

## **1.0 PURPOSE AND SCOPE**

This guidance document describes the process used to ensure the structural integrity of lifting points. A lifting point is any lifting bail, lifting eye, or other permanently mounted apparatus on cover blocks, cover plates, and shield plugs for lifting. This guidance document also details the engineer's responsibilities and steps to be taken in this process (see TFC-ENG-FACSUP-C-25).

## **2.0 IMPLEMENTATION**

This guidance document is effective on the date shown in the header.

## **3.0 RESPONSIBILITIES**

The Area Engineer is responsible for verifying the structural integrity of lifting points. The responsibilities of the Area Engineer, except approvals, may be delegated to qualified Support Engineers.

Responsibilities are contained within Section 4.0.

## **4.0 GUIDANCE**

Lifting points must be tagged and entered into the Hoisting and Rigging folder in IDMS. Lifting points without tags need to be inspected, photographed and analyzed prior to lifting; and tagged after the initial lift is complete.

For newly installed or manufactured lifting points (less than 12 months old) where both:

- (1) calculations showing adequate strength meet or exceed the analysis criteria in RPP-8360, and/or load testing results demonstrate strength in excess of 125% of the load for each lift point
- (2) a QA receipt inspection has been performed

Then Sections 4.1 Inspection Preparation and 4.2, Field Inspection , of this procedure do not apply., The receipt inspection documentation for the system, structure, or component shall be substituted for the field inspection required by TFC-ENG-FACSUP-C-25. Regardless, Section 4.3 of this procedure shall apply, and photographs must be taken and included as input to the Hoisting and Rigging folder.

### **4.1 Inspection Preparation**

- Area Engineer
1. Based on a scheduled need to perform a lift, check the Integrated Document Management System (IDMS) Hoisting and Rigging folder, or RPP-16330 for existing calculations and field inspections; provide supporting documentation to planner as needed.

NOTE: QA Inspection is required when the lifting point is damaged or visibly bent.

2. If the lifting point is not in the Hoisting and Rigging folder, either fill out the Lifting Point Field Report by Engineer (A-6003-764), photograph the specific lifting point, and go to Section 4.2; or have a QA inspection performed using the Lifting Point Field Inspection Report by QA (A-6003-765).
3. Review the field inspection folder for completeness and accuracy, provide signature approval on A-6003-766 in Appendix A, and deliver the package to QA with the instruction to complete the inspection according to TFC-ENG-FACSUP-C-25.

## 4.2 Field Inspection

### Area Engineer

1. Evaluate the field inspection report and, based on findings, perform the following actions as required to ensure the identified lifting points can be safely used.
  - a. Ensure a work order for any lifting points requiring corrective maintenance is initiated; include appropriate provisions of TFC-ENG-FACSUP-C-23.
  - b. Indicate approval by signing the inspection report(s).
  - c. Add the field inspection report to the Hoisting and Rigging folder.
2. If required, prepare an Engineering Change Notice (ECN) to initiate repairs and/or to revise drawing(s) to match the “as-found” field conditions in accordance with TFC-ENG-DESIGN-C-06.

### Rigging Engineer

3. Evaluate corrective actions and approve ECNs.
4. When frequent lifts are taking place, it is recommended to track hoisting and rigging activities: coordinate calculations, and inspection of critical and special lifts required, using the Lifting Point Evaluation Tracking List (see Figure 1 for an example of the tracking list).

## 4.3 Structural Analysis

### Support Engineer

1. Perform structural analysis and provide data to planner; engage the services of a structural engineer as necessary.
2. Check the Hoisting and Rigging folder and RPP-16330 to determine bail capacity and cover block weight.
  - a. If necessary, initiate an analysis by contacting the Engineering Discipline Lead - Civil/Structural, and provide an approved inspection report to the analyst.

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| Engineering Discipline Lead - Civil/Structural | 3. | Determine the type of calculation required in accordance with TFC-ENG-DESIGN-C-10. A letter of appointment may be issued to identify approved alternates for this determination.  |
| Analyst  | 4. | Perform structural evaluation of lifting points in accordance with TFC-ENG-DESIGN-C-10, RPP-8360, and RPP-10975.  |
| Area Engineer                                  | 5. | Based on the structural evaluation, determine if the lifting point(s) is adequate to lift the intended item (e.g., cover block, cover plate, shield plug) and verify tags are in place in accordance with the requirements of TFC-ENG-FACSUP-C-25.<br><br>a. If adequate, notify the planner and provide a copy of the analytical calculations.<br><br>b. If inadequate, contact the Engineering Discipline Lead - Civil/Structural, for a resolution (RPP-9514). |
| Analyst  | 6. | Record analysis as required by TFC-ENG-DESIGN-C-10. Document computational calculations on A-6003-884, item 5.e.  |
|  | 7. | Record inspection report results and analysis into the IDMS Hoisting and Rigging folder.  |

## 5.0 RECORDS

The following records are generated by the performance of this procedure:

- Lifting Point Field Inspection Report by Engineer form (A-6003-764)
- Lifting Point Field Inspection Report by QA form (A-6003-765).

The record custodian identified in the Company Level Records Inventory and Disposition Schedules (RIDS) is responsible for record retention in accordance with TFC-BSM-IRM\_DC-C-02.

## 6.0 REFERENCES

1. RPP-10975, "Simplified Lifting Bail Evaluation Process."
2. RPP-16330, "Standard Lifting Point Rated Load Capacities."
3. RPP-8360, "Lifting Bail Evaluation Process."
4. RPP-9514, "Bail Repair and Load Testing."
5. TFC-BSM-IRM\_DC-C-02, "Records Management."
6. TFC-ENG-DESIGN-C-06, "Engineering Change Control."
7. TFC-ENG-DESIGN-C-10, "Engineering Calculations."

8. TFC-ENG-FACSup-C-23, "Equipment Identification and Data Management."
9. TFC-ENG-FACSup-C-25, "Hoisting and Rigging."

