



AFDASS

AUTOMATIC FIRE DETECTION
AND SUPPRESSION SYSTEM OVERVIEW

“First Line of Protection”

OVERCOMING RECURRING INDUSTRIAL RISK

In 2019, 13,766 fires occurred in UK caused by electrical faults (www.gov.uk)



Substandard Wiring

System Overloading

Poor Connections

Static Discharge

Tired Electrical Componentry

Limited OPEX Budget

Lack of Professional Maintenance

INTRODUCING AFDASS

“AFDASS is an integrated fire detection and suppression system that instantaneously detects, suppresses and isolates a fire at source within an electrical enclosure”



AFDASS vs ALTERNATIVE SYSTEMS

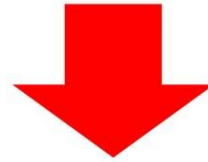
AFDASS is a direct low pressure (DLP) suppression system.



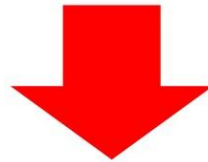
Designed to protect bricks and mortar,
not electrical enclosures

AFDASS SYSTEM PURPOSE

Suppress an electrical fire at source and remove residual risk



Protect surrounding electrical componentry



Ensure minimal compromise to operational downtime



AFDASS MITIGATION PROTOCOL

1. Fire Suppression at Source

Incorporating cylinder of extinguishant and fire detection tubing within enclosure

2. Mains Isolation

Removal of power supply to affected panel/zone on cylinder discharge

3. Factory Fire Alarm Integration

Local indication of event via pressure switches/transmitters and PLC

4. HMI

Zonal status, history log, password-protected, override function – accessible locally and remotely

5. Notification

SMS text messages and e-mails sent on event incident to designated users



INTERFACE

Remote access to HMI by authorised operator(s)

Connectivity to local network via Wi-Fi, hard-wiring or independent SIM

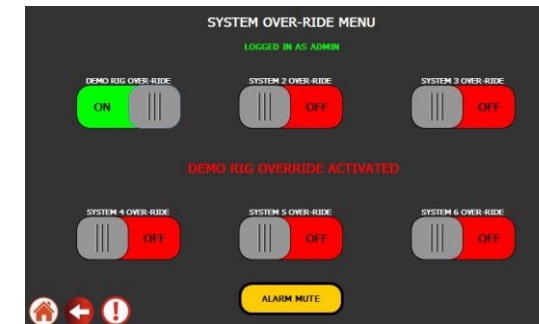


No.	Time	Date	Status	Test
2	2:52:20 PM	4/29/2021	IO	DEMO RIG HAS EXPERIENCED AN AGENT RELEASE ALARM
9	2:53:29 PM	4/29/2021	IO	EWON FLEXY IS OFFLINE
9	2:53:11 PM	4/29/2021	I	EWON FLEXY IS OFFLINE
11	1:14:55 PM	4/28/2021	IO	SYSTEM OVERRIDE IS ACTIVE
11	1:14:16 PM	4/28/2021	I	SYSTEM OVERRIDE IS ACTIVE
2	1:13:06 PM	4/28/2021	I	DEMO RIG HAS EXPERIENCED AN AGENT RELEASE ALARM
9	12:44:22 PM	4/28/2021	IO	EWON FLEXY IS OFFLINE
9	12:44:04 PM	4/28/2021	I	EWON FLEXY IS OFFLINE
2	4:33:36 PM	4/21/2021	IO	DEMO RIG HAS EXPERIENCED AN AGENT RELEASE ALARM
11	3:36:01 PM	4/21/2021	IO	SYSTEM OVERRIDE IS ACTIVE
11	3:35:44 PM	4/21/2021	I	SYSTEM OVERRIDE IS ACTIVE
2	3:34:35 PM	4/21/2021	I	DEMO RIG HAS EXPERIENCED AN AGENT RELEASE ALARM
2	10:09:36 PM	3/17/2016	IO	DEMO RIG HAS EXPERIENCED AN AGENT RELEASE ALARM
11	10:08:55 PM	3/17/2016	IO	SYSTEM OVERRIDE IS ACTIVE
11	10:08:52 PM	3/17/2016	I	SYSTEM OVERRIDE IS ACTIVE
11	10:07:43 PM	3/17/2016	IO	SYSTEM OVERRIDE IS ACTIVE
11	10:07:41 PM	3/17/2016	I	SYSTEM OVERRIDE IS ACTIVE
11	10:07:40 PM	3/17/2016	IO	SYSTEM OVERRIDE IS ACTIVE
11	10:07:33 PM	3/17/2016	I	SYSTEM OVERRIDE IS ACTIVE

Full Electronic Traceability



Single Panel Status



Override Functionality



SCADA Interface



Multi-Zone Status

AFDASS HIGH LEVEL SUMMARY

- System technology patent-pending (2110243.9)
- Multi-level mitigation protocol
- Fully automated system
- Live condition monitoring of protected assets



AFDASS vs TRADITIONAL DLP SYSTEMS

	Traditional	AFDASS
Configured to Existing Install	✓	✓
Interface with Fire Alarm System		✓
PLC Condition Monitoring		✓
Instant Suppression of Fire	✓	✓
Instant Isolation at Source		✓
Secondary Mitigation		✓
Direct Protection of Control Cabinet	✓	✓
Preservation of Highest Value Assets	✓	✓
Full System Protection		✓
Live Communication via App		✓
System Performance Digitally Stored		✓
Overall Time v Cost System Benefit		✓



CUSTOMER BASE



Energy



Food & Beverage



Manufacturing



Maritime



Pharmaceuticals



Technology



Telecommunications



Transportation

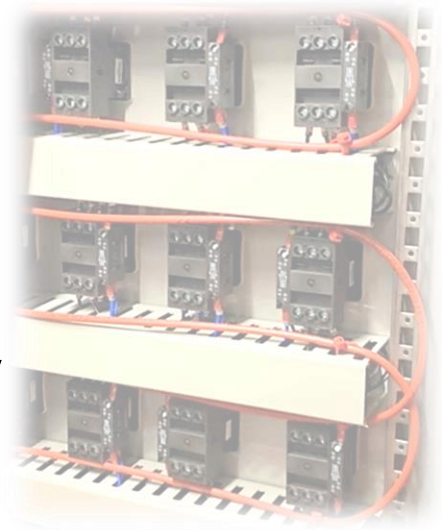


CUSTOMER BASE



CASE STUDY

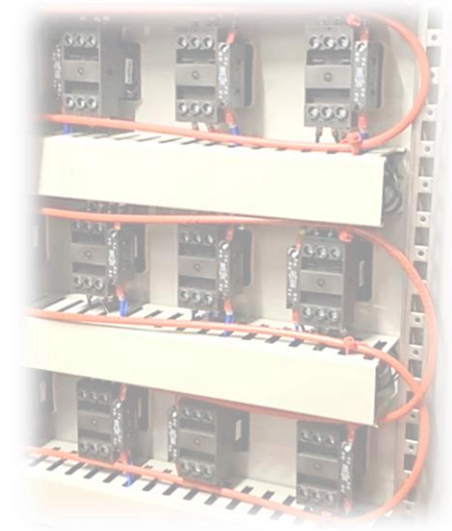
- 2013 – Fire in electrical panels controlling chiller plant at HQ production facility
- Flash over from power fuses which rapidly spread through electrical cabinets
- Fire spread not identified by control room fire detection system
- Downtime, lost production and replacement of equipment resulted in event cost of >£1 million



PLC Section



Panel (Fire Source)



CASE STUDY

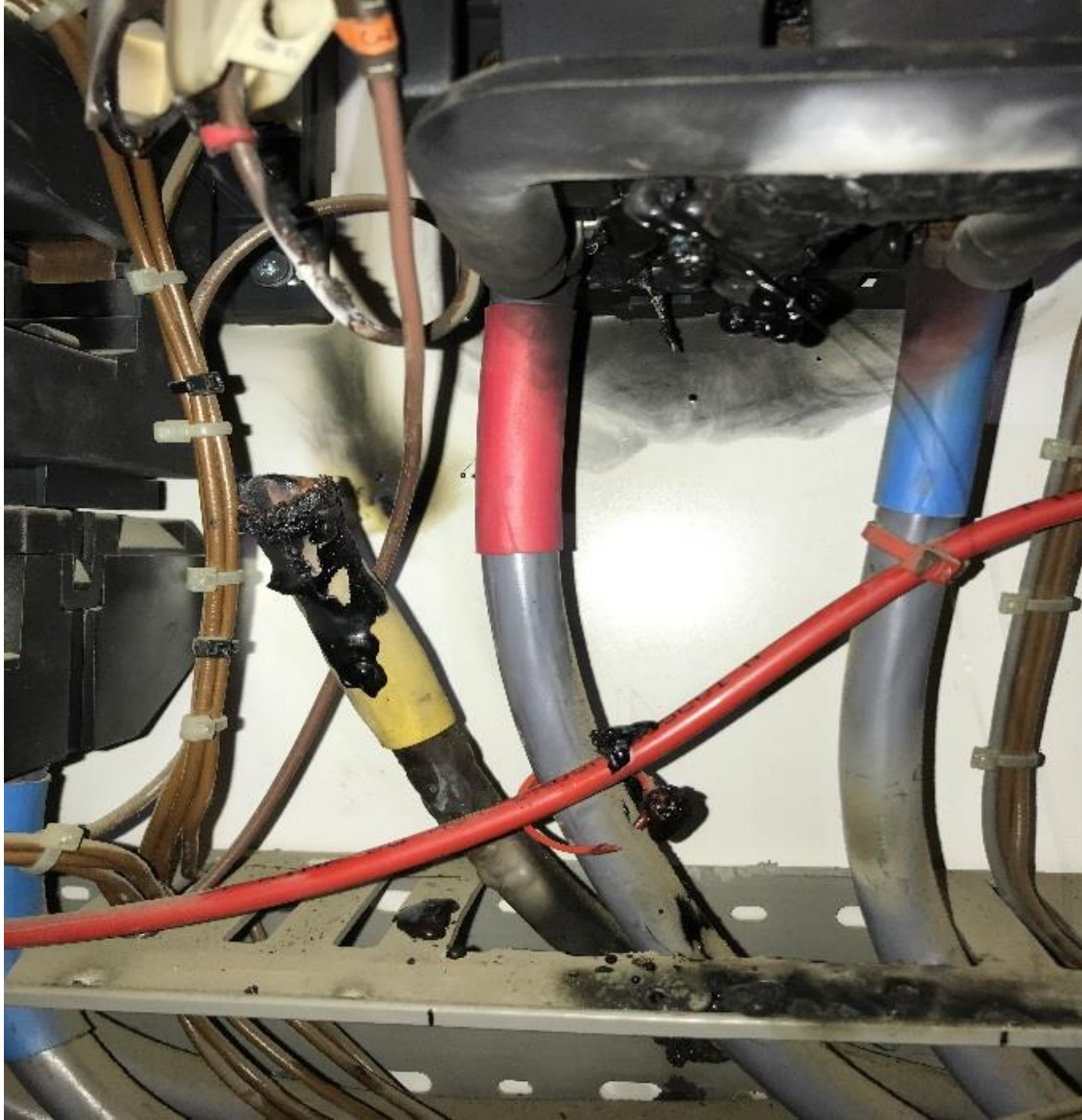
AFDASS subsequently specified into all new electrical panels and retro-fitted to all existing panels throughout production facility. Investment and upkeep for following 8 years circa **£150,000.**



CASE STUDY

January 2021 – The same company experienced a cylinder discharge triggered by overheating in cold store control panel once again. Virtually identical cause as the initial fire in 2010.





CASE STUDY

- Fitting of tubing both above and below electrical components ensured immediate suppression whilst keeping any residual damage to absolute minimum
- Despite igniting in the same manner as the initial catastrophic event in 2010, the total cost of remedying this incident was **£5,000**



AFDASS BENEFITS

Safety

- Personnel, assets, facility
- Multi-barrier protection
- Prevents total system failure

Responsiveness

- Immediate suppression at source
- Rapid reinstatement post-incident
- No clean up required

Cost & Continuity

- Reduced insurance premiums
- Mitigates operational downtime
- Prevents asset damage and replacement

Support

- OEM technical support
- Serviced as part of preventative maintenance
- System knowledge transfer



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