Public

# ICS 2024 Annual Report

30 September 2025

National Energy System Operator

Great Britain

NESO
National Energy System Operator

Public

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## 1. Introduction

The 2024 Great Britian Incident Classification Scale Annual Report has been prepared according to the Incident Classification Scale (ICS) Methodology as per the UK Statutory Instrument, Electricity Network Codes and Guidelines (System Operation and Connection) (Amendment etc.) (EU Exit) Regulations 2019 (S.I. 2019/533)(Schedule 1)[1a] reflects amendments on Article 15 of the Commission Regulation (EU) 2017/1485 of 2 August 2017 establishing a guideline on electricity transmission system operation (SOGL) [1b].

The latest ICS Methodology was approved on 4 December 2019 [2] and was used for the first time in the 2020 ICS Annual Report. The ICS Methodology has been updated several times since its creation in 2012 [3]. The latest changes made in 2018 and 2019 are presented in Section 2.1. The ICS aims to:

- Provide an overview of operational security indicators as specified in Article 15 of the SOGL;
- Identify any improvements necessary to support sustainable and long-term operational security;
- Identify any appropriate improvements to the network operation tools required to maintain operational security and that are related to real-time operation and operational planning to support Transmission System Operators (TSOs) in their task identified in Article 55(e) of the SOGL; and
- Provide explanations for the reasons for incidents at the operational security ranking scales 2 and 3 as per the ICS adopted by ENTSO for Electricity; those explanations are based on an investigation of the incidents by the TSO. The process of this investigation is set out in the ICS Methodology.

The Annual Report aggregates the data prepared by National Energy System Operator and provides a high-level summary of scale 0–3 ICS incidents, and a detailed review of scale 2 and scale 3 incidents.

## 2. Incident Classification Scale

The criteria for incident classification are defined by using definitions from SOGL [1b]. Each criterion describes an incident or an observable situation in the power system. Only significant incidents are recorded and classified according to a scale based on severity. Therefore, this report is not a compilation of all the incidents that occurred but rather those that meet the criteria of the ICS Methodology.

The ICS has four levels of increasing severity, ranging from noteworthy incidents up to significant or widespread incidents. System events not classified as incidents are recorded in a 'Below Scale' category. The severity levels are compliant with the system state definitions listed in the SOGL.

The scales used in the Annual Report are:

- Below Scale[1], for anomalies and local events – the system remains in a normal state. Below scale events are only included in the calculation of operational security indicators;
- Scale 0, for noteworthy local incidents – the system remains in a normal state;
- Scale 1, for significant incidents with violation of operational security limits – the system is in an alert state;
- Scale 2, for extensive incidents involving a probability of a wide area incident – the system is in an emergency state; and
- Scale 3, for major incidents in the control area of a single TSO – the system is in a blackout state.

| Below scale Anomaly | | Scale 0 Noteworthy | | Scale 1 Significant incident | | Scale 2 Extensive incident | | Scale 3 Major incident | |
|---|---|---|---|---|---|---|---|---|---|
| Priority | Short definition (Criterion short code) | Priority | Short definition (Criterion short code) | Priority | Short definition (Criterion short code) | Priority | Short definition (Criterion short code) | Priority | Short definition (Criterion short code) |
| | | #20 | Incidents on load (L0) | #11 | Incidents on load (L1) | #2 | Incidents on load (L2) | #1 | Blackout (OB3) |
| #28 | Incidents leading to frequency degradation (FBS) | #21 | Incidents leading to frequency degradation (F0) | #12 | Incidents leading to frequency degradation (F1) | #3 | Incidents leading to frequency degradation (F2) | | |
| | | #22 | Incidents on network elements (T0) | #13 | Incidents on network elements (T1) | #4 | Incidents on network elements (T2) | | |
| #29 | Incidents on power generating facilities (GBS) | #23 | Incidents on power generating facilities (G0) | #14 | Incidents on power generating facilities (G1) | #5 | Incidents on power generating facilities (G2) | | |
| | | | | #15 | N-1 violation (ON1) | #6 | N violation (ON2) | | |
| | | #24 | Separation from the grid (RS0) | #16 | Separation from the grid (RS1) | #7 | Separation from the grid (RS2) | | |
| #30 | Violation of standards on voltage (OVBS) | #25 | Violation of standards on voltage (OV0) | #17 | Violation of standards on voltage (OV1) | #8 | Violation of standards on voltage (OV2) | | |
| | | #26 | Reduction of reserve capacity (RRC0) | #18 | Reduction of reserve capacity (RRC1) | #9 | Reduction of reserve capacity (RRC2) | | |
| | | #27 | Loss of tools, means and facilities (LT0) | #19 | Loss of tools, means and facilities (LT1) | #10 | Loss of tools, means and facilities (LT2) | | |

*Figure 1 ICS criteria*

## 2.1 Changes in the Incident Classification Scale Methodology

The current ICS Methodology has been updated several times since its introduction. The latest update in 2019 was to implement input received from ACER. This included an update of several thresholds and the addition of the new 'below scale' level. In addition, some adjustments were made to improve the quality of the ICS data. The first ICS Annual Report to use the 2019 update was the 2020 ICS Annual Report.

The updates made in 2019 are described below. The update has significantly changed the reported data. Therefore, the results gathered after each update cannot be directly compared to those from previous years.

As of 2018, annual workshops are being organised to ensure high-quality and consistent reporting for all TSOs.

## ICS Methodology 2019 criteria updates

The main update in the 2019 ICS Methodology was the addition of the 'below scale' criteria for incidents on frequency degradation (FBS), incidents on power generating facilities (GBS) and violation of standards on voltage (OVBS). This addition decreases the reporting threshold for G and OV incidents sufficiently to enable the better calculation of the security indicators OS-B, OS-F1 and OS-F2. Furthermore, short frequency deviations that do not endanger the system operating condition are registered as below scale instead of scale 0. However, the below-scale events are only used when the operational security indicators are calculated.
In addition, definitions were clarified, and the vocabulary was aligned to that used in ENTSO-E.

**New ICS criteria**
Incidents on load (L0) and separation from the grid (RS0) were added to the ICS criteria table. L0 incidents include disconnections of load of more than 100 MW and less than 1% of the load in a TSO's control area (between 1–5% in isolated systems). RS0 incidents include grid separations involving only one TSO when the asynchronous systems have a load of 1–5% of the total load prior to the incident.

**Incidents leading to frequency degradation (F)**
The duration thresholds for incidents leading to frequency degradation were changed. Scale 0 duration thresholds were increased by 2–4 minutes and scale 2 duration thresholds were added as they did not previously exist. A 'below scale' level was added to collect short frequency deviations between 0–5 minutes, which would have been scale 0 events previously. See the ICS Methodology for further details.

**Incidents on transmission network elements (T)**
Incidents on network elements (T) were extended to also include voltage levels below 220 kV when the network elements are relevant for maintaining operational security in the TSO's control area.

**Violation on standards on voltage (OV)**
All thresholds for violations on standards on voltage (OV) were revised. Prior to 2020, only voltage deviations longer than 30 minutes were registered. As of 2020, voltage deviations may already be registered after 5 minutes, or 30 seconds if they are major. Furthermore, the criteria of one or multiple substations being affected was removed. See the ICS Methodology for further details.

**Reduction of reserve capacity (RRC)**
The time threshold of 15 minutes was changed to the minimum scheduling resolution of the power generation facilities of each TSO as the scheduling resolution can vary by 5 to 30 minutes between TSO.

### ICS Methodology 2019 security indicator updates

The operational security indicators OS-B, OS-F1, OS-F2 conditions were extended to cover 'below scale' incidents.

## 3. The operational security indicators relevant to operational security

*Table 1: The operational security indicators relevant to operational security*

| Abbr. | Description of the operational security indicator | Calculation method |
|---|---|---|
| **OS-A** | Number of tripped transmission system elements per year per TSO - SOGL article 15(3)(a) [4]. | Add up the number of transmission system elements tripped reported for all the incidents on scale 0, 1, 2 and 3. |
| **OS-B** | Number of tripped power generation facilities per year per TSO - SOGL article 15(3)(b) [4]. | Add up the number of power generation facilities tripped reported for all the events/incidents on 'Below Scale' and Scale 0, 1, 2 and 3. The number of tripped generation facilities collected for the 'Below Scale' category will be taken from the transparency platform. |
| **OS-C** | Energy not supplied due to unscheduled disconnection of demand facilities per year per TSO - SOGL article 15(3)(c) [4]. | Add up the energy not supplied reported for all incidents on scale 0, 1, 2 and 3 due to unscheduled disconnection of demand facilities. |
| **OS-D1** | Time duration of being in alert and emergency states per year per TSO - SOGL article 15(3)(d) [4]. | Add up the time being in alert and emergency states reported for all incidents on scale 0, 1, 2 and 3. |
| **OS-D2** | Number of instances of being in alert and emergency states per year per TSO - SOGL article 15(3)(d) [4]. | Add up the number of incidents on scale 0, 1, 2 and 3 in case alert or emergency state was reported. |
| **OS-E1** | Time duration within which there was a lack of reserve identified per year per TSO - SOGL article 15(3)(e) [4]. | Add up the duration of incidents reported under the criteria RRCO, RRC1 and RRC2; and the duration of all other incidents on scale 0, 1, 2 and 3 in case the reduction of reserve capacity is reported. |
| **OS-E2** | Number of events within which there was a lack of reserve identified per year per TSO - SOGL article 15(3)(e) [4]. | Add up the number of incidents reported under the criteria RRCO, RRC1 and RRC2; and the number of all other incidents on scale 0, 1, 2 and 3 in case the reduction of reserve capacity is reported. |
| **OS-F1** | Time duration of voltage deviations exceeding the ranges from Tables 1 and 2 of SOGL Annex II per year per TSO -SOGL article 15(3)(f) [4]. | Add up the duration of events/incidents reported under the criteria OV 'Below Scale' and Scale OV1 and OV2; and add up the duration of all other incidents on the 'Below Scale', Scale 0, 1, 2 and 3 in case voltage deviations are reported which exceed the ranges from SOGL Annex II [81. |
| **OS-F2** | Number of voltage deviations exceeding the ranges from Tables 1 and 2 of SOGL [4] Annex II per year per TSO - SOGL article 15(3)(f) [4]. | Add up the number of events/incidents reported under the criteria OV 'Below Scale' and Scale OVO, OV1 and OV2; and add up the number of events/incidents of all other incidents on the 'Below Scale', Scale 0, 1, 2 and 3 in case voltage deviations are reported which exceed the ranges from SOGL Annex II [4]. |

| | | |
|---|---|---|
| **OS-G1** | Number of minutes outside the standard frequency range per year per synchronous area - SOGL article 15(3)(g) [81. | Annual Load-Frequency Control Reporting will provide data for number of minutes outside the standard frequency range. |
| **OS-G2** | Number of minutes outside the 50% of maximum steady-state frequency range per year per synchronous area - SOGL article 15(3)(g) [4]. | Annual Load-Frequency Control reporting will provide data for number of minutes outside the 50% of maximum steady state frequency deviation. |
| **OS-H** | Number of system-split separations or local blackout states per year - SOGL article 15(3)(h) [4]. | Add up the number of incidents reported under the criteria RS1 and RS2. |
| **OS-I** | Number of blackouts involving two or more TSOs per year - SOGL article 15(3)(i) [4]. | Add up the number of incidents reported under the criteria OB3, in case two or more TSOs are involved. |

## 4. Operational security indicators relevant to operational security for GB (PGF)

*Table 2: Operational security indicators relevant to operational security for Great Britian (PGF = Power Generating Facility)*

| Synchronous Area | TSO | OS-A | OS-B | OS-C | OS-D1 | OS-D2 | OS-E1 | OS-E2 | OS-F1 | OS-F2 | OS-G1 | OS-G2 | OS-H | OS-I | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Great Britian** | National Energy System Operator | 224 | 72 | | | | | | 36 | 2 | | | | | 334 |
| | Total | 224 | 72 | | | | | | 36 | 2 | | | | | 334 |

## 5. Operational security indicators relevant to operational planning and scheduling

This chapter presents the operational security indicators scheduling (OPS), as required by the SOGL Articles 15(3) relevant to operational security (OS) and planning and 15(4) [1b].

*Table 3: The operational security indicators relevant to operational planning and scheduling*

| Abbr. | Description of the operational security indicator | Calculation method |
|---|---|---|
| **OPS-A** | Number of events where an incident contained in the contingency list led to a degradation of the system operation state - SOGL article 15(4)(a) [4]. | Add up the number of incidents on scale 0, 1, 2 and 3 in case degradation of system operation state is reported and in case the cause of the incident is a contingency from contingency list. |
| **OPS-B** | Number of the events counted by indicator OPS-A (events in which an incident contained in the contingency list led to a degradation of the system operation state), in which a degradation of system operation conditions occurred as a result of unexpected discrepancies from load or generation forecasts - SOGL article 15(4)(b) [4]. | Add up the number of incidents counted by indicator OPS-A in case unexpected discrepancies from load and generation forecasts were reported as the cause of the incident. |
| **OPS-C** | Number of events in which there was a degradation in system operation conditions due to an exceptional contingency - SOGL article 15(4)(c) [4]. | Add up the number of incidents on scale 0, 1, 2 and 3 in case degradation of system operation state is reported and in case the cause of the incident is an exceptional contingency. |

| | | |
|---|---|---|
| **OPS-D** | Number of the events counted by indicator OPS-C (events in which there was a degradation in system operation conditions due to an exceptional contingency), in which a degradation of system operation conditions occurred as a result of unexpected discrepancies from load or generation forecasts - SOGL article 15(4)(d) [4]. | Add up the number of incidents counted by indicator OPS-C in case unexpected discrepancies from load and generation forecasts were reported as the cause of the incident. |
| **OPS-E** | Number of events leading to a degradation in system operation conditions due to lack of active power reserves - SOGL article 15(4)(e) [4]. | Add up the number of incidents on scale 0, 1, 2 and 3 in case lack of active power reserves was reported as the cause of the incident. |

## 6. Operational security indicators relevant to operational planning and scheduling for GB

*Table 4: Operational security indicators relevant to operational planning and scheduling for GB*

| Synchronous Area | TSO | OPS-A | OPS-B | OPS-C | OPS-D | OPS-E | Total |
|---|---|---|---|---|---|---|---|
| **Great Britian** | National Energy System Operator | 2 | - | 1 | - | - | 3 |
| **Total** | | 2 | - | 1 | - | - | 3 |

## 7. Overview of 2024

This section presents an overview of ICS events in Great Britian in 2024. The events are presented by ICS criterion and further grouped by month and duration in Table 5 and Table 6, respectively.

The National Energy System Operator (NESO) of GB reported 252 ICS events (248 ICS incidents) in 2024 (excluding Below Scale events), of which, 2 of them were scale 1 and the rest of them were scale 0.

There were four ICS incidents in which multiple ICS events were registered.

- In four incidents multiple events on transmission network element (T0) were recorded

Of the 252 ICS events, 218 were associated with transmission network elements (T0), excluding planned manual disconnections and automatic re-closures. 16 events were due to loss of tools, means or facilities (LT0), 13 events were on power generating facilities, of which, all events were scale 0 (G0), and 3 events were frequency degradations (F0). All transmission events were secured by applying curative remedial actions within appropriate timescales. Disturbances on transmission network elements (T0), loss of tools, means and facilities (LT0) and power generating facilities (G0) accounted for a significant portion of the reported ICS events, as shown in Table 5 and Table 6. Most of the events on transmission system elements (T0) were caused by primary

system faults that resulted in the automatic operation of circuit breakers following the detection of primary system fault current. The system remained secure following all events.
As shown in Table 5, the reported ICS events were spread out over the year, with peaks in some months but no specific trend.

As shown in Table 6, 10% of the reported ICS events were resolved within one hour and 50% of the reported events lasted longer than 24 hours. Thorough site investigations were initiated, and mitigating actions were deployed in most instances to ensure that the network elements were reconditioned and maintained before re-energisation resulting in longer restoration times.

Around 55% (121 of the 218 events) on transmission network elements (T0) and 100% (16 of the 16 events) involving loss of tools, means and facilities (LT0) were resolved within 24 hours.

*Table 5: Number of events by dominant criteria distributed per month in 2024 in Great Britain.*

| Scale | ICS criterion | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Scale 0** | Incidents on load (LO) | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | Incidents leading to frequency degradation (FO) | 1 | - | - | - | - | - | - | - | - | 2 | - | - | **3** |
| | Incidents on network elements (T0) | 29 | 10 | 13 | 14 | 11 | 15 | 15 | 23 | 20 | 22 | 25 | 21 | **218** |
| | Incidents on power generating facilities (GO) | 1 | - | 1 | - | 2 | - | 1 | 1 | - | 1 | 1 | 5 | **13** |
| | Separation from the grid (RS0) | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | Violation of standards on voltage (OV0) | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | Reduction of reserve capacity (RRCO) | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | Loss of tools, means and facilities (LTO) | 6 | - | 3 | - | 2 | 1 | - | - | 1 | 2 | - | 1 | **16** |
| | **Total** | **37** | **10** | **17** | **14** | **15** | **16** | **16** | **24** | **21** | **27** | **26** | **27** | **250** |
| **Scale 1** | Incidents on load (L1) | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | Incidents leading to frequency degradation (F1) | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | Incidents on network elements (T1) | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | Incidents on power generating facilities (G1) | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | Separation from the grid (RS1) | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | Violation of standards on voltage (OV1) | - | - | - | 1 | - | 1 | - | - | - | - | - | - | **2** |
| | Reduction of reserve capacity (RRC1) | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | Loss of tools, means and facilities (LT1) | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | **Total** | - | - | - | **1** | - | **1** | - | - | - | - | - | - | **2** |
| **Scale 2** | Incidents on load (L2) | - | - | - | - | - | - | - | - | - | - | - | - | - |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Incidents leading to frequency degradation (F2) | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | Incidents on network elements (T2) | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | Incidents on power generating facilities (G2) | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | Separation from the grid (RS2) | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | Violation of standards on voltage (OV2) | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | Reduction of reserve capacity (RRC2) | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | Loss of tools, means and facilities (L21) | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | **Total** | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **Scale 3** | Blackout (OB3) | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | **Total** | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **Grand Total** | | **37** | **10** | **17** | **15** | **15** | **17** | **16** | **24** | **21** | **27** | **26** | **27** | **252** |

## 8. Cumulative number of events by dominant criteria and duration in 2024 in GB

*Table 6: Cumulative number of events by dominant criteria and duration in 2024 in Great Britain*

| Scale | ICS criterion | <1h | <2h | <5h | <10h | <24h | Total |
|---|---|---|---|---|---|---|---|
| **Scale 0** | Incidents on load (LO) | - | - | - | - | - | **-** |
| | Incidents leading to frequency degradation (FO) | 3 | 3 | 3 | 3 | 3 | **3** |
| | Incidents on network elements (T0) | 11 | 24 | 55 | 81 | 97 | **218** |
| | Incidents on power generating facilities (GO) | - | 1 | 4 | 7 | 8 | **13** |
| | Separation from the grid (RS0) | - | - | - | - | - | **-** |
| | Violation of standards on voltage (OV0) | - | - | - | - | - | **-** |
| | Reduction of reserve capacity (RRCO) | - | - | - | - | - | **-** |
| | Loss of tools, means and facilities (LTO) | 10 | 16 | 16 | 16 | 16 | **16** |
| | **Total** | 24 | 44 | 78 | 107 | 124 | **250** |
| **Scale 1** | Incidents on load (L1) | - | - | - | - | - | **-** |
| | Incidents leading to frequency degradation (F1) | - | - | - | - | - | **-** |
| | Incidents on network elements (T1) | - | - | - | - | - | **-** |
| | Incidents on power generating facilities (G1) | - | - | - | - | - | **-** |
| | Separation from the grid (RS1) | - | - | - | - | - | **-** |
| | Violation of standards on voltage (OV1) | 2 | 2 | 2 | 2 | 2 | **2** |
| | Reduction of reserve capacity (RRC1) | - | - | - | - | - | **-** |
| | Loss of tools, means and facilities (LT1) | - | - | - | - | - | **-** |
| | **Total** | 2 | 2 | 2 | 2 | 2 | **2** |
| **Scale 2** | Incidents on load (L2) | - | - | - | - | - | **-** |
| | Incidents leading to frequency degradation (F2) | - | - | - | - | - | **-** |
| | Incidents on network elements (T2) | - | - | - | - | - | **-** |
| | Incidents on power generating facilities (G2) | - | - | - | - | - | **-** |
| | Separation from the grid (RS2) | - | - | - | - | - | **-** |
| | Violation of standards on voltage (OV2) | - | - | - | - | - | **-** |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Reduction of reserve capacity (RRC2) | - | - | - | - | - | - |
| | Loss of tools, means and facilities (L21) | - | - | - | - | - | - |
| | **Total** | - | - | - | - | - | - |
| **Scale 3** | Blackout (OB3) | - | - | - | - | - | - |
| | **Total** | - | - | - | - | - | - |
| **Grand Total** | | **26** | **46** | **80** | **109** | **126** | **252** |

## 9. Evolution 2020 - 2024

This section presents the annual number of ICS events in GB from 2020 to 2024, distributed by scale and ICS criterion. The ICS criteria used in this report are presented in *Figure 1 ICS criteria*. It should be noted that the recorded values for 2020–2024 aggregate all related ICS events into ICS incidents, with the ICS criteria set to the event with the highest priority according to *Figure 1 ICS criteria.*

NESO from GB recorded 250 scale 0 ICS events (248 ICS incidents) in comparison to 232 ICS events in 2023, 188 events in 2022, 252 events in 2021 and 260 in 2020. In 2024, there were 250 scale 0 ICS events, and two scale 1–3 events.

Table 7 shows that yearly numbers of ICS events from 2020 to 2025 are quite similar.

In 2024, Great Britain reported two scale 1 ICS events. In each of the years 2023, 2021, and 2020, one such event was recorded.

*Table 7: The annual number of events by dominating criterion from 2020-2024*

| Scale | ICS criterion | 2020 | 2021 | 2022 | 2023 | 2024 |
|---|---|---|---|---|---|---|
| **Scale 0** | Incidents on load (LO) | - | - | - | - | - |
| | Incidents leading to frequency degradation (FO) | 2 | 3 | 7 | 4 | 3 |
| | Incidents on network elements (T0) | 169 | 218 | 157 | 192 | 218 |
| | Incidents on power generating facilities (GO) | 12 | 14 | 9 | 11 | 13 |
| | Separation from the grid (RS0) | - | - | - | - | - |
| | Violation of standards on voltage (OV0) | - | - | - | - | - |
| | Reduction of reserve capacity (RRCO) | - | - | - | - | - |
| | Loss of tools, means and facilities (LTO) | 76 | 16 | 15 | 24 | 16 |
| | **Total** | 259 | 251 | 188 | 231 | 250 |
| **Scale 1** | Incidents on load (L1) | - | - | - | - | - |
| | Incidents leading to frequency degradation (F1) | - | - | - | - | - |

| | | | | | | |
|---|---|---|---|---|---|---|
| | Incidents on network elements (T1) | - | - | - | - | - |
| | Incidents on power generating facilities (G1) | - | - | - | 1 | - |
| | Separation from the grid (RS1) | - | - | - | - | - |
| | Violation of standards on voltage (OV1) | - | - | - | - | 2 |
| | Reduction of reserve capacity (RRC1) | - | - | - | - | - |
| | Loss of tools, means and facilities (LT1) | 1 | 1 | - | - | - |
| | **Total** | 1 | 1 | - | 1 | 2 |
| **Scale 2** | Incidents on load (L2) | - | - | - | - | - |
| | Incidents leading to frequency degradation (F2) | - | - | - | - | - |
| | Incidents on network elements (T2) | - | - | - | - | - |
| | Incidents on power generating facilities (G2) | - | - | - | - | - |
| | Separation from the grid (RS2) | - | - | - | - | - |
| | Violation of standards on voltage (OV2) | - | - | - | - | - |
| | Reduction of reserve capacity (RRC2) | - | - | - | - | - |
| | Loss of tools, means and facilities (L21) | - | - | - | - | - |
| | **Total** | - | - | - | - | - |
| **Scale 3** | Blackout (OB3) | - | - | - | - | - |
| | **Total** | - | - | - | - | - |
| **Grand Total** | | **260** | **252** | **188** | **232** | **252** |

## 10. Analysis of significant changes in trends

In 2024, there were 252 scale 0–3 ICS events (248 ICS incidents) were reported in Great Britain's synchronous area. This number demonstrates a slight increase when compared to previous year's data. However, it is important to note that overall trend across the past four years has remained relatively stable. The dominant ICS criteria in 2024 were incidents on transmission system elements (T0) and loss of tools and facilities (LT0).

In 2024, there were 250 scale 0 incidents (up from 231 in 2023). Two scale 1 events related to standards violations on voltage (OV1) occurred in 2024, compared to one in each 2023, 2021 and 2020.

There was no scale 2 events in 2024, unlike in 2019, when the first scale 2 incident in GB was recorded. The dominating ICS criterion of the scale 2 incident in 2019 was incidents leading to frequency degradation (F2).

## 11. Overview of Events reported by National Energy System Operator

This section presents events for National Energy System Operator, the TSO in Great Britain. Table 8 presents the monthly distribution of ICS events by ICS criterion in 2024.

*Table 8: Monthly distribution of events by dominating criterion in 2024 for National Energy System Operator*

| Scale | Main event ICS criterion | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Scale 0** | Incidents leading to frequency degradation (F0) | 1 | - | - | - | - | - | - | - | - | 2 | - | - | **3** |
| | Incidents on network elements (T0) | 29 | 10 | 13 | 14 | 11 | 15 | 15 | 23 | 20 | 22 | 25 | 21 | **218** |
| | Incidents on power generation facilities (G0) | 1 | - | 1 | - | 2 | - | 1 | 1 | - | 1 | 1 | 5 | **13** |
| | Loss of tools, means and facilities (LT0) | 6 | - | 3 | - | 2 | 1 | - | - | 1 | 2 | - | 1 | **16** |
| **Scale 1** | Violation of standards on voltage (OV1) | - | - | - | 1 | - | 1 | - | - | - | - | - | - | **2** |
| **Grand total** | | **37** | **10** | **17** | **15** | **15** | **17** | **16** | **24** | **21** | **27** | **26** | **27** | **252** |

## Glossary

**ACER** Agency for Cooperation of Energy Regulators
**Contingency list** "the list of contingencies to be simulated in order to test the compliance with the operational security limits" [1b]
**ENTSO-E** European Network of Transmission System Operators for Electricity
**ENS** Energy not supplied
**Energy not supplied** "the estimated energy which would have been supplied to end-users if no interruption and no transmission restrictions had occurred"
**Exceptional contingency** "the simultaneous occurrence of multiple contingencies with a common cause" [1b]
**GB** Great Britain
**ICS** Incident Classification Scale
**ICS event** An ICS event indicates the occurrence of a single ICS criteria violation
**ICS incident** In the ICS Annual Report, the term incident is used to represent all related ICS events that have affected the normal operation of the electric power grid. Therefore, one ICS incident may have multiple ICS events.
**IE/NI** Ireland / Northern Ireland
**OPS** Operational security indicator relevant to operational planning and scheduling
**OS** Operational security indicator relevant to operational security
**Out-of-range contingency** "the simultaneous occurrence of multiple contingencies without a common cause, or a loss of power generating modules with a total loss of generation capacity exceeding the reference incident" [1b]
**PGF** Power Generating Facility
**RR** Replacement Reserves
**SA** Synchronous area
**SOGL** System Operation Guideline, i.e., Commission Regulation (EU) 2017/1485 of 2 August 2017 establishing a guideline on electricity transmission system operation [1b]
**TSO** Transmission System Operator

## 12. References

[1a] UK Statutory Instrument, Electricity Network Codes and Guidelines (System Operation and Connection) (Amendment etc.) (EU Exit) Regulations 2019 (S.I. 2019/533)(Schedule 1).

[1b] European Commission, "COMMISSION REGULATION (EU) 2017/1485 of 2 August 2017 establishing a guideline on electricity transmission system operation," July 2017.

[2] Subgroup Incident Classification Scale, "Incident Classification Scale Methodology 2019." https: //eepublicdownloads.entsoe.eu/clean-documents/SOC%20documents/Incident_Classification_ Scale/200629_Incident_Classification_Scale_Methodology_revised_and_in_use_as_of_2020. pdf, December 2019.

[3] AD HOC Team Incidents Classification Scale Under System Operation Committee, "Incident Classification Scale Guideline 2012." https://eepublicdownloads.entsoe.eu/clean-documents/pre2015/Key_Documents/ 120323-ICS_Methodology_final.pdf, March 2012.

[4] European Commission, "COMMISSION REGULATION (EU) 2017/1485 of 2 August 2017 establishing a guideline on electricity transmission system operation."https://eur-lex.europa.eu/legal-content/EN/TXT/?uri= CELEX: 32017R1485, Aug 2017. [Online; accessed 05.01.2019].