



US Army Corps  
of Engineers®

# REGULATORY GUIDANCE LETTER

No. 06-04

Date: 2 October 2006

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SUBJECT: Guidance for the Implementation of the Silent Inspector (SI) for dredging projects requiring Department of the Army (DA) permits

## 1. Purpose and Applicability

**a. Purpose.** This document provides guidance for the Regulatory Program to facilitate compliance with implementation of the Silent Inspector (SI) system as required by the memorandum dated 17 April 2006 (attached) from the Director of Civil Works. The Director's memorandum requires Corps-wide implementation of the SI. A national support team has been established to help districts implement and fully utilize the capabilities of SI.

**b. Applicability.** This guidance applies to all activities requiring a DA permit in which a permittee utilizes a hopper dredge and/or a dump scow as the methodology for dredging and/or proposes to discharge dredged material into ocean, bay or coastal open water disposal areas.

## 2. General Considerations

**a. Background.** SI consists of government furnished software developed through the U.S. Army Engineer Research and Development Center (ERDC), on-dredge hardware owned and operated by the dredging contractors, a centralized SI database, and desktop SI software developed by ERDC. SI is already required to be used for Civil Works projects and can be turned on or off as needed without additional software or hardware.

As dredging begins, SI automatically monitors numerous dredging parameters such as the location, depth, type and amount of material removed from a dredging site, as well as the location at which the dredged material is discharged, in real-time on a 24 hour/7days a week basis in a standard format. This information is recorded onto the on-board computer where it is then available for downloading and review by the Corps, and for automatic transmittal to the appropriate Corps District office during dredging operations. Desktop computer tools are available to examine the data, determine trends in production, and to monitor compliance with the terms and conditions of DA permits, such as the authorized amount and location of material to be dredged, the location of the specified disposal site(s) at which the dredged material is to be discharged, and compliance with the other terms and conditions of permits issued by the Corps. The hardware and software are already installed on all government –owned hoppers dredges and dump scows as well as on those privately-owned hoppers dredges and dump scows that can be used regarding any bid on government dredging contracts.

**b. Regulatory Program Benefits.** Since the SI must be left on at all times when it is on a hopper dredge or dump scow, the greatest benefit to the Regulatory program is having a consistent, available and reliable source of data that could be used for determining compliance with DA permit conditions. The nationwide implementation of SI is time-phased, beginning with hopper and bucket contracts followed by pipeline dredges. Long term cost savings will accrue to Districts by efforts to reduce paperwork and automate reporting requirements.

### **3. Analysis and Policy.**

**a.** SI is already available on hopper dredges and dump scow dredges that can be used for any bid relating to Civil Works projects. These dredges may also be used for dredging of non-Corps projects. When hopper or scow dredges or other equipment with SI capability are proposed for use on a permitted project, Districts must add special conditions to permits to require the use of SI to collect the appropriate data for weekly submission to SI support team and Regulatory Project Managers (PM) or designee upon request.

**b.** Depending on the need for and frequency of use of SI, districts may choose to appoint a Regulatory Point of Contact (POC) for SI coordination. Other options including funding the support of a POC in Operations or Navigation or jointly funding a Regulatory POC at the Division level.

**c.** The Regulatory PM is responsible for determining compliance with the special conditions of the issued DA permit. Use of the SI to determine compliance with DA permit conditions contributes substantially to program efficiency.

**d.** Uploading the raw data to the SI support team occurs automatically for a permittee; however, if analysis of the data is requested to be completed by the SI support team, it must be funded by Regulatory on a case-by-case basis. Regulatory funds may be appropriately used for this purpose if the report is used for permit compliance.

**e.** The following paragraph must be used as a template special condition:

***All hopper dredges shall be equipped with the Silent Inspector (SI) system for hopper dredge monitoring. The SI system must have been certified by the Engineer Research and Development Center (ERDC) within the last year. Questions regarding certification should be addressed to the SI support team at 601-634-2923. The SI is an automated dredge monitoring system comprised of both hardware and software developed by the U.S. Army Corps of Engineers (Corps). The Corps developed the SI as a low cost, repeatable, impartial system for automated dredge monitoring. The SI consists of three major components: The Dredge Specific System (DSS), the Ship Server, and the Shore Server. The DSS collects and displays various dredge sensor data for the dredge crew to monitor dredge progress and quality control. The other major task of the DSS is to send data to the Ship Server. Most dredging contractors already have a computer system and sensors onboard for control or positioning that can be used as the DSS. The dredging contractor supplies and owns the DSS and all associated sensors. The Ship Server acts as the dredge-based data archive and report creation center by storing the data from the DSS and performing automated review of the data. The Ship Server can produce many different reports including dredge location history, volume history, and operational status. Additional information about SI can be found at <http://si.wes.army.mil/index.html>. The data collected by the SI system shall, upon request, be made available to the Regulatory Division of the U.S. Army Corps of Engineers, \*\* District.***

4. **Duration.** This guidance remains in effect unless revised or rescinded.



DON T. RILEY  
Major General, US Army  
Director of Civil Works

Attachment



DEPARTMENT OF THE ARMY  
U.S. ARMY CORPS OF ENGINEERS  
WASHINGTON, D.C. 20314-1000

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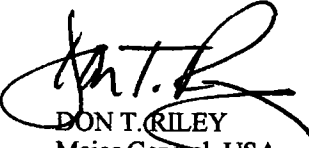
MEMORANDUM FOR COMMANDERS, MAJOR SUPPORT COMMANDS

SUBJECT: Implementation of Automated Dredging Quality Assurance Monitoring

1. The U.S. Army Corps of Engineers will use automated dredging quality assurance monitoring in our navigation mission to provide much needed tools and metrics for improving our dredging program, including management of threatened and endangered species and overdepth dredging. Silent Inspector (SI) was developed under our Dredge Operations and Environmental Research Program (DOER) and tested for several years by a number of districts. The mission of the SI Program is to provide standardized Corps-wide technical support of dredging through automated tools and services and to evolve these capabilities to meet our growing needs.
2. The Engineering Research and Development Center (ERDC) will lead SI development in the Corps. ERDC has developed and matured SI technology and services for continuously monitoring Corps dredging operations using automated on-board dredge systems communicating to centralized data storage servers coupled with GIS technology. The Silent Inspector Program has demonstrated inspection cost savings at Mobile, New Orleans, and Portland Districts. Additionally, SI improves environmental sustainability of our dredge operations by building stakeholder confidence in our compliance efforts. Data from SI monitored dredging operations will flow into Dredging Operations Decision Support Software (DODSS), which will increase the alternatives for advancing dredging work. The Dredging Operations Decision Support Software will also improve estimation of scope and cost of dredging projects, increasing their efficiency, effectiveness, and productivity for greater value of the Federal investment in channel maintenance Corps-wide.
3. I have directed ERDC and HQUSACE, Operations to establish operations through the Mobile District to implement SI Corps-wide. The SI website, <http://si.wes.army.mil>, contains the necessary background information supporting implementation. Beginning immediately, all hopper and scow type dredging contracts are required to incorporate SI into their monitoring plan and to budget 0.875 percent of the contract cost to cover SI. These funds are to be sent to Mobile to cover the SI program. For assistance implementing SI, contact Mr. Gary Howell, ERDC, at telephone number (601) 634-2006, or email: [Gary.L.Howell@usace.army.mil](mailto:Gary.L.Howell@usace.army.mil), for district support.

FOR THE COMMANDER:

*We will conduct  
semi-annual reviews  
with MSC Ops Chiefs  
to ensure we implement  
deliberately and  
effectively.*

  
DON T. RILEY  
Major General, USA  
Director of Civil Works