

Chapter Eight:

WHAT SHOULD HAPPEN DURING SYSTEM OR POWER FAILURE?

- Failure status** The failure status is a critical feature in respect to the long-term reliability of the system and its vulnerability to abuse. It determines whether the system fails 'Secure' or 'Release' during a complete power down state. Battery back-up is used as an aid during supply failure, but it too could run down or fail and the state of the system would conclude one way or the other.
- Fail secure*** Fail secure means that the system is held locked, usually closed, during a power down/cut. Access is only gained by use of a release key or device. This usually means that the operators are direct locking or non-reversible and is common in 'domestic' installations. However, any undue force placed upon the gates will be directed to the operators accordingly and subsequent damage to the operator or its fixings is highly likely.
- Fail release*** Fail release means that the system comprises non locking operators and relies upon a supplementary magnetic lock so is therefore automatically unlocked during a power down/cut. Access is very simple in that the user can pull or push the gate to its open or indeed closed position. This is common and an essential requirement in 'multi user' installations. Additional advantages are that any undue force placed upon the gates will not result in damage to the operator or its fixings, and no special knowledge is required.
- Battery back-up** Battery back-up is used in a number of ways, sometimes providing a limited supply for the whole system but, often by giving a temporary supply to a component e.g. Supplementary locking or an Audio link facility. It is important to remember that the battery will run down so that the failure status should be considered without battery assistance (often a supply fault can be hidden until the battery runs flat). Most commonly used on low voltage systems 12/24v.

LOGIC: HOW SHOULD THE SYSTEM WORK WHEN GIVEN COMMAND

Logic The operational logic of the system is the cycle of events through which it runs. There are varied ways in which a system works, but most commonly used is 'Fully Automatic Logic' the next is 'Semi-Automatic Logic'

The type of logic should not negate the need to allow for adequate safety within the system design, as circumstances can arise within any of the logics, which could cause heightened risk.

Fully-Automatic Once the system is given a Command to open, it will open, pause, time-out and close automatically (most user friendly).

Semi-Automatic Command to open and Command to close is needed with this logic. (Not suitable in multi-user installations).

Hold to run Constant control over the command of the system is by Hold/push to run. Commonly known as 'dead man's operation'. (Used in manned control sites, most often by a trained operator).

Other Logic Other logics are used but most of them are variations of the main three as listed above

Logic change It is possible on many systems to change the logic from one setting to the other. The controls and equipment may need to be attended to in line with the type of change needed.

Hazards can be removed, created or their severity altered with a change of system logic.

All users will need to be retrained every time the logic is changed, with all consequences considered and a full review of the systems safe use undertaken, both for powered as well as manual use!