

Category 4 Crane Safety Instructor Guide Changes

Instructor Information

1. Modified the Instructor Information section in the Instructor Guide (IG) on pages 5 and 6.

Introduction Module

2. Added an Introduction module to the IG on page 7

NAVFAC P-307 Training Overview Module

3. Added a NAVFAC P-307 Training Overview module to the IG on pages 9 through 14.

NAVFAC P-307 Module

4. Added a Welcome module screen and text to the beginning of the module in the IG.
5. In the Instructional Objectives topic, added the word “NAVFAC” prior to “P-307” in the 3rd Bulleted item and added the words “for operation” to the end of the fourth bulleted item on the screen. The narration was modified to include similar wording.
6. In the Overview/Purpose topic, changed the 3rd and 4th bulleted items on the screen to the following:
 - Provide training and qualification standards for all personnel involved with WHE
 - Ensure safe lifting and controlling capability of WHE and promote safe operating practices

In addition, added the following to the screen: “Note: Weight Handling Equipment includes both cranes and the rigging gear used for lifting operations.”

The modified bulleted items were added to the narration.

7. In the Overview/Applicability topic, added the following wording after the Navy Shore Activities bulleted item on the screen: “Including Navy activities on joint bases and bases of other military services and agencies”. Also, added the following bulleted item to the screen: “Fleet activities and detachments that operate shore based weight handling equipment. In addition, the last statement on the screen was modified/changed to the following: “NAVFAC P-307 meets or exceeds all applicable OSHA requirements for maintenance, inspection, testing, certification, repair, alteration, and operation of WHE.”
The narration was also modified to include the above changes.
8. In the Overview/Posting of Certification Information topic, changed the topic title from “Certification” to “Posting of Certification Information”. Also, changed the screen picture to show a “Certification of Load Test and Condition Inspection” form.
9. In the Types of Equipment Covered topic, modified the screen to include two additional bulleted items. The bulleted items are discussed in the narration.

10. Relocated the first Knowledge Check after the Types of Equipment topic and changed/modified the two questions.
11. In the Overview (Section 1) topic, modified the 2nd and 3rd bulleted items wording and added a 4th to the screen text. Also, added and modified the narration text and audio.
12. In the Category 1 Cranes/Cat 1 Cranes topic/tab, added "Category 1 cranes include:" to the screen text prior to the list of cranes. And added the list of crane types to the narration text and audio.
13. Added a Crane Components topic after the Cat 1 Cranes topic. It includes the principal parts of Category 1 and 4 cranes and a description of each component.
14. Changed the Straddle Type topic heading after the Cat 1 Crane Examples topic to Mobile Boat Hoist and removed the word "dual" from the screen text and narration.
15. Changed the LCRU topic/tab screen title from Mobile Boat Hoist to Landing Craft Retrieval Unit.
16. In the Rubber Tire Gantry topic, modified the 2nd bulleted item text/wording and added a 3rd bulleted item to the screen text.
17. In the Cat 2 and 3 Cranes Topic, modified the list of cranes as follows: changed Bridge Cranes to Overhead Traveling Cranes, added the words "and Associated Hoists" to the Monorail bulleted item, added two additional crane types "Portable A-frames and portable gantries with permanently installed hoists" and "Pedestal mounted commercial boom assemblies with certified capacities less than 2,000 pounds. Added the following text to the Portable hoists paragraph "(They are defined in Section 1). Also, added the following text to the screen: "Note: Category 3 Non-Cab Operated cranes do not require a license to operate."

Similar changes to the above were made to the narration text and audio.
18. Added a Knowledge Check after the Cat 2 and 3 Crane Examples topic.
19. Moved the Category 4 topic after the Components topic
20. In the Considerations topic, removed the following sentence on the screen and narration: "Category 4 cranes also include ammunition handling truck cranes with equipment category code 0704." Also, reformatted the text on the screen.
21. In the Components topic, changed/modified the wording of the narration and audio.
22. Added a Maintenance, Certification, and Alterations (Section 2, 3, and 4) topic, including a screen and narration, after the Category 4 topic.
23. In the Licensing (Sections 6, 7, and 8) topic, removed the 1st paragraph on the screen text and reworded the 1st paragraph or sentence in the narration and audio.
24. Deleted the Knowledge Check after the Licensing topic
25. Added an Operator Training topic, including screen text, picture, and narration, after the Licensing (Sections 6, 7, and 8) topic

26. Added an Operator Checks (Section 9) topic, including screen text, picture, and narration, after the Operator Training topic.
27. Added an Operation Safety and Additional Requirements (Sections 10 and 11) topic, including screen text, picture, and narration, after the Operator Training topic.
28. Added “and 5100.23” to the end of the first sentence of the narration in the Accidents (Section 12) topic.
29. Changed the word “management” to “operation, maintenance, inspection, and testing” in the Training (Section 13) topic on the screen, narration, and audio.
30. Modified the narration text and audio of the Rigging Gear and Miscellaneous Equipment (Section 14) topic to include the words “and specific use criteria and precautions”
31. Removed the Applicability question from the Knowledge Check after the Rigging Gear and Miscellaneous Equipment (Section 14) topic and added three questions.
32. Deleted/Removed the NAVFAC P-307 Module Exam Questions and Answers section

Crane Components Module

33. Added a Welcome screen and narration to the IG.
34. Modified the Instructional Objectives topic by changing the title to “Learning Objectives” and modifying/rewording the screen text and narration
35. Added a Power Types topic and a Category 2 and 3 Crane Power Supply topic, including screen text, pictures, and narration, after the Learning Objectives topic.
36. Added a Principal Crane Components/Category 1 and 4 Cranes topic and a Principal Crane Components/Category 2 and 3 Cranes topic, including screen text, pictures, and narration, after the Category 2 and 3 Crane Power Supply topic.
37. Changed the screen title and topic title of the Crane Components topic to “Critical Crane Components”. Also, modified the third, or last, sentence of the narration and audio.
38. In the Load Bearing Parts topic, added the following sentence to the end of the narration: “There are many different load bearing parts; this picture shows three examples.”
39. In the Load Bearing Parts/Examples topic, added the following sentence to the end of the narration: “The next example screen shows a boom dog, used to prevent unwanted rotation of a boom or hoist drum.”
40. In the Load Bearing Parts/Carrier Frame Structures topic, removed the “Rotate Gear” text and arrow from the screen and deleted/removed the second sentence in the narration: “The rotate base supports the upper works and allows it to rotate.”
41. Modified/reworded the narration text and audio in the Load Bearing Parts/On Bridge Crane topic.

42. In the Load Controlling Parts topic, added the following sentence to the end of the narration: "Shown are two examples of load controlling parts."
43. In the Load Controlling Parts/Examples 1 topic, removed the following sentence from the narration and audio: "A rotate lock is used to prevent the machinery house of the crane from rotating when traveling or when the crane is unattended." Also, deleted the rotate locks screen and changed/modified the last sentence of the narration.
44. In the Load Controlling Parts/Examples 2 topic, reworded the narration and screen text
45. Added a Knowledge Check containing 6 questions after the Load-Controlling Parts/Examples 2 topic.
46. In the Safety Devices topic, modified/reworded the 2nd and 3rd sentence of the narration and audio.
47. In the Operational Safety Devices/Limit Switches topic, added the following narration to the narration text and audio: "The purpose of a hoist limit switch is to prevent over-travel of the hook block and the possibility of two-blocking. Two-blocking occurs when the hook block comes in contact with the upper sheave block during hoisting of the hook (or lowering the boom). Two-blocking is dangerous because it could result in damage to the crane, parting of the hoist lines, and dropping the load."
48. In the Operational Safety Devices/Over-speed topic, changed "a comprehensive list" to "additional examples" in the last sentence of the narration.
49. Added a Knowledge Check with 4 questions after the General Safety Devices topic.
50. In the Summary topic, reworded the 1st sentence in the narration.
51. Deleted the Crane Components Module Exam Questions and Answers section.

[Operator's Daily Checklist \(ODCL\) Module](#)

52. Added a Welcome screen and narration to the IG
53. Changed the topic title of Instructional Objectives to "Learning Objectives". This was also changed on the screen.
54. In the Introduction topic, deleted the 1st bulleted item in the screen text, reworded the 3rd bulleted item (removed the word "daily"), and modified the narration text and audio.
55. In the Frequency topic, modified the wording of the 3rd and 4th paragraphs and added two additional paragraphs to the narration. Also, added two additional bulleted items or wording to the screen text.
56. In the Sections topic, added the following sentence to the narration: "The operator may perform the check from the various groupings in parallel."
57. Added a Knowledge Check with 4 questions after the Sections topic.
58. Added a Warning Tags topic and Who Can Remove These Tags topic, including screen text, pictures, and narration, after the Knowledge Check section

59. In the Critical Crane Components topic, changed the word “These” in the third sentence to “They”, and modified the wording of the last sentence in the narration.
60. Added a Limit Switches topic, including screen text, picture, and narration after the Critical Components topic.
61. In the Unsatisfactory Conditions topic, added additional narration to the narration text and audio.
62. In the Recording topic, replaced the screen picture and text with a picture of an ODCL. Also, separated the last sentence of the narration into two sentences.
63. Added a Knowledge Check with 6 questions after the Recording topic.
64. Moved the Safety Guards and Plates topic after the Walk Around Check topic and changed the screen picture and text and modified the narration.
65. Moved the General Hardware topic after the Safety Guards and Plates topic
66. Added a Wire Rope and Reeving topic, including screen text, picture, and narration, after the General Hardware topic
67. Added a Block and Hook topic, including screen text, picture, and narration, after the Wire Rope and Reeving topic
68. Added a Walk Around Check 2/Sheaves or Sprockets topic, including screen text, picture, and narration, after the Block and Hook topic
69. In the Walkways, Ladders, Handrails topic, modified the wording of the first sentence in the narration. Also, replaced the screen picture and modified the wording in the screen text.
70. Deleted the Rail Sweeps and Bumpers, Bridge and Trolley, and Trolley Rails and Stops topics
71. Added a Tires, Wheels, and Tracks topic, including screen text, picture, and narration, after the Walkways, Ladders, and Handrails topic
72. Added a Leaks topic, including screen text, picture, and narration, after the Tires, Wheels, and Tracks topic
73. Added a Outriggers and Stabilizers topic, including screen text and picture, and narration, after the Leaks topic
74. Added a Load Chain topic, including screen text and picture, and narration, after the Outriggers and Stabilizers topic
75. Added an Area Safety topic, including screen text and picture, and narration, after the Load Chain topic
76. In the Housekeeping topic, modified the screen text and changed the picture. The narration text and audio were also modified.
77. Moved the Leaks topic after the Housekeeping topic and modified the bulleted items on the screen
78. In the Lubrication topic, modified the screen text and narration

79. Added a Battery and Lights topic, including screen text and picture, and narration, after the Lubrication topic
80. Changed the title of the Brakes topic to “Clutches and Brakes” and modified the screen picture and text. Also, the narration text and audio was modified.
81. In the Electric Motors topic, replaced the screen picture and modified the screen text and bulleted items. Also, modified the narration.
82. Added a Danger/Caution Tags topic and a Fire Extinguishers topic, including screen text and picture, and narration, after the Electric Motors topic.
83. Added a Knowledge Check with 2 questions after the Fire Extinguishers topic
84. In the Operator Cab Check topic, added the following paragraph to the narration:
“The operator should enter the cab and ensure all controls are in the neutral or off position prior to starting the engine. Start the engine and check the items in the Operator Cab Check section.”
85. Added a Gauges, Indicator and Warning Lights topic, including screen text, picture, and narration, after the Operator Cab Check topic
86. Changed the title of the Posting Requirements topic to “Load Rating Charts” and changed the picture to show a Certification of Load Test and Condition Inspection sheet. Also, modified the screen text and narration.
87. Deleted the Cab Controls topic and added a Boom Angle/Radius Indicator topic, including screen text, picture, and narration
88. Added a Fire Extinguishers topic and a Level Indicator topic, including screen text, picture, and narration, after the Boom Angle/Radius Indicator topic
89. Changed the title of the Warning Tags topic to “Danger/Caution Tags” and changed the screen picture and text. Also, changed/modified the narration.
90. Deleted/removed the Visibility and Glass topic
91. In the Operational Check topic added additional narration/wording on performing the operational check in cold weather. Also, removed the screen text and modified the inspection items in the Operational Check shown on the screen picture (i.e., added Control Action and several asterisks to listed items).
92. Added the following topics, including screen text, pictures, and narration after the Operational Check topic: Area Safety, Outriggers and Stabilizers, and Unusual Noises.
93. Relocated the Controls and Brakes topic after the Unusual Noises topic and changed the title to “Control Action”. Also, modified the screen picture, screen text, and narration.
94. Changed the title of the Wire Rope topic to “Wire Rope or Chain”. Also, changed the screen picture, text, and narration.
95. Added a Brakes and Clutches topic, including screen text, picture, and narration, after the Wire Rope or Chain topic.

96. Added a Boom Angle/Radius Indicator topic, including screen text, picture, and narration, after the Brakes and Clutches topic.
97. Added the following topics, including screen text, pictures, and narration, after the Boom Angle/Radius Indicator topic: Limit Switches, Emergency Stop, and Other Operational Safety Devices.
98. Changed the title of the Horns and Alarms topic to General Safety Devices and modified the picture, screen text, and narration.
99. Removed the five Knowledge Check questions and added 4 different questions to the last Knowledge Check.
100. Deleted/removed the ODCL Module Exam Questions and Answers section.

Crane Set-Up Module

101. Added a Crane Set-Up Welcome topic to the IG.
102. Changed the Instructional Objectives topic title to “Learning Objectives” and modified the narration to match the screen text.
103. Changed the Pre-Use Check (ODCL) topic title to “ODCL” and modified the narration text and audio.
104. Added a Knowledge Check section with 4 questions after the Route topic.
105. Modified the narration text and audio in the Power Lines topic.
106. In the Barricading topic, removed the first bulleted item text from the screen. Also, revised the narration text and audio.
107. Added a Knowledge Check with 2 questions after the Barricading topic.
108. In the Firm Surface topic, removed the last three words in the narration (“decreasing the pressure”)
109. Added a Knowledge Check with 5 questions after the Locking Beams topic.
110. Deleted the Crane Set-Up Module Exam Questions and Answers section

Complex and Non-Complex Lifts

111. Added a Welcome topic screen pic and narration to the IG at the beginning of the module
112. Removed the word “Instructional” from the topic title and on the screen.
113. In the Complex Lifts Overview topic, removed the third bulleted statement from the screen (“Use rigging sketches”)
114. In the Complex Lifts Categories topic, modified the screen text and added two additional categories to the screen. In addition, modified the narration to include the items/text on the screen.
115. In the Complex Lift Procedures topic, added two additional paragraphs to the narration. Also, modified the screen text (removed the Written procedures

bulleted section from the screen) and modified the text to contain items discussed in the narration.

116. In the Complex Lift Exceptions topic, added the following text to the narration in the third paragraph: “except for lifts using tilt fixtures, lifts where binding may occur, lifts of submerged loads, multiple crane or multiple hook lifts.” Also, changed the wording of the last bulleted statement to include the added narration, and added another bulleted statement containing “Lifts over 80% of capacity...”
117. Added a Knowledge Check with 4 questions after the Complex Lift Exceptions topic.
118. In the Hazardous Materials topic, changed the first bulleted item in the screen text from “Poisons” to “Toxic Material”.
119. Changed the screen picture in the Large and Complex Geometrical Shapes topic.
120. In the Personnel Lifts topic, changed the 2nd sentence in the narration and bulleted item in the screen text to include 29 CFR Part 1926.1431 and ASME B30.23. Also, modified the fall protection and entering/exiting the platform section or paragraphs of the narration and screen text.
121. Added a Submerged Lifts topic, including picture, screen text, and narration, after the Lifts Over 80% Capacity topic.
122. In the Multiple Crane Lifts topic, modified the wording in the 1st and 3rd paragraphs of the narration.
123. Added a Constrained Loads topic, including picture, screen text, and narration, after the Multiple Crane Lifts topic.
124. Added a Other Lifts topic, including picture, screen text, and narration, after the Constrained Loads topic.
125. Added a Knowledge Check with 4 questions after the Other Lifts topic.
126. In the Complex and Non-Complex Lifts Summary topic, added the following wording to the last paragraph of the narration: “; 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.”
127. Deleted the Complex and Non-Complex Lifts Module Exam Questions and Answers section.

Determining Load Weight Module

128. Added the Welcome topic narration and screen shot at the beginning of the IG.
129. Changed the title of the Instructional Objectives topic to “Learning Objectives” in the narration and screen titles.
130. In the Acceptable Methods topic, added the following paragraph to the narration: “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.”

131. In the Unacceptable Methods topic, added the following to the narration: “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.”
132. In the Finding Weight topic, removed the words “two-dimensional” from the narration. Also, changed the words “2-Dimensional Object” and “3-Dimensional Object” on the screen to “Using Area” and “Using Volume” respectively.
133. In the Calculating Area topic, modified the last sentence in the narration to read: “The area is always expressed in units of square feet or square inches.”
134. In the Triangle Area topic, added the following to the narration: “The height of a triangle is the perpendicular distance from the point opposite from the base to the base.
135. Added a Knowledge Check with 6 questions after the Rounding topic.
136. In the Calculating the Weight of a Cylinder topic, modified the wording of the last two paragraphs and changed “1,884” to “188.4” in the next to last sentence and on the screen.
137. In the last Knowledge Check, deleted the first question and added three additional questions to the Knowledge Check (there are 4 total questions now)

Load Weight Distribution Module

138. Added a Welcome module screen and text to the beginning of the module in the IG.
139. Changed the title of the Instructional Objectives topic to “Learning Objectives”
140. Added the following sentence to the end of the narration in the Center of Gravity topic: “The hook must be centered over the CG before lifting.
141. In the Pinpointing the Center of Gravity/CG Height topic, added the word “pound” after the first “7,920” number (in the 6th sentence) in the narration.
142. In the # of Legs Carry the Load topic, modified the wording in the third paragraph of the narration.

143. In the Determining Leg Weight topic, deleted the second the sentence in the narration and removed the screen text below the statement: “How much weight does each leg carry?”
144. Added 3 additional questions to the last Knowledge Check (there are now 6 total questions)

Rigging Gear Marking and Record Requirements Module

145. Renamed the Rigging Gear Selection and Use – Marking and Record Requirements module to “Rigging Gear Marking and Record Requirements”
146. Relocated the Rigging Gear Marking and Record Requirements module after the Load Weight Distribution module.
147. Added a Welcome screen and narration to the beginning of the module in the IG
148. Changed the title of the Instructional Objectives topic to “Learning Objectives”. This was also changed on the screen title.
149. In the NAVFAC P-307 Section 14 topic, added the following paragraph to the narration: “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 of the paragraph was also added to the screen text.
150. In the Why Test and Inspect topic, removed the 4th bulleted item from the screen text and placed the following note on the screen: “Note: if damaged equipment is discovered it should be investigated as a potential crane and/or rigging gear accident or near miss.”
151. In the Covered Equipment topic, added “Portable manual and powered hoists” to the bulleted items. Also, modified the last sentence in the narration to include portable load indicators and portable manual and powered hoists.
152. In the Additional Covered Equipment topic, added the following wording to the last paragraph in the narration” 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 text on the screen.
153. In the Equipment Not Covered topic, added the following sentence to the narration: “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.”
154. Added a Knowledge Check with three questions after the Equipment Not Covered topic.
155. In the Equipment Markings topic, added the following to the narration: “, 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.” Also, added the following bulleted item to the first list on the screen text: “Unique serial number”.

156. In the Wire Rope Endless Slings topic, added the following sentence to the beginning of the narration and in the 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.”
157. In the Chain Slings topic, added the word “year” to the first sentence in the narration and added the following sentence to the narration: “Chain slings not used in ship repair, shipbreaking, or cargo transfer require a 2-year periodic inspection frequency.” Also, modified the screen text wording/statements.
158. In the Lashing topic, changed the screen picture to show nylon lashing.
159. Deleted/removed the Markings on Below the Hook Lifting Devices topic.
160. In the Multi-Part Wire Rope Slings topic, the first paragraph or sentence in the narration was reworded. Also, added the words “Wire Rope” to the screen title.
161. In the Illegible/Missing Markings topic, added the title “Illegible or Missing Markings” to the screen
162. In the Gear Marking Example topic, changed the words “the Julian date” in the next to last sentence of the narration to “the day of the year”. This was also changed in the screen pop-up text or link.
163. Deleted the two questions in the Knowledge Check and added 4 new questions

[Rigging Gear Inspection Module](#)

164. Added a Rigging Gear Inspection module.

[Rigging Gear General Use Module](#)

165. Changed the module title from Rigging Gear Selection and Use – General Use to “Rigging Gear General Use”
166. Added a Welcome topic screen and narration text to the beginning of the IG.
167. Changed the Instructional Objectives topic title to Learning Objectives. This was also changed in the narration text and on the screen.
168. In the General Safety Rules topic, added additional wording to the last bulleted item in the screen text.
169. In the Chafing Gear/Protective Materials topic, added the following sentence to the end of the narration: “Manufactured chafing gear is also available for purchase.”
170. In the Hoists and Crane Usage/Usage Do’s topic, added the following sentence to the narration: “Never use more than one person to pull the hand chain of a manual chain hoist.”
171. Added 4 additional questions to the Knowledge Check section.

Rigging Hardware Module

172. Changed the Rigging Gear Selection and Use – Hardware Use module title to “Rigging Hardware”
173. Added a Welcome topic screen and narration to the IG
174. Changed the Instructional Objectives topic title to “Learning Objectives”. This was also changed on the screen text
175. In the Side Loading Shackles topic, added the following sentences to the narration: “Round pin shackles shall not be side loaded. Shackles should be loaded bail-to-bail, whenever possible. For pin-to-pin or pin-to-bail loading, and for all other attachments to a shackle pin, the shackle is considered to be side loaded with the restrictions noted above unless the attachment is centered in the pin. Spacers may be used to ensure shackle pins are loaded in the center.” The screen text was also modified to include the additional narration topics.
176. Moved the Eyebolts/Types topic after the Side Loading Shackles topic
177. Moved the Non-Shouldered topic after the Types topic
178. Moved the Shouldered Eyebolt topic after the Non-Shouldered topic
179. In the Shouldered Eyebolts topic, removed the words “or machinery” from the first sentence of the narration, and added “The rated load of the eyebolt shall be reduced in accordance with table 14-5 of NAVFAC P-307 or OEM recommendations” to the end of the narration. Also, modified the screen picture to include revised reductions/capacity percentages and screen text modifications.
180. Moved the Installing Shouldered Eyebolts topic after the Shouldered Eyebolts topic. The narration was also modified.
181. In the Backing Nuts topic, added “J995” to the first sentence of the narration after “SAE” and added a note statement to the end of the narration. The screen text was also modified.
182. Moved the Eye Alignment topic after the Backing Nuts topic
183. In the Shim Use Overview topic, the first sentence in the narration was reworded. Also, a title was placed on the screen.
184. In the Swivel Hoist Rings topic, added the following sentence to the narration: “The minimum thread engagement shall be 1 and ½ times the diameter of the bolt for steel (or threads fully engaged for swivel hoist rings with thread projections less than 1 and ½ times the diameter of the bolt).”
185. In the Swivel Hoist Rings (Continued) topic, modified the wording of the second bulleted item in the screen text.
186. In the Threaded Attachment Point topic, removed the screen text and added the first two sentences of the narration to the screen as bulleted items
187. Added one additional question to the Knowledge Check

Sling Use Module

188. Changed the title of the Rigging Gear Selection and Use – Sling Use module to “Sling Use”
189. Added a Welcome screen and narration to the IG
190. Changed the Instructional Objectives topic title to “Learning Objectives”. This was also changed in the screen title text
191. In the Wire Rope Sling Use (Continued) topic, added the following sentence to the end of the narration: “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.”
192. 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.”
193. In the Chain Sling Temperature Restrictions topic, modified the narration and screen text
194. In the Metal Mesh Sling Temperature Restrictions topic, added the word “bare” prior to the word “metal” in the second sentence of the narration. Also, changed “0” to “20” in the same sentence of the narration and in the screen text.
195. In the Synthetic Slings/Types topic, modified the wording of the first sentence in the narration, added a title to the screen, and added “Natural fiber rope slings are not to be used for overhead lifting” to the screen text.
196. Added the following narration to the Web Sling Use topic: “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.”
197. In the Web Sling Temperature Restrictions topic, changed the narration to the following: “Do not use synthetic web slings at temperatures above 194° Fahrenheit or OEM recommendations, whichever is more restrictive.” Also, changed the screen temperature to 194°.
198. In the Synthetic Rope Use topic, modified the wording of the first two sentences in the narration
199. In the Synthetic Rope Sling Temperature Restrictions topic, removed the below - 40 degrees temperature restriction and changed 180 degrees to 194 degrees in the screen text and in the narration.
200. In the Roundsling Use topic, changed the text in the first bulleted item to “Use shall be per OEM's instructions”. Also, revised the narration.
201. In the Eye and Hook Considerations topic, added additional text on the screen for synthetic web and rope slings. Also, revised the narration.

202. In the Correct Use of Slings on Hooks topic, in the next to last sentence of the narration the word “kinked” was changed to bent. The last sentence of the narration was also reworded.
203. In the Choker Hitch Efficiency topic, modified the screen text and efficiency percentages on the diagram. The narration was also modified.
204. Added a Knowledge Check with 5 questions to the end of the module.

Sling Angle Stress Module

205. Moved the Sling Angle Stress module after the Sling Use module.
206. Added a Welcome screen picture and narration to the IG at the beginning of the module
207. In the Choosing Your Gear topic, removed the word “stress” from the screen text and from the last sentence in the narration.
208. In the Sling Angle Stress Examples topic, replaced the screen pictures for the angle examples and added a screen picture for the Summary example.
209. Modified the wording of the 2nd and 3rd Knowledge Check questions.

D/d Ratio Module

210. Added a Welcome topic, including screen picture and narration text to the IG at the beginning of the module.

Load Charts Module One

211. Added a Welcome screen picture and narration to the IG at the beginning of the module.
212. Added a Knowledge Check section with 5 questions after the Deductions topic.
213. In the Working Area Diagram topic, modified the wording of the narration.
214. Added a Knowledge Check with 6 questions after the Structural Failure topic.
215. Deleted the Load Charts Module 1 Exam Questions and Answers section.

Load Charts Module 2

216. Added a Welcome screen picture and narration to the IG at the beginning of the module.
217. Changed the name of the Instructional Objectives topic to “Learning Objectives”. Also changed the title in the screen text.
218. Added a Knowledge Check with 9 questions after the Category 4 Capacity Charts Examples topic.
219. Deleted the Load Charts Module 2 Exam Questions and Answers section.

Load Charts Module 3

220. Added a Welcome screen picture and narration to the IG at the beginning of the module.

221. Changed the name of the Instructional Objectives topic to “Learning Objectives” in the narration and screen text.
222. In the Boom Angle between Values topic, removed the word “next” from the screen text. Also, removed the word “next” and reworded the narration in the first and next to last sentence.
223. Added a Knowledge Check with 5 questions after the Calculating Wire Rope Capacity topic.
224. In the Outrigger Position topic, changed the 2nd sentence in the narration to: “On-outrigger load-chart ratings apply when all outriggers are fully extended, extended to intermediate positions, or in other positions, as allowed by the OEM load charts and all tires are clear of the ground.” The screen text and picture were also changed.
225. Added a Knowledge Check with 4 questions after the Wind topic.
226. Deleted the Load Charts Module 3 Exam Questions and Answers section.

Crane Communications Module

227. Added a Welcome topic screen and narration text to the IG at the beginning of the module.
228. Changed the title of the Instructional Objectives topic to “Learning Objectives”. The title was also changed in the screen text. In addition, added a fourth bulleted item to the screen text.
229. Added two additional paragraphs to the narration in the Communication Methods topic.
230. Added a fourth bulleted item to the screen text in the Hand Signal Rules topic.
231. In the Radio topic, added additional narration on Radio Guidelines and Radio Work Practices. Additional bulleted items and screen text was also added.
232. Added a Knowledge Check section with 6 questions after the Radio topic.
233. Moved the Stop Signals, Stop, Emergency Stop, and Dog Everything topics after the Swing topic.
234. In the Dog Everything topic, removed the first sentence from the narration.
235. Deleted the Quick Check question after the Magnet Signals topic.
236. Added a Knowledge Check with 10 questions after the Magnet Signals topic.
237. Deleted the Crane Communication Exam Questions and Answers section.

Crane Team Concept Module

238. Added a Welcome topic screen picture and narration text to the IG at the beginning of the module.
239. Changed the Instructional Objectives topic title to “Learning Objectives”. Also, changed the title on the screen text.

240. Added a Knowledge Check with 3 questions after the Team Members topic.
241. In the Communications topic, added an additional paragraph to the narration.
242. Deleted the Knowledge Check after the Safety topic.
243. In the Crane Operator Responsibilities topic, added the following paragraph to the narration: "The crane operator must ensure that his or her license is not expired, and that the certification of the crane is not expired prior to operation. These are the two expiration dates that are of particular importance to crane operators." Also, modified the wording of the 2nd paragraph and modified the wording of the third bulleted statement on the screen text.
244. Added a Knowledge Check with 5 questions after the Stop for Safety topic.
245. In the Crane Rigger Responsibilities topic, deleted the picture and added a picture to the screen showing Crane Riggers.
246. In the Assisting with ODCL topic, deleted the picture and added a new picture with Crane Riggers assisting with the ODCL to the screen.
247. In the Communicating topic, deleted the picture and added a new picture with Crane Riggers to the screen.
248. In the Crane Walker Pre-Use Check topic, deleted the picture and added a new picture to the screen.
249. In the Safe Travel topic, modified the narration and deleted/removed the Obstructions and Track Switch Alignment links from the screen.
250. In the Communicating Stop topic, modified the narration and screen text wording.
251. In the Supervisor Responsibilities topic, added "and inspects" to the second bulleted statement in the screen text and added additional narration.
252. In the Site Conditions topic, replaced the screen picture.
253. Deleted the Lifts Over 80% topic and moved the Complex Lifts topic after the Site Conditions topic.
254. In the Complex Lifts topic, modified the narration and replaced the screen text and picture.
255. In the Accidents topic, changed the word "authorities" to "personnel" in the narration.
256. Added a Knowledge Check with 3 questions after the Accidents topic.
257. Deleted the Crane Team Concept Exam Questions and Answers section.

Safe Operations Module 1

258. Added a Welcome topic screen and narration text to the IG at the beginning of the module.
259. Changed the Instructional Objectives topic title to Learning Objectives. This was also changed in the screen text. Also, added the following wording to the

narration and modified the third bulleted item in the screen text to read:
“Understand the requirements when working near overhead power lines”

260. In the Understanding the Crane topic, modified the 3rd paragraph in the narration. Also, changed the 1st bulleted item on the screen text to “Be Trained”, and added a third bulleted item to the screen (“Be familiar with the crane before operating”).
261. Added an Operator Training topic, including narration and screen text, after the Understanding the Crane topic.
262. In the Pre-Operational Check topic, added additional narration on performing the operational check in cold weather or icy conditions. Also, replaced the screen picture and added an additional sentence to the screen text.
263. Added a Knowledge Check with 6 questions after the Pre-Operational Check topic.
264. In the Overhead Lines topic, added an additional sentence to the narration and the same information was added to the screen text as a bulleted item. The Danger Zone link was also modified to show updated clearance requirements.
265. In the Limit of Approach topic, added two additional paragraphs to the narration on minimum clearance from overhead electrical transmission lines and on assigning a designated spotter to monitor clearance. The screen text was also modified to show the added information.
266. In the Operating Practices topic, added additional narration, modified the screen text, and replaced the screen picture.
267. In the Lifting Loads topic, modified the narration wording and added information on lifting loads out of water.
268. In the Landing Loads topic, modified the narration and screen text.
269. In the Securing the Crane topic, modified the narration.
270. In the Traveling topic, added the following sentence to the narration and to the screen text as a bulleted item: “Maintain communication with and operate under the direction of a signaler.”
271. Added a Knowledge Check with 6 questions after the Traveling topic.
272. In the Summary topic, modified and added additional narration and screen text
273. Deleted the Safe Operations Module 1 Exam Questions and Answers section.

[Safe Operations Module 2](#)

274. Added Safe Operations Module 2 to the course, IG, and SG.

[Crane and Rigging Gear Accidents Module](#)

275. Added a Welcome topic, including narration text and screen shot to the beginning of the module in the IG.
276. Changed the Instructional Objectives topic title to “Learning Objectives”. This was also changed in the screen title.

277. Added an Accident Categories topic, including narration and screen text, after the Learning Objectives topic.
278. Added a Knowledge Check with 2 questions after the Rigging Gear Envelope topic.
279. Added a Near Misses topic, including narration and screen text, after the Knowledge Check.
280. In the Crane Accident Definition topic, added the following words after the word "overload" in the narration: "(this includes load tests when the test load tolerance is exceeded)"
281. Added a Damaged Rigging Gear topic, including narration, picture and screen text, after the Rigging Gear Accident Definition.
282. In the Causes topic, modified the narration, and modified the first sentence in the screen text.
283. Added a WHE Accident Response topic, including narration and screen text, after the Operator Responsibilities topic.
284. Added a Crane Accident Actions topic, including narration, picture, and screen text, after the WHE Accident Response topic.
285. In the General Reporting Procedures topic, modified the narration and screen text.
286. In the Contracting Officer Reporting Procedures topic, added the following statement to the narration at the end of the second paragraph: "For all other accidents, notify the Navy Crane Center as soon as practical but no later than three working days after the accident."
287. Added a Knowledge Check with 7 questions after the Contracting Officer Reporting Procedures topic.
288. Deleted the Crane and Rigging Gear Accidents Exam Questions and Answers section.

Final Exam

289. Removed the 4 Exam Instruction screens at the beginning of the exam section. Instructions are now given in the NAVFAC P-307 Training Overview module.
290. Deleted several questions that were not relevant and modified several questions in the Exam.
291. The questions in NAVFAC P-307, Appendix G, if not already present in the Exam, were added.
292. The Exam Answer Key answers were changed to match the updated Exam question answers and was modified to contain only 110 questions.