



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**
 Document 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
- Transmission from Dredge to DQM Center
- 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
- **Dragarm Gimbal 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
- **Draghead Suction Status**
 - Method Used by the Contractor to Draghead Suction Status
- **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