



This form will report compliance with your permit as determined by an Environment Agency officer

Site	Sizewell B Power Station	Permit Ref	XB3539DH		
Operator/ Permit holder	EDF Energy Nuclear Generation Limited	Site Ref	XB3539DH		
Date	18/03/2025	Time in	09:00	Out	15:00
What parts of the permit were assessed	All parts of the permit were assessed				
Assessment	Report/data review	National security direction?		No	
Recipient's name/position	Environmental Support Group Head and TSSM Manager				
Officer's name	Themis Kantara	Date issued	17/06/2025		

Section 1 - Compliance Assessment Summary

This is based on the requirements of the permit under the Environmental Permitting Regulations (EPR). A detailed explanation and any action you may need to take are given in the Detailed Assessment of Compliance (section 2) and the Actions (section 4). This summary details where we believe any non-compliance with the permit has occurred, the relevant condition and how the non-compliance has been categorised using our [Compliance Classification Scheme](#) (CCS). CCS scores can be consolidated or suspended, where appropriate, to reflect the impact of some non-compliances more accurately. For more details of our CCS scheme, contact your [local office](#).

Permit Conditions and Compliance Summary			Condition(s) breached
a) Permitted activities	1. Specified by permit	C3	3.1.1
b) Infrastructure	1. Engineering for prevention & control of pollution	N	
	2. Closure & decommissioning	N	
	3. Site drainage engineering (clean & foul)	N	
	4. Containment of stored materials	N	
	5. Plant and equipment	C3	2.3.5
c) General management	1. Staff competency/ training	N	
	2. Management system & operating procedures	C3	1.1.1 (a)
	3. Materials acceptance	N	
	4. Storage handling, labelling, segregation	N	
d) Incident management	1. Site security	N	
	2. Accident, emergency & incident planning	N	
e) Emissions	1. Air	N	
	2. Land & Groundwater	N	
	3. Surface water	N	
	4. Sewer	N	
	5. Waste	N	
f) Amenity	1 to 5	N/A	
g) Monitoring and records, maintenance and reporting	1. Monitoring of emissions & environment	NA	
	2. Records of activity, site diary, journal & events	NA	
	3. Maintenance records	NA	
	4. Reporting & notification	NA	
h) Resource efficiency	1. Efficient use of raw materials	N	
	2. Energy	N/A	

KEY: C1, C2, C3, C4 = CCS breach category (* suspended scores are marked with an asterisk),

A = Assessed (no evidence of non-compliance), N = Not assessed, NA = Not Applicable

Number of breaches recorded

3

If the Total No Breaches is greater than zero, then please see Section 3 for details of our proposed enforcement response

Section 2 – Compliance Assessment Report Detail

This section contains a report of our findings and will usually include information on:

- the part(s) of the permit that were assessed (e.g. maintenance, training, combustion plant, etc)
- where the type of assessment was 'Data Review', details of the report/results triggering the assessment
- any non-compliances identified
- any non-compliances with exemption conditions
- details of any multiple non-compliances
- details of advice given
- any other areas of concern
- all actions requested
- any examples of good practice
- a reference to photos taken

1. Introduction

On 1st November 2024 we were informed by EDF Energy Nuclear Generation Limited (EDF ENGL) of an issue identified in one of the ancillary HVAC ductwork systems (GF) leading into the main unit vent stack (GT) at Sizewell B power station. A routine inspection carried out by site staff on the condition of a part of the Auxiliary Building roof, identified that a section of ductwork, approximately 2 inches across, had corroded through and the pressurised airflow going through the ducting was escaping. This section of ducting is downstream of the HEPA filtration abatement, on the positive side of the fans before joining the GT stack with all the other HVAC systems, prior to their monitoring of the final discharge. At that time, EDF ENGL suggested that volume of air being released through this area of corrosion compared to the amount of flow passing through the HVAC ductwork as negligible and, as a consequence, the amount of radioactivity released to the environment was also negligible.

A work request was put in the system by EDF ENGL staff and a temporary fix with some aluminium sealing tape was made, closing off the escape route. The permanent fix request went through the work management system, and it was entered onto the Shift Managers log as a priority. On 15th November 2024 we received confirmation, including a photo, that this section of ductwork has been fully repaired and painted; the ductwork had been returned back to a high standard (ref 9).

2. EDF ENGL Investigation

Following the identification of the corroded ductwork, EDF ENGL undertook an investigation to establish the cause of the event. The investigation was completed in January 2025 and the results were reported in the equipment failure investigation report (ref 1) which we received from EDF ENGL on 6th February 2025. In summary the report:

- Highlighted that duct corrosion was identified during previous inspections in 2022 and 2023 however, the duct was not previously prioritised and therefore was not refurbished prior to the discovery of the defect.
- Concluded that the section of the roof ductwork should have been repaired prior to wall failure.
- Outlined the main cause and contributing factors to the event (these are discussed in this section of the RASCAR).
- Proposed corrective actions to address the issue (outlined part 5 of the RASCAR).

Main Cause of Event

The investigation established that the main cause of the event was that *'The plant was degraded due to corrosion and was not proactively addressed'*.

Contributing Factors

The report outlined the following contributing factors to the event:

- There were no preventative maintenance routines for the roof mounted ductwork and *'A more programmatic walkdown of the roof mounted ductwork is required'*.

- The ductwork was not identified as discharge equipment and therefore *‘The consequence of failure of the ductwork was not properly understood’*.

Additional Contributing Factor

We have reviewed the EDF ENGL report and are in agreement with its conclusion on the main cause of the event. However, we believe there is an additional contributing factor (other than those listed in the EDF report) which is inadequate use of EDF ENGL internal Operating Experience (OPEX).

We have reviewed our internal records and confirmed that there has been previous pertinent OPEX across the EDF ENGL fleet, and regulatory recommendations made relating to stack inspections and corroded pipework (see RASCARs CAR-HEY-24-002 Monitoring Programme and CAR-HEY2-24-003 Aux Boiler Stack Corrosion); at that time the Operator did not report a breach in the duct. We use recommendations as a regulatory tool to minimise the possibility of non-compliance in the future. We therefore believe that EDF ENGL failed to consider previous learning from the EDF ENGL fleet and our related recommendations, and this was a contributing factor to the event.

Recommendation 300425/01: EDF to describe how it has responded to environmental / compliance learning (including EA observations, recommendations and actions) relating to stack corrosion and inspections from the wider EDF fleet (e.g. RASCARs CAR-HEY-24-002 Monitoring Programme and CAR-HEY2-24-003 Aux Boiler Stack Corrosion).

Recommendation 300425/02: EDF to describe how it shares environmental/compliance learning from Sizewell B with EDF corporate.

Please note when revising the recommendations we are interested in how learning (including EA recommendations) is shared across the fleet and then applied by sites. We also ensure that the recommendations remain ‘site facing’ So Far as Reasonably Practicable. We note that EDF is a body corporate. The permit is issued to the Company Secretary at the company’s registered office permitting approved radioactive substances activities at the named site. There is no distinction between site and corporate resource utilised in delivering compliance within the permit requirements. We recognise that sites in a fleet may rely on corporate support to deliver compliance. In the event of non-compliance as a result of or relating to corporate support we will raise the issues through the lens of the site where the non-compliance comes to our attention. In this specific we will address through the EDF corporate regulator:

- review learning from site environmental / compliance events (including EA observations, recommendations, and actions),
- disseminate learning to sites where appropriate, and
- apply learning to corporate standards and procedures.

3. Environmental Impact of Event

The EDF investigation concluded that the release in terms of radioactivity and volume of air released through the corroded ductwork to the environment was negligible (ref 1) and that there were no environmental consequences resulting from the event (ref 12). We asked for and received from EDF ENGL additional supporting information:

- Copies of the filter tests reports for the HVAC exhaust abatement equipment inspections undertaken in March 2022 and April 2024 (ref 5-9). The reports demonstrate that the filters were appropriately tested, managed and performing in accordance with company standards (noting that the gaseous emissions via the penetration were after the air had been filtered).
- An estimate of the radioactivity released through the corroded section of the pipework (ref 12); making the conservative assumption that the air passing through the penetration contained the same radioactive footprint as that passing up the GT stack and that the release occurred immediately after the previous walkdown in the area in April 2023 and until

it was repaired in November 2024.

The estimated discharges through the corroded pipework were compared to the total annual discharge limits for the GT stack and were conservatively estimated to be 5 to 6 orders of magnitude lower than the limit.

Based on the information submitted by EDF we have concluded that the environmental impacts associated with the corroded pipework event are negligible.

4. Compliance Assessment

We have used the 'RSR How to Comply (HTC) guidance' (found [here](#)) and our 'RSR CCS Classification guidance (LIT 55268)' to complete our compliance assessment.

During our compliance assessment we have identified what we believe are breaches of Sizewell B's environmental permit (ref: EPR/XB3539DH) for the following conditions:

1.1.1 The operator shall manage and operate the activities:

- (a) In accordance with a written management system that is sufficient to achieve compliance with the conditions of this permit.*

The RSR HTC guidance states '*This condition means that you must put in place and use appropriate management arrangements to make sure that you comply with the permit conditions. Management arrangements include systems and procedures, people and other resources, leadership and culture*'.

We believe that there was a breach of condition 1.1.1 (a) as the management system did not identify the potential compliance consequences of the failure of the rooftop ducts. This meant that the ductwork did not receive suitable prioritisation by EDF ENGL in terms of ensuring suitable preventative maintenance routines for the rooftop ducts of the auxiliary building.

Recommendation 300425/03: EDF to demonstrate its identification and labelling of environmental protection equipment is sufficient, and ensures appropriate consideration / awareness for those working on or nearby the equipment.

Recommendation 300425/04: EDF to consider physical labelling on environmental protection equipment, to ensure its impact on environmental protection and compliance is immediately recognised by those working on or nearby the equipment.

Non-compliance score – CCS3. For 1.1.1 (a) under c2 (General Management- Management systems and operating procedures) our RSR CCS guidance defines a category 3 non-compliance as 'although procedures are in place, there are indications that they are inadequate or are incompletely implemented, leading to minor breaches of other conditions'.

The information submitted by EDF confirms that whilst there was negligible environmental impact relating to the corroded ductwork, adequate arrangements and procedures had not been put in place to prevent the breach of 2.3.5 (Infrastructure – plant and equipment). We therefore rate this non-compliance as CCS3.

2.3.5 The operator shall check, at an appropriate frequency, the effectiveness and maintenance of systems, equipment and procedures provided to meet the requirements of conditions 2.3.1, 2.3.2 and 2.3.3

The RSR HTC guidance states '*Condition 2.3.5 addresses the requirements of paragraph (c) of Article 68 of BSSD to check the effectiveness of technical devices for protecting the environment and the population*'.

We believe that there was a breach of condition 2.3.5 as corrosion was identified during previous inspections in 2022 and 2023. However, the duct was not previously prioritised and therefore was

not refurbished prior to the discovery of the defect. Repair on failure should not have been the maintenance strategy for gaseous radioactive waste ducts.

Non-compliance score – CCS3. For 2.3.5 under b5 (Infrastructure – Plant and equipment) our RSR CCS guidance defines a category 3 as ‘actual or serious risk of minor failure due to neglect of maintenance programme for critical plant/equipment leading to or having the potential to cause a Category 3 incident’. The absence of an adequate inspection and preventative maintenance routine of the ductwork resulted in its degradation and subsequent leak. We therefore rate this non-compliance as CCS3.

3.1.1 Subject to condition 3.1.4 there shall be no disposals of radioactive waste except of the types of radioactive waste and by the disposal routes specified in schedule 3.

The permit and RSR HTC guidance states for the Operator ‘*You can only dispose of types of radioactive waste from the outlets and disposal routes specified and limited in schedule 3, unless we have agreed otherwise in writing*’.

We believe that there was a breach of condition 3.1.1 as there was a gaseous flow through the corroded section of the pipework; this was not a disposal route specified in Schedule 3 of XB3539DH.

Non-compliance score – CCS3. For 3.1.1 under a1 (Permitted activities – Specified by permit) our RSR CCS guidance defines a category 3 as ‘*Discharge or disposal by authorised route, but within site discharge limits*’. The gaseous emission through the corroded pipework resulted to a discharge through an unauthorised route but the estimated activity was several orders of magnitude below the site discharge limits. We therefore rate this non-compliance as CCS3.

5. Actions completed to date by EDF ENGL

EDF ENGL proactively identified and implemented works which address non-compliances relating to permit conditions 1.1.1 (a), 2.3.5 and 3.1.1.

ACTION 300425/01: EDF to fully repair the section of the corroded pipework and return the ductwork to high standard (Completed November 2024).

ACTION 300425/02: EDF to create a new routine to carry out inspection and reporting of roof ductwork outlining areas of focus (Completed March 2025)

Additionally, EDF ENGL proposed to ‘*label the exhaust ductwork on plant to highlight that there is a risk of contaminants*’ as an action in response to the duct corrosion event. We understand that this action has also been completed however, we do not consider that it addresses the non-compliance relating to condition 1.1.1 (a) of the environmental permit EPR/XB3539DH. We have therefore not considered this action as part of our compliance assessment.

6. Material Extent of Condition

Following the identification of the corroded pipework ‘*a material extent of condition*’ inspection of the ductwork in other areas was completed to prevent further ‘*through wall leaks*’. The results were reported in the EDF investigation report:

- Riser from Decontamination Building to Fuel Building Roof: This area has yet to be inspected as it is considered low risk; it is being shielded behind the building’s cladding. A risk-based inspection is planned by EDF ENGL in 2025.
- Fuel Building 24m Level Roof: This area was last inspected in 2019, was planned for inspection in 2025 and was subsequently prioritised for inspection in 2024.

Recommendation 300425/05: EDF to complete and report the findings of the inspection of the ‘Riser from Decontamination Building to Fuel Building Roof’ and the ‘Fuel Building 24m Level Roof’ areas to the Environment Agency

7. Summary

We have completed a compliance assessment after we were notified by EDF ENGL on 1st November 2024 that they had identified a gaseous flow through a small corroded section of the gaseous radioactive waste ducting on the Auxiliary building roof.

We confirmed that the absence of preventative maintenance procedures for the ductwork resulted to its degrading and subsequent wall through leaks.

We found that the management systems and procedures at the station hadn't captured potential compliance consequences associated with the failure of the ducting (resulting into gaseous discharges through unauthorised disposal routes).

We believe that as a result of the corroded pipework there were three non-compliances relating to Sizewell B's radioactive substances environmental permit conditions. We have scored each of these as CCS3.

As part of the investigation EDF ENGL identified and completed two corrective actions to address the corroded pipework event. We have also outlined five regulatory recommendations relating to the implementation of OPEX and future ductwork inspections to minimise future potential non-compliances. These are:

Recommendation 300425/01: EDF to describe how it has responded to environmental / compliance learning (including EA observations, recommendations and actions) relating to stack corrosion and inspections from the wider EDF fleet (e.g. RASCARs CAR-HEY-24-002 Monitoring Programme and CAR-HEY2-24-003 Aux Boiler Stack Corrosion).

Recommendation 300425/02: EDF to describe how it shares environmental/compliance learning from Sizewell B with EDF corporate.

Recommendation 300425/03: EDF to demonstrate its identification and labelling of environmental protection equipment is sufficient, and ensures appropriate consideration / awareness for those working on or nearby the equipment.

Recommendation 300425/04: EDF to consider physical labelling on environmental protection equipment, to ensure its impact on environmental protection and compliance is immediately recognised by those working on or nearby the equipment.

Recommendation 300425/05: EDF to complete and report the findings of the inspection of the 'Riser from Decontamination Building to Fuel Building Roof' and the 'Fuel Building 24m Level Roof' areas to the Environment Agency

8. Enforcement Response

We will now use our Enforcement and Sanctions Policy to establish what enforcement action is appropriate and subsequently notify the Operator.

9. References

1. Equipment Failure Investigation (EFI) Report Condition Report No: 01385693 (ref: BEG/FORM/OL/306 Revision 004) _
2. Sizewell B Power Station Engineering Department Report SZB/ESR/808/AUX/022 Auxiliary Building Roof Ductwork Corrosion Monitoring Report 2022 (SZBESR808AUX22)
3. Sizewell B Power Station Engineering Department Report SZB/ESR/808/AUX/23 Auxiliary Building Roof Ductwork Corrosion Monitoring Report 2023 (ref: SZBESR808AUX23)
4. Environment Agency Letter – Review of HVAC Duct Corrosion Information Event (dated 14th March 2025) _

5. An Iodine Performance Test of the Auxiliary Building Volume Control Tank Area HECA 1GF-F03 on 9th March 2022 Sizewell B F0002-APP-A2318 dated 11th March 2022 (ref: F0002-APP-A2318)
6. DOP Performance tests of seven HEPA filter banks on 8th and 9th March 2022 Sizewell B F0002- APP-A2319 dated 17th March 2022 (ref: F0002-APP-A2319)
7. DOP Performance tests for four HEPA filter banks on 9th and 10th April 2024 Sizewell B F0002-APP-A2628 dated 12th April 2024 (ref: F0002-APP-A2628)
8. An Iodine Performance Test of the Auxiliary Building Volume Control Tank Extract HECA 1GF-F03 on 9th April 2024 Sizewell B F0002-APP-A2627 dated 15th April 2024 (ref: F0002-APP-A2627)
9. Sizewell B Correspondence dated 15th November 2024 (Email Subject: RE: Sizewell B – HVAC ductwork condition).
10. Sizewell B Correspondence dated 21st January 2025 (Email Subject: RE: HVAC duct corrosion)
11. Sizewell B Correspondence dated 6th February 2025 (Email Subject: RE: HVAC duct corrosion)
12. Sizewell B Correspondence dated 21st March 2025 (Email Subject: RE:HVAC Duct Corrosion)
13. Sizewell B Correspondence dated 26th March 2025 (Email Subject: HVAC Duct Corrosion)

Section 3- Enforcement Response

Only one of the boxes below should be ticked

You must take immediate action to rectify any non-compliance and prevent repetition.

Non-compliance with your permit conditions constitutes an offence* and can result in criminal prosecutions and/or suspension or revocation of a permit. Please read the detailed assessment in Section 2 and the steps you need to take in Section 4 below.

Other than the provision of advice and guidance, at present we do not intend to take further enforcement action in respect of the non-compliance identified above. This does not preclude us from taking enforcement action if further relevant information comes to light or advice isn't followed.

In respect of the above non-compliance you have been issued with a warning. At present we do not intend to take further enforcement action. This does not preclude us from taking additional enforcement action if further relevant information comes to light or offences continue.

X

We will now consider what enforcement action is appropriate and notify you, referencing this form.

Section 4- Action(s)

Where non-compliance has been detected and an enforcement response has been selected above, this section summarises the steps you need to take to return to compliance and also provides timescales for this to be done.

Criteria Ref.	CCS Category	Action Required / Advised	Due Date
See Section 1 above			
A1	C3	Action 300425/01: EDF to fully repair the section of the corroded pipework and return the ductwork to high standard.	Completed (November 2024)
B5	C3	Action 300425/02: EDF to create a new routine to carry out inspection and reporting of roof ductwork outlining areas of focus	Completed (March 2025)
C2	C3	Same as action listed for B5 above	Completed (March 2025)

Section 5 - Compliance notes for the Operator

To ensure you correct actual or potential non-compliance we may

- advise on corrective actions verbally or in writing
- require you to take specific actions in writing
- issue a notice
- require you to review your procedures or management system
- change some of the conditions of your permit
- decide to undertake a full review of your permit

Any breach of a permit condition is an offence* and we may take legal action against you.

● We will normally provide advice and guidance to assist you to come back into compliance either after an offence is committed or where we consider that an offence is likely to be committed. This is without prejudice to any other enforcement response that we consider may be required.

● Enforcement action can include the issue of a formal caution, prosecution, the service of a notice and or suspension or revocation of the permit.

● A civil sanction Enforcement Undertaking (EU) offer may also be available to you as an alternative enforcement response for this/these offence(s).

See our Enforcement and Civil Sanctions guidance for further information

This report does not relieve the site operator of the responsibility to

- ensure you comply with the conditions of the permit at all times and prevent pollution of the environment
- ensure you comply with other legislative provisions which may apply.

Non-compliance scores and categories

CCS category	Description
C1	A non-compliance which could have a major environmental effect
C2	A non-compliance which could have a significant environmental effect
C3	A non-compliance which could have a minor environmental effect
C4	A non-compliance which has no potential environmental effect

[Operational Risk Appraisal \(Opra\)](#) – Non-compliances do not currently affect RSR Opra scores.

Section 6 – General Information

Data protection notice

The information on this form will be processed by the Environment Agency to fulfill its regulatory and monitoring functions and to maintain the relevant public register(s). The Environment Agency may also use and/or disclose it in connection with:

- offering/providing you with its literature/services relating to environmental matters
- consulting with the public, public bodies and other organisations (e.g. Health and Safety Executive, local authorities) on environmental issues
- carrying out statistical analysis, research and development on environmental issues
- providing public register information to enquirers
- investigating possible breaches of environmental law and taking any resulting action
- preventing breaches of environmental law
- assessing customer service satisfaction and improving its service
- Freedom of Information Act/Environmental Information Regulations request.

The Environment Agency may pass it on to its agents/representatives to do these things on its behalf. You should ensure that any persons named on this form are informed of the contents of this data protection notice.

Disclosure of information

The Environment Agency will provide a copy of this report to the [public register\(s\)](#). However, if you consider that any information contained in this report should not be released to the public register(s) on the grounds of commercial confidentiality, you must write to your local area office within 20 working days of receipt of this form indicating which information it concerns and why it should not be released, giving your reasons in full.

Customer charter

What can I do if I disagree with this compliance assessment report?

If a permit holder disagrees with the RASCAR form, they should raise their concerns to the officer or team which issued the form. This must be done within 14 calendar days of receipt. If the response does not resolve the issue, a permit holder can request an appeal of the regulatory decision. This request must be made within 28 calendar days of receipt of the response. More details on our regulatory appeals process can be found at <https://www.gov.uk/guidance/appeal-a-regulatory-decision-from-the-environment-agency>. If the permit holder is still not satisfied, they can make a complaint to the Parliamentary and Health Service Ombudsman. Advice about complaining can be obtained by phoning the Ombudsman's helpline on 0345 015 4033.