

Program Notice

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VIDEO STOWAGE EXAM FOR RIVER BARGES

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1. PURPOSE

The purpose of this notice is to provide guidance for performing stowage examinations on river barges using a camera as an alternative to physically performing the examination. This is a new Program Notice.

2. BACKGROUND

Safety when performing official duties is of paramount importance to FGIS. This applies equally to official agency personnel as well as federal personnel. Among the more dangerous official duties is performing stowage examinations on river barges. Adverse weather makes for hazardous conditions when getting to and working on top of a barge. Understandably, some grain companies are enacting policies that prevent those not employed by the elevator from being on top of a barge, due to safety concerns and insurance liabilities.

FGIS permitted the use of closed circuit television (CCTV) for hopper railcar stowage examinations in 2009. In 2018, FGIS approved a pilot program to study the use of video camera systems to perform stowage examinations on river barges. This notice provides minimum requirements and other considerations for CCTV equipment used in performing stowage examinations of river barges.

This program notice will be merged into Program Directive 9180.48 Stowage Examination Services and the Grain Inspection Handbook when they are updated. FGIS does not recommend or endorse any particular model or manufacturer of video camera equipment nor is it the intent of this program notice to dictate system design.

3. POLICY

The Field Office must examine and approve the proposed video system on-site before the system can be used to provide official stowage examination services. In addition, the Field Office must re-examine and re-approve any system after any material changes or major repairs have been made to the system or as a response to system failures. The Field Office is responsible for determining whether the video system (as a whole) has the capability of providing images sufficient to determine whether a barge is fit to receive grain.

4. SYSTEM ASSESSMENT

When examining the video system, the Field Office must confirm the following, using the Video System Authorization and Approval (Appendix) to document observations.

(1) The video system meets the following technical requirements:

- (a) Camera must be capable of hands-free operation, tilt, and 360 degree rotation such that it allows for the full examination of all parts of the barge stowage area(s), including hatch covers and tracks
 - (b) Minimum 20x zoom factor
 - (c) Focal length range: minimum </10 mm; maximum >/100 mm
 - (d) IP 66 minimum rating for relevant outdoor components
 - (e) Camera securely mounts to bracket for stable positioning on barge
 - (f) Wired or wireless operation
 - (g) Must produce images in real-time
- (2) The video system must be able to produce high-resolution color images of acceptable quality sufficient to identify any material deficiency, including any materials (grain or non-grain) remaining in the carrier. Image quality must be verified under various lighting and weather conditions by using qualitative tests as deemed appropriate by the Field Office.
 - (a) Eye Charts – Three (3) Snellen Plastic Eye Charts, 20 feet version (22x11 inches): one chart positioned on each interior barge wall farthest and nearest to the camera and one chart in the control room
 - (b) Green and red color bars visible on Snellen chart
 - (c) Green and red colors as seen on monitor must be equivalent to colors on Snellen chart as seen in person in the control room
- (3) The video system must be capable of being controlled remotely by official personnel. Preset patterns may be used to assist the Official Service Provider (OSP) in achieving an effective and standardized stowage examination, but manual control and zoom capability is mandatory.
 - (4) The portable parts of the video system must be of a size and weight that facility personnel can safely move and set the camera as needed on and about the carrier(s).
 - (5) A Video System Authorization and Approval must be agreed upon and signed by the OSP, supervisory FGIS Field Office, and facility management authorizing the use of the video examination system in lieu of, or in conjunction with, physical stowage examinations. Only one authorization and approval form is required. It must be kept on file at the analysis location.

- (6) Approval may be revoked if the video system fails to perform adequately. If the system encounters repeated failures (as determined by the OSP or FGIS), the OSP is required to conduct physical examinations until such time that the systemic issues can be remedied and the field office can perform an assessment to validate that the system meets FGIS requirements.
- (7) If the electronic components of the video system are materially modified, approval must be re-issued before the system is used for official purposes.
- (8) Official personnel must verify that the video system is performing adequately prior to conducting an official stowage examination.

5. EXAMINATION PROCEDURE

Official personnel will perform either a physical or video (using an approved video system) examination of the stowage area to check for all conditions listed in the Program Directive 9180.48, Section 7 - Standards of Fitness. Before determining the method of examination, official personnel are required to talk with the applicant or the applicant's representative and inquire as to whether the barge has been chemically treated, transported toxic or hazardous materials in the previous shipment. If these conditions exist, refer to section 6(f) of Directive 9180.48 before proceeding with any physical examination of the stowage area.

Verify the video system is performing adequately prior to conducting an official stowage examination. Document observations on the Video System Authorization and Approval (Appendix).

- (1) Barge lids or hatch covers must be opened for video examination. The stowage area, including hatch covers and other openings, must not have holes, cracks or any other conditions that could cause a change in the weight or condition of the commodity. A supplemental camera system may facilitate this examination.
- (2) Verify that lighting is adequate to keep the camera from going grey-scale.
 - (a) Artificial lighting may be used to adequately light the inspection area(s) during low-light conditions, sufficient to keep the primary camera from going grey-scale.
 - (b) Care should be taken to ensure that artificial lighting does not create glare or otherwise obstruct the inspection view.
- (3) Verify that image quality is sufficient to perform an accurate stowage examination.
- (4) Verify that manual control of the primary camera system is established. Facility personnel may move the primary camera and/or other components between stowage examinations, but at no point during an official stowage examination may the system be controlled or manipulated by anyone other than official personnel.

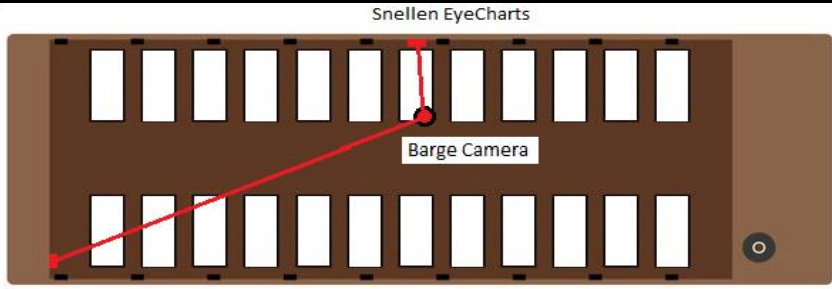
- (5) If the system fails to produce a suitable view of the stowage area, or if full control of the system cannot be established, official personnel must physically examine the barge.
- (6) Include procedures for system operation, testing, malfunction, and repair in the OSP's Quality Management Plan. In the event that official personnel must physically examine the barge stowage due to system failure, notify the field office for further evaluation of the system.
- (7) Maintain a log of system malfunctions and failures. The log must be made available to FGIS upon request.

6. QUESTIONS

Direct any questions regarding this program notice to the Policies, Procedures, and Market Analysis Branch at (202) 720-0228. File a copy of this program notice with Program Directive 9180.48-Stowage Examination Services.

APPENDIX (The appendix may be saved locally for use.)

Video System Authorization and Approval Form

			Service Provider		
Name of Facility, SSP, City, and State 1			Field Office 2 Official Agency 3		
Stowage Camera			Secondary Camera(s)		
Brand/Model 4	Serial No. 5		Brand/Model 6	Brand/Model 7	
Section 1 - Primary Camera Specifications			Section 4 - System Performance		
Items Examined	Pass	Fail	Items Examined	Pass	Fail
20x zoom or better 8			Real-time video streaming 22		
10mm to 100mm focal length range 9			Full coverage of stowage area 23		
IP66 rating 10			Auto-focus 24		
Transportable 11			Manual zoom 25		
Section 2 - Mount Specifications			Snellen EyeChart test for Far Distance 26		
Items Examined	Pass	Fail	Snellen EyeChart test for Close Distance 27		
Transportable 12			Snellen EyeChart test for Color 28		
Secure Mount 13			Preset Patterns 29		
Section 3 - Secondary Component Specifications			Accessible view of Barge exteriors 30		
Items Examined	Pass	Fail	Barge Camera w/ Snellen EyeChart Placements		
Directional artificial lighting 14					
Artificial lighting prevents greyscale 15					
Artificial lighting does not create glare 16					
Wired power 17					
Battery pack 18					
Wired image transmission 19					
Wireless image transmission 20					
24-bit color monitor 21					
Remarks 31					
Facility Manager 32	Date		Official Service Provider 33	Date	
Field Office Manager 34	Date				

1. Name of elevator, city, state, and SSP code
2. Name of FGIS field office in charge of the circuit
3. Name of the Official Agency that does original inspections at the facility
4. Brand name and model of the primary camera being used to conduct stowage examinations
5. Serial number of the primary camera being used to conduct stowage examinations
6. Brand name and model of secondary camera used to conduct stowage examinations, such as stationary cameras for barge ID
7. Brand name and model of secondary camera used to conduct stowage examinations, such as stationary cameras for barge ID
8. Camera must have minimum 20x optical zoom capability
9. Camera must include a range of 10mm to 100mm focal length (range can extend below and above these limits)
10. Camera must be rated no less than IP66 under the International Protection Marking
11. Camera must be capable of being safely and effectively transported to and from barge holds
12. Mount must be capable of being safely and effectively transported to and from barge holds
13. Mount must be able to provide camera with hands-free operations and stable imaging
14. Artificial lighting, if used, must be secured to mount or otherwise produce directional lighting in direction of camera view
15. Artificial lighting, if used, must prevent camera from going greyscale during testing
16. Artificial lighting, if used, must not create glare or otherwise obstruct camera view or image quality
17. Wired power to camera, if used, must be adequately sealed and deployed safely and effectively aboard barge
18. Battery pack, if used, must have adequate performance life to perform full stowage examination
19. Wired image transmission, if used, must be adequately sealed and capable of delivering high quality video images to monitor
20. Wireless image transmission, if used, must be securely mounted and capable of delivering high quality video images to monitor
21. Viewing monitor for primary camera must have 24-bit display or better
22. System must produce video images in real time
23. System must be capable of viewing full stowage area including all corners and some part of the inside of hatch covers
24. System must auto-focus effectively enough to produce quality images while in motion
25. System must be capable of manual zoom control
26. Mount 22" x 11" Snellen Eye Chart at furthest wall in Barge relative to Camera's position -Line 7 must be readily discernable through monitor
27. Mount 22" x 11" Snellen Eye Chart at nearest wall in Barge relative to Camera's position -Line 7 must be readily discernable through monitor
28. Compare Red and Green Lines from Snellen Eye Charts shown in monitor with Chart held on hand
29. Preset patterns, if used, must provide adequate coverage and effective view of stowage area
30. System must provide accessible view of barge exterior including hatch covers and barge identification
31. Include any remarks and notes pertinent to system approval or failure
32. Signature of Facility Manager; date signed
33. Signature of Official Agency Manager; date signed
34. Signature of Field Officer Manager; date signed