

## TECHNICAL GUIDANCE FOR FORECOURT RETAILERS

The following section includes CCTV information and resources for forecourt retailers and the police. This includes information to support forecourt retailers in their decisions regarding the purchase of a CCTV system as well as details of the UK police requirements for digital CCTV systems.

This section also includes guidance related to the procedures and guidance for police when retrieving video and image evidence from digital CCTV systems, and the processes involved in the handling of digital images for police applications.

### **CCTV Operations Manual**

This Manual provides clear guidance to non-technical users wishing to buy a CCTV system that is fit for purpose. The manual also considers the additional issues of recorded image quality and data archiving that are essential parts of any digital CCTV system.

The CCTV Manual can be found at [this link](#).

### **UK Police Requirements for Digital CCTV Systems**

This document offers guidance to potential users of digital CCTV systems, where the pictures are intended to be used by the police or are likely to be used in an investigation. For CCTV recordings to be effective in detecting and investigating crime they must be fit for purpose and easily accessible by police investigators.

The UK Police Requirements for Digital CCTV Systems document can be found at [this link](#).

### **Procedures and Guidance for Police in the Retrieval of Video and Image Evidence from Digital CCTV Systems**

This document provides a procedure and supporting guidance to police technical staff wishing to identify the most appropriate method for retrieving video from any digital CCTV system. It also provides guidance on methods for the production of working copies in non-native file formats, where this is necessary to facilitate further processing or replay in court.

The Procedure and Guidance for Police can be found at [this link](#).

### **Digital Imaging Procedure**

The Digital Imaging Procedure is a guide for practitioners within the Police and Criminal Justice Service who are involved with the capture, retrieval, storage or use of evidential digital images.

The Procedure and Guidance for Police can be found at [this link](#).

### **CCTV Supporting Small Businesses**

This leaflet offers guidance to current or potential users of CCTV on how to get the most from this technology.

The CCTV supporting Small Businesses Leaflet can be found at [this link](#).

### **Testing CCTV Image Quality Tests**

Home Office Centre for Applied Science and Technology (CAST) has developed a range of tests to assist system installers and owners of CCTV to robustly assess the performance of their systems.

The tests are designed to be simple to use and produce results that are easy for a non-technical person to understand and will help with common problems like video compression, changeable viewing resolution and variable transmission bit rate/bandwidth, which can all result in the unpredictable quality of your digital CCTV images.

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## What is in the test system?

The kit is a set of test images and a measuring stick. It includes tests for human identification, vehicle registration number legibility, colour rendition and resolution.

## Measuring stick

The average height of a person can be measured with a calibrated measuring stick 1.7m high.

## Human identification test

The purpose of this test is to help system commissioners and auditors to demonstrate the CCTV system under review is capable of providing images that can be identified.

The test consists of 9 human faces. A random selection is presented to the camera at an appropriate distance. An operator attempts to match the presented face to a reference list. The operator's accuracy is then scored and used to evaluate the capability of the CCTV system to record identifiable images at this distance.

## Vehicle registration number (VRN) legibility test

The purpose of this test is to evaluate whether a CCTV system can provide images suitable for reading a VRN. The test kit specifies 9 segments of VRN characters. A random selection of these segments is shown to the camera at an appropriate distance. An operator attempts to match the presented VRN to a reference list and their accuracy is scored.

## Colour rendition test

This test will help to establish whether a CCTV system can provide images with reasonably accurate colour information. The test kit includes a basic colour chart, which is presented towards the camera at a suitable distance. The operator can then verify the level of match between the colours on a reference chart and the colours seen through the imaging system.

## Other tests

Other test targets included in the system are A3 sized versions of the legacy Rotakin™ test pattern, which allows system testers to use the updated guidance and methods to establish system acuity.

## Request a copy of the test targets

The electronic versions and system test procedures are currently unavailable to download, but you can request a copy of the files on CD (free of charge) by writing to:

Video team  
The Centre for Applied Science and Technology  
Woodcock Hill  
Sandridge  
St Albans  
Hertfordshire  
AL4 9HQ

For more information on test target manufacture or to purchase kits please email:

[castenquiries@homeoffice.gsi.gov.uk](mailto:castenquiries@homeoffice.gsi.gov.uk)

Tel: (+44) (0)1727 865051 (switchboard)

Fax: (+44) (0)1727 816233

## **The Dangerous Substances and Explosive Atmospheres Regulations 2002**

The Dangerous Substances and Explosive Atmospheres Regulations 2002 (DSEAR) require employers to control the risks to safety from fire, explosions and substances corrosive to metals.

### **What is DSEAR?**

DSEAR stands for the Dangerous Substances and Explosive Atmospheres Regulations 2002.

Dangerous substances can put peoples' safety at risk from fire, explosion and corrosion of metal. DSEAR puts duties on employers and the self-employed to protect people from these risks to their safety in the workplace, and to members of the public who may be put at risk by work activity.

### **What are dangerous substances?**

Dangerous substances are any substances used or present at work that could, if not properly controlled, cause harm to people as a result of a fire or explosion or corrosion of metal. They can be found in nearly all workplaces and include such things as solvents, paints, varnishes, flammable gases, such as liquid petroleum gas (LPG), dusts from machining and sanding operations, dusts from foodstuffs, pressurised gases and substances corrosive to metal.

### **What does DSEAR require?**

Employers must:

- find out what dangerous substances are in their workplace and what the risks are;
- put control measures in place to either remove those risks or, where this is not possible, control them;
- put controls in place to reduce the effects of any incidents involving dangerous substances;
- prepare plans and procedures to deal with accidents, incidents and emergencies involving dangerous substances;
- make sure employees are properly informed about and trained to control or deal with the risks from the dangerous substances;
- identify and classify areas of the workplace where explosive atmospheres may occur and avoid ignition sources (from unprotected equipment, for example) in those areas.

### **Data Sharing**

Sharing data between forecourt retailers can support a more joined up approach to prevention and evidence collation. Many forecourt retailers are reticent to share their data for fear of falling foul of the Data Protection Act 1998.

To improve clarity in this area, two checklists have been provided by the Information Commissioners Office to support forecourt retailers in their decisions regarding data sharing. They provide a step by step guide through the process of deciding whether to share personal data.

One checklist is for systematic data sharing, and the other is for one-off requests. The checklists are designed to be used alongside the full code and highlight the relevant considerations to ensure that the sharing complies with the law and meets individuals expectations.

The two checklists can be found at [this link](#).

The full Data Sharing Code of Practice can be found at [this link](#).

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## Good Practice

A leading supermarket has provided details of their decision making approaches regarding the capture of digital images through the appropriate use of CCTV, to support crime prevention on their petrol forecourts:

Petrol related offences can be prevented by well trained motivated staff.

They have the power to -

- Prevent the issuance of fuel in the first instance
- Isolate or shut pumps down during low trade periods, or upon identifying dangerous or criminal behaviours
- Request pre payment from customers if deemed appropriate.

## Which pump?

It's notoriously difficult for colleagues in busy petrol stations to be able to see all pumps prior to issuing fuel without the support of technology. If they can't see the person, the vehicle and the pump how can they prevent crime?

To support colleagues in the issuance of fuel it was identified that a mixture of camera positions was best to support human intervention and prevent offending.

Camera positions not only have to support colleagues they have to also do the following;

- Provide evidential continuity – Link a person to a vehicle and the pump used.
- Satisfy fire safety
- Together all support safe systems of work

These decisions have to be made on a site by site basis for the following reasons. Lighting supports human intervention, evidential capture and is essential to support safe working practises. However there are essential considerations regarding lighting to support the above factors; such as uniformity and having a good spread of light across the area being lit with no shadows or darker areas.

The choice of a lighting type that gives higher levels in the Colour Rendering Index is recommended, and in the case of colour CCTV cameras they need lighting greater than a CRI score of 60, to provide accurate colour rendering (shown in the chart below):

## Lamp Type Colour Rendering Index

- Tungsten Filament (GLS) 100
- Tungsten Halogen (TH) 100
- Fluorescent (MCF/U) 50 to 90
- Compact Fluorescent (CFL) 85 to 95
- Low Pressure Sodium (SOX) 0
- High Pressure Sodium (SON) 20
- White SON (SDW) 83
- Metal Halide (MBI) 65 to 90
- Ceramic Metal Halide (CDM) 85 to 95
- Light Emitting Diode (LED) 66 to 80
- Cosmopolis White (CPW) 60
- Cosmopolis Gold (CPG) 20

In most petrol forecourt sites the positioning of the kiosk and roofs are different. This means each site requires a camera site assessment to ensure best camera coverage / lighting positioning.

There are a number of digital incident reporting systems available. Any credible system should systemically link the following activities together for staff simplicity and investigative ease.

- Incident reporting and event escalation
- CCTV upload / Capture with intelligent search
- Business Intelligence creation and search platform
- ANPR early warning of repeat offender vehicles
- Civil Recovery process application
- Manual of Guidance paperwork creation (MG11's & Business impact statement?)

This should enable the colleague to prevent offending, request pre payment based on intelligence, report incidents effectively and support Police investigations if required.

Remember – There must be evidential continuity with quality footage!