National Dredging Quality Management Program (DQM)

DREDGE PLANT INSTRUMENTATION PLAN (DPIP) PUNCH LIST—HOPPERS

The Dredge Plant Instrumentation Plan (DPIP) for hopper dredges shall include the following as a minimum.

Note: The DPIP must have a Table of Contents in the following order and tabs separating sections.

Cover Page
- Dredge Name
- Date
- Photo of Plant

Table of Contents

New Page — Dredge Contacts

Dredging Company
- Dredge Point of Contact On Site
- Phone Number
- Email Address

Dredge Monitoring System Provider
- Dredge Monitoring System Point of Contact
- Telephone Number
- Email Address

New Page — Table of Dredge Characteristics
- Dimensions of Dredge
- Dimensions of Hopper
- Method of Disposal
- Capacity
- Minimum and Maximum Digging Depth
- Minimum and Maximum Drafts and Displacements

- RPM and Velocity Range
- ID of Suction and Discharge Pipes

New Page

Sensor Data Collection Method
- Any Averaging
- Route from Sensors to DQM Computer
- Internet Connection Type and Provider

Sensor Descriptions, Locations, and Calibration Methods
- Positioning System
  - Brand Name, Model, and Accuracy
  - Any Calculation Done External to the Instrumentation
  - Sensor Location with Referenced Dimensions
- Dredge Heading Instrumentation
  - Brand Name, Model, and Accuracy
  - Any Calculation Done External to the Instrumentation
- Hull status
  - Brand Name, Model, and Accuracy
  - Any Calculation Done External to the Instrumentation
  - Sensor Location with Referenced Dimensions
  - Calibration Procedure
- Draft
  - Brand Name, Model, and Accuracy
  - Any Calculation Done External to the Instrumentation
  - Sensor Location with Referenced Dimensions
  - Calibration Procedure
- • Ullage
  - Brand Name, Model, and Accuracy
  - Any Calculation Done External to the Instrumentation
  - Sensor Location with Referenced Dimensions
  - Calibration Procedure
- Dragarm Depths
  - Brand Name, Model, and Accuracy
  - Any Calculation Done External to the Instrumentation
  - Sensor Location with Referenced Dimensions
  - Calibration Procedure
- Density
  - Brand Name, Model, and Accuracy
  - Any Calculation Done External to the Instrumentation
  - Sensor Location with Referenced Dimensions, Including the Pipe Diameter
  - Calibration Procedure
- Velocity
  - Brand Name, Model, and Accuracy

    - Any Calculation Done External to the Instrumentation
    - Sensor Location with Referenced Dimensions, Including the Pipe Diameter
    - Calibration Procedure
- Pump RPM
    - Brand Name, Model, and Accuracy
    - Any Calculation Done External to the Instrumentation
    - Sensor Location with Referenced Dimensions
    - Calibration Procedure
- Pumpout (If Instrumented)
    - Brand Name, Model, and Accuracy
    - Any Calculation Done External to the Instrumentation
    - Sensor Location with Referenced Dimensions
    - Calibration Procedure

Calculated Parameters
- Displacement
    - Method Used by the Contractor to Calculate Displacement
    - Tables Listing (Fresh and Salt Water) Displacement as a Function of Draft in Feet and Tenths of Feet
- Hopper Volume
    - Method Used by the Contractor to Calculate Hopper Volume
    - Table Listing the Hopper Volume as a Function of Hopper Ullage in Feet and Tenths of Feet
    - Description of the Datum for Ullage Sounding Measurements
- Drag Head Position
    - Method Used by the Contractor to Calculate the Drag Head Position
- Load Number
    - Method Used to Increment the Load Number

Quality Control
- Description of the Contractor's Quality Control Process
- Log of Sensor Calibrations, Repairs, and Modifications

Appendices
- Hydrostatic Curves
- Certified Displacement and Volume Tables
- Legible Dimensioned Drawings of the Dredge with Units in Feet
    - A Typical Plan of the Dredge Showing the Following:
        - Overall Dredge and Hopper Dimensions
        - Locations of Required Sensors Referenced to Uniform Longitudinal and Transverse Reference Points
        - Distance Between the Draft Sensors
        - Distance Between the Ullage Sensors

        - Dimensions of the Dragarm
    - Profile View of the Dredge Showing the Following:
        - Overall Dredge and Hopper Dimensions
        - Distance Between the Draft Sensors and Draftmarks
        - Locations of Required Sensors Referenced to Uniform Vertical and Longitudinal Reference Points
    - Typical Vessel Cross Section Through the Hopper
- Sensor Manuals and Certificates of Calibration