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Guidance on whether a change constitutes a material change to a safety case

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Contents

List of Abbreviations

Abbreviations	Definitions
ACOP	Approved Code of Practice
ALARP	As Low as Reasonably Practicable
BLEVE	Boiling Liquid Expanding Vapour Explosion
CUI	Corrosion Under Insulation
DSV	Diving Support Vessel
EER	Evacuation, Escape & Rescue
ESDV	Emergency Shutdown Valve
HAZOP	Hazard and Operability (study)
HIPPS	High Pressure Integrity Protection System
HSE	United Kingdom Health and Safety Executive
KO	Knock-out (drum)
MAH	Major Accident Hazard
MHTG	Major Hazard Technical Group (of OGUK)
MODU	Mobile Offshore Drilling Unit
NUI	Normally Unmanned Installation
OPEP	Oil Pollution Emergency Plan
ORA	Operational Risk Assessment
PFEER	The Offshore installations (Prevention of Fire, Explosion, and Emergency Response) Regulations, 1995 as amended on 2005 and 2015 (SI 1995 no. 743)
PFP	Passive Fire Protection
POB	Personnel on Board
PSHH	Pressure Switch High High
PSV	Pressure Safety Valve
PTW	Permit to Work (system)
QRA	Quantitative Risk Assessment
SCR	The Offshore Installations (Offshore Safety Directive) (Safety Case etc) Regulations 2015 (SI 2015 no. 398)
SECE	Safety and Environmental Critical Element(s)
SEMS	Safety and Environmental Management System
TEMPSC	Totally Enclosed Motor Propelled Survival Craft
TR	Temporary Refuge
W2W	Walk to Work

1 Introduction

1.1 Background

Quoting from the introductory text in the L154 Guidance to The Offshore Installations (Offshore Safety Directive) (Safety Case etc.) Regulations 2015:

> *Safety cases are intended to be 'living' documents, kept up to date and revised as necessary during the operational life of the installation.*

Changes to a safety case are covered under Regulation 24. If a change is material, as per 24(2), then that change cannot be made until an updated safety case has been accepted by the regulator. Guidance paragraph 291 of L154 states that:

> *A Material Change is likely to be one that changes the basis on which the original safety case was accepted. This would involve changes to the basis on which risk control decisions are made or which necessitate a review of the adequacy of major hazard control measures. It includes both physical modifications and operational management changes of sufficient significance.*

However, the duty holder decision on what constitutes a material change to a safety case can be challenging. During this decision process consultation with the competent authority (HSE) is encouraged.

This document provides example-based guidance as to whether a change is material. For each example, a "default" is given of whether the change would normally be considered material on a scale of: Yes, Likely, Possible, Unlikely, No. Factors are then given that influence the materiality of each example. The aim of the examples is to ease the discussion between operator and regulator on whether a change is material or not.

This guidance covers production installations only.

Prior to the examples, text is repeated from the regulations below on those changes, or types of changes that are mandated as material.

1.2 Regulatory definition

Subsection (3) of Regulation 24 of The Offshore Installations (Offshore Safety Directive) (Safety Case etc.) Regulations 2015 gives three cases that are defined to be material changes, or otherwise:

> ... *(a) no well operation constitutes a material change;*
>
> *(b) the movement of a production installation to a new location to be operated there constitutes a material change; and*
>
> *(c) the conversion of a production installation to enable it to be operated as a non-production installation constitutes a material change,*

No further guidance is provided here on these three cases.

Paragraph 293 of the HSE guidance to the regulations (L154) includes examples of material change:

Some examples of changes that would warrant revisions to be submitted are:

a) modifications or repairs to the structure or any plant and equipment where the changes have or may have a significant impact on safety;

b) where a number of small changes are planned which will cumulatively have a significant impact on safety;

c) the introduction of new activities on the installation or in connection with it, including new kinds of combined operation;

d) where there is a change in operator or owner;

e) an extension of use of the installation beyond its original design life;

f) early stage dismantling activities undertaken before the submission of a specific dismantling safety case;

g) decommissioning a production installation and connected pipelines prior to dismantling;

h) introduction of new technology or technological approaches to controlling risks;

i) introduction of new well control measures or other arrangements arising from well notifications which result in changes to the basis on which the safety case was accepted (for example, new arrangements to deal with high-pressure/ high-temperature wells).

Reference is made to the above in the examples as appropriate.

1.2.1 Risk reduction

Paragraph 294 of L154 states that:

In relation to point (a) [of paragraph 293], the requirement no longer only relates to situations where a potential negative impact is foreseen. There is now a requirement to assess the overall effect on safety from a modification even if it is perceived to be beneficial.

This means that if a change is made such that the risk is lower, there is the potential for this to be material if it meets the definition given in Section 1.1. A change such as fewer helicopter flights, or a reduction in process pressure (see example 4.7) with no other change reduces risk but is not material as there is no change to the safety systems that control the risk from these activities, and they do not meet the definition in Section 1.1. A change to a lower risk evacuation method may be material, not directly because the risk has lowered, but because the basis of the evacuation process has changed.

The examples and factors in the examples in Section 2 may apply equally in circumstances where the overall impact of the change is to improve the management of risk as they do where the impact of the change is potentially increasing hazards or associated risks.

1.3 Changes

The examples mainly relate to single intentional changes e.g., change in manning, new process equipment, however there are other circumstances that lead to a change that may be material and the approach to these types of changes is given below.

1.3.1 Cumulative changes

It should be appreciated that whilst an individual change may not be material, the overall cumulative impact of multiple individual changes could be material. In this case, the same process is required as for a single change that is material, but it is especially important that the timing of this is appropriate to ensure that the material change is not made before the safety case is accepted by the regulator.

1.3.2 Related or consequential changes

In cases where an individual change may be part of a larger set of changes or generate associated or consequential changes, the set of changes needs to be reviewed collectively to determine the scope of the change which may be considered material.

For example, the updating of a safety study, QRA, EER study or similar is, in isolation, not a material change. However, if that study identifies new hazards, or leads to the requirement to change safety systems which do require a material change, then it is likely that the safety study which triggered these changes will fall within the scope of the associated material change.

1.3.3 Unintentional changes

If a safety system fails, the initial assessment and management of continued operation should be in accordance with the OGUK Operational Risk Assessment Guidance and the OGUK Cumulative Risk Guidance.

If the long-term resolution is not to repair or replace the failed system, the change in the way that the associated risk is managed may constitute a material change.

1.3.4 Gradual changes and life extension

Some changes occur over a long timescale: for example, life extension in relation to the fatigue life of a jacket or souring of reservoirs. In these cases, a dialogue with the HSE to discuss if; and when; a material change is required should be undertaken (see Section 1.4).

For souring reservoirs, the trigger could be the requirement to install fixed toxic gas detection.

Clause 293(e) in the Safety Case Regulations states that *an extension of use of the installation beyond its original design life* is a material change. It is possible that the original design life is not known, or is not well-defined and in most cases, is only defined for the structure and pipelines as these elements are a clear safety concern should they fail as opposed to, for example, the control system which would fail-safe. A material change in the understanding of the remaining fatigue life for these components could be considered as the trigger for a material change to the safety case.

1.4 HSE dialogue

To avoid misunderstanding, it is recommended that there is early dialogue with the regulator on any change that has the potential to be material.

2 Examples

2.1 Changes that are always material

If a new activity is introduced and the safety case does not cover it, it is likely that the change is material.

Examples of changes that are always material are the introduction for the first time of:

- Walk-to-Work (W2W) activities (SCR Reg 16 Guidance 214 (f)).
- Diving from an installation, or DSV within the 500 zone of the installation or the 500m zone around any subsea well infrastructure (as a connected activity) (SCR Reg 16 Guidance 214 (b)).
- Drilling or workover activities (SCR Reg 24 Guidance 293 (c)) including where, for example, hydraulic workover, or wireline activities are being carried out independent of an existing platform drill rig and the equipment for it was not included in the safety case.
- A new kind of combined operation that is not described in the production installation safety case (SCR Reg 24 Guidance 293 (c)).

2.2 Changes that may be material

The assessment of whether a change is considered material is based on the significance of the change to the management of major hazards. The factors in the tables provide guidance for an operator's judgement of the significance of a change. The example changes are those that commonly occur and yet for which materiality can be difficult to decide. These examples have been grouped, where possible, into a change topic and categorised by people, plant, and processes.

For each change an explanation of that default position is given as well as factors that would make the example change more or less likely to be considered material. Where Regulations or Guidance link to the example this is included in the "Material change default" column in italics. Furthermore, in examples where there was a clear yes or no answer, then the columns for factors that make the change more or less material have not been completed where relevant.

The material change default is described as:

No	The change (as described) is never material
Unlikely	The change is unlikely to be material except in unusual circumstances
Possible	The materiality depends on the circumstances
Likely	The change is likely to be material except in unusual circumstances
Yes	The change is material and may be defined as such in regulations.

Change topic	#	Example of change	Material change default	Explanation of default position	Factors likely to increase requirement of material change	Factors likely to reduce requirement for material change
Evacuation and rescue modification [plant]	1.1	Removal of a lifeboat.	Yes	Change to the way in which evacuation from the platform is carried out. May affect the maximum POB.	n/a	n/a
	1.2	Change in which lifeboat(s) are defined as "readily accessible" from the temporary refuge.	Likely – PFEER ACOP Para 208	Likely to change the way in which evacuation from the platform is carried out and the demonstration of compliance with PFEER Reg 15.	If the lifeboat that is now defined as being *readily accessible* is in different location and exposed to different hazards or whether additional risk mitigation e.g., installation of a fire wall, is required to manage the associated risk.	If the lifeboat that is now defined as being *readily accessible* is in a similar location with no significant change in hazards.
	1.3	Change-out of lifeboat (for one with same or greater seating capacity) or associated equipment, but without the need to change the performance standard.	Unlikely	No change in the way in which evacuation from the platform is carried out, or impact on performance standards.	If there is a more substantial change e.g., davit to freefall or change in seating capacity. If there is an associated change in maximum POB (see 7.5).	n/a
	1.4	Removal of helideck from service.	Likely	This makes a fundamental change to the normal mode of transport and evacuation method.	n/a	If an alternative means of transportation, such as W2W, is already provided and included in the safety case for evacuation and normal transport.
	1.5	Replacement of escape system (escape to sea ladders) with another type (donut descender system).	Possible	Materiality depends on whether there is a change in the exposure to the elements and possibility of entering the sea.	If the location, or number of the provision changes significantly.	If the change is from ladders to donuts with an accompanying life raft.
	1.6	Sharing of a stand-by vessel.	Yes	Paragraph 237 of the ACOP for PFEER (specifically for regulation 17) requires there to be a stand-by vessel and the change in its normal position required because of sharing will lead to a change in performance and arrangements.	n/a	If the change in sharing arrangements is such that the stand-by vessel is closer to the installation in question.
Changes to PFP [plant]	2.1	Declassification of fire protection rating or permanent removal of PFP from part of TR boundary.	Possible	Materiality depends on the previous function of the PFP and any impact on hazard management.	If the change affects the survivability time of the TR. If the PFP change corresponds to a significant change in the overall platform hazard management.	If the change is on accommodation that does not form part of the TR. If the risk from the hazard that originally meant the PFP was needed is no longer significant. Previous conservative application of PFP.
	2.2	Permanent removal of PFP from hydrocarbon containing equipment (e.g. pipe, vessel).	Possible	Materiality depends on whether a significant escalation hazards still exists with no PFP in place.	If the escalation hazard is still significant (e.g., BLEVE) but is now managed in a different way (e.g., faster blowdown).	If the risk from the hazard that originally meant the hydrocarbon containing equipment needed PFP is no longer significant. If the PFP was installed for acoustic or process reasons, not fire prevention. Previous conservative application of PFP, where PFP introduces a significant risk of CUI.
	2.3	Declassification of fire protection rating or permanent removal of PFP on structure.	Possible	Materiality depends on whether a significant escalation hazards still exists.	If the change would affect escalation by reducing the fire survivability of structure that supports the TR, or evacuation points.	If the hazards are lower than originally assessed such that is PFP not required on risk grounds.
Structure [plant]	3.1	Addition of a new module, cantilever deck or telecoms tower.	Likely	Modules and cantilever decks are usually of significant scale requiring strengthening of existing primary structure, or introduces new hazards (dropped object, helicopter approach, etc). In many cases it will be the equipment being installed that triggers a material change regardless of the structural change.	If equipment to be installed contains hydrocarbon. If the cantilever is a totally new laydown area. If the equipment affects helicopter approach.	If the change does not include equipment that contains hydrocarbon, minor changes to walkways, extension of laydown area or deck to provide enough space for equipment handling.
	3.2	Repair of a significant defect found in jacket element or permanent removal of part of it.	Possible – L154 Para 293 (a)	Materiality depends *if the changes have or may have a significant impact on safety.*	If the change requires a change in emergency response measures e.g., down-manning at a lower wave height.	If there is no significant effect on structural capacity, or reliability, or down-manning strategy for severe weather.
	3.3	New structure for use by personnel (as opposed to, for example, a cantilever for process equipment).	Possible	Materiality depends on any change in hazard profile and how the new location is manned.	If the new building is temporary living quarters (NB. this would usually indicate an increase in manning which, in itself, would be a material change (see 7.5).	If the building has a similar hazard profile to those that already exist (e.g., new workshop). If location is not manned at all times.

Change topic	#	Example of change	Material change default	Explanation of default position	Factors likely to increase requirement of material change	Factors likely to reduce requirement for material change
Hydrocarbon containing equipment [plant]	4.1	Addition of hydrocarbon facilities to an area previously not containing any.	Likely	Likely to change hazard management approach and requirements in the affected area.	Introduction of a new major inventory. Fundamental change to or creation of a new fire area. Significant change required to fire or explosion barriers, such as construction of new fire or blast wall or significant changes to passive or active fire protection.	If the change is an extension to an existing hazardous area adopting similar hazard control measures to the adjacent area. Small changes such as rerouting of fuel gas pipework, or temporary use of a sand cleaning package.
	4.2	Addition of hydrocarbon vessels and pipework to an area already containing hydrocarbon processing equipment in a single modification, or number of modifications over many years.	Possible	Materiality depends on the scale of the change to hydrocarbon inventories, subsequent change in risk and any consequent requirement to change the hazard management arrangements.	If the inventory is large compared to the previously existing inventories. If introducing a large amount of new equipment, or a significantly different equipment type. If the hydrocarbons are from a new field. If the nature of the hydrocarbons, compositions, pressures etc introduced is significantly different from those already there (e.g., exploitation of a gas cap if this was not previously designed for). If there is a need to make significant changes to the type of hazard controls in place.	Where the inventory is relatively small compared to those already there. The nature of the equipment is similar to that already there. The nature of the hydrocarbons does not introduce any new hazards. There is no significant change to the type of hazard control in place. Additional storage for diesel, or heli-fuel in areas already containing these inventories.
	4.3	Downrating – pipeline.	Likely - Pipeline Safety Regs 1996, para 53	The regulations state that the maximum operating pressure is required to be established.	n/a	If the pipeline is not a major hazard pipeline (e.g., methanol pipeline below 50mm diameter).
	4.4	Downrating – topsides equipment e.g., production manifold.	Unlikely	The downrating is likely to be commensurate with a reduction in the pressure potential of the wells.	A high pressure is still possible, but protection is afforded by PSVs and PSHHs with lowered set points.	n/a
	4.5	Souring of wells.	Possible	Materiality depends on whether a new major hazard exists.	If there is no H_2S hazard on the installation and the H_2S level becomes a fatality hazard. If there is an impact on material integrity (also applicable for CO_2).	If there is an existing H_2S hazard on the installation If the H_2S level is an occupational, but not a fatality hazard.
	4.6	First introduction of gas lift.	Likely	The hazard profile in the well bay, and possibly other areas, will change.	n/a	If there is already gas lift in operation at the same location operating with similar pressures and inventories to the new system.
	4.7	Reduction in operating pressure as the result of natural decay in reservoir pressure.	Unlikely	There is a decrease in hydrocarbon risk and no change to the way in which it is managed.	Pressure reduction affects the type hazards e.g., increase in liquid inventory that can give rise to pool fires which previously were not considered.	n/a
	4.8	Change in pipeline limit (re-designating another in-board ESDV as new pipeline valve).	Likely	A riser ESDV is one of the few safety systems that is stipulated in regulation.	The new ESDV is in a new fire zone and could change the risk profile of the installation. Rating of in-board pipework is not compatible with pipeline pressure rating.	If this possibility is already included in the safety case. The new ESDV is in the same fire zone as the existing pipeline ESDV. No impact on pressure monitoring and control instrumentation of the pipeline.
	4.9	New well on existing platform or connected subsea to existing subsea tie back, where similar wells are already present.	Unlikely	The addition of a new well to existing facilities with similar wells already present is likely to be an incremental change. Platform completed wells are likely to be added to a well bay area where there are existing measures for management of this hazard. Addition of another well to a subsea tieback is unlikely to affect the risk management arrangements at the installation. The requirements for well notification and any combined operations will still apply.	If the well is completed in a new reservoir or area with significantly different pressures or compositions from the existing wells. If the well has substantial differences in design, construction or well control arrangements from existing wells. If a subsea well introduces significant changes to pipeline inventory, pressure or fluid composition, or requires substantial changes the arrangements for control of subsea equipment. Subsea layout changes which substantially affect the arrangements for combined operations at the new or existing wells.	If the well is drilled into a reservoir or area with characteristics known to be substantially the same as the already producing wells. The well is of substantially the same design and construction to existing wells. The well is drilled into an existing well slot on the platform in the same well bay module or area as existing wells. A subsea well drilled into an existing slot on a template or daisy-chained to connections which form part of the original design of the subsea manifold.
	4.10	A number of modifications to hydrocarbon processing systems for example numerous changes to trip set points, changes to the process fluids.	Possible	Materiality depends on the extent of the modifications and if they lead to change of hazard management philosophy in module or major process or area changes.	If the modifications result in a major change to process fluids throughout an entire process e.g., potentially when moving from oil to gas cap blowdown of a reservoir.	If the modifications to hydrocarbon systems are unrelated, potentially occurring over a number of years, and the process fluids and hazard management strategy remain extensively unchanged.
	4.11	Long term or permanent removal of hydrocarbons from a module.	Possible	Materiality depends on the size and risk profile of the module and if there is a change in hazard management in the module / area as a result of the removal of hydrocarbons.	If the removal of hydrocarbons is accompanied by further preparation for dismantlement. If the risk profile on the installation is substantially affected.	If the change was permanent removal of hydrocarbons from a small low risk module with no change to the overall hazard management in that module e.g., fire and gas detection and deluge retained.
	4.12	Carrying out a HAZOP	Possible	Materiality depends on the change being made. As agreed at the MHTG with the HSE on 6th March 2018: *Completing a HAZOP, or other risk assessment (re-assessing the risk) does not necessarily mean that there is a material change to a safety case.*	Depends on the change – see other examples.	Depends on the change – see other examples. A re-HAZOP is less likely to lead to a material change.

Change topic	#	Example of change	Material change default	Explanation of default position	Factors likely to increase requirement of material change	Factors likely to reduce requirement for material change
Changes to MAH barriers [plant]	5.1	Permanent removal of a safety system related to major hazards e.g. • One turret swivel seal permanently impaired and alternative means put in place. • Removal of a deluge pump. • Reduction in the number of well barriers on a platform well. • Manual control of liquid removal from a flare KO drum.	Likely	A fundamental change to the way in which a hazard is managed is likely to represent a material change.	Where the change leads to a significant increase in risk. Where the change represents a failure to meet standards or good practice, and/or adopts alternative practices which are not addressed by good practice. Where the alternative means of risk control is of a fundamentally different type to the original control - for example replacement of engineered controls with procedural controls.	Where the change is for a different/ improved technology or to address obsolescence, but which but which meets the same hazard management or good practice standards e.g. change from point to beam type gas detectors. Where the change is temporary pending corrective work and addressed under an ORA or equivalent.
	5.2	Degraded performance standard criteria without changing functionality e.g., significantly increased leakage rate through a RESDV, increase of closure time (with ongoing monitoring to identify further degradation).	Unlikely	This is unlikely to represent a fundamental change to a barrier.	If the change gives a significant change in risk. Where the management of the degraded barrier fundamentally changes the performance standard requirement or operation of another SECE.	Limited impact on MAH risk. Change in performance standard is limited to the specific change in criteria.
	5.3	Removal of fixed fire protection (deluge) from a process area.	Likely	To avoid reverse ALARP, deluge is normally only removed from a process area if the hazard no longer exists.	If a process fire hazard remains.	n/a
	5.4	Change in process operations	Possible	Unlikely to be significant change in the way in which hazards are managed.	If the change was in relation to the introduction of HIPPS system (see 5.5). Change to a dual mode of operation i.e., with or without compression	Single change to trip setting, SIL rating or alarm set point.
	5.5	A new MAH e.g., HIPPS, H_2S, artificially lifted wells.	Yes	Introduction of a new MAH is always material.	n/a	If the new hazard is not new to the installation, but just not exists in a new location, or from a new source (albeit other factors may trigger the change to be material).
New Technology [plant]	6.1	Introduction of new technology to provide a major hazard management function.	Possible	Dependent on the new technology that is being implemented (gas detection example given).	There are new failure modes that if realised could lead to or contribute to a MAH. The new technology provides a fundamentally different approach to the management of hazards. A new technology which does not have a demonstrated track record is used instead of, or to replace a well-established technology or system, example: acoustic gas detection replaces conventional detection.	Provides similar functionality to the equipment it replaces. Example: Acoustic detection provided in addition to existing detection, or existing detectors upgraded.
Management Systems [processes and people]	7.1	Updating key assessments that support the safety case, e.g., fire and explosion analysis, QRA, Escape Evacuation and Rescue Assessment, etc.	Unlikely	An improvement in the way that a hazard is modelled or assessed should not represent a material change. Any changes made to approaches to hazard management, SECE or emergency response as a result of the updated assessment will require review to determine whether they represent a material change.	If updates made to assessments precipitate changes to hazard management or emergency response plans on site. If the update reveals a step-change in risk that requires a fundamental review of the risk management strategy e.g., updated ship collision assessment reveals an order of magnitude more shipping than previously thought, and it becomes a significant proportion of the overall risk on the installation.	Reassessment gives only a minor change to the understanding of the hazards. Changes to modelling techniques or data that do not lead to a step change in the understanding of the risk on the installation, or the safeguards needed.
	7.2	Change to the way in which processes such as the SEMS, PTW system are described in the safety case.	No	An improvement or change in the way that a system is described without the system itself changing has a limited safety impact.	If changes occur to the actual systems themselves (see 7.3).	n/a
	7.3	Changes to the way in which safety related work systems or processes operate.	Unlikely	The change is unlikely to have a significant impact on the supervisory structure, processes that persons have to carry out, or skill sets that they need to do this.	If a large proportion of persons change their role. If many systems change at the same time. Many smaller changes occur at the same time.	If the essentials of the system are largely unaltered e.g., changing from a paper PTW system to an electronic one. If the training required for the change is low.
	7.4	Organisational, manning or staffing changes.	Possible	Materiality depends on the effect on tasks to manage major hazards that persons have to carry out, including tasks such as maintenance, and their experience on the platform in doing so.	A POB reduction leads to a change in operational maintenance, or inspection approach, or other aspect of hazard management. Increase in maximum POB (see 7.5). If a large proportion of persons have a change in their responsibilities or are new to the installation. Changes to the way in which the platform is controlled e.g., remote monitoring at night rather than a nightshift. NUI visited on days only now has occasional 2-week visits.	If the change is organisational and does not affect safety critical roles, activities or tasks. NUI visited every 2 weeks now visited every 4 weeks.

Change topic	#	Example of change	Material change default	Explanation of default position	Factors likely to increase requirement of material change	Factors likely to reduce requirement for material change
Management Systems [processes and people]	7.5	Increase in maximum POB.	Yes - see Schedule 6(2)	The functionality of some safety systems are limited to a certain POB. An increase in the POB could impact whether these systems can provide suitable functionality e.g., TEMPSC. For larger POB changes, welfare systems may also need to be enhanced and more physical space may be needed with this change being significant in itself.	n/a	n/a
Connected or Combined Activities (assuming activity already described in the safety case, but a new operation with the change as described) [plant]	8.1	A different landing location for Walk-to-Work activities.	Unlikely	The landing area is generally located away from hydrocarbon containing equipment and its exact details do not have a significant impact on the overall hazard management approach.	If the maximum POB changes. If the landing area is adjacent to hydrocarbon containing equipment.	n/a
	8.2	Reactivation of mothballed drilling facilities.	Possible	Materiality depends on whether the operation of the drilling facilities is in the safety case and those activities required to maintain the mothballed equipment have been continued.	Reactivation of mothballed drilling facilities if the activity of drilling was previously removed from the safety case.	Reactivation of mothballed drilling facilities if the activity of drilling is the safety case and systems are operational. NB activity includes the physical rig, organisation, maintenance etc
	8.3	New hydraulic workover unit or wireline activities where this type of activity is already described in the safety case.	Unlikely SCR Reg24(3)(a)	Well control is similar for most activities and should be described in the safety case. Note that the well operation itself will not constitute a material change to the safety case, though the change in the end condition of the well may be.	New equipment used that requires different controls (e.g., novel abandonment methods).	n/a
	8.4	Utilising a specialist vessel to conduct well frac'ing or stimulation activities.	Unlikely SCR Reg 16 Guidance 213/214	Well notification needs to contain particulars of any plant, not described in the current safety case for the installation, which is to be used in connection with the well operation.	The frac'ing vessel requires a standalone safety case and therefore the activity is a combined operation which has not previously been identified in the safety case for the production installation. Significant change to the OPEP.	The installation's safety case takes into account the frac'ing as a connected activity and demonstrates the adequacy of the duty holder's management system and the potential of the frac'ing activity to cause a major accident.
	8.5	Use of a heavy lift vessel to install equipment (notwithstanding that the introduction of new equipment may trigger a material change).	Unlikely	A heavy lift must be described as a connected activity in the safety case but, providing the management system contains adequate provisions to ensure these activities are adequately risk assessed and controlled, the lift itself does not require an update of the safety case. Note that heavy lift vessels do not require safety cases and so the install is not a combined operation.	If the safety case does not contain adequate reference to risk assessment processes to ensure risks from these operations are suitably assessed and controlled.	n/a
Flares [plant]	9.1	Increase in design flowrate or rating of the vent/flare system.	Likely	Increase in hazard range of vent/flare systems on installation (radiation level or flammable gas touch down or blow back).	n/a	If the flare is on an unmanned jacket.
	9.2	Change from a flare to an unlit vent.	Likely	A flare is intended to be lit at all times, with a potential hazard if it is not. A change to need to manage this hazard at all times is most likely material.	If physical changes are required to the venting system in addition to just at the tip.	If the flare used to operate unlit for more substantial periods and there are no hazards from this. If the flare is on an unmanned jacket.

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