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System Maintenance

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Although the Ciqurix CORE video flame detection system incorporates a high degree of internal monitoring so that any faults are detected and indicated automatically, it is still necessary for the premises management to ensure that fault indications at the linked fire alarm control panel are identified for appropriate action. It is also vital for regular testing to be carried out to ensure that there has not been any failure of the system.

The Ciqurix CORE system is usually installed as part of a larger fire detection and/or fire alarm system. All procedures and policies applicable to that wider system apply equally to the Ciqurix CORE part of that system.

Premises management responsibilities

In accordance with UK legislation[1], a single, named member of the premises management should be appointed to supervise all matters pertaining to the fire detection and fire alarm system, including the Ciqurix CORE system. This person should normally be the keeper of the relevant documentation and should be given sufficient authority to carry out the following duties (which may be delegated as appropriate).

- Checking the fire control panel(s) for fault indications at least once every 24 hours; organising appropriate investigation and/or referral to the maintenance provider as necessary.
- Ensuring that CORE video fire detectors are kept free from obstructions, with unobstructed views of the target area/s, and that the viewing windows are kept clean from excessive dirt build-up, taking necessary action as appropriate. Most installations will have a means to view the live video feeds from the CORE video fire detectors (e.g. a link to the site cctv system, a browser on a pc, a mobile app etc). For systems without means to view the live feeds then other methods will need to be employed (for example by a maintenance engineer connecting a laptop to the CORE system, or by physically examining the detectors and target areas).
- Ensuring that arrangements are in place for routine testing and maintenance of the system at least every 6 months (usually by an external contractor).
- Keeping the system logbook up-to-date and available for inspection by the fire & rescue service, insurer, or other relevant persons.
- Instructing all relevant occupants/users of the protected premises how to use the system, especially fire/fault indications and fire panel controls. Note there are no user controls on the CORE system; all user interaction is via the fire alarm control panel or fire suppression control panel.
- Taking appropriate action to limit the rate of false alarms.
- Co-ordinating any maintenance of, or changes to, the building fabric to ensure that the work does not unnecessarily compromise the protection afforded by the system or cause faults or false alarms; taking appropriate action as necessary.
- Ensuring that if/when changes are made to the system, all drawings, operating instructions, and zone plans are updated accordingly.

[1] Other jurisdictions will likely have their own legislative requirements, but the above can be used as a guide.

Weekly testing

Most fire detection / fire warning systems should be tested weekly, normally by site staff. This does not apply to the Ciqurix CORE part of the system, which should be periodically tested and inspected by a specialist contractor. More information about weekly test and periodic test/inspection requirements is available from the maintenance provider or the relevant British Standard (BS5839-1).

Periodic inspection and test by a competent person

All fire detection / fire warning systems, including the Ciqurix CORE part of such systems, should be tested and inspected by a competent person (usually an external contractor) at least every six months. More information about the requirements for such testing is available from the maintenance provider or BS5839-1. The following requirements apply specifically to the Ciqurix CORE part of the system:

- Check the system logbook and make sure that any recorded issues (i.e. faults or false alarms) have received appropriate attention.
- Visually check to see if structural or occupancy changes since the last visit have affected the performance of the system. Particular care should be taken to check the view from each video fire detector still covers the area it is intended to view, and if any premises alterations or extensions require any detectors to be moved or additional detectors installed. Reference should be made to the design documentation and original detector views, which should be available for inspection.
- Check that each video fire detector has an unobstructed view of the intended target area, and that the detector windows are free from dirt. Clean windows as necessary using a non-scratch method.
- Check that there are no outstanding critical firmware updates required to the CORE Controller or detection devices; contact Ciqurix to arrange update(s) if necessary.
- Check the batteries in all CORE Hubs and Extension Hubs. For each Hub in turn:
    - Measure the combined battery voltage with the mains supply connected, this should be between 27.2V and 27.8V before doing any other tests that might discharge the battery.
    - Visually examine each battery and its connections to make sure there is no distortion or damage, and no loose connections. Check the installation date of each battery, and ensure that the recommended lifespan (usually 5 years) does not expire before the next routine visit.
    - Disconnect the mains supply and check that a fault indication is given on the connected fire system within 100 seconds, then check that the combined battery voltage remains above 25V. Reconnect the mains supply.
- Visually check that all readily accessible cabling and cable fixings are secure and undamaged.
- Trigger each video fire detector into a fire condition using a Ciqurix Flame Simulator. For some detectors, especially where it is only possible to test from a long distance, it may be necessary to increase the sensitivity of the detectors by placing the system into test mode using a test keyswitch, fitting a shorting link, or using configuration software. Please contact Ciqurix technical support for further details if required.

  Note that it is acceptable to spread the testing of detectors across subsequent routine visits, such that each detector is tested at least once every 12 months. Check that each activation is correctly transmitted to the relevant external system (eg fire control panel), including a check that any cause and effect programming and/or zoning of detector views is correctly actioned.
- If the system has an ambient light sensor fitted, check for correct operation by covering or illuminating the sensor as appropriate and checking for the intended response.
- Carry out all other tests as required for the fire alarm system, especially with regard to onward transmission of signals to a linked suppression system and/or any external monitoring organisation.
- Check that a zone plan or other suitable diagrammatic representation is provided and mounted in a suitable visible location.
- On completion of the work, report any defects to the premises management, update the system logbook, and issue a servicing certificate.

Non-routine maintenance

Like any fire system, from time to time the Ciqurix CORE system is likely to require non-routine attention for investigation and repair of faults or damage.

Apart from where all maintenance of the system is carried out in-house, there should be an agreement for emergency call out to deal with any fault or damage that occurs to the system. The agreement should be such that a technician of the maintenance organisation can normally attend the premises within 8 hours of a call from the user. This applies 24 hours a day, 365 days a year.

The name and contact details (usually a phone number) of the maintenance organisation should be prominently displayed on the CORE Control Hub and any linked fire control panel(s).

The user should record all faults or damage in the system logbook, and should arrange for repair to be carried out as soon as possible.

On completion of the repair work, details should be recorded in the system logbook, and the premises management should be notified accordingly (usually by means of a written report.

Modifications to the system

Modifications to the system can arise for several reasons. Examples include: extension of the system to protect areas of the site previously unprotected or newly constructed; change of settings as a result of changes in usage or the occurrence of false alarms; re-siting or re-pointing of detectors to take account of changes in layout; and reconfiguration of the cause-and-effect logic. Because modification of a system effectively involves an element of re-design, responsibility for modification of a system needs to rest with a person who has a sufficient degree of design competence. Even simple modifications can give rise to the need for significant re-testing of the system.

Great care needs to be taken to ensure that the system continues to conform to the design intent and specification (or that existing non-compliances are not made more non-compliant). Where doubt exists, there should be consultation with the relevant enforcing authority and premises insurers.

Premises management should be aware of, and agree, in writing, any modifications proposed for the system. Where appropriate, modifications should also be subject to the agreement of the enforcing authorities and/or insurers.

Following any modification:

- suitable tests should be carried out to confirm that the system still operates as intended and that errors have not resulted in changes to other parts of the system
- as-fitted drawings, zone plans, instructions and other records should be updated as appropriate
- details of the modification should be documented and provided to the premises management (usually by means of a written report).

Although is possible for remote support to be provided by Ciqurix, it is always necessary for a competent person from the maintenance organisation to be at the premises to carry out any modifications, to confirm the validity of the modification, consider its effect on compliance, and to carry out appropriate testing.

Following a fire

As soon as reasonably possible after any fire, every CORE device which may have been affected by the fire or fire-fighting action should be inspected and tested. A visual examination and suitable tests should be carried out on any other part of the system that lies within any area potentially affected by the fire or products of the fire. All cabling that could have been affected by the fire should be tested for correct operation.

Where there is evidence of damage, suitable action should be taken. On completion of the work, any defects found should be recorded in the system logbook, and the premises management should be notified accordingly (usually by means of a written report).