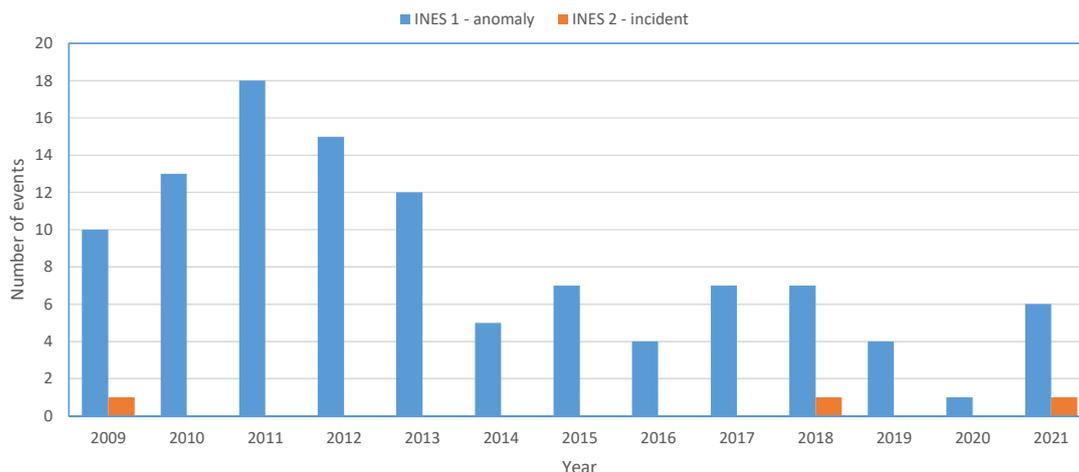


EDF in the UK INES level 1 and above events



Events reported to the ONR at INES level 1 and above by EDF in the UK (01 Jan 2009 to 31 Dec 2020)

Event Date	Site	INES Rating	Event Title
05-Feb-2009	Heysham 1	1	Gas Circulator speed indicator fault
24-Mar-2009	Hinkley Point B	1	Routine sampling of site boreholes 9 and 11 detected elevated levels of Tritium
29-Mar-2009	Heysham 2	1	Reactor 8 automatic trip on dropped stringer protection due to hoist stop whilst lowering new fuel assembly
03-Apr-2009	Torness	1	When reactor 2 was shut down for maintenance 2 out of the 8 essential diesel generators failed to start
13-May-2009	Dungeness B	1	Environment Agency warning letter regarding enhanced tritium levels found in borehole 106
11-Jun-2009	Heysham 2	1	Electrolyser was in service with too low a current to meet oxygen demand, as a result increased Argon 41 levels caused the gaseous activity monitor to alarm
29-Jun-2009	Dungeness B	2	Inappropriate use of polyurethane foam during event recovery operation
16-Jul-2009	Hinkley Point B	1	Release of radioactive material within the gas by pass plant and contamination of working party.
10-Aug-2009	Hunterston B	1	Filtered extract route for fuel/component movements not available when vessel is depressurised in air.
18-Sep-2009	Hinkley Point B	1	Boiler half unit valve actuator seized due to incorrectly sized bearings fitted.
23-Nov-2009	Dungeness B	1	Reactor 22 boiler annexe fire
10-Jan-2010	Dungeness B	1	Identified need to improve protection of oil tank low level switch cables from potential hot gas release
17-Mar-2010	Sizewell B	1	Manual reactor trip following indication of primary coolant leakage at technical specification action limits
06-Jun-2010	Hartlepool	1	Control rod missed tech spec surveillance
14-Jun-2010	Hinkley Point B	1	Unacceptable leak rate during a 40 Bar maintenance schedule pressure hold test on the fuelling machine
08-Aug-2010	Hartlepool	1	Vessel overpressure protection equipment valves found shut during plant configuration checks for start up post outage
24-Aug-2010	Hunterston B	1	Off load fuel moves undertaken without gas circulator inlet guide vanes being fully opened.
30-Sep-2010	Hinkley Point B	1	Reactor 4 was manually shutdown to carry out maintenance on turbo-alternator 8 exciter brush gear
23-Oct-2010	Hartlepool	1	Two CO2 filling routes inadvertently made unavailable for remote operation from the CCR
19-Nov-2010	Heysham 2	1	Delay in meeting technical specification limit on core mass flow rate when shutdown during start up
23-Nov-2010	Sizewell B	1	Technical specification non-conformance when one train of radiation monitoring taken out of service with a fault on another train
29-Nov-2010	Torness	1	Historical error in translating fuelling machine safety case trip settings into station documentation
21-Dec-2010	Hartlepool	1	Quadrant feed trip switches found in incorrect position during start up
30-Dec-2010	Torness	1	Failure of a boiler steam valve to auto close during reactor 1 start up
16-Jan-2011	Torness	1	Reactor protection setting not reconfigured for low power refuelling
21-Feb-2011	Torness	1	Elevated level of tritium found in sample from a site borehole
22-Feb-2011	Hartlepool	1	Three high pressure pumps found not available during routine testing due to valve misalignment
24-Feb-2011	Dungeness B	1	Single channel tripping system - Failure to enter a technical specification action condition
26-Apr-2011	Heysham 2	1	Nuclear safety fire door left open following fault with locking bolt
07-Jun-2011	Torness	1	Maintenance testing of part of the CO2 plant missed
02-Jul-2011	Heysham 2	1	Decay heat boiler feed pump failed to start during post trip sequencing equipment testing
14-Jul-2011	Hartlepool	1	Increase in fuel pond water temperature detected during plant tour due to fault with pond cooling systems
19-Jul-2011	Dungeness B	1	Unknown change in control rod chain material
03-Aug-2011	Dungeness B	1	Fuelling machine not purged to CO2 prior to handling irradiated fuel
27-Aug-2011	Hartlepool	1	Emergency feed isolating valves left closed
19-Sep-2011	Dungeness B	1	Release of back up diesel generator fuel oil transfer pump not tracked in action tracking log

Event Date	Site	INES Rating	Event Title
19-Sep-2011	Hunterston B	1	Reactor manually shutdown following leakage from cooling water main.
05-Oct-2011	Sizewell B	1	Refuelling machine mast contacts reactor vessel upper internals
07-Oct-2011	Sizewell B	1	Charcoal absorbers declared operable without taking the required yearly test sample
09-Oct-2011	Sizewell B	1	Reactor pressure vessel head lifted beyond the height restrictions above the reactor pressure vessel
26-Nov-2011	Hinkley Point B	1	Manual shutdown of reactor 3 when a tap changer fault occurred on station transformer 3
05-Dec-2011	Hinkley Point B	1	Flask admin anomaly
16-Jan-2012	Dungeness B	1	Maintenance schedule routines for the hydraulic power units on the boiler feed valves identified as missing during engineering change review
01-Feb-2012	Hartlepool	1	Gas circulator hot gas release removal supply fans not operating following fire damper maintenance
09-Feb-2012	Hinkley Point B	1	The reactor 4 hot gas release system remained unavailable
03-Mar-2012	Torness	1	Reactor 1 channel 3 secondary shut down system seismic inhibit switch failed
08-Mar-2012	Dungeness B	1	Steam release safety case anomaly following changes to the fuel handling unit corridor
28-Mar-2012	Hartlepool	1	Gas circulator jacking oil pumps taken out of service inappropriately
30-May-2012	Hinkley Point B	1	Preload over tension switches failed to stop hoist.
24-Jul-2012	Heysham 1	1	Drop of mechanical plug by approximately 1 m when lifting point (eye bolt) failed.
04-Oct-2012	Hartlepool	1	Gas circulator lube oil fire system was found, on routine inspection, to be in a closed position.
25-Oct-2012	Heysham 1	1	Misalignment of valves identified.
26-Oct-2012	Dungeness B	1	Renotification due to recategorisation of event reported on 26 October 2012.
30-Oct-2012	Dungeness B	1	Groundwater sample showing elevated levels of tritium.
05-Nov-2012	Dungeness B	1	Incorrect service rod fitted during previous overhaul.
18-Nov-2012	Dungeness B	1	Safety case shortfall identified in assessment of flood heights following Japanese tsunami.
27-Nov-2012	Sizewell B	1	Gap identified in fire seal.
23-Jan-2013	Dungeness B	1	Voltage regulator failed during routine test.
22-Feb-2013	Hunterston B	1	Manual reactor trip for interim outage generated several faults.
22-Mar-2013	Dungeness B	1	Mechanical components to protect against fuelling machine collision with hinged platforms found to have been removed.
27-Mar-2013	Torness	1	Deficiencies identified in tracking graphite weight loss.
23-Jun-2013	Dungeness B	1	Maintenance schedule testing identified that additional feed system manual hand wheel in incorrect position.
08-Jul-2013	Dungeness B	1	Plug unit closure seals dimensionally compromised.
10-Jul-2013	Dungeness B	1	Boiler moisture indicators had not been maintenance tested so were not available.
23-Aug-2013	Heysham 1	1	Fire system operated during test run of gas turbine.
30-Sep-2013	Dungeness B	1	Alarm activated indicating gas circulator speed probe fault.
21-Oct-2013	Dungeness B	1	Cooling water supply isolation to buffer storage tubes undertaken before fuel route plan steps to empty tubes had been completed.
01-Nov-2013	Dungeness B	1	Following loss of grid tripping of both reactors, emergency lighting and battery non-conformances noted.
04-Dec-2013	Hinkley Point B	1	Valve on reactor cooling system noted in incorrect position.
06-Mar-2014	Sizewell B	1	Shaft driven oil pump suffered loss of prime.
27-Apr-2014	Dungeness B	1	Reactors automatically tripped due to fault on off site 400 Kv transmission system.
14-Jul-2014	Hartlepool	1	Transmitter failure on feed water flow trip channel.
07-Aug-2014	Heysham 1	1	Surface breaking defects, which were not expected, discovered on reactor boiler spine.
20-Aug-2014	Dungeness B	1	Small hole identified in reactor secondary shutdown system nitrogen injection pipework.
22-Jan-2015	Heysham 1	1	Allocation of thermocouples not in accordance with requirements of technical specification.
05-Jun-2015	Torness	1	Three plug units with thin walled heat shield gimbal lower half castings refuelled at power.
17-Jul-2015	Hartlepool	1	A number of reactor ancillaries cooling water system non-return valves failed to close during testing.
06-Sep-2015	Torness	1	Gas Circulator failed to start successfully on variable speed drive.
12-Nov-2015	Dungeness B	1	Safety case shortfall relating to steam release reactor trip system air-receiver safety relief valves.
01-Dec-2015	Hartlepool	1	CO2 pipe-trench hot gas release segregation door found open.
16-Dec-2015	Hartlepool	1	Small crack discovered on reactor instrument penetration transition weld.
13-Apr-2016	Torness	1	Deviation from operating instruction reduced availability of automatic protection on fuel handling cell hoist No actual consequences
12-Jul-2016	Heysham 1	1	Low boiler feed-flow differential pressure transmitter trip setting found to have drifted out of tolerance
16-Sep-2016	Dungeness B	1	Safety case anomaly
22-Nov-2016	Hinkley Point B	1	Fire on 415V AC essential services board, dealt with by local fire team
26-Jan-2017	Dungeness B	1	Safety case anomaly identified relating to temperature qualification of the superheater safety relief valves
23-Mar-2017	Dungeness B	1	Safety case anomaly on the seismic integrity of an auxiliary cooling water pipe due to corrosion.
04-Apr-2017	Heysham 1	1	Significant leak from fixed jet fire system
10-May-2017	Dungeness B	1	Flask found with de-torqued lid bolts at Sellafeld.
04-Nov-2017	Sizewell B	1	Boric acid leak in the vicinity of the steam generator channel head drain line
26-Nov-2017	Heysham 1	1	Reactor 2 automatic shutdown due to a 3.3kV cable fault on the unit auxiliary transformer
28-Dec-2017	Dungeness B	1	Safety case anomaly relating to boiler tube leak safety case
06-Apr-2018	Dungeness B	1	Pipework and supports associated with the buffer store back-up cooling water system found to be corroded
16-Apr-2018	Hunterston B	1	Defective weld on the decay heat system
19-Sep-2018	Dungeness B	1	Cracks identified in the main steam pipework
25-Sep-2018	Torness	1	Flask found with under torqued lid bolts at Sellafeld.

Event Date	Site	INES Rating	Event Title
17-Oct-2018	Hartlepool	1	Cables found to have bypassed a fire stop
30-Oct-2018	Hunterston B	1	Safety case anomaly relating to the handling of irradiated fuel
12-Dec-2018	Dungeness B	2	Loss of defence in depth due to corrosion of multiple plant systems
18-Dec-2018	Heysham 1	1	Procedural oversight resulting in a firewatcher being stood down prematurely
07-Apr-2019	Dungeness B	1	Localised 'category 1' corrosion and some pitting identified on reactor 22 nitrogen injection pipework within a trench, along with a small leak identified from pipework requiring temporary withdrawal of a working party.
18-Jul-2019	Heysham 1	1	Defect on West CO2 plant, which should have resulted in the plant being placed in an urgent maintenance state, was in effect being masked by a long-standing alarm. Operational paperwork did not state the significance of the alarm.
15-Aug-2019	Dungeness B	1	After a walkdown of the auxiliary cooling water system, it was identified that it was not clear on site as to what engineering supporting requirements are needed to support the systems seismic claim.
26-Nov-2019	Heysham 1	1	Control rod movements were observed during pre-startup activities following a refuelling outage. This was not permissible because the safety rods were still inserted at the time.
16-Apr-2020	Heysham 2	1	Shortly after taking reactor 8 critical as part of its return to service after a statutory outage (before unit 8 had been resynchronised), a routine check of the flux protection system prior to further raising power identified that three out of the four "log/lin" flux protection channels were not operating correctly due to incorrect configuration. Control rods reinserted to put reactor in safe shutdown state.
15-Mar-2021	Torness	1	Deficiency in the safety case relating to the reactor make-up shield and the potential impact of a seal failure.
15-Mar-2021	Heysham 2	1	Deficiency in the safety case relating to the reactor make-up shield and the potential impact of a seal failure.
25-Apr-2021	Sizewell B	1	Failure of a control rod drive shaft thermal sleeve.
19-May-2021	Hinkley Point B	1	Safety case anomaly relating to the presence of water in the safety relief valve discharge pipework.
23-Jul-2021	Heysham 1	2	Automatic trips on both reactors following a grid disturbance offsite.
04-Oct-2021	Hartlepool	1	Four hour shutdown action condition entered due to unavailability of all 3 CO2 vaporisers.
06-Oct-2021	Heysham 1	1	Fault on a CO2 high pressure heater.

Legend explaining INES ratings for level 1 - 2

INES level	Description	Example criteria (from: http://www-pub.iaea.org/MTCD/Publications/PDF/INES2013web.pdf)
1	Anomaly	Minor problems with safety components with significant defence in depth remaining
2	Incident	Significant failures in safety provisions, but with no actual consequences

Note that the full INES scale ranges from 0 to 7. There has been no event at EDF Energy locations greater than INES 2. Further information on the full INES rating scale can be found at: <http://www-pub.iaea.org/MTCD/Publications/PDF/INES2013web.pdf>