117. In the Wire Rope Endless Slings topic, added the following sentence to the narration and screen text: "In non-specific use applications endless slings shall have a marked rated load based on a D/d efficiency of 50 percent and may be used over various size pins at loads not exceeding the marked rated load."
118. In the Chain Slings topic, added the following sentence to the narration and screen text "Chain slings not used in ship repair, shipbreaking, or cargo transfer require a 2-year periodic inspection frequency". The screen text was also modified.
119. Deleted the Markings on Below-the-Hook Lifting Devices topic.
120. Changed the title of the Multi-Part Slings topic to "Multi-Part Wire Rope Slings". The first sentence in the narration text was also reworded.

121. Changed the Identifying Gear to its Record topic title to “Gear Marking Example”. Also, changed the word “Julian Date” to “day of the year” in the narration text.
122. Deleted the Rigging Gear Marking and Record Requirements Module Exam.
123. Added a Knowledge Check with four questions at the end of the module.

### **Rigging Gear Inspection Module**

124. Added a Damaged Rigging Gear topic, including screen text, picture and narration, after the Inspection Every Three Months topic.
125. Added a Knowledge Check with 3 questions after the Damaged Rigging Gear topic.
126. In the Wire Rope Sling Rejection Criteria IV topic, added the following sentences to the screen text and narration: “Pay close attention to the outside area on each eye of the sling. This area wears more due to dragging the sling on concrete/paved surfaces.”
127. In the Metal Mesh Slings Rejection Criteria topic, removed the last sentence in the narration and the last three bulleted items in the screen text.
128. In the Synthetic Round Sling Rejection topic, modified and added additional narration and screen text.
129. Added a Knowledge Check with 5 questions after the Synthetic Round Sling Rejection topic.
130. In the Overview of Repairs and Alterations topic, added the following wording to the narration text: “Repair documentation for load bearing, load controlling, or operational safety devices must be retained for 7 years, all other repairs 1 year. Alteration documentation must be retained for the life of equipment.”
131. Added a Knowledge Check topic with 4 questions after the Non-Destructive Test topic.
132. Deleted the Rigging Gear Inspection Module Exam.

### **Rigging Gear General Use Module**

133. In the General Safety Rules topic, modified the second bulleted item in the screen text to state: “Always stay "out of the bight" or "pinch point". Do not place your body or part of your body between the load, rigging gear, or a solid object.”
134. In the Selecting Rigging Equipment topic, removed the first bulleted item from the screen text.
135. In the Protective Materials topic, modified the narration, added “Leather” to the bulleted items in the screen text, and removed the Warning box and wording from the screen.
136. In the Distribute Sling Loading topic, removed the following wording from the end of the narration text: “to ensure equal loading.”
137. In the Using Hoists and Cranes topic, changed the wording of the last three sentences in the narration text to: “Never use more than one person to pull the hand chain of a manual chain hoist. Do not use excessive force to operate a hoist. Never use extension bars on lever-operated hoists.”
138. Added four additional questions to the last Knowledge Check.

## **Rigging Hardware Module**

139. Moved the Rigging Hardware module from after the Sling Angle Stress module to after the Rigging Gear General Use module.
140. In the Side Loading Shackles topic, added additional wording to the narration text. Also, added an addition picture and text to the screen.
141. In the Shouldered Eyebolts topic, added "The rated load of the eyebolt shall be reduced in accordance with table 14-5 of NAVFAC P-307 or OEM recommendations." The screen text and image capacity percentages were also modified.
142. Moved the Installing Shouldered Eyebolts topic after the Shouldered Eyebolts topic. Also, changed the wording of the narration text to: "When loading shouldered eyebolts at an angle in the plane of the eye, the eyebolts must be installed with the shoulder seated flush against the mounting surface."
143. In the Backing Nuts topic, added "J995" to the first sentence after "SAE". Also, added the following sentence to the end of the narration text to: "Note: With engineering approval, nut type eyebolts can be used without the shoulder being flush."
144. In the Shims May be Used to Align Eye topic, changed the wording of the first sentence in the narration text to: "If the shoulder seats flush and the eyebolt is not in the plane of pull shims may be used to align the eye with the plane of pull."
145. Moved the Eye Nuts topic in front of Swivel Hoist Rings topic.
146. Deleted/Removed the Swivel Hoist Ring Requirements topic.
147. Modified the narration text, screen text and picture of the Swivel Hoist Rings topic.
148. In the Swivel Hoist Rings (Continued) topic, changed the wording of the third sentence in the narration to: "The torque value is normally marked on the top washer of the hoist ring." Also, changed the wording of the second bulleted item in the screen text to: "The torque value is marked on the top washer of the hoist ring."
149. Changed/modified the screen text in the Threaded Attachment Point topic.
150. Added a Knowledge Check with four questions at the end of the module.
151. Deleted the Rigging Hardware Module Exam.

## **Sling Use Module**

152. In the second Wire Rope Slings topic, added the following sentence to the end of the narration text: "Except for braided slings, wire rope slings shall not be used in single leg vertical hitches, unless a method is used to prevent unlaying of the rope."
153. In the Chain Sling Use topic, added the following sentence to the end of the narration: "When a chain sling is used in a choker hitch, the capacity shall be reduced to reflect the efficiency percentages shown in table 14-4 of NAVFAC P-307."
154. In the Chain Sling Temperature Restrictions topic, changed the wording of the narration text to: "For use in temperatures below minus 40 (-40) or above 400 degrees Fahrenheit (F), follow OEM recommendations for rated load reduction." The screen text was also changed.

155. In the Metal Mesh Sling Temperature Restrictions topic, changed the wording of the second sentence in the narration text to: "Do not use bare metal mesh slings when temperatures are below -20° or above 550° Fahrenheit." The screen text was also modified.
156. In the Types of Synthetic Slings topic, added the following sentence at the beginning of the narration text: "There are three types of synthetic slings, synthetic rope slings, synthetic webbing slings, and synthetic roundslings." Also, added "Natural fiber rope slings are not to be used for overhead lifting" to the screen text.
157. In the Web Sling Use topic, added the following wording to the beginning of the narration text: "Synthetic webbing slings shall be used in accordance with OEM recommendations. Where a synthetic webbing sling is used in a choker hitch, the total capacity shall be reduced to reflect the efficiency percentages shown in table 14-4 of NAVFAC P-307."
158. In the Synthetic Web Sling Temperature Restrictions topic, changed the word "exceeding" to "above" in the narration text. Also, added a picture of a web sling and modified the text in the bulleted items on the screen.
159. Modified the narration text of the Synthetic Rope Use topic.
160. In the Synthetic Rope Temperature Restrictions topic, changed the wording of the narration text to: "Nylon and polyester slings shall not be exposed to temperatures exceeding 194 degrees Fahrenheit (140 degrees Fahrenheit for polypropylene slings) or OEM recommendations, whichever is more restrictive." The screen text was also modified.
161. In the Roundsling Use topic, the narration text was revised. The first bulleted item in the screen text was also revised.
162. In the Eye and Hook Considerations topic, the narration text was modified. The fourth sentence was changed to: "Never place the eye of a wire rope sling around an object which has a diameter greater than  $\frac{1}{2}$  the length of the eye." A new sentence, "Never place the eye of a synthetic web or rope sling around an object which has a diameter greater than  $\frac{1}{3}$  the length of the eye", was added after this change.
163. In the Attaching to Hook topic, removed the Warning box with text from the screen.
164. In the Correct Use of Slings on Hooks topic, changed the word "kinked" to "bent" in the next to last sentence of the narration. Also, modified the wording of the last sentence in the narration text.
165. In the Choker Hitch Efficiency topic, modified the narration text. Also, modified the screen text and picture.
166. Deleted the Sling Use Module Exam.
167. Added a Knowledge Check with 5 questions to the end of the module.

### **Sling Angle Stress Module**

168. In the Sling Angle Stress Examples topic, the screen pictures for the angle examples were changed.
169. In the Knowledge Check, modified the answers of the 2<sup>nd</sup> question and deleted the 3<sup>rd</sup> and 4<sup>th</sup> questions. A third question was then added to the knowledge check.

## **D/d Ratio Module**

170. Added a D/d ratio module prior to the Hoists module.

## **Hoists Module**

171. In the Safe Operation and Use/Hook Attachment and Drifting topic, added the following to the end of the narration text: “Drifting is defined as the lateral movement of a load from one location to another using one or more hoists, cranes, and/or rigging equipment.”

172. Deleted the Hoists Module Exam.

173. Added a Knowledge Check with 9 questions to the end of the module.

## **Crane Communications Module**

174. In the Crane Communication Methods topic, added additional wording/paragraphs to the narration text.

175. In the Radio Communication topic, added additional wording to the screen text, and narration text.

176. Added a Knowledge Check with 6 questions after the Radio topic.

177. In the Extend Boom topic, added the following to the narration text: “motioning in and out”.

178. Moved the Magnet Signals Overview topic and Magnet Disconnected topic after the Dog Everything topic.

179. Moved the Communications Summary topic in front of the final Knowledge Check.

180. Added 9 additional questions to the Knowledge Check

181. Deleted the Crane Communications Module Exam.

## **Safe Operations Module**

182. Moved the Safe Operations module in front of the Crane and Rigging Gear Accidents module.

183. Removed and replaced the entire module contents with new material.

## **Crane and Rigging Gear Accidents Module**

184. Added an Accident Categories topic, including narration and screen text, after the Learning Objectives topic.

185. Added a Knowledge Check with 2 questions after the Rigging Gear Operating Envelope topic.

186. Added a Near Misses topic prior to the Crane Accident topic.

187. In the Crane Accident topic, removed the last sentence of the narration text and added the following wording after the word overload: “(this includes load tests when the test load tolerance is exceeded)”. Also, the warning box and text was removed from the screen.

188. Added a Damaged Rigging Gear topic prior to the Accident Examples topic.

189. In the Accident Causes topic, changed the words “due to” to “caused by” in the narration text.
190. Added a Crane Accident Actions topic prior to the Reporting topic.
191. Removed the Near Misses topic after the Reporting topic.
192. Added a Contractor Accident Reporting Procedures topic and a Contracting Officer Reporting Procedures topic after the Reporting topic.
193. Added a Knowledge Check with 7 questions at the end of the module.
194. Deleted the Crane and Rigging Gear Accidents Module Exam.

### **Final Exam**

195. Removed the Exam Direction screens
196. Added additional questions and revised several questions (44 previous; there are now 77 total questions in the exam)