

Operation of Dredge MINDI Production Monitor

Procedure : IPDO 05.001

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I. PURPOSE

The purpose of this procedure is to establish the parameters for the control of the radioactive gamma ray source used in the system for measuring dredged material density by means of a determination of the ratio of the water and material pumped by the dredge.

II. SCOPE

This procedure shall apply to all Dredge MINDI elements and equipment emitting radiation, to personnel involved with said equipment by reason of the operation, and to ACP non-dredge personnel in the proximity of the system who may be affected.

III. REFERENCES

ACP Radiological Protection Manual.

IV. DEFINITIONS

See the definitions in the ACP Radiological Protection Manual.

V. RESPONSIBILITIES

This procedure directly involves the Office of the Manager, Dredging Division; the Master of the Dredge MINDI; the Dredge MINDI Deck Officer; the Dredge MINDI Operator; and the Supervisor of Safety and Industrial Hygiene Unit in charge of ACP Radiological Protection; who shall enforce the provisions of this document. Their responsibilities are listed below.

VI. TOOLS, EQUIPMENT, AND MATERIALS

To implement its Radiological Protection, ACP, through its specific Division, supplies to specialized personnel measurement devices, means of transportation, software, records systems, etc.

VII. INSTRUCTIONS

1. DREDGE OPERATOR

1.1 The Dredge Operator on each shift shall record daily in the appropriate log the measurement readings of dredge production activities and whether they are within the normal operation values established in the equipment manual.

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1.2 In the event the readings show any irregularity, the following action shall be taken:

1.2.1 Notify the Master about the irregularity.

1.2.2 Conduct an inspection of the pipe gage area and proceed according to 2 .2.1, Dredge Deck.

1.2.3 Do not handle anything that may worsen a hazardous situation.

1.3 In the event the Dredge Master is not available, call the Operations Manager, who shall in turn contact the Supervisor of Safety and Industrial Hygiene Unit, to request an on site inspection and an evaluation of the production gage.

2. DREDGE DECK

2.1 On a daily basis, the Dredge Master or the Deck Officer on duty shall conduct a visual inspection of the production gage installed on the discharge pipeline.

2.2 The following actions shall be taken after the inspection conducted by the Dredge Master or Deck Officer:

2.2.1 If any irregularity has been detected, the Dredge Master or Deck Officer shall prepare a report to the Manager, Cranes and Dredging Section, Dredging Division (OPDD), with copy to the Safety and Industrial Hygiene Unit (RHSI), requesting an on site inspection and an evaluation of the dredge production gage radiation levels.

3. MANAGER, CRANES AND DREDGING SECTION (OPDD)

3.1 A record shall be kept with the information on the Dredge MINDI logs, especially on the production gage.

3.2 If the information provided by the Deck Officer on duty confirms an irregularity that exceeds the values specified in the equipment manual, the Manager, IPDO, shall isolate the area, and contact the manufacturer of the source to arrange a visit for the removal or adjustment of the production meter, as required.

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4. STORAGE OF THE SOURCE

STEPS TO REMOVE THE SOURCE FROM SERVICE

4.1 For its removal from service, the radioactive source shall be physically disconnected (unscrewed) from the clamps that attach it to the 28-inch diameter pipeline, and then transported in a 20 foot storage container on shore.

4.2 This operation shall be performed as instructed by the Dredge Master under the supervision of the Deck Officer and the Dredge electrician, who shall disconnect the cables of the digital remote transmitter in the Dredge Operator cabin. The Industrial Hygienist shall be contacted for an on site inspection and an evaluation of the procedure.

5. PERSONS RESPONSIBLE FOR THE TRANSPORTATION AND STORAGE OF THE SOURCE.

The log shall include the names of the persons responsible for the transportation and storage of the source, such as the Dredge Master, the Deck Officer, and the Dredge Operator on duty at the time.

6. HANDLING AND FINAL DESTINATION OF THE OUT OF SERVICE SOURCE

The procedure to dispose of or return the source to the manufacturer is specified in an agreement between the manufacturer (Texas Instruments, Inc.) and the user (OPD). Once it is packed in wooden boxes and placed in a container, it shall be labeled with the appropriate radiation hazard signs and warnings, in accordance with the international rules for its handling and transportation.

7. EVALUATIONS OF THE SEALED SOURCE

The Safety and Industrial Hygiene Unit shall conduct evaluations of the source every six months, as required by the Dredge Master, and upon its removal from service.

8. ACTION IN CASE OF RADIOLOGICAL EMERGENCY

In the event of a radiological emergency due to source damage, the Safety and Emergency Dispatch Control Center (CCSDE) of the Protection and Emergency Response Division shall be notified immediately by calling 119. While notification is done, all affected areas shall be cordoned off, restricting access to essential personnel who shall handle the emergency. It is of the utmost importance to wait for Emergency Response personnel (OPPD). Also, for the operation of the Dredge

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MINDI Production Monitor, the instructions regarding the theft, loss, breakdown, or destruction of an instrument with source exposure in Annex # 6 on Radiological Protection (see SCP 2600SEG270-006), shall be followed.

The rest of the non-essential personnel shall be kept away from the isolation perimeter. RSHS shall be notified to evaluate existing radiation levels.

VIII RECORDS, REPORTS, AND FORMS

Name	N°	Collection	Classification	Access	File Type	Record Location	Maintenance	Retention
MINDI log	N/A			R	Paper			Years
Industrial Hygiene Monitoring Data	8812	ESSI			Electronic	ESSI		years