



Department  
for Transport

## Remote inspection of IMDG, RID/ADR and UK tanks

### Guidance for Appointed Inspection Bodies (AIBs)

#### Introduction

This document seeks to provide guidance on interim measures to be taken to maintain continuity of inspections during the COVID-19 pandemic and in other such situations when site access restrictions have been put in place.

Remote inspection is where there is an indirect optical path from the inspector's eye to the inspection area using live streaming of audio and visual media where the device(s) is(are) operated by an AIB to enable an inspector in one location to perform an inspection in real-time with an assistant onsite in another location. This procedure should not be confused with Remote Visual Inspection (RVI) where the inspector uses cameras, automated systems and/or remote operated vehicles for close external examinations or for internal inspections rather than entering a confined or inaccessible area.

This guidance has been developed by DfT in conjunction with DVSA, HSE, UKAS and VCA to set out a framework for AIBs that wish to perform remote inspections of dangerous goods tanks and/or their service equipment. From this framework of general principles, any AIB that wishes to perform remote inspections shall develop their own detailed in-house procedures. For both Remote Inspection and Remote Visual Inspection, these will need to be assessed under accreditation by UKAS.

It is anticipated that these general principles will essentially remain unchanged. However, future updates may reflect:

- remote visual inspection research findings, and/or
- advances in techniques and/or technology.

For the avoidance of doubt references in this document to

- 'inspector' is the person who performs / is responsible for the inspection, and where appropriate issues a certificate of compliance or similar documentation.
- 'assistant' is the competent person that is operating a camera onsite under direction from the inspector.
- 'Inspection' may also be interpreted as meaning 'assessment' including the verification of data.

## Scope

This guidance relates to the remote inspection of tanks and/or of their service equipment and the remote inspection of the activities of any person performing duties related to the inspection of tanks and/or of their service equipment. In this context, 'remote inspection' should be interpreted as meaning that the inspector is not physically 'on-site' for the inspection, and 'activities' should be interpreted as meaning conformity assessments, and all other inspections where a remote inspection procedure would be suitable.

This guidance applies to:

- All RID/ADR tanks (6.8 [other than for battery-vehicles and MEGCs] and 6.10), and road tankers under IMDG Code (IMO4, 6.8)
- All RID/ADR/IMDG Code portable tanks (6.7 [other than UN MEGCs]), including offshore portable tanks MSC/Circ.860
- Dual marked tanks (normally ADR 6.8/IMDG 6.7)
- UK Tanks

## Accreditation for remote inspections

UKAS must be notified promptly of any intention to change the procedures/methodologies being applied by an AIB. More information is contained within United Kingdom Accreditation Service (UKAS) Technical Policy Statement [TPS73](#).

Any 'interim' measures to adopt remote inspection (including other activities: for example, monitoring of staff) by AIBs are not permitted until UKAS has been informed and a formal technical assessment has been undertaken. The AIB is to also consider how it will enable UKAS to observe and witness the revised methods.

If the inspection body proposes to adopt the methodology permanently, then accreditation for remote inspection may be required depending on the nature and application of the remote inspection activity. UKAS will advise next steps where such methods will need to be formally assessed via extension to scope and identified on the AIB accreditation schedule.

Applications for accreditation to perform remote inspections should be submitted to UKAS, who will assess the AIBs competency to perform remote inspections, via inspection of their in-house procedures under the general principles set out in this guide for reference. That accreditation will set out the AIBs scope of future remote inspections.

**Note:** 'Remote Visual Inspection' (RVI) which is outside the scope of this document, will require separate accreditation by UKAS.

## General principles

Where remote inspections are to be applied, the revised inspection process shall as a minimum:

- Identify the objectives of conformity, for each activity and/or range of inspections being performed.

- Analyse any risks that may impact the effectiveness, impartiality or integrity of the inspection process / activity. The AIB shall retain evidence to demonstrate the appropriateness of the controls, mitigation measures and safeguards.
- Provide, for any limitations and conditions for the revised inspection process, justifications towards achieving an equivalent level of effectiveness.
- Take into consideration the relevant applicable legal (in relation to data protection and confidentiality for example) and health and safety requirements.
- Consider the reporting requirements to enable a re-evaluation of the inspection including any reference to equipment used.
- Secure, prior to use, mutual agreement from relevant parties, to permit the use of remote inspections including the transmission of electronic data, recording and retention of data.

For each inspection activity, the AIB shall be able to demonstrate how it has 'validated' the inspection process including use of equipment towards meeting the required objectives.

For a remote inspection to be effective, the equipment being used shall enable the inspector to make a viable inspection against, for example, relevant regulations, standards or related guidance. All remote inspections must provide the inspector with the same or better capability as that of physical inspection.

All inspections must be via a 'live' media feed and the inspector must be able to direct the assistant to relay in real-time the required images for the inspector to make a compliance decision.

### **Responsibilities of the inspector**

The inspector always retains responsibility for the end-to-end remote inspection process. They will suspend or terminate an inspection if they are not satisfied that it is possible to carry out a remote inspection equivalent to a physical inspection.

The inspector is responsible for inspection management and giving clear instructions to the assistant to achieve satisfactory images. Instructions must be mindful of the health and safety of the assistant in completing a full inspection. In the event of a perceived or actual safety hazard, the inspector must abort any inspection and consider appropriate reporting mechanisms.

The following should be the minimum requirements that are taken into consideration by the inspector throughout the inspection:

- Agreeing with the site owner the procedure to be followed which must address both the integrity and confidentiality issues that could arise.
- Ensuring both the assistant and site owner are aware of their obligations to support a remote inspection activity.
- Ensuring information to support the inspection is available to the inspector prior to the start of the inspection activity. This will include previous reports/certificates, maintenance records, calibration certificates for pressure gauges/thickness meter and, if an exceptional check, supporting weld, material and NDT reports etc.
- Assessing the site for potential black spots and the addition of repeaters where required to ensure signal is maintained. This is of particular relevance if a tank entry is to be made.

- Confirming that appropriate risk assessments are completed for both the inspector and their assistant.
- Ensuring any calibration and resolution testing is performed before the inspection begins.
- Ensuring all equipment to be used by the inspector and assistant is suitable for the environment in which it is to be used.
- Ensuring the assistant has the appropriate equipment and can operate it correctly.
- Ensuring the assistant is aware of the procedure, e.g. explain the inspection routine to ensure all areas are inspected effectively.
- Managing audio and visual capability including screen sharing for the inspection, ensuring suitable connectivity to and within the inspection area.
- Following a clear, concise system and procedure for the remote inspection.
- Ensuring that the correct preparations have been undertaken for the item/activity for which remote inspection is to be applied.
- Recording on any certificate issued the item/activity for which a remote inspection procedure was used and ensure there is sufficient information to ensure fulfilment of procedures and to enable a re-evaluation of the inspection.

**Note:** The AIB shall document its decisions on conformity, where there are restrictions to remote inspection. In cases where an item cannot be visually assessed to the satisfaction of the inspector, further evidence may be requested to prove compliance i.e. documentation, time-stamped photographs etc. On each occasion an exception is used, justification and evidence shall be retained and noted within the inspection report.

### Responsibilities of the assistant

The assistant is responsible for their own health and safety at all times and should follow all reasonable instructions from the inspector, as well as company and site policies. Throughout the inspection they must:

- Confirm to the inspector that they have the appropriate equipment and can operate it correctly prior to inspection commencement. Safety equipment and all technical aides should be suitably certified for the environment in which they are to be operated.
- Avoid sudden camera movements and ensure that positioning avoids any lighting, flare or glare conditions.
- Prevent any commercially sensitive information from being relayed to the inspector
- Check all equipment is compliant for the deployed environment.
- Maintain connectivity throughout the inspection.
- Ensure they are aware and capable of compliance with the remote inspection systems and procedures.
- Complete and understand all appropriate local risk assessments and all health and safety requirements.

### Equipment

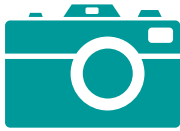


Remote inspections are reliant on the accuracy, reliability and stability of equipment used to capture and display images. This includes communication platforms such as Skype, Microsoft Teams and Zoom.

As part of performing the validation and risk analysis, the AIB is to consider 'dead spots' that may interrupt wi-fi connectivity, for example, continuity of signal during the internal inspection of the tank.

The minimum equipment requirement for the capture and display of images is as follows:

### Camera



A video camera should be used to ensure that an 'on-site' inspection is replicated as closely as possible and a helmet mounted camera that also incorporates a microphone is considered best practice. This arrangement allows the inspector to see what the assistant is looking at and hear the assistant at all times.

The camera lens and colour receiving screen must have sufficient resolution and be protected from glare, flare and burn-out. The contrast and brightness range of the colour image must provide a high level of visual clarity.

The type and size of camera and attachments selected must reach the entire subject under inspection and show appropriate detail. If the camera is battery powered, the battery life should enable a full inspection to be completed without interruption.

Where measurements are taken to support the inspection process, the AIB shall in addition to ISO/IEC17020 consider the requirements of [G27-07/2019](#).

Supplementary safe lighting may be used to achieve adequate and reliable illumination of the subject being assessed. For general visual inspections a lux level of 500 is the minimum acceptable and for close visual inspection at least 1000 lux should be achieved. The inspector should have a means of verifying that there is sufficient lighting.

The live stream should be uninterrupted. The AIB procedures should define maximum pixilation that can be tolerated for short periods and should also be clear that if live streaming is lost at any point in the inspection then that inspection must be restarted.

### Monitor



The monitor and equipment used by the inspector shall provide an effective level of visual clarity. Images received by the inspector will be in colour and have sufficient contrast, brightness and clarity to replicate an image available to them if they were performing a physical inspection. If the inspector cannot receive images to their satisfaction, the inspection must be aborted.

### Audible communication



The inspector must direct the assistant to capture images of the items under inspection. A clear, reliable means of audible communication must be achieved. If audible communication is provided by a battery-powered device, the battery life should enable the full inspection to be completed without interruption.

## References

- [TPS 73 - UKAS Policy on Accreditation and Conformity Assessment During the COVID-19 Outbreak](#)
- [IAF MD4 :2018 Mandatory Document for the use of Information and Communication Technology \(ICT for Auditing/Assessment Purposes\)](#)
- [ILAC G27-07/2019 - Guidance on measurements performed as part of an inspection process](#)