



Commission for Energy Regulation

An Coimisiún um Rialáil Fuinnimh

Guidance for Notification of Incidents

Part of the Petroleum Safety Framework

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Glossary of Terms and Abbreviations

List of Abbreviations

Abbreviation	Meaning
ALARP	As low as reasonably practicable
S(E)CE	Safety and Environmentally Critical Element

List of Defined Terms

Words and phrases defined in Section 13A of the Electricity Regulation 1999, as amended, shall, unless the context otherwise requires, have the same meanings when used in this document.

Term	Definition or Meaning
13S(2) Notifications	A notification to the CER in accordance with section 13S(2) of the Act
Environmental Liability Regulations	<i>European Communities (Environmental Liability) Regulations 2008</i> (S.I. No. 547 of 2008), as amended by the <i>European Communities (Environmental Liability) (Amendment) Regulations 2011</i> (S.I. No. 307 of 2011).
Framework	The collection of regulations, written regulatory documents and procedures which, taken together, describe the system the CER will use to regulate the activities of petroleum undertakings, operators and owners with respect to safety, including, without limitation the petroleum safety framework established under section 13I of the Act.
Fugitive Emissions	Fugitive Emissions arise from loss of tightness from hydrocarbon containment equipment such as valves, flanges and other connections, pressure relief devices, process drains; open ended valves, pump and compressor seal systems, agitator seals, and access door seals.
Immediate Remedial Action	Means that the operator/owner will put in place immediate risk reduction measures to reduce the risks to ALARP. Immediate remedial action refers to those immediate risk reduction measures taken by operators/owners such as fully or partially suspending production, drilling, simultaneous operations or other work activities (e.g. not allowing or not finalising start-up).

Term	Definition or Meaning
Safety (and Environmentally) Critical Elements – S(E)CE	Safety (and Environmental) Critical Elements S(E)CE are such parts of an installation and its plant, including computer programs, a purpose of which is to prevent or limit the effect of a major accident, or the failure of which could cause or contribute substantially to a major accident. The environmental term is only applicable offshore and relates to the definition of a major hazard, which includes major environmental incidents offshore.
Petroleum Incident Notification form (PIN)	Form prescribed by the CER under 13S of the Act for the notification of petroleum incidents by operators and owners to the CER
Safety Case	A safety case submitted to the CER for acceptance for the purpose of gaining a Safety Permit.
Safety (and Environmentally) Critical Elements – S(E)CE	Safety (and Environmental) Critical Elements S(E)CE are such parts of an installation and its plant, including computer programs, a purpose of which is to prevent or limit the effect of a major accident, or the failure of which could cause or contribute substantially to a major accident. The environmental term is only applicable offshore and relates to the definition of a major hazard, which includes major environmental incidents offshore.
Safety Permit	A permit issued by the CER under 13P of the Act which permits the carrying on of designated petroleum activities as set out in S.I. 89 of 2013 <i>Petroleum Safety (Designation Of Certain Classes Of Petroleum Activity) Regulations</i> .
Safety Zone	The area within 500 metres of a ' <i>designated area</i> ' as defined by the <i>Continental Shelf Act</i> , Number 14 of 1968

1 Introduction

1.1 The Petroleum Safety Framework

The *Electricity Regulation Act 1999* (the Act), as amended *inter alia* by the *Petroleum (Exploration and Extraction) Safety Act 2010* and the *Petroleum (Exploration and Extraction) Safety Act 2015* gives the Commission for Energy Regulation (CER) responsibility for the safety regulation of petroleum exploration and extraction activities in Ireland.

The Act requires the CER to “establish and implement a risk-based Petroleum Safety Framework” (the ‘Framework’). The Framework is the overall system established by the CER to regulate the safety of petroleum activities¹, in particular designated petroleum activities.²

The Framework established under the Act is a permitting regime, is goal-setting and risk-based, whereby operators and owners are required to reduce risks to a level that is As Low As is Reasonably Practicable (ALARP).

1.2 Scope of this Guidance

This document, the *Guidance for Notification of Incidents* sets out:

- Section 2** Process for Notification of Petroleum Incidents; and
- Section 3** Guidance on Petroleum Incident Classes; and
- Section 4** Guidance for 13S(2) Notifications

This document is intended to assist operators and owners in carrying out their duties under the Act but is not a substitute for, or a legal interpretation of, the Act. The guidance provided in this document may be subject to review by the CER from time to time.

1.3 Legal Context

Operators and owners must notify the CER of petroleum incidents.³ Section 1 of the Petroleum Incident Notification form⁴ must be completed by one or both as appropriate, and submitted to the CER on behalf of one or both as appropriate, and without delay, in respect of each petroleum incident. Within 10 working days, the more detailed Section 2 of the Petroleum Incident Notification form must be completed and submitted by the operator or owner as appropriate.

Petroleum incident means⁵ ‘an event or occurrence in, at or in the precincts of petroleum infrastructure which is an event or occurrence of a class prescribed by regulations made by the Commission under section 13V and includes all major accidents’. The regulations are the *Petroleum Safety (Petroleum Incident) Regulations 2016*.

Failure to notify CER of a petroleum incident is an offence and can result in a Class A fine on summary conviction, or a fine of up to €1,000,000 on conviction on indictment.⁶

¹ As defined in section 13A(2) of the Act.

² As defined in the *Petroleum Safety (Designation of Certain Classes of Petroleum Activity) Regulations 2013*.

³ Section 13S(1) of the Act.

⁴ Available for download on the CER website

⁵ Section 13A of the Act.

⁶ Section 13S(3) of the Act.

2 Process for Notification of Petroleum Incidents to CER

2.1 Process for Notification of Petroleum Incidents

Operators and owners must notify the CER of petroleum incidents using the Petroleum Incident Notification form. This form is split into 2 sections.

Section 1 of the Petroleum Incident Notification form requires the operator/owner to classify the petroleum incident and provide a short summary of the petroleum incident causes (where known), impact and remedial action (where required and taken). This must be submitted to the CER without delay.

Section 2 of the Petroleum Incident Notification form requires further details to be provided to the CER. This must be submitted within 10 working days of the petroleum incident.

Example

An event occurred that resulted in a petroleum gas release that subsequently ignited to cause a fire and injury to a worker that required admission to hospital for over 2 days.

Section 1 of the Petroleum Incident Notification form is initially submitted without delay identifying incident class A1, and class H.

Section 2 is provided within 10 working days of the incident with further details.

2.2 Fatalities or missing persons

In the case of a petroleum incident which results in the loss of human life or a missing person, the operator and owner must notify the CER, by the quickest practicable means, for instance by phone or email, of:

- The name of the deceased or missing person(s);
- Brief particulars of the petroleum incident; and
- The location of the petroleum incident.

This is in addition to the requirements to notify the CER using the Parts 1 and 2 of the Petroleum Incident Notification form as normal, without delay and within 10 days of the incident respectively.

2.3 Common reporting with other state authorities

Operators and owners should note that the reporting of petroleum incidents to the CER in accordance with the Act and the *Petroleum Safety (Petroleum Incident) Regulations 2016* does not relieve them of their reporting requirements to other statutory authorities as imposed by law. This includes similar reporting to the Health and Safety Authority (HSA) under Directive 92/91/EEC.

3 Guidance for Notification of Petroleum Incidents

3.1 *Classes of Petroleum Incident*

This section sets out guidance for each class of petroleum incident. Operators and Owners should read this in conjunction with Section 2 of the Petroleum Incident Notification form, which sets out the details that the CER require to be submitted in relation to each petroleum incident.

If an operator or owner is uncertain about whether an event or occurrence constitutes a petroleum incident, the precautionary approach should be taken and a notification sent to the CER via the Petroleum Incident Notification form.

The remainder of this section sets out guidance for each class of petroleum incident.

3.2 Guidance for notification of each class of petroleum incident

A. Unintended release of oil, gas or other hazardous substances, whether or not ignited

1. Any unintentional release of ignited gas or petroleum liquid;
2. The unintentional release, with the exception of fugitive emissions, of:
 - a. not ignited natural gas or evaporated associated gas if mass released ≥ 1 kg
 - b. not ignited petroleum liquid if mass released ≥ 60 kg;
3. The unintentional release or escape of any non-petroleum hazardous substance

Guidance

This includes reporting of process or non-process petroleum hydrocarbon fluids in 1 and 2 below.

1. Any unintentional release of ignited gas or oil

- Any release must be reported, irrespective of the potential to cause a major accident.

Exclusions:

- controlled ignited releases which are part of recognised safe operations such as flaring.

2. The unintentional release, with the exception of fugitive emissions, of:

a) not ignited natural gas or evaporated associated gas if mass released ≥ 1 kg

- the reference to 1 kg above means 1kg of 100% natural gas.

Exclusions:

- Gas releases which are recognized as safe operations (emergency-shutdown, venting gas manually to depressurize equipment in a controlled manner) or which is part of the designed process (automatic release via a blowdown system or venting system) should not be reported.
- Fugitive emissions are not reportable as long as they are less than 3 kg/h or a 20% LEL at 50 cm is not reached.

b) Not ignited liquid of petroleum hydrocarbon if mass released ≥ 60 kg

3. The unintentional release or escape of any non-petroleum hazardous substance

B. Loss of well control requiring actuation of well control equipment, or failure of a well barrier requiring its replacement or repair

1. Any blowout, regardless of the duration
2. The coming into operation of a blowout prevention or diverter system to control flow of well-fluids
3. The mechanical failure of any part of a well, whose purpose is to prevent or limit the effect of the unintentional release of fluids from a well or a reservoir being drawn on by a well, or whose failure would cause or contribute to such a release
4. Failure to maintain a planned minimum separation distance between two or more wells

Guidance

This concerns loss of well control throughout the lifecycle of the well and is applicable for all wells drilled for the exploration or exploitation of oil or gas, for example those used to support pressure through water or gas injection.

1. Any blowout regardless of the duration

- This covers all blowouts, including those of limited duration.

2. The coming into operation of a blowout prevention or diverter system to control flow of well-fluids

- This covers all incidents where a blowout preventer is closed or a diverter is operated to control an unplanned flow into the well-bore from the adjoining formations, but not where flow is planned as part of an operation (e.g. underbalanced drilling).
- Where a blowout preventer or diverter system is activated on a precautionary basis then this is also reportable.
- Reports are not required where flow is due solely to variations in the density of fluid across pipe installed in the well bore, an effect commonly known as 'U-Tubing'; nor where it is known that mud previously lost to the formation is subsequently returned, an effect commonly known as 'ballooning' or 'breathing'. There is also no need to report flows arising from thermal effects (e.g. by starting up a well, the fluids are warming up and the casing is expanding).

3. The mechanical failure of any part of a well, whose purpose is to prevent or limit the effect of the unintentional release of fluids from a well or a reservoir being drawn on by a well, or whose failure would cause or contribute to such a release

- Failures of the primary pressure containment envelope of a well or of safety devices, namely blowout preventers or surface, subsea and subsurface safety valves shall be reported where there is a major loss of pressure integrity requiring Immediate Remedial Action.
- Leakages around a well of hydrocarbon gas from shallow formations should also be reported. It is not necessary to report minor leaks or failures found and rectified during routine maintenance, including replacement of worn components.

4. Failure to maintain a planned minimum separation distance between two or more wells

- Where drilling of a well in close proximity to another is anticipated, a well collision avoidance plan would be drawn up which would define trajectory limits for the new well (defined to avoid collision by consideration of uncertainties associated with well surveying). Where the pre-defined limits are exceeded this must be reported immediately along with a proposed remediation plan.

Examples of events to be reported:

- Well failure during workover. A gas blowout occurring outside the well from the reservoir to the seabed. Gas present under the entire platform.
- Failure of primary well barrier during drilling. High influx volume of hydrocarbons into the well during drilling.

Example of an event not to be reported:

- Increasing gas trend during drilling. Circulate and increase the mud weight without activating secondary well barrier (BOP).

C. Failure of a safety and environmentally critical element:

- Any loss or non-availability of an S(E)CE requiring Immediate Remedial Action.

Guidance

The requirement for a report to be submitted under this section are:

- 1) The S(E)CE condition is identified by anyone;
- 2) The person reports that the S(E)CE has failed to meet its performance standard; and
- 3) the operator/owner had to take Immediate Remedial Action to reduce risks to an acceptable level.
 - Failure to meet a performance standard equates to loss or unavailability of an S(E)CE
 - The detected condition can be reported to the operator/owner by anyone in any circumstance whether it is by simple observation, inspection or investigative techniques or analysis of the results of tests etc.
 - Where a S(E)CE does not meet the requirements of the performance standards, the operator/owner determines whether Immediate Remedial Action is necessary to protect people and the environment and to reduce risks to an acceptable level.
 - A S(E)CE is generally to be understood at "system level" (e.g. emergency-shutdown system, fire extinguishing system or fire prevention system) and not at component level (e.g. smoke and gas detectors). However, there are instances where the failure of a single component of the system significantly reduces the integrity of the S(E)CE or even the entire installation.

D. Significant loss of structural integrity or loss of station keeping in relation to a mobile installation

- Any condition that reduces the designed structural integrity of the installation, including stability, buoyancy and station keeping, to the extent that it requires Immediate Remedial Action.

Guidance

The three requirements that have to be met for determining when a condition regarding structural integrity must be reported, are as follows:

- (1) a condition regarding structural integrity is identified by anyone;
- (2) the operator/owner assessed that the condition has resulted in significant loss of structural integrity;
- (3) the operator/owner determined that Immediate Remedial Action or further investigation is necessary to protect people and the environment and reduce the safety and environmental risks of the installation to an acceptable level.

The condition can be reported to the operator/owner by anyone in any circumstance whether it is by simple observation, inspection or investigative techniques or analysis of the results of tests etc.

The operator/owner is responsible for determining whether Immediate Remedial Action or further investigation is required to protect the safety and environmental risks of the installation and to reduce immediate risks to people and environment to an acceptable level.

Examples below of conditions identified which will be reported under this section if the operator/owner assesses that Immediate Remedial Action is necessary:

Structural Integrity

Significantly reduced structural integrity (including load bearing parts) of an installation or its foundations, excessive movement, deflection, change in structural response, or settlement etc.

Stability, Buoyancy

Loss of stability or buoyancy of a floating installation (indicated by excessive inclination, undue sensitivity to weight shifts, or excessive movements).

Station Keeping

Loss of station keeping due to e.g. failure of a mooring system or the installation's dynamic positioning system.

An example of 'further investigation' as included in (3) above would be inspection by ROV to determine if this class of incident occurred.

E. Potential and actual vessel collisions with an offshore installation

- Any collision, or potential collision, between a vessel and an offshore installation which has, or would have, enough energy to cause sufficient damage to the installation and/or vessel, to jeopardise the overall structural or process integrity

Guidance

- A report is required when an actual collision has occurred between a vessel and an offshore installation.
- A report is required where a vessel enters the safety zone of offshore petroleum infrastructure without authorisation.
- When considering a potential collision between an installation and a vessel, it will not always be possible to estimate with any accuracy whether a collision could have occurred or what the consequences might have been. The operator/owner shall report incidents with a significant risk for the installation.
- In both situations, it is likely that the operator/owner will take immediate emergency measures, either at the installation to evacuate or protect people from a foreseeable collision or that an action is taken towards the vessel (e.g. contacting it and requiring it to change course).
- For mobile drilling units, actual or potential collisions shall only be reported when the unit is engaged in offshore oil and gas operations or is in the safety zone of an offshore installation.

F. Helicopter accidents within the safety zone:

- Any helicopter accident, or a collision or potential collision, within the safety zone.

Guidance

- Where an actual collision has occurred between a helicopter and an offshore installation within the safety zone, this must be reported.
- When considering a potential collision between a helicopter and an installation, although it could involve uncontrolled manoeuvring of a helicopter near an installation, other factors may be involved (e.g. unauthorized crane use near a helideck) and so it will not always be possible to estimate with any accuracy whether a collision could have occurred or what the consequences might have been. During such events, it is likely that the operator/owner will take immediate emergency measures, either on the installation to protect people from the consequences of a collision or take action in regard to the helicopter. It is the taking of these measures that requires a report under this requirement.

By taking this approach, “heavy landings” covered by routine operational procedures

are not reportable.

G. Any fatality

Guidance

This class of incident includes events or occurrences in, at, or in the precincts of petroleum infrastructure which result in:

- Death, whether immediate or delayed, within 1 year (except where the death is due to natural causes); or
- Confirmed missing person.

H. Any serious injury

Guidance

This class of incident includes events or occurrences in, at, or in the precincts of petroleum infrastructure which result in:

- an injury to a person where the person cannot perform all of their normal work activities for more than 7 consecutive days (not including the day of the petroleum incident, but including subsequent nonworking days); or
- any injury to a person that requires admittance to a hospital for more than 24 hours.

I. Any evacuation of personnel:

Any unplanned emergency evacuation of a number or all personnel

Guidance

- Any event or occurrence that results in an evacuation onshore or offshore must be notified, even when that evacuation is only precautionary. Notification is not required for planned drills.
- This includes reporting medevacs.
- Any emergency and unplanned evacuation due to bad weather or a condition where there is a significant risk of a major accident is reportable.
- Where an installation has undertaken an evacuation because it has suffered a total loss of power, it shall be reported under this section.

There is no requirement to report:

- Evacuation exercises or precautionary evacuation measures due to welfare issues (e.g. no water on the installation), which involve de-manning where there is no increased potential of a major accident;
- Transfer of personnel to avoid delays or disruptions in crew changes anticipated due to bad weather.

J. Any major environmental incident (offshore)

Any major environmental incident as defined by the Act

Guidance

13A of the Act – Definition of Major Environmental Incident

'major environmental incident' means an incident which results, or is likely to result, in significant adverse effects on the environment in accordance with the Environmental Liability Regulations.

13A of the Act – Definition of Major Accident

'major accident' means, in relation to petroleum infrastructure or petroleum activities -

- a) An event involving an explosion, fire, loss of well control, or release of oil, gas or dangerous substances involving, or with a significant potential to cause, fatalities or serious personal injury;*
- b) An event leading to serious damage of petroleum infrastructure involving, or with a significant potential to cause, fatalities or serious personal injury;*
- c) Any other event leading to fatalities or serious injury to multiple persons; or*
- d) Any major environmental incident resulting from incidents referred to in paragraphs (a), (b) and (c) and which relate to petroleum activities carried out offshore.***

Where part (d) of the definition of major accident is met, the event or occurrence is reportable as a petroleum incident.

K. An uncontrolled fire or explosion

Guidance

- An uncontrolled fire or explosion, even if subsequently brought under control after any period of time by emergency action. Intentional fires (e.g. flaring) are not notifiable, unless a failure in a system occurs such that the flare (fire) becomes uncontrolled.

L. Instance of a stand-by vessel not being within its defined geographical area

Guidance

- Any instance of a stand-by vessel being not being within its defined geographical position, irrespective of whether the absence was justifiable/required for safety or other reasons.
- Note that notification is not required where a stand-by vessel moves out of position after it has been substituted by a replacement vessel.

M. A person falling into the sea

Guidance

- Any instance where a person falls into the sea must be notified.

N. Mustering on onshore or offshore petroleum infrastructure, other than for planned drills.

Guidance

- Any event or occurrence that results in mustering onshore or offshore must be notified, even when that mustering is only precautionary. Notification is not required for planned drills.

O. The detection of hydrogen sulfide in the course of operations at a well or in samples of well-fluids from a well where the presence of hydrogen sulfide in the reservoir being drawn on by the well was not anticipated

Guidance

- Any presence of hydrogen sulfide in mud returns, mud samples, bottom hole samples or surface mud gas monitoring systems, etc. constitutes detection and must be notified if it was not anticipated.

P. The collapse, overturning, or failure of any load-bearing part of any lift, hoist, crane, or derrick

Guidance

- Any instance of the collapse, overturning, or failure of any loadbearing part of any lift, hoist, crane, or derrick is notifiable.

Q. Any petroleum incident that results in damage to property the ownership of which is held by a person other than the petroleum undertaking, operator or owner, or a contractor thereof, concerned

Guidance

- An example of an onshore occurrence would be any sudden release of pressure that causes a pressure wave on an onshore installation and breaks the window of a nearby dwelling must be notified.

R. The dropping of an object that could have resulted in a major accident**Guidance**

- If there was a realistic possibility that, for example, serious injury, or loss of petroleum containment could have occurred from the dropped object, this must be notified.

S. A collision by a vehicle, crane, or aircraft with any petroleum infrastructure**Guidance**

- Any such collision must be notified, even if no damage is sustained.

4 Guidance for 13S(2) Notifications

4.1 Immediate Danger to Human Health/Significant Increase in the Risk of a Petroleum Incident

Section 13S(2) of the Act sets out a further reporting requirement on operators and owners. It states that where an activity carried out by an operator or an owner poses an immediate danger to human health or significantly increases the risk of a petroleum incident, and the operator or owner takes suitable measures in line with their obligations under section 13KB(5) and 13KC(3) respectively, they are required to notify the CER accordingly and no later than 24 hours after taking those measures.

The CER proposes the following tests should be met to determine if an operator or owner is required to submit a notification to the CER under section 13S(2) of the Act. As 13S(2) includes two outcomes 'immediate danger to human health' or 'significantly increases the risk of a petroleum incident', the guidance has been separated below. A 'yes' to either will require notification to the CER.

In reviewing the below guidance, it should be noted that the suitable measures under 13KB(5) and 13KC(3) relate to an activity which 'significantly increases the risk of a major accident' and not 'petroleum incident' as per 13S(2). As the test is the taking of suitable measures under 13KB(5) and 13KC(3) the text refers to 'significantly increases the risk of a major accident' below.

Immediate Danger to Human Health or Significant Increase in Risk of a Major Accident

1. Does the event or occurrence constitute a petroleum incident? If yes, notify CER of a petroleum incident as per the guidance in Section 3. No further action under 13S(2) required.

Immediate Danger to Human Health

1. Was the taking of suitable measures required to adequately control the danger or risk posed, in accordance with an operators obligations under 13KB(5) or an owners obligations under 13KC(3)?
 - a. Suitable measures include suspending the activity. If yes, submit a notification to CER using the Immediate Danger Notification⁷ form.

An example of this may be the suspension of activities such as hot works or working at height after the activity commenced due to safety concerns by the persons involved.

Significant Increase in Risk of a Major Accident

1. Was there a significant increase in the risk of a major accident? If yes, go to step 2. If no, no notification required.
2. Was the taking of suitable measures required to adequately control the danger or risk posed, in accordance with an operators obligations under 13KB(5) or an owners obligations under 13KC(3)?

⁷ Available for download on the CER website

- a. Suitable measures include suspending the activity. If yes, submit a notification to CER using the Immediate Danger Notification form

It is the opinion of the CER that the petroleum incidents set out in the Petroleum Incident Regulations cover this notification requirement and therefore further reporting under this section is unlikely to occur. However, if an operator or owner deems that an event or occurrence does not fall under the definition of a petroleum incident and is uncertain about whether a notification should be made to the CER under section 13S(2), the precautionary approach should be taken and a notification submitted via the 13S(2) Notification form, which is available on the Petroleum Safety section of the CER website.

A notification under this section of the Act is not a report of a petroleum incident.