



Commission for Energy Regulation

An Coimisiún um Rialáil Fuinnimh

**Consultation Response Paper on the
Consultation Paper on the
High Level Design of the Petroleum Safety
Framework**

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1. Introduction

1.1 Background

The *Electricity Regulation Act 1999*, as amended *inter alia* by the *Petroleum (Exploration and Extraction) Safety Act, 2010* (the 'Act') gives the Commission for Energy Regulation ('CER') new responsibilities for the safety regulation of petroleum exploration and extraction activities in Ireland, including specifically a requirement for the CER to "establish and implement a risk-based petroleum safety framework", (collectively referred to in this document as the 'Framework'). The Framework can best be understood as a collection of regulations, written regulatory documents and procedures which, taken together, describe the system the CER will use to regulate safety for petroleum activities and infrastructure in Ireland.

The Consultation Paper on the High Level Design of the Petroleum Safety Framework (the 'Consultation Paper') published on August 2nd 2011, constituted the first step in the development of the Framework, and enabled the general public, industry and other interested parties to have input into the proposed High Level Design of the Framework at an early stage. Interested parties were invited to comment on the issues raised in the Consultation Paper by the submission of written responses by September 27th 2011. In accordance with sections 13D(3), 13I(1) and 13I(2) of the Act, the Consultation Paper was also issued to the:

- Health and Safety Authority;
- National Standards Authority of Ireland;
- Environmental Protection Agency;
- Irish Aviation Authority;
- Minister for Communications, Energy and Natural Resources (the 'Minister');
- Minister for the Environment, Heritage and Local Government; and
- Minister for Transport, Tourism and Sport.

In total, 79 consultation responses were received by the CER. Details of these respondents are set out in section 1.2.

The Consultation Paper requested responses to CER proposals and general options on the following topics for the High Level Design of the Framework:

- a) Proposed Scope and Components of the Petroleum Safety Framework;
- b) A Statement of Strategic Intent;
- c) ALARP Demonstration;
- d) A Permissioning System and Designated Petroleum Activities;
- e) A Compliance Assurance System;
- f) An Incident Investigation System;
- g) Agreed Interfaces, Co-operation & Co-ordination with Regulatory Authorities;
- h) An Enforcement System;
- i) A Safety Reporting and Published Safety Information System; and
- j) A Continuous Improvement System.

This Consultation Response Paper addresses those responses. Where relevant it notes the CER's proposals for the High Level Design of the Framework, details of which are set out in

the Draft Decision Paper on the High Level Design of the Petroleum Safety Framework (the 'Draft Decision Paper') published with this Consultation Response Paper. All proposals have been made having full regard to the consultation responses received to the CER proposals set out in the Consultation Paper, and to the CER's obligations under the Act.

1.2 Consultation Paper Responses

1.2.1 Number of Responses

79 responses were received to the Consultation Paper. These consisted of:

- 61 responses from public individuals;
- 7 responses from statutory authorities;
- 4 responses from groups;
- 2 responses from industry consultants;
- 3 responses from industry;
- 1 response from a politician; and
- 1 response from a local authority.

1.2.2 Respondents by Group

1.2.2.1 Public responses

61 responses were received from individual members of the public of which 43 were a replicated response. Appendix A provides the names of the individual public respondents.

1.2.2.2 Statutory Authority responses

The following statutory authorities submitted responses to the CER in relation to the Consultation Paper:

<i>Health and Safety Authority</i>	<i>Environmental Protection Agency</i>	<i>Irish Aviation Authority</i>
<i>Radiological Protection of Ireland Institute</i>	<i>Commissioners of Irish Lights</i>	<i>National Standards Authority of Ireland</i>
<i>An Bord Pleanála</i>		

1.2.2.3 Group responses

The following interest groups submitted responses to the CER in relation to the Consultation Paper:

<i>Shannon & Erne Loughs Protection Alliance</i>	<i>Talamh - Protecting Natural Wealth</i>	<i>People's Association Watchdog</i>
<i>Friends of the Irish Environment</i>		

1.2.2.4 *Industry Consultants responses*

The following industry consultants submitted responses to the CER in relation to the Consultation Paper:

<i>Daryl Fullerton</i>	<i>MCS Kenny</i>	
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1.2.2.5 *Industry*

The following industry bodies submitted responses to the CER in relation to the Consultation Paper:

<i>PSE Kinsale</i>	<i>Shell E+P Ireland</i>	<i>Irish Offshore Operators Association</i>
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1.2.2.6 *Politician responses*

The following politicians submitted responses to the CER in relation to the Consultation Paper:

<i>Garreth McDaid – Roscommon/South Leitrim</i>

1.2.2.7 *Local Authority responses*

The following local authorities submitted responses to the CER in relation to the Consultation Paper:

<i>Leitrim County Council</i>

1.2.3 **Types of Responses**

The CER provided a questionnaire with the Consultation Paper to assist respondents in submitting their comments. The use of this questionnaire was optional. Of the 79 responses received the following 20 used the questionnaire:

- An Bord Pleanála.
- Ron Beemster;
- Liam Breslin;
- Scott Coombs;
- Commissioners for Irish Lights; and
- Daryl Fullerton;
- Irish Aviation Authority;
- Przemyslaw Jozwiak;
- Magdalena Jozwiak;
- MCS Kenny;
- Garreth McDaid;
- Nuala McNulty;
- Eddie Mitchell;
- National Standards Authority Ireland;
- Catherine O’Keeffe;

- Eithna O'Sullivan;
- PSE Kinsale Energy;
- Margaret Rybicki;
- Shell E&P Ireland;
- Talamh - Protecting Natural Wealth;

Of these 20 respondents, 14 also provided additional general comments on the Consultation Paper. An additional 60 respondents provided comments without reference to the consultation questions. The CER's responses to the comments received from all 80 respondents are provided in this Paper.

1.2.4 How to read the Consultation Response Paper

This Consultation Response Paper sets out the CER's response to comments made in respect of the Consultation Paper, noting where relevant how the Draft Decision Paper will take account of such comments. This Consultation Response Paper should be read in conjunction with the Draft Decision Paper which sets out the draft decisions for the High Level Design of the Framework. All draft decisions have been made having full regard to the consultation responses received to the Consultation Paper and to the CER's obligations under the Act.

All responses to the Consultation Paper are available to be viewed on the CER website¹, and should be read alongside this Consultation Response Paper. The Draft Decision Paper is also available to view on the CER website.

This Paper is divided into two parts: Parts A and B. Part A of this Consultation Response Paper addresses the issues raised by respondents without reference to the questionnaire as set out in the Consultation Paper. Part B addresses comments from respondents who directly answered the questionnaire.

As noted above in section 1.2.3, some respondents provided general comments and direct responses to the questionnaire. In many instances there is crossover between the issues raised by respondents who did not refer to the questionnaire (as addressed in Part A) and the comments made by respondents directly responding to questionnaire (as addressed in Part B). As a result, the reader is encouraged to read both Parts of this Consultation Response Paper to ensure they obtain the full CER view on all issues raised.

1.2.4.1 Appendices

Appendix A -Appendix A – Respondents by Reference Number assigns a reference number to each respondent. These reference numbers link to the consultation response documents available for viewing on the CER website.

Appendix B – Responses submitted by Question Number identifies:

- the respondents who directly answered the questionnaire;
- the questions they directly responded to; and
- whether they indicated agreement or disagreement with the proposal.

¹ <http://www.cer.ie/en/petroleum-safety-current-consultations.aspx?article=57170b43-6dee-433a-b7b3-63dc68cb680f>

Consultation Responses - Part A

General Comments

2. High Level Issues of the Petroleum Safety Framework

The CER received 74 responses that included comments related to the regulation of the petroleum activities that were not in direct response to the consultation questions provided in the Consultation Paper. Within these responses many common issues were apparent and while some of these are addressed within the consultation question responses which follow in Part B of this Paper, the majority of points raised were outside the scope of those questions. The main issues raised by respondents were:

1. A call for a ban on hydraulic fracturing, (section 2.1);
2. Whether the Act and the Framework provide for the regulation of unconventional extraction and more specifically hydraulic fracturing, (section 2.2);
3. The scope of the Framework and the focus on Major Accident Hazards, (section 2.3);
4. The CER's monitoring and enforcement functions for ongoing processes, (section 2.4);
5. A call for a lead petroleum safety regulator to be put in place and for the CER to take this role, (section 2.5);
6. The dual regulatory roles of the CER and the industry focus of the Framework, (section 2.6); and
7. The costs associated with implementing the Framework and how established activities will be dealt with, (section 2.7).

The CER responses to the above points are set out below. As noted in section 1.2.3, responses received were quite mixed between general comments and consultation question responses. In many instances there was crossover between the issues raised by those respondents who provided general comments (as addressed in this Part A of the Paper) and the comments made by respondents directly responding to consultation questions (as addressed in Part B). As a result, the reader is encouraged to read both Parts of this Consultation Response Paper to ensure they obtain the full CER view on all issues raised.

2.1 Ban on hydraulic fracturing

A number of respondents called for the CER to ban the process of hydraulic fracturing in Ireland. In general it was thought that the risks associated with hydraulic fracturing are not acceptable for any perceived gain. The perceived lack of best practice available and the European stance on shale gas extraction were also noted. It was recommended that a full Life Cycle Analysis and a Cost/Benefit Analysis ('CBA') of shale gas extraction should be carried out to assess the overall benefits for society, as recommended in the European Parliament's report on the *Impacts of Shale Gas and Shale Oil extraction on the Environment and on Human Health*.² It was stated that until this analysis is completed, no further authorisations which may permit hydraulic fracturing to occur should be granted.

2.1.1 CER response

Under the Act, the CER has the function to issue Safety Permits for designated petroleum activities. A person/petroleum undertaking cannot carry on a designated petroleum activity unless a Safety Permit for that activity is in place. The CER can only issue a Safety Permit on assessment and approval of a safety case submission for a designated petroleum activity.

² European Parliament, June 2011.

A safety case for a designated petroleum activity can only be submitted by a petroleum undertaking. A petroleum undertaking is defined under the Act as 'any person to whom a petroleum authorisation has been given or granted'. Petroleum authorisations are issued by the Minister. As the CER is not the authority which grants petroleum authorisations, it cannot ban a specified petroleum activity or process or revoke a petroleum authorisation. The CER can only make a determination to issue or refuse a Safety Permit for a designated activity based on its assessment of an associated safety case. Therefore, if the CER refuses to issue a Safety Permit for a designated petroleum activity on the basis that the safety case submission is not in compliance with the requirements of the Act, the petroleum undertaking may not carry out the designated petroleum activity.

With regard to the impact study suggested by the European Parliament on the impacts of shale extraction, the CER's remit under the Act is restricted to safety considerations. The CER has specific duties under the Act and these do not extend to consideration of the wider socio-economic factors of allowing shale extraction to take place. It is ultimately for the Minister to consider whether the potential impacts outweigh the benefits of an activity to society and, if so, whether the activity should be prevented. In considering whether to grant certain petroleum authorisations, the Minister may also have regard to these factors in considering whether the grant of certain petroleum authorisations is in the public interest. Should changes in relevant European petroleum legislation occur the CER will address and comply with any such changes as required. In the immediate absence of such changes, the CER will continue to develop the Framework in line with the Act.

2.2 Current legislation and unconventional extraction

A number of respondents stated that the Framework as proposed in the Consultation Paper, does not take into account, or is not capable of regulating, the safety of petroleum activities involving unconventional extraction such as hydraulic fracturing. It was stated that the legislation applicable to the statutory authorities involved in regulating the industry in Ireland is insufficient when faced with an unconventional extraction activity such as hydraulic fracturing and that bespoke legislation needs to be developed.

For the most part people felt that the general public should be part of the decision making process for authorising an activity such as hydraulic fracturing, which has the potential to impact significantly on the local population and environment. It was stated that where all the risks associated with a process are not or cannot be fully identified, any proposed regulatory Framework would be ineffective in its regulation and public confidence in the regulatory system could not be gained.

It was also stated that under the proposed Framework there are no clearly defined boundaries on societal risk, making ALARP demonstration, as required under the Act for a Safety Permit, impossible. Respondents proposed that until a democratic process establishes societal risk boundary limits the ALARP principle cannot be applied. It was also proposed that the precautionary principle should apply and hydraulic fracturing should be banned. Similarly it was felt that for the CER to regulate safety in the public interest, it should seek and take into account the public's opinion where the public deems this is necessary.

It was felt that where hydraulic fracturing is concerned, given the incidents of water contamination that have occurred in connection with the process in other countries to date, it is not possible to guarantee the safety of the local (or further afield) water supply where this activity is carried out. However, should a Safety Permit be received in respect of an activity where a groundwater supply is present, it was suggested that an onsite assessment of the impact on the environment/groundwater should be carried out and monitored on an ongoing and case by case basis to ensure the groundwater is not being affected. The subsequent storage, processing and disposal of the processed water utilised in the process should also be regulated. There was also a call for a total ban on the use of chemicals in the fracking fluids in combination with ongoing monitoring of the fracking fluids to ensure the petroleum undertakings' compliance with this ban.

2.2.1 CER response

The CER accepts that the majority of examples in the Consultation Paper to the Framework covering the extraction of petroleum from shale reserves related to conventional extraction techniques. For the avoidance of doubt, such petroleum activities are within the scope of the Framework if authorised under a petroleum authorisation.

The Act is quite clear that any petroleum undertaking that proposes to carry out, or is carrying out, a petroleum activity (as defined in the Act) is subject to regulation by the CER under the Framework. It imposes additional regulatory requirements in respect of designated petroleum activities to those applicable to petroleum activities more generally.

Petroleum is defined in the Act as including:

- a) *any mineral oil or relative hydrocarbon and natural gas and other liquid or gaseous hydrocarbons and their derivatives or constituent substances existing in its natural condition in strata (including, without limitation, distillate, condensate, casinghead, gasoline and other substances that are ordinarily produced from oil and gas wells), and*
- b) *any other substance contained in oil and natural gas brought to the surface with them in the normal process of extraction,*

but does not include coal and bituminous shales and other stratified deposits from which oil can be extracted by distillation.

The final exclusion ensures that developments that are more akin to mining not involving extraction via a well are not covered by the Act. The exploitation of shale oil or gas reserves meets the above criteria and is covered by the Act. Shale gas extraction/hydraulic fracturing will be regulated under the Framework.

The CER can only make a determination to issue or refuse a Safety Permit for a designated activity based on its assessment of an associated safety case, which must include a robust demonstration that all petroleum activities will be carried out in such a manner as to reduce any risk to safety to a level that is ALARP. In applying the ALARP principle, the CER has proposed limits within the Framework to tolerability of risk for both workers and members of the public. These limits will reflect current practices already adopted in Ireland, or where not available, adopted internationally and, as part of their ALARP demonstration, petroleum

undertakings are required to demonstrate that risks arising from major accident hazards do not exceed the advised levels for tolerable risk.

If a petroleum undertaking fails to provide an adequate ALARP demonstration, then a Safety Permit will not be issued until such a time as the petroleum undertaking provides a robust demonstration to the CER that risks will be reduced to a level that is ALARP. It is recognised that providing a robust ALARP demonstration may be challenging if there is high uncertainty regarding the consequences of an operation and/or the likelihood of these consequences being realised. In such circumstances petroleum undertakings will have to make best use of available information and address uncertainty in the approach by adopting appropriate conservatism in the analysis or by adopting the precautionary principle where worst-case consequences can not be ruled out. The measures put in place to ensure appropriate risk avoidance will be required to be adequately robust regardless of costs.

Regarding the proposal that the public be part of the authorisation of activities such as hydraulic fracturing that have the potential to impact significantly on the local population and environment, the CER does not have the legislative remit to issue such authorisations or impact on how they are granted. The Minister issues petroleum authorisations. Societal risk is however considered in the CER's safety case assessment for a Safety Permit to operate an authorised activity. The adoption of the ALARP principle and the methods for its demonstration (e.g. codes and standards, risk tolerability criteria) implicitly and explicitly take societal risk into consideration and the Consultation Paper consulted on a number of proposals on how ALARP should be demonstrated to the CER. Should the CER determine that risk levels associated with a petroleum activity have not been reduced to a level that is ALARP, it will not issue a Safety Permit for that activity.

Where groundwater supplies could be adversely impacted by the carrying out of authorised petroleum activities, petroleum undertakings will be required to demonstrate that any risk to safety is reduced to a level that is ALARP in the safety case associated with such activities. The CER has no remit to ban the use of chemicals under the Framework. If petroleum activities include the use of chemicals, then the petroleum undertaking will be required to demonstrate that risks to safety remain ALARP with the proposed use of chemicals. This will include consideration of measures to reduce or eliminate the risk arising from the use of chemicals including, for example, reducing the amount of chemicals used, substitution of chemicals to less toxic chemicals and, where appropriate, moving away from the use of chemicals altogether. The CER can only issue a Safety Permit for proposed designated petroleum activities on the basis of an approved safety case, and the safety case can only be approved with the CER is satisfied the petroleum undertakings has demonstrated that any risk to safety arising from all petroleum activities will be reduced to a level that is ALARP.

It is recognised that other regulatory bodies, such as the EPA and HSA have existing regulatory functions with regard to the control of emissions to the environment and the use of chemicals. The CER will liaise with such bodies to ensure the ALARP demonstration is robust for environmental-type risks that can impact safety. This will include the consideration of the monitoring provisions in place for emissions to land, water or air where emissions could impact risk to safety. The CER will require petroleum undertakings to report lagging

indicators of safety performance which would include reporting of releases that could impact safety.

2.3 The scope of the Petroleum Safety Framework

Clarity was sought by many respondents on the scope of the Framework. The majority of comments from respondents were in relation to hydraulic fracturing and the question most frequently asked was whether the CER's remit under the Act included regulation of the environment. In a similar vein, concerns were raised over the regulation of the industry's impact on local tourism and infrastructure, heritage, agriculture and the fisheries as well as long term health, and how the CER would regulate the impact of petroleum exploration and extraction activities on these areas.

The approach to defining the scope of the Framework has been further clarified in the Draft Decision Paper, and the CER would refer respondents to the discussion contained in section 2.3 of the Decision Paper.

2.3.1 CER response

The CER's regulatory role under the Framework is *with respect to safety*. The CER does not have a regulatory remit on wider environmental issues. However in certain circumstances there may be overlap between "safety matters" and "environmental matters" and in such cases the CER will be concerned with those safety matters. The same is true for the CER's role in the regulation of the industry's impact on local tourism and infrastructure, heritage, agriculture and the fisheries. The existing regulatory authorities with expertise and functions in those areas will continue to assess the impact of petroleum exploration and extraction activities.

Safety is not defined in the Act, but the Act provides significant guidance as to the role of CER in respect of safety. This is set out in detail in Section 2 of the Draft Decision Paper.

Following consideration of the response received, it was evident that the proposed criteria for deciding which petroleum activities would be designated petroleum activities, caused confusion. The proposed criteria have been removed to avoid misinterpretation going forward in the consultation process. This is addressed further in the CER response to Question 20. The CER wishes to note that the proposed criteria were a practical illustration of the requirements of the Act, and were not proposed to limit the activities which could be designated.

2.4 The CER's monitoring and enforcement functions for ongoing processes

A number of respondents commented on the perceived lack of an audit and inspection regime for ongoing processes. It was suggested that the CER is only concerned with reacting to incidents and assessing the associated short term impacts, and the CER's focus on major accidents hazards compounds this view.

The carrying out of intentional acts of non compliance by petroleum undertakings, e.g. illegal dumping of waste products to save on costs, was highlighted as a concern and questions were asked as to how this would be prevented. It was also suggested that regardless of its

legislative requirements, the CER would not exercise its enforcement powers.

2.4.1 CER response

The CER has a function to *monitor* and *enforce* compliance by petroleum undertakings with their obligations under the Act.³ To this end, the CER will put in place a compliance and assurance system, which outlined in the Draft Decision Paper. At the core of the CER's compliance assurance system will be its audit and inspection system, the purpose of which is:

- (i) to inform the CER as to the extent of compliance with the safety case and Safety Permit requirements by petroleum undertakings;
- (ii) to inform the CER as to the safety performance of the Framework; and
- (iii) to form part of the continual improvement process for the Framework as a whole.

The outcomes of audits and inspections may form the basis of enforcement actions to be taken by the CER under the Act. Where the CER is of the opinion that the petroleum undertaking is not acting in a way that is compliant with the Act e.g. that its operations are not being carried out in a manner which reduces *all* risks to safety to a level that is ALARP, the CER has the power to:

- require the submission of an Improvement Plan;
- issue an Improvement Notice;
- issue a Prohibition Notice;
- require that a safety case is revised;
- revoke a Safety Permit;
- issue an emergency direction; and/or
- apply to Court seeking an order restricting or prohibiting petroleum activities where the CER has concerns as to the safety of the activity.

These powers are progressive in nature and are designed to facilitate interaction and co-operation with the petroleum undertaking in the first instance to encourage compliance. In the event of non compliance, or inadequate compliance by the petroleum undertaking, the CER has the authority to discharge its enforcement powers, which can be seen to escalate in terms of seriousness.

CER's monitoring and enforcement function is applicable to the ongoing operation of all petroleum activities, designated or otherwise. Moreover, audits, inspections and enforcement actions will all be carried out on an ongoing basis and will not only occur after an incident.

The CER will carry out inspections of petroleum infrastructure and activities and will take enforcement action against a petroleum undertaking where it is found to be non compliant with its General Duty to reduce all risks to safety to a level that is ALARP. CER is of the view that a strong audit and inspection regime (comprising CER and other relevant regulatory authorities), backed by strong enforcement options and monetary penalties as prescribed by the Act will deter petroleum undertakings from compliance.

The CER takes its enforcement function and powers very seriously and will exercise its

³ Section 13H(2)(c)

enforcement powers to regulate petroleum exploration and extraction activities to the full extent of the Act. This intent is reiterated through the CER's proposed roles to:

1. *Foster and encourage safety in petroleum exploration and extraction activities;*
2. *Actively monitor & enforce compliance of petroleum undertakings with their obligations; and*
3. *Promote a regulatory Framework that encourages continuous improvement of safety.*

2.5 The CER to become primary safety regulator

A number of respondents commented that it was not clear which statutory body had overall responsibility for the safety regulation of petroleum activities. Where it was not already assumed to be the case, it was proposed that the CER should undertake this role as primary safety regulator of the sector. In some cases this was proposed to avoid duplication of regulation. It was also stated that the onus was on the CER to inform the relevant statutory authorities of the risks presented by petroleum activities so that they could make informed judgements on their separate assessments (e.g. planning applications) and that the CER had misrepresented these risks in the Consultation Paper, which could result in decisions being made by other statutory authorities without the facts.

2.5.1 CER response

The powers, duties and functions of the CER with respect to the safety regulation of petroleum exploration and extraction activities are laid out in the Act. In carrying out its functions, the Act requires the CER to have regard to the need to cooperate and consult with relevant authorities for the purposes of encouraging and fostering safety in the carrying on of petroleum activities and to avoid duplication of activities. . There are a number of statutory authorities involved in the regulation of petroleum activities and in line with the Act, the CER has proposed to develop agreed interface arrangements with all relevant authorities, which will act as a vehicle to facilitate co-operation and consultation. It is the intention of the CER, working with other statutory authorities, to put in place a *Permissioning Process Map* which will provide guidance to petroleum undertakings and the general public on the sequence and interfaces between the various permits and licences across statutory agencies.

There are many statutory authorities involved in the wider safety regulation of petroleum activities and these authorities, along with the CER, must exercise their functions and/or powers in accordance with their own legislation. The CER will provide information to these authorities but the CER is not the central point of information for petroleum activities. The existing statutory authorities will continue to make their own assessments and decisions regarding their own statutory responsibilities in accordance with their own statutory remit.

The Act does not grant the CER the powers of a primary or lead safety regulator with respect to petroleum activities. It is also not legally permissible for the CER to assume this role without a clear statutory remit. This is highlighted by noting that while the CER will consult with relevant authorities during the establishment and ongoing implementation of the Framework, there is no equivalent legislative obligation on the other authorities to respond to the consultation or cooperate with the CER, and the CER does not have the power to require them to do so.

2.6 The regulatory roles of the CER and the industry focus of the Framework

The combined roles of the CER as the economic regulator of the energy sector and a safety regulator in the petroleum sector were noted and it was queried how the CER proposes to carry out these roles together. It was felt that an authority charged with the liberalisation of the energy sector should not also be charged with assessing the risks associated with petroleum activities for the purposes of safety permitting that activity.

A number of people also felt that the Consultation Paper and the Framework was industry focused and did not have sufficient regard for the views of society. The CER's statement that they would '*not unnecessarily restrain or delay petroleum undertakings from carrying on designated petroleum activities*' was quoted as highlighting this point.

2.6.1 CER response

The CER has been given the duty to regulate the safety of petroleum activities by the Oireachtas under the Act. It is not open to the CER to question the imposition of those functions, but rather to discharge them in accordance with the Act. It is important to note that the functions imposed by Part IIA of the Act (i.e. that part of the Act inserted by the *Petroleum (Exploration and Extraction) Safety Act 2010*) are not entirely separate or distinct from the functions otherwise imposed on the CER under the Act. The Act requires that the CER have regard to a number of general matters in discharging its functions under the Act, including Part IIA, and the CER will balance these considerations in the exercise of its functions as it is required to do.

One of the general statutory duties under the Act states that the CER carry out its functions and exercise the powers conferred on it in a manner which it considers protects the interests of final customers of electricity or gas or both. In discharging this duty, the CER shall have regard to the matters set out in section 9(4) of the Act. This includes, for example, the need to secure the continuity, security and quality of supplies of natural gas. The CER is obliged by law to comply with these duties in the discharge of all of its functions under the Act, including Part IIA.

Having consideration for these general matters does not give rise to a conflict of interest that would prevent the CER from performing its statutory functions vested in it by the Oireachtas. The balancing of competing considerations in the performance of its duties is inherent in the function of regulators such as the CER and is expressly required by the Oireachtas.

By its nature, the Framework will be industry focused as its purpose is to detail how the industry will be regulated under the Act. The Framework itself will be a collection of regulations, written regulatory documents and procedures, which taken together will describe the system the CER will use to regulate safety for petroleum activities and infrastructure in Ireland. Notwithstanding this focus, public consultation is central to the development of the Framework and respondents' comments into this Framework design have been, and continue to be, very much encouraged by the CER to ensure the Framework is established with public input.

The CER intends to develop a Framework that can be operated efficiently in conjunction with the other statutory authorities and which does not *unnecessarily* delay the carrying on of

designated petroleum activities. Where petroleum undertakings have met all the requirements set down by legislation and attained all the authorisations required from the CER and the various other statutory authorities involved in permitting the industry, it follows that the petroleum activity in question will be approved to be carried on.

2.7 Framework costs and established petroleum activities

Respondents commented on the levy that will be imposed on the petroleum undertakings in Ireland to fund the operation of the Framework and questioned how established petroleum activities will be dealt with.

2.7.1 CER response

Under the Act the CER can levy petroleum undertakings for costs incurred by the CER in the discharge of its functions. This includes the development of the Framework. The exact fee structure to be levied by the CER on petroleum undertakings will be publicly consulted upon. Once the CER is in a position to discharge its functions under the Act, it can begin to levy petroleum undertakings.

An annual levy can be imposed on all 'petroleum undertakings' i.e. any person to whom a petroleum authorisation has been given or granted. The CER can also impose a charge on a petroleum undertaking for the assessment of a safety case submitted by the petroleum undertaking for the purposes of applying for a Safety Permit. This charge will be structured to ensure that the CER can recover all reasonable costs and expenses associated with the safety case assessment.

The Act specifies that an established petroleum activity will be required to submit a safety case for the purposes of gaining a Safety Permit in order to continue operating. The Act acknowledges that existing petroleum activities and undertakings can continue operating up to 12 months after the Framework has been implemented without a Safety Permit. A Safety Permit for the 'established' activity must be gained by the petroleum undertaking before the end of these 12 months. It should be noted here that the CER has 6 months within which to assess a safety case submission.

2.8 CER responses to replicated submissions

In addition to the responses received which refer to the issues above, the CER also received two replicated submissions in response to the Consultation Paper. The first replicated response was submitted by 43 respondents and the second by 4 respondents. Given that the issues raised in these responses were raised by multiple respondents, the CER in this section of the Consultation Response Paper provides a response to certain of the key issues that emerged from these replicated responses. The format of this section is that extracts from the replicated responses are set out in the boxes below, followed by comments from the CER.

2.8.1 Replicated response A

“I am particularly interested in the outcome of the consultation and its relevance to the process of fracking which is proposed in several areas of natural beauty in this country and if allowed could endanger the environment and health of all of the people.”

The CER confirm that the safety of petroleum activities associated with hydraulic fracturing/unconventional extraction will be regulated under the Framework should petroleum authorisations for such activities be granted in Ireland.

The scope of the Framework is set by the Act. The CER is charged with the regulation of petroleum undertakings with respect to safety. Petroleum undertakings are persons to whom a petroleum authorisation is given or granted. The granting of a petroleum authorisation is a matter for the Minister. The role of CER is not to determine who receives a petroleum authorisation or what form such authorisation takes, but rather to regulate the safety of the activity as authorised.

“The Commission for Energy Regulation (CER) has a responsibility to ensure that safety regulations are consistent and within best international regulatory practice. Whilst the paper requests consultation and appears to welcome critical appraisal of the ways in which it can achieve its stated aims and intentions, there appear to be a number of inconsistencies. For instance in the foreword of this paper, Dermot Nolan (CER Chairperson) and Garrett Blaney (CER Commissioner) have both signed that it is their intention to deliver a safe Irish petroleum exploration and extraction industry. However by page iii of the executive summary this has been reduced to a mere vision of a safe Irish petroleum exploration and extraction industry and the role of the CER is reduced to fostering and encouraging safety in petroleum exploration and extraction activities. I believe this to be a good indication of the lack of commitment to both setting exacting goals and enforcement of the necessary rules which might lead to safe exploration and extraction if such a thing is possible.”

The CER is committed to developing the best possible safety Framework for regulating petroleum activities in Ireland in consultation with the industry and public alike. The proposed vision is to have a *safe Irish petroleum exploration and extraction industry in Ireland* and it is the intention of the CER to achieve this vision through the optimal development and

operation of the Framework. In proposing this as a vision, it was not the intention of the CER to dilute or detract from our intent to achieve this outcome.

The proposed role of the CER referred to, *to foster and encourage safety in petroleum exploration and extraction activities*, arises from the principal objective of the CER under the Act, which states that *the principal objective of the Commission in exercising its functions...is to protect the public by fostering and encouraging safety as respects the carrying on of designated petroleum activities*.

The CER has committed to setting and achieving goals as set out in the Consultation Paper. The goals are:

- 1) that petroleum undertakings reduce risks to safety to a level that is ALARP;
- 2) that petroleum undertakings achieve safety performance commensurate with the best internationally; and
- 3) to engender confidence that the regulatory Framework is protecting the public.

The enforcement powers of the CER under the Act are significant and the Act clearly defines how and when enforcement action will be taken. It should be noted that the CER's enforcement function is in addition to its monitoring function. Where it has issued a Safety Permit for a designated petroleum activity, the CER will audit and inspect the associated petroleum undertaking's compliance with the legislation and its safety case. The primary role of the audit and inspection regime will be to identify, assess and address potential safety issues before they have the chance to escalate to pose higher risks. Where the petroleum undertaking is found not to be compliant with the legislation in having reduced all risks to safety to a level that is as low as reasonably practicable, the CER will take enforcement action as set out in the Draft Decision Paper, to remedy the situation.

"However the very definition of safe as it is normally meant and is described in the proposal itself means the absence of danger. From the great deal of evidence available I do not believe that it is possible to carry out 'safe fracking'. Furthermore, the goals of CER are stated as being that petroleum undertakings reduce risks to a safety level that is ALARP, meaning as low as reasonably practical. This also does not coincide with the definition of safe."

Under the Act, the CER has a duty to regulate certain petroleum activities to reduce risks to safety. The Act expressly states that the CER establish and implement a risk based petroleum safety framework. By approaching the regulation of petroleum activities from a risk based perspective, it is implied from the outset that the activities in question are likely to involve risks. Petroleum undertakings are required to put in place appropriate measures to manage such risks. The CER, through the development and subsequent operation of the Framework, has a duty to ensure that the risks associated with petroleum activities are identified, assessed and managed in the manner dictated by the Act and that the petroleum undertakings comply with the legislation.

Safety is not defined in the Act, nor is it defined in other legislation regulating safety in Ireland. In line with general principles of statutory interpretation, 'safety' is, therefore, to be

given its ordinary meaning. As noted, dictionary definitions generally define 'safety' as the absence of danger. In light of the recognition however that petroleum activities are likely to involve risks, it is considered that, in the context of the regulatory regime imposed by the Act safety can be considered as meaning the avoidance or *mitigation* of dangers posed by petroleum activities and associated petroleum infrastructure. In respect of a particular petroleum activity, the manner in which safety is regulated will depend upon an identification of the hazards presented by that petroleum activity and/or the associated petroleum infrastructure, an assessment of the risks associated with those hazards and finally the measures required to be put in place to reduce those risks to a level that is as low as is reasonably practicable.

"Furthermore, the proposals also state that the Framework should be goal setting rather than prescriptive in its nature and whilst the reasons for this are clearly given, the main point being that legislation is likely to lag behind technology, this does leave the possibility of loopholes and the likelihood of exploitation using unsafe technology.

The CER interprets the above as meaning that adoption of the ALARP principle could allow untested processes/activities to take place whereas prescriptive measures are based on tried and tested practices and the requirement to meet these standards would only Safety Permit tried and tested processes/activities.

Application of the ALARP principle requires the assessment and reduction of the associated risk levels of activities. In other words, in practice, any process/activity, such as hydraulic fracturing, could be submitted for approval to the CER but it must meet the ALARP criteria for the reduction of its associated risk levels. Central to meeting the criteria for a petroleum undertaking is demonstrating to the CER's satisfaction that the process/activity which has been proposed can achieve a risk level that is ALARP. If the operator fails to successfully satisfy the CER that it can demonstrate it has achieved an acceptable risk level, it will not receive a Safety Permit from the CER and consequently will not be Safety Permitted to operate.

Given the current levels of knowledge and experience and the high incidence of hazard, I believe that fracking should be banned until such time as the majority of the people are convinced that fracking will cause no significant environmental or social damage that will affect either the current population or their children's heritage the precautionary principle should apply."

The CER's remit under its legislation is to regulate the safety of petroleum activities; it does not have a role in licensing activities within the State. Further information on this issue is provided in section 2.1.

Two respondents also noted the following points in addition to above main content of the replicated submission:

"I am concerned for the safety of my drinking water as research into other countries fracking industries shows that water contamination does occur. This is worrying to myself and a lot of my friends as drinking water is so fundamental to health. It seems to me impossible to regulate in order to ensure the safety of our water so I think the gas should be left where it is until safer extraction processes have been developed. I feel no regulations can guarantee the safety of my water supply."

Where the potential for adverse impacts on groundwater supplies could arise from the carrying out of authorised petroleum activities, petroleum undertakings will be required to demonstrate that any risk to safety is reduced to a level that is ALARP in the safety case associated with such activities. The CER can only issue a Safety Permit for proposed designated petroleum activities on the basis of an approved safety case, and the safety case can only be approved when the CER is satisfied the petroleum undertaking has demonstrated that any risk to safety arising from all petroleum activities will be reduced to a level that is ALARP.

If a petroleum undertaking fails to provide an adequate ALARP demonstration, then a Safety Permit will not be issued until such a time as the petroleum undertaking provides a robust demonstration to the CER that risks can and will be reduced to a level that is ALARP. It is recognised that providing a robust ALARP demonstration may be challenging if there is high uncertainty regarding the consequences of an operation and/or the likelihood of these consequences being realised. In such circumstances petroleum undertakings will have to make best use of available information and address uncertainty in the approach by adopting appropriate conservatism in the analysis or by adopting the precautionary principle where worst-case consequences can not be ruled out. The measures put in place to ensure appropriate risk avoidance will require to be adequately robust regardless of costs.

While it is not within the remit of the CER to regulate the impact of petroleum activities on the environment except where they impact safety, a number of existing agencies will carry out this role. An Environmental Impact Statement will be required by the Minister as part of a petroleum undertaking's application for a petroleum lease. In the case of hydraulic fracturing, this will include the assessment of the potential for groundwater impacts by the petroleum activity that could have safety implications. A number of statutory bodies can input into the assessment of the Environmental Impact Statement including the Environmental Protection Agency, the relevant local authorities and the Minister for Environment, Heritage and Local Government. The Minister will not issue a petroleum lease without an approved Environmental Impact Statement.

"I feel that even with the strictest regulations this type of gas extraction is not safe at this point in time. This is an opinion held by most of my peers."

The CER will only issue Safety Permits on approval of a safety case submission from a petroleum undertaking where the petroleum undertaking has successfully demonstrated to the satisfaction of the CER that it has reduced the risks associated with petroleum activities to a level that is ALARP. As stated above, if a petroleum undertaking fails to successfully satisfy the CER that it can demonstrate it has reached an acceptable risk level, as will be

defined under the Framework, it will not receive a Safety Permit from the CER and consequently will not be Safety Permitted to operate.

2.8.2 **Replicated response B**

'I feel that the safety Framework is fundamentally flawed as it doesn't appear to have considered the risks related to hydraulic fracturing for shale gas.'

The Framework does not consider specific risks or activities; it establishes the Framework for doing so. The CER can confirm that the safety regulation of petroleum activities associated with hydraulic fracturing for shale gas will be carried out under the Framework.

The document focuses on 'Major accident hazards' which really only consider things like explosions where there is a risk of immediate loss of life. It also only considers something a risk of a major accident hazard if it is connected directly to the gas reservoir. Therefore a spill of produced water from a tank would not be considered a major accident hazard.'

The Framework is not confined to major accident hazards. The CER will discharge its functions under the Act, but in doing so will focus its safety regulation of designated petroleum activities on the control of major accidents hazards. This enables the CER to focus its regulatory functions, such as audits and inspections, on those petroleum activities which pose the greatest risks to safety. Having a safety regulatory focus on the control of major accidents hazards does not remove the function on the CER to monitor the compliance of petroleum undertakings with their safety case and the Act, namely to reduce the risk to safety of *all* petroleum activities to a level that is ALARP. Further details on the CER's safety remit are given in section 2.4 of this Consultation Response Paper.

As detailed in section 3.1.3.2 of this Consultation Response Paper, it is proposed to amend the definition of 'Major accident' as follows:

"An event, such as a major emission, fire, explosion, impact or structural failure, resulting from uncontrolled developments in the course of designated petroleum activities which could lead to a serious danger to human health whether immediate or delayed. Serious danger implies events which could impact multiple persons, including members of the public and/or workforce."

The above definition could include a spill of produced water if it presented a significant danger to human health whether immediate or delayed.

It is unclear from the document who is ultimately responsible for petroleum safety, there is a lot of talk about co-operation with other agencies but there is no clear definition of where responsibility lies.

The legislation in Ireland does not provide for the CER or another statutory authority to assume ultimate responsibility for petroleum safety regulation. It is the responsibility of all statutory authorities involved to carry out their functions and duties in line with their own legislation.

To achieve an efficient and transparent regulatory system, the CER has proposed to publish interface arrangements between it and a number of relevant other statutory authorities. These interface arrangements will clarify the lines of responsibility of the authorities involved in petroleum safety regulation in Ireland.

The mission statement for the document is too narrow. There is a goal that ' Petroleum undertakings achieve safety performance commensurate with the best internationally' given that there seems to be no best practice worldwide this is a very weak goal for fracking.

This is a statement of intent by the CER in the performance of its statutory functions. Ultimately the CER will perform its functions under the Act. Where the CER deems that best practice does not exist or has not been demonstrated as being sufficient, it will require alternative evidence to demonstrate that all risk levels have been reduced to ALARP. [If this is not possible, the CER can apply the precautionary principle in considering whether the petroleum undertaking has undertaken an appropriate assessment of the risks associated with that activity and whether the measures proposed by the petroleum undertaking will reduce these risks to a level that is ALARP.

There is lack of logical progression between the way the CER designate activities and the way they intend to implement the permissioning system. The document is industry focused and doesn't place enough emphasis on overall risk to the public.'

The reduction of risk to the public and the regulation of safety of petroleum activities in the public interest are at the heart of the Act and the Framework development.

The adoption of the ALARP principle and the accepted methods for its demonstration (e.g. compliance with recognised codes and standards) expressly and implicitly take societal risk into consideration. The Consultation Paper consulted on a number of proposals on how ALARP should be demonstrated to the CER. Should the CER determine that risks levels associated with a petroleum activity have not been reduced to a level that is ALARP, it will not issue a Safety Permit for that activity.

Consultation Responses - Part B

Question Responses

3. Proposed Scope and Components of the Framework

3.1 Consultation Questions and Responses

As noted in section 1.2.3, responses received included comments on the proposals generally and specific questionnaire responses. In many instances there was crossover between the issues raised by those respondents who provided general comments (as addressed in this Part A of the Paper) and the comments made by respondents directly responding to consultation questions (as addressed in this Part B). The reader is encouraged to read both Parts of this Consultation Response Paper to ensure they obtain the full CER view on all issues raised.

3.1.1 Consultation Question 1

Consultation Question 1

Please comment on the CER proposal to define the scope of the Framework to include all of the CER's functions under Part IIA of Act.

There were 16 responses to this question. Of these responses 12 respondents agreed with the proposal and 1 disagreed with the proposal. 3 respondents did not specify if they agreed or disagreed.

3.1.1.1 *Key points made by respondents*

A number of respondents felt that the Framework as proposed in the Consultation Paper did not cover unconventional extraction and that a separate Framework should be developed for unconventional extraction. Regardless, it was felt that where risks are to be assessed for the purposes of granting a Safety Permit to operate to an energy company, this assessment should be carried out by an independent body and not one which has an existing mandate to provide energy security.

Where respondents agreed with the proposal, they noted that the CER should be mindful of its obligations under section 13G of the Act to exercise its functions to protect the public by fostering and encouraging safety as respects the carrying on of designated petroleum activities.

An additional component was suggested to include the gathering and reporting on environmental information from operators and service companies along with an additional statutory function to require the CER to monitor groundwater which could be impacted by the fracking process.

3.1.1.2 *CER Response*

The scope of the Framework is set by the Act. The CER is charged with the regulation of petroleum undertakings with respect to safety. The granting of a petroleum authorisation is a matter for the Minister and the role of CER is not to determine who receives a petroleum authorisation or what form such authorisation takes, but rather to regulate the safety of the activity as authorised.

The CER confirms that the Framework covers unconventional extraction. Section 2.2 provides further information on the topic.

With regard to the dual regulatory roles of the CER, the CER has been granted these roles by the Oireachtas and must carry out its duty to regulate the safety of petroleum activities in combination with its other duties under the Act. The CER does not have a role in questioning the imposition of these functions. Section 2.6 provides further information on how the CER will discharge all of its functions under the Act.

Regarding the suggestion on gathering of environmental information, the CER's remit under the Act is restricted to safety considerations. There is no specific requirement under the Act for the CER to regulate risks to the environment except to the extent that they otherwise impact on safety. To the extent that the CER is required to consider incidents which could also impact safety, this would include incidents involving impacts on groundwater supplies that could impact safety. It is recognised that other bodies, such as the EPA, have existing regulatory functions regarding the control of emissions to the environment. The CER will liaise with such bodies on monitoring provisions in place for emissions to land, water or air where emissions could impact risk to safety. The CER will require petroleum undertakings to report lagging indicators of safety performance which would include reporting of releases that could impact safety.

Section 2.3 further details the CER's scope and what will be regulated under the Framework.

Following consideration of the responses received, the CER has provided in the Draft Decision Paper that it will include each of its functions under Part IIA of the Act in the Framework.

3.1.2 Consultation Question 2

Consultation Question 2

Please comment on the CER proposals to have a specific focus upon major accident hazards for the safety regulation of designated petroleum activities under Part IIA of the Act.

There were 18 responses to this question. Of these responses 5 respondents agreed with the proposal and 7 disagreed with the proposal. 6 respondents did not specify if they agreed or disagreed.

3.1.2.1 Key points made by respondents

There was a mixed response to the CER having a specific focus on major accident hazards. The right of the CER to have a specific focus on major accident hazards was questioned as it was considered to be contrary to the spirit of the Act. Clarity was requested on whether the focus on major accidents hazards excluded the CER from regulating against less serious incidents, activities related to ongoing processes, cumulative effects of activities and/or harmful practices. It was noted that adverse effects on the environment and human and animal health for any process can occur without an accident and that these should be covered by the Framework. It was also recommended that that the focus should be on

hazards not accidents.

While noting the overlap with S.I. No. 74 of 2006, European Communities (Control of Major Accident Hazards Involving Dangerous Substances) Regulations 2006 (the 'COMAH Regulations'), a consistent approach to the definition of major accident hazards with other state agencies such as the HSA was welcomed.

The overlap of the CER role and the role of the EPA regarding the impact of petroleum activities on groundwater was highlighted, as was the need to expand on EPA reporting and work with the EPA to regulate the impacts of petroleum activities. One respondent suggested that the CER should monitor the effects on groundwater from a petroleum activity.

3.1.2.2 *CER Response*

The CER proposes to focus, not limit, its safety regulation of designated petroleum activities on the control major accident hazards. The focus on major accident hazards does not in any way detract from the performance by the CER of any of its functions under the Act and does not exclude the CER from regulating against less serious contraventions by petroleum undertakings of their duties under the Act. This includes activities related to ongoing processes, cumulative effects of activities and/or harmful practices. The focus on major accident hazards is further explained in section 2.3, which states that environmental issues are not regulated under the Act, and consequently the Framework, except where such incidents pose a risk to safety. The same is true for the impact on the health of animals. These areas will be regulated by the appropriate statutory authorities with the expertise and legislative powers in those areas. The CER regulatory remit does, however, include short and long term health impacts of petroleum activities on humans, which will cover the cumulative impact of petroleum activities.

Section 2.4 details the CER's monitoring and enforcement functions and highlights that the CER will monitor ongoing operations, processes and harmful practices, and not only major incidents or accidents.

As detailed in Question 3, a definition of major accident has been proposed which is more closely aligned with that included under the COMAH Regulations. It is recognised that the Framework overlaps to an extent with COMAH requirements. Safety Case Guidelines will be issued clarifying the relationship between the COMAH safety report and the safety case required under the Framework.

The CER is also working with the EPA on the development of the Framework and will liaise with them regarding the points raised on groundwater and reporting with a view to ensuring all environmental safety concerns will be addressed by the appropriate authority. Section 3.1.1.2 provides further information on the issue of the CER role in groundwater monitoring.

Following consideration of the responses reviewed, the CER remains of the view that it will focus, but not limit, its safety regulation of designated petroleum activities on the control of major accidents hazards. Such hazards present a significant risk to the public, and are therefore of greatest concern to the public. The focus on major accident hazards is not to the exclusion of other hazards. Under the Act, petroleum undertakings must discharge a

'General Duty' to reduce all risk to safety to a level that is ALARP and the Framework, as outlined in the Draft Decision Paper, prescribes the manner in which the discharge of this General Duty will be monitored and enforced.

3.1.3 Consultation Question 3

Consultation Question 3

Do you agree with the proposed definition of major accident hazard, set out in section 3.2.2.3, in the context of the CER safety regulation of designated petroleum activities? Please comment.

There were 17 responses to this question. Of these responses 9 respondents agreed with the proposal and 5 disagreed with the proposal. 3 respondents did not specify if they agreed or disagreed.

3.1.3.1 Key points made by respondents

A significant number of comments were received on the proposed definition of major accident hazard. Many respondents suggested that it needed to be clarified as to whether the definition covered risks to the environment. It was considered by many respondents that it should cover risk to the environment as many major accident events could present risks both to persons and to the environment. Concern was voiced that the proposed definition did not cover loss of natural resources, loss of amenity and incidents which could be extremely environmentally hazardous but which would not cause major loss of life. Even if the environment were not covered it was suggested that it was important that the interfaces between the DCENR, the CER and the Department of Transport, Tourism and Sport are well understood in terms of handling environmental aspects and the follow up activities. It was also suggested that the definition needed to take into account risk from non-accidental events to ensure operations presented no danger to people from exposure through normal operations particularly where effects of the potential exposure were not well understood.

The proposed definition was considered by some respondents to be too narrow as it did not take account of the possibility of a major accident that might have very significant long term effects on public safety, for example spillage of produced water from a hydraulically fractured shale gas well causing contamination of a water source. It was suggested that the definition of "major accident hazard" should be more clearly defined including what "serious danger to people" and "serious danger to property" means. It was suggested that the term 'danger' should be replaced with a term such as 'harm'. It was also suggested that the term 'major accident' should be defined in a quantitative manner as per Schedule 7 of the SEVESO 2006. It was noted that the definition needed to include major accidents in deep waters offshore.

3.1.3.2 CER Response

The CER has no remit under the Act to regulate risks to the environment except where they have an impact on safety. Further details on the scope of the Framework are provided in section 2.3. The CER's function under the Act is to promote safety as respects the carrying on of designated petroleum activities. Given this function the CER will be required to

consider environmental issues, which could present a risk to safety. This would include health effects arising from emissions from petroleum activities, including that of hydraulic fracturing.

In the Draft Decision Paper, the CER has amended the proposed definition of major accident to clarify this remit and is this definition now more closely aligned with the definition of a major accident hazard contained in the COMAH Regulations. It is proposed to define a major accident hazard as:

'An event, such as a major emission, fire, explosion, impact or structural failure of petroleum infrastructure, resulting from uncontrolled developments in the course of designated petroleum activities, which could lead to a serious danger to human health whether immediate or delayed. Serious danger implies events which could impact multiple personnel, including members of the public and/or the workforce.'

The use of the phrase 'serious danger' is consistent with the approach adopted in the COMAH Regulations and clearly indicates that major accidents will include events that could lead to serious danger to health either immediately or in the long term. It is not proposed to adopt the criteria included in Schedule 7 of the COMAH Regulations. The criteria in Schedule 7 define the incidents that are required to be reported to the EU Commission. Detailed guidance will be provided by the CER on incidents that are required to be reported to the CER. The proposed definition of major accident event is inclusive of accidents in deep waters offshore as the remit of the Act extends to facilities offshore.

3.1.4 Consultation Question 4

Consultation Question 4

Do you agree with the CER's proposed approach to carry out its function to monitor compliance by petroleum undertakings' with their General Duty in co-operation with other existing statutory authorities?

There were 16 responses to this question. Of these responses 13 respondents agreed with the proposal and 0 disagreed with the proposal. 3 respondents did not specify if they agreed or disagreed.

3.1.4.1 Key points made by respondents

Respondents requested clarity on how co-operation would be recorded. It was also recommended that the CER have overall responsibility for safety regulation and would be best placed to determine the effects on groundwater resources.

It was also recommended that the CER track and report against operator and contractor key performance indicators (KPIs) to best carry out its function to monitor compliance by petroleum undertakings' with their General Duty.

The Commissioners of Irish Lights (CIL) requested to be added to the list of agreed regulatory interfaces.

3.1.4.2 CER Response

It is the aim of the CER that the co-operation between statutory authorities will be recorded by the publication of the agreed interface arrangements that are currently being developed with the statutory authorities involved in the safety regulation of petroleum activities. Under the Act, the CER does not have the statutory remit to have the sole responsibility for safety regulation of petroleum activities; it can only carry out its duties and functions as set out in Act. Section 2.5 provides further information on how the CER will work with other authorities to regulate the industry.

The CER will take on board the comments on KPI reporting for the Detailed Design phase of the Framework development and the Commissioners of Irish Lights will be added to the list of agreed regulatory interfaces.

The primary responsibility for monitoring groundwater, however, is not directly within the remit of the CER. It is recognised that other bodies, such as the EPA, have existing regulatory functions regarding the control of emissions to the environment. The CER will liaise with such bodies on monitoring environmental issues. Section 3.1.1.2 provides further information on the issue of the CER role in groundwater monitoring.

Following consideration of the responses reviewed, the CER will carry out its function to monitor compliance by petroleum undertakings with the General Duty in co-operation with other existing statutory authorities, as set out in the Draft Decision Paper.

3.1.5 Consultation Question 5

Consultation Question 5

Please comment on CER proposals for the main components of the Framework as:

- a) A Statement of Strategic Intent;
- b) ALARP Demonstration Guidance;
- c) Agreed Interfaces, Co-operation & Co-ordination with Regulatory Authorities;
- d) A Permissioning System;
- e) A Compliance Assurance System;
- f) An Incident Investigation System;
- g) An Enforcement System;
- h) A Safety Reporting and Published Safety Information System; and
- i) A Continuous Improvement System.

There were 17 responses to this question. Of these responses 13 respondents agreed with the proposal and 0 disagreed with the proposal. 4 respondents did not specify if they agreed or disagreed.

3.1.5.1 *Key points made by respondents*

There were no objections received for this proposal. Respondents provided recommendations for the detailed design of aspects of the incident investigations and enforcement components, specifically related to the monitoring of inherently hazardous processes and for the need for reporting on petroleum undertaking performance metrics. One respondent suggested that component b) should be re-titled “Risk Assessment Guidelines”, to capture both qualitative and quantitative approaches.

3.1.5.2 *CER Response*

The CER will take the comments on detailed options for the investigations, enforcement and reporting into account in the development of the *Incident Investigation Procedures* and the *Enforcement Procedures*. It should be noted that the CER will monitor ongoing petroleum activities through its audit and inspection regime under the Framework.

Component B will include guidance on qualitative and quantitative approaches but will continue to be titled ‘ALARP Demonstration Guidance’ (which is the specific requirement imposed on petroleum undertakings under the Act). Requirements for an ALARP demonstration are more specific and far-reaching than a risk assessment.

Following consideration of the responses received, no amendments have been made to the components of the Framework as set out in the Draft Decision Paper.

3.1.6 **Consultation Question 6**

Consultation Question 6

Are there additional high level components which the CER should consider for inclusion within the Framework?

There were 11 responses to this question. Of these responses 2 respondents agreed with the proposal and 5 disagreed with the proposal to add additional components to the Framework. One of the two ‘yes’ respondents did not specify additional components. 4 respondents did not specify yes or no.

3.1.6.1 *Key points made by respondents*

One respondent suggested that the CER should include specific components addressing inherently unsafe or damaging procedures such as those found in unconventional extraction, and one respondent commented that ALARP should be reasonably specific on the effect of onshore drilling for natural groundwater.

3.1.6.2 *CER Response*

The CER will take the comments on detailed options for the components into account during the development of the *ALARP Demonstration Guidance*. As noted previously, however, the primary responsibility for monitoring groundwater is not directly within the remit of the CER.

Following consideration of the responses received, the components of the Framework as set out in the Draft Decision Paper will remain as proposed in the Consultation Paper (see Section 3 of the Draft Decision Paper).

4. Strategic Intent

4.1 Consultation Questions and Responses

4.1.1 Consultation Question 7

Consultation Question 7

Do you agree that the proposed vision for the Framework should be:

A safe Irish petroleum exploration and extraction industry.

There were 16 responses to this question. Of these responses 7 respondents agreed with the proposal, 8 disagreed with the proposal, and 1 respondent did not specify if they agreed or disagreed. This respondent provided comments.

4.1.1.1 Key points made by respondents

Respondents suggested that the vision should refer to the environment and that the wording should include 'a clean and...' or that it should be reworded to include the word 'competitive'. It should be clear that the petroleum industry is in Ireland but is not necessarily Irish owned.

Respondents also stated that the principles enshrined in the Aarhus Convention including rights regarding access to information and public participation, are incorporated into the Framework.

4.1.1.2 CER Response

Regarding the insertion of the word '*...clean...*' into the proposed vision, the regulatory remit of the CER is safety and does not include the environment, except to the extent that it is otherwise caught within the reference to safety.

Equally, the CER does not have economic functions associated with licensing the petroleum industry in Ireland which would directly impact on its competitiveness.

That being said, as noted in previous responses, the CER will take account of environmental hazards to the extent that such hazards result in a risk to safety. Equally, with respect to competitiveness, it is the aim of the CER to develop a clear and transparent Framework, in co-operation with the existing statutory authorities, to ensure the Framework does not unnecessarily impede licensed processes from submitting applications for Safety Permits.

The CER acknowledges that '*Irish*' may be interpreted as only Irish owned as opposed to the intended meaning of Irish State owned land and waters.

Once ratified in Ireland, the CER will carry out its duties and functions in full compliance with the Aarhus Convention if required.

Following consideration of the responses received, the vision proposed in the Draft Decision Paper will be '*A safe petroleum exploration and extraction industry in Ireland.*'

4.1.2 Consultation Question 8

Consultation Question 8

Do you agree that the proposed mission statement for the Framework should be:

To independently regulate petroleum exploration and extraction activities to protect life

There were 18 responses to this question. Of these responses 6 respondents agreed with the proposal, 9 disagreed with the proposal, and 3 respondents did not specify if they agreed or disagreed.

4.1.2.1 Key points made by respondents

Respondents suggested that the mission statement should include the protection of all life, the environment, health and property and that the CER's primary function should include the protection of Irish petroleum resources for the benefit of the Irish people and society.

4.1.2.2 CER Response

The regulatory remit of the CER, as set out in the Act, is in respect of safety and does not expressly include the environment. As such the CER's role under the Act does not encompass the regulation of environmental impacts except where such impacts result in a risk to safety. Hence it would not be appropriate to amend the mission statement to refer to protection of the environment. Risks to the environment are regulated by existing statutory bodies, such as the EPA. The CER will liaise with such bodies to ensure the ALARP demonstration, required within the safety case, is robust for risks that can have an impact on safety as well as the environment.

The CER will seek to protect property where the protection of that property protects life. It is considered that the statement 'protection of life' is inclusive of all life and protection of health.

The granting of a petroleum authorisation is a matter for the Minister. The CER is charged with the regulation of petroleum undertakings with respect to safety. Under the Act, the CER does not have economic or licensing powers which could enable it to protect Irish petroleum resources and so protection of Irish petroleum resources for the benefit of the Irish people and society would be an inappropriate mission statement.

Following consideration of the responses received, the mission statement proposed in the Draft Decision Paper is to '*independently regulate petroleum exploration and extraction activities to protect life.*'

4.1.3 Consultation Question 9

Consultation Question 9

Please comment on the proposed five key roles of the CER under the Framework as follows:

1. *Foster and encourage safety in petroleum exploration and extraction activities;*
2. *Actively monitor & enforce compliance of petroleum undertakings with their obligations;*
3. *Promote a regulatory Framework that encourages continuous improvement of*

safety;

4. *Work with other authorities to achieve our vision; and*
5. *Provide safety information to the public.*

There were 17 responses to this question. Of these responses 7 respondents agreed with the proposal, 1 disagreed with the proposal, and 9 respondents did not specify if they agreed or disagreed.

4.1.3.1 *Key points made by respondents*

In general, the comments made reflected a general agreement with the proposed key roles of the CER under the Framework. It was felt by some that the words ‘foster and encourage’ were not strong enough and should be replaced by ‘establish, promote and uphold’ and comments were made regarding the need for the CER to work with other authorities such as local communities and County Councils, as well as relevant European bodies.

Respondents noted that it will be difficult to co-ordinate regulation with the EPA and that the effects of drilling on groundwater need to be determined at an early stage. It was also stated that prospective operators should prove that they have the fitness, competency and resources to operate to end of life decommissioning, and that the CER should supervise other regulators.

Respondents commented that point 3 should also include the words ‘consultation with petroleum undertaking’ and that point 5 should as far as possible align with Regulation 18 (‘Information for the safety of the public’) referred to in the COMAH Regulations, and that disclosure of safety information to the public should not impact security or commercially sensitive matters. Conversely, others stated that full disclosure and transparency is essential and that all processes and materials are to be disclosed and subject to public consultation and objection.

4.1.3.2 *CER Response*

Whether or not the CER agrees that ‘establish, promote and uphold’ may be appropriate and reflective of the main intentions of the CER in carrying out its functions, the wording to ‘foster and encourage’ will remain in place as this is the objective bestowed on the CER by the Act.

Where a safety case has been submitted to the CER in an application for a Safety Permit, the CER will liaise with the local authority and relevant groups in that area in addition to those bodies with which it will have agreed interfaces. The CER is already actively involved in European groups such as the North Seas Offshore Authorities Forum.

Where impacts on groundwater supplies could arise from the carrying out of authorised petroleum activities that may have safety implications, petroleum undertakings will be required to demonstrate that this risk to safety is reduced to a level that is ALARP in the safety case associated with such activities. It is recognised that other regulatory bodies, such as the EPA, also have existing regulatory functions with regard to the control of emissions to the environment. The CER will liaise with such bodies to ensure the ALARP demonstration is robust for environmental-type risks that can impact safety. This will include the consideration of the monitoring provisions in place for emissions to land, water or air where emissions

could pose a risk to safety. The CER will require petroleum undertakings to report lagging indicators of safety performance which would include reporting of releases that could impact safety.

The CER will assess a petroleum undertaking's fitness and competency to operate safely as part of its safety case assessment. The resources available to the petroleum undertaking to operate to end of life decommissioning is a matter for the Minister in granting a petroleum authorisation.

The CER does not have the legislative remit to supervise the activities of the other statutory authorities. However, the CER will continue to work with other regulators to ensure that the Framework is operated as efficiently and effectively as possible. The CER also will consult with the industry and the public as appropriate during the development and operation of the Framework.

Regarding safety reporting, the CER will provide appropriate safety information to the public and will assess the proposed content for publication on a case by case basis. The CER acknowledges that commercially sensitive information, information which impacts on privacy of personnel and information on facility security may be approved for omission from publication in certain circumstances.

Following consideration of the responses received, and with regard to the clarifications provided above, the five CER roles proposed in the Draft Decision Paper remain as set out in the Consultation Paper.

4.1.4 Consultation Question 10

Consultation Question 10

Are there additional CER roles which should be set out in defining the strategic intent of the Framework?

There were 17 responses to this question. Of these responses 2 respondents agreed with the proposal that additional roles were needed, 5 disagreed, and 10 respondents did not specify if they agreed or disagreed.

4.1.4.1 Key points made by respondents

In general, the comments made reflected a general agreement with the proposed key roles of the CER under the Framework. Respondents suggested an additional role to monitor the surrounding environs, including groundwater, during all stages of the project lifecycle. It was stated that the CER should also have the strategic intent to minimise the long-term health damage to property and environment.

It was suggested that role 2 should be expanded to include the wording such as '[in a] fair and transparent manner', and that role 5 should be employed to clarify the CER's regulatory role. It was also suggested to require detailed reporting options on safety and environmental incidents along with offering incentives for petroleum undertakings to aim for higher safety levels.

Additional roles for the CER to; publish and evaluate research on petroleum safety; monitor changes to the legislative Framework; and to ensure that Ireland's regulatory Framework upholds global best practice, were proposed. It was also suggested that the CER invests in technological studies and projects to support the regulator's understanding of best practices.

4.1.4.2 CER Response

Where the carrying out of authorised petroleum activities could impact on groundwater supplies in a manner which affects safety, petroleum undertakings will be required to demonstrate that this risk to safety is reduced to a level that is ALARP in the safety case associated with such activities. It is recognised that other regulatory bodies, such as the EPA, have existing regulatory functions with regard to the control of emissions to the environment. The CER will liaise with such bodies to ensure the ALARP demonstration is robust for environmental-type risks that can impact safety. This will include consideration of the monitoring provisions in place for emissions to land, water or air where emissions could impact risk to safety. The CER will require petroleum undertakings to report lagging indicators of safety performance which would include reporting of releases that could impact safety.

The regulatory system in Ireland for petroleum activities includes many statutory authorities and the relationship between their respective roles may not be readily apparent. Where there is a lack of clarity with respect to the CER's role, the CER aims to provide clarity through the development of agreed interfaces with the relevant statutory authorities. The CER intends, working with other statutory authorities, to put in place a *Permissioning Process Map* which will provide guidance to petroleum undertakings and the general public on the sequence and interfaces between the various permits and licences across statutory agencies.

The CER notes the advantages to conducting and evaluating petroleum safety research to ensure it is aware of technological advances and best practice for the continuing operation of the Framework. While this will not be included as a key role of the CER, it will be considered as part of the ongoing professional training and development of the petroleum safety team within the CER.

The CER will publish an annual report which will inform the general public of the work carried out by the CER over the previous year including any incidents that have occurred. Such information will be freely available on the CER website.

Following consideration of the responses received, there are no additional roles proposed in the Draft Decision Paper.

4.1.5 Consultation Question 11

Consultation Question 11

Please comment on the proposed three regulatory goals for the Framework:

1. *That petroleum undertakings reduce risks to safety to a level that is ALARP;*
2. *That petroleum undertakings achieve safety performance commensurate with the best internationally; and*
3. *Engender confidence that the regulatory Framework is protecting the public.*

There were 18 responses to this question. Of these responses 6 respondents agreed with the proposal, 7 disagreed with the proposal, and 5 respondents did not specify if they agreed or disagreed.

4.1.5.1 *Key points made by respondents*

A mixed response was received regarding the proposed regulatory goals for the Framework. While some respondents were supportive of the proposed goals others were critical of the approach, and others suggested text changes to the proposed goals.

A number of respondents suggested that the environment should be covered in the goals. It was noted that a major area of concern to the public, with respect to fracking, is general risk to the environment with regard to its impact on public safety. It was suggested that the first goal should address safety of persons, property and the environment and that the third goal should be amended to engender confidence that the regulatory Framework is protecting the public and our environment. It was suggested that the EPA has limits on the scope of activities it can regulate and this may lead to areas of environmental and public risk that are inadequately regulated.

It was suggested that the first goal should be extended to indicate “that petroleum activities which cannot reduce risks to safety to a level that is ALARP are not undertaken”. It was also suggested that the wording should be amended to read “That petroleum undertakings reduce safety risks to a level that is ALARP” and that the term ‘ALARP’ should not be used in the goal but should be expanded to ‘as low as reasonably practicable’ so that it is not interpreted as being a prescribed method. It was suggested that the approach of constraining the CER’s responsibility to maintaining risks ALARP and ring fencing “Major Petroleum Incidents” ran counter to the spirit of the Act. It was suggested that the definition of petroleum incident within the Act was inclusive of all incidents which could result in personal injury being suffered by a person.

It was further suggested that in order to allow the ALARP principle to be applied, a body of evidence must exist and the public must be adequately informed of the risks and canvassed of their opinion of the tolerability of those risks. It was considered that society’s consent cannot be deferred to bodies such as the CER which cannot broadly be considered representative of the people. Direct public consultation in respect of Cost Benefit Analysis (‘CBA’) and appropriate risk was considered to be required and a moratorium was requested on applying the CER Framework to onshore hydraulic fracturing until public consultation and evidence gathering has taken place.

A number of suggestions were received on the second goal. It was suggested that the term 'best internationally' is vague and could be used to execute more onerous or less onerous requirements. Reference to 'best practice' was instead suggested or reference to achieving safety performance commensurate with levels in the European Union. It was also suggested that Ireland should seek to set its own standards and that in some cases no 'best international practice' might be available. It was stated that unconventional extraction is not covered under the Act or the proposed Framework and consequently it cannot be Safety Permitted without legislative amendments. It was queried what KPIs the CER would use to monitor and compare with international performance and reporting frequency of KPIs to the CER.

One respondent suggested that the third goal was not a regulatory goal as the question would need to be asked what aspects would be regulated by 'engendering confidence'. Others noted that confidence will not be gained if damage to the environment is not covered by the Framework. To achieve such the regulator would need to ensure that all aspects of the safety and well-being were covered by the Framework providing a feeling of security for citizens.

4.1.5.2 CER Response

As set out previously, CER's remit in respect of environmental risk is limited to the extent to which environmental issues impact safety. The CER will, however regulate the long term health impacts of petroleum activities on human health. Further details on the scope of the Framework and what activities it covers are provided in section 2.3. This section also explains that by focusing its regulatory functions on the control of major accident hazards the CER does not limit its functions to the control of major accident hazards. This focus is in addition to, not in place of, its duty to ensure petroleum undertakings reduce all risks to safety to a level that is ALARP.

It is proposed to modify the suggested wording for the first goal to: '*That petroleum undertakings reduce risks to safety to a level that is As Low As Reasonably Practicable*'. The Act specifically refers to maintaining risks ALARP both under the general duties on petroleum undertakings, section 13K, and with regard to risks generated by designated petroleum activities, see section 13M. The phrase 'risk to safety' is adopted from the Act so is considered appropriate. As detailed above it is not within the CER's remit to extend the goal to cover environmental risks that do not otherwise impact on safety.

It is not considered that there is a need to extend the first goal to indicate "that petroleum activities which cannot reduce risks to safety to a level that is ALARP are not undertaken". This prohibition is already covered by the existing text. If risks cannot be demonstrated to be ALARP, then the CER will not issue a Safety Permit and the activity will not proceed, unless and until such demonstration is provided.

The CER's remit under the Act is restricted to safety considerations and it has no remit under the Act to for calling a moratorium on any activities. There is no specific requirement under the Act for the CER to consider the wider socio-economic factors or societal views in their assessment of safety cases. Other regulatory bodies, such as the ABP for land use planning,

may take into account some of these wider considerations, but ultimately it is for the Minister, not the regulatory body, to consider whether the benefits of an activity to society outweigh the potential impacts and whether the activity should be allowed or not. It is for the Minister to determine whether the grant of certain petroleum authorisations is in the public interest.

The CER propose to retain the suggested wording for the second goal. It is considered reasonable that the CER should have a goal that petroleum undertakings achieve safety performance commensurate with the best internationally. The CER do not wish to restrict considerations to local or European practices if it is known that more robust measures are being adopted outside Europe. Detailed guidance will be provided on the performance indicators that undertakings will be required to submit to the CER and timing of the submissions. Every effort will be made to ensure that the reporting structure dictated by the Framework is consistent with other reporting schemes in Ireland and other countries to facilitate comparison.

The CER propose to retain the suggested wording for the third goal. It is considered reasonable that the CER should have a goal to engender confidence that the regulatory Framework is protecting the public. It is recognised that this goal may be challenging but ultimately this is a desired outcome.

Following consideration of responses received it is the proposed goals contained in the Draft Decision Paper reflect those contained in the Consultation Paper with a minor amendment that the ALARP acronym will be fully expanded as suggested.

4.1.6 Consultation Question 12

Consultation Question 12

Are there additional high level regulatory goals which should be set out in defining the strategic intent of the Framework?

There were 15 responses to this question. Of these responses 1 respondent agreed with the proposal, 4 disagreed with the proposal, and 10 respondents did not specify if they agreed or disagreed.

4.1.6.1 Key points made by respondents

A number of suggestions were received on additional high level regulatory goals that the CER might adopt in defining the strategic intent of the Framework. These included the following:

- That the CER achieve Safety Permitting turnaround times commensurate with best international practice;
- The CER should review the regulatory Framework, where responsibility is divided between other bodies (including the CER), to determine that it is both comprehensive and consistent, and that the mission of the various authorities that are involved in the regulation of petroleum activities, are not in conflict with each other;
- Performance benchmarking reports;
- Risk boundaries must be established – It was considered that there no clearly defined boundaries on societal risk had been presented and that it was incumbent on the

CER to refer such an issue back to society as otherwise they would have no capacity to proceed. It was proposed that the ALARP principle could not be applied until societal risk and societal values had been established through a democratic process.

4.1.6.2 *CER Response*

While turnaround times commensurate with best international practice would certainly be an administrative goal for the CER it is not considered appropriate as a goal for defining the strategic intent of the Framework. The Act specifies that the CER will assess a safety case submission within six months.

The CER will review the regulatory Framework through the Continuous Improvement system, where responsibility is divided between other bodies (including the CER), to determine that it is both comprehensive and consistent, and that the mission of the various authorities that are involved in the regulation of petroleum activities, are not in conflict with each other. This will be a key activity for the CER under the Framework as reflected in the Act and will be reflected in the agreed arrangements created with other agencies in response to the Act.

Provision of performance benchmarking reports is not considered appropriate as a goal for defining the strategic intent of the Framework. Performance benchmarking will however be required under the Framework as the Annual Report to the Minister will provide an analysis and assessment of trends in safety performance and a comparison of the safety performance of the Irish petroleum industry with similar industries in other countries.

On the question of risk boundaries, it has been proposed, as set out in the Draft Decision Paper and as discussed at Question 17 below, to base criteria for risk acceptability on figures already adopted in Ireland or on relevant international practice where necessary.

Following consideration of responses received, the goals contained in the Draft Decision Paper reflect those goals proposed in the Consultation Paper. Many of the suggested activities will however be addressed under the detailed components of the Framework.

5. ALARP

5.1 Consultation Questions and Responses

5.1.1 Consultation Question 13

Consultation Question 13

Please comment on whether you consider the proposed basis of assessment that risk has been reduced to a level that is ALARP (as summarised in Figure 7) to be appropriate.

There were 17 responses to this question. Of these responses 11 respondents agreed with the proposal, 0 disagreed with the proposal, and 7 respondents did not specify if they agreed or disagreed.

5.1.1.1 Key points made by respondents

While many respondents generally agreed with the proposed basis for ALARP assessment, a number objected in their comments to the approach while others supported the approach in general but suggested amendments.

It was suggested that Figure 7 was too simplistic and could be misleading as it suggested a move to Quantitative Risk Assessment ('QRA') and societal values for activities with increasing novelty, complexity and uncertainty. QRA required knowledge of failure statistics which would be limited for more novel, complex activities. It was considered that the application of the ALARP principle needed to be expanded in an additional consultation document and it was noted that an ALARP document was planned to be published under the Framework. It was also noted that the approach neglected to mention qualitative risk assessment which was a key risk assessment method. It was also queried whether the focus of the QRA would be major accident hazards. It was noted that the proposed definition of Major Accident Hazard included serious danger to property and queried what criteria would be applied to demonstrate that risks to property were reduced to a level that was ALARP.

While the approach to ALARP proposed in the Consultation Paper was supported it was suggested by some respondents that Safety Permits should be withheld if the long term, cumulative effects of a petroleum activity are unknown, can only be estimated with a wide margin of error, or if the worst case scenario is intolerable or incompatible with ALARP principles.

The approach was rejected by some respondents on the grounds that it did not make reference to the potential impacts on the environment, natural resources and the wealth that they supply (such as drinking water). It was queried how the CER could engender confidence that the Framework is protecting the public if environmental risks were not addressed. It was suggested that the proposed approach was not appropriate for the assessment of unconventional gas extraction due to lack of understanding of the process and uncertainty in effects. It was noted by another respondent that while the process of gas extraction by hydraulic fracturing may be technically well understood, there was very little empirical data available on its potential long term effects and risks to society and the environment. Without

this body of data it was considered that it would be impossible to assess fracking using the ALARP principle. Until adequate data was gathered to draw reliable conclusions, it was considered the CER should apply a moratorium on novel gas extraction based on the “precautionary principle”.

It was considered that limiting Cost Benefit Analysis (CBA) to issues of onsite safety was industry focused and unacceptable. It was considered that CBA needs to be applied to the whole life cycle. It was noted that in the case of fracking, this has never taken place and so conformity with “Societal Values” could not be assumed.

5.1.1.2 CER Response

The high level text provided in the Consultation Paper on demonstrating ALARP attracted a number of comments. In particular the list of options for demonstrating ALARP was considered to be too narrow and the reference to societal values caused some confusion. The approach will be clarified in the Draft Decision Paper and the ‘societal values’ term will be removed but the reference to the precautionary principle will be retained. While it is reasonable to require petroleum undertakings to take account of the safety risk to society within their ALARP demonstration, there is no requirement under the Act for petroleum undertakings to consider wider socio-economic factors or societal views in their assessment. Other regulatory bodies, such as the ABP for land use planning, may take into account some of these wider considerations, but ultimately it is for the Minister, not the regulatory body, to consider whether that benefits of an activity to society outweigh the potential impacts and whether the activity should be allowed or not. The Minister may also determine whether the grant of certain petroleum authorisations is in the public interest. The list of options available for demonstrating ALARP will be expanded as follows:

- Reference to procedures, Codes and Standards
- Engineering judgement
- Qualitative Risk Analysis
- Semi-quantitative Analysis
- Quantitative Risk Analysis (with or without Cost Benefit Analysis)
- precautionary principle

The ALARP demonstration may include a mix of the above elements and the relative importance of each will vary depending on the type of infrastructure, the stage in the life cycle and the nature of the hazards involved and the measures being considered. For common, well understood hazards, design to codes and standards and reference to appropriate procedures, in combination with engineering judgement, may be sufficient; although, even in this case, the petroleum undertaking will have to ensure that the codes and standards are applicable to the operation in hand and that no additional knowledge or hardware developments have occurred which could impact the ALARP status of the risks.

As operations become more complex, recourse to codes and standards or engineering judgement may not be sufficient or possible. While elements of the operation may be covered by codes and standards, the combination of these elements can be complex and the nature of the hazards outside the experience of the people involved, which means that engineering judgement cannot be relied upon. In such circumstances, more formal risk assessment should be adopted, which can include qualitative or quantitative risk assessment

(QRA). Full QRA may not always be necessary, but the level of analysis undertaken should be commensurate with the risk in question. Full QRA involves assessing the risk through detailed analysis of both the frequency and consequence of a hazard being realised. With a qualitative approach, broad classifications of likelihood and consequences may be used to estimate what broad category of risk an event might fall within such as high, medium, or low. A semi-quantitative approach lies in between these two extremes, involving an element of quantification, such as the use of event trees, to assess the frequency of potential outcomes. The qualitative approach may be adequate for many types of evaluation and can also be used for screening events to decide which may require further detailed analysis.

While full QRA is useful to assess complex operations it is recognised that it may be difficult to carry out QRA for novel approaches for which no history of similar operations is available. In such cases, petroleum undertakings will have to make best use of available information and address uncertainty in the approach by adopting appropriate conservatism in the analysis or by adopting the precautionary principle where worst-case consequences can not be ruled out. The measures put in place to ensure appropriate risk avoidance will require to be adequately robust regardless of costs.

On the question of the risks to property within the consideration of ALARP, as detailed in Question 3, the definition of major accident has now been more closely aligned with the definition contained in the COMAH Regulations, which does not include reference to property. Damage to property will still be required to be reported to the CER, as a lagging indicator of safety performance, but it is considered that its reference within the major accident definition was misleading.

On the question of environmental impacts, the CER has no remit under the Act to regulate risks to the environment. The CER's function under the Act is to promote safety as respects the carrying on of designated petroleum activities. Given this function, the CER is, however, required to consider environmental impacts which could also impact safety. This would include health effects arising from any petroleum activity, including that of hydraulic fracturing.

The CER has no remit under the Act to call for a moratorium on any activities and can only decline to Safety Permit an activity after it has considered the details of the safety case and assessed whether, given the information provided, the petroleum undertaking has demonstrated that risks from their operations will be reduced to a level that is ALARP. If a petroleum undertaking fails in this demonstration, then a Safety Permit will not be issued until such a time as the petroleum undertaking provides a robust demonstration to the CER that risks will be reduced to a level that is ALARP with the proposed operations. Where a petroleum undertaking carries out CBA to support an ALARP demonstration, the analysis would be expected to take account of offsite impacts to safety and should address the expected life of the proposed operations.

Given the responses received the basis for demonstrating ALARP has been clarified in the Draft Decision Paper. Additional detail will be provided in a separate ALARP Guidance Document which will be issued for public consultation.

5.1.2 Consultation Question 14

Consultation Question 14

Please comment on whether you consider it appropriate to set upper limits of tolerability for the following risk metrics relating to petroleum activities:

- Individual risk to workers; and
- Individual risk to members of the general public.

There were 18 responses to this question. Of these responses 7 respondents agreed with the proposal, 7 disagreed with the proposal, and 4 respondents did not specify if they agreed or disagreed.

5.1.2.1 *Key points made by respondents*

Respondents were generally supportive of setting upper limits for individual risk for workers and members of the public. Some respondents considered that the limit should be prescriptive and several respondents considered that the limit should be aligned with existing guidelines for individual risk such as included in the HSA Land Use Planning Guidelines⁴. Reference was also made to risk limits suggested in the UK HSE document R2P2⁵. It was noted that a clear distinction was needed between workers at a site (who can exercise choice) and other members of the public who may be (unwillingly or accidentally) exposed to a risk. Suggestions were received that limits seemed to be based solely on fatalities and that attention needs also to be given to limitations on long-term risks to health, risks to property, particularly land and capital, and risks to the environment, particularly air quality and water systems and that collective risk to a group of people or ecological area needed to be taken into account.

Clarification was requested on the position of worker risk and whether occupational risks were covered by the HSA. It was noted that clear procedures and methodology would be needed to determine risk metrics. It was also noted that the Major Accident Hazard definition, as provided in section 3.2.2.3, included serious danger to property and it was queried what criteria would be used to demonstrate that risk to property is ALARP. One respondent voiced concern that setting of limits could cause contractors/companies to work towards such limits.

5.1.2.2 *CER Response*

The CER's remit under the Act is restricted to safety considerations. There is no specific requirement under the Act for the CER to regulate risks to the environment or to consider the wider socio-economic factors in their assessment of safety cases. The CER's function under the Act is to promote safety as respects the carrying on of designated petroleum activities. Given this function, the CER is, however, required to consider environmental incidents which could also impact safety.

A CER document, *ALARP Demonstration Guidance*, which will form part of the Framework, will detail the required approach to demonstrating ALARP both for major and non-major

⁴ HSA (Health and Safety Authority): Policy & Approach of the Health & Safety Authority to COMAH. Risk-based Land-use Planning March 2010

⁵ <http://www.hse.gov.uk/risk/theory/r2p2.htm>

accident hazards. It is proposed that the upper limit of tolerability of risk will be expressed in terms of risk of a fatality. This is not, however, to say that risks resulting in non-fatal outcomes will be overlooked. Under the Framework, petroleum undertakings will be required to demonstrate that *all* risks to safety are being reduced to a level that is ALARP. The level of analysis required for the ALARP demonstration will be commensurate with the risk under consideration. Petroleum undertakings will also be expected to adopt a conservative approach to estimating fatality levels. Hence risk figures would reflect some level of non-fatal impacts. The focus on fatalities is a widely adopted practice and facilitates comparison of risk levels with other hazardous industries and activities in other countries.

Occupation risks are regulated by the HSA. However, under the General Duty⁶ imposed on petroleum undertakings under Act, petroleum undertakings will be required to include a demonstration within the safety case, that all risks to safety are being reduced to a level that is ALARP, including occupational risks to workers. The CER will liaise with the HSA in their assessment of the petroleum undertaking's demonstration for occupational risks. Petroleum undertakings would also be expected to include an estimate for occupational risks for workers in the calculation of individual risk, based on generic figures available for different occupational groups.

On the question of the risks to property within the consideration of ALARP, as detailed in Question 3, the definition of major accident has now been more closely aligned with the definition contained in the COMAH Regulations, which does not include reference to property. Damage to property will still be required to be reported to the CER, as a lagging indicator of safety performance, but it is considered that its reference within the major accident definition was misleading. There is no requirement under the Act to protect property as an end in itself. The CER's function under the Act is to promote safety as respects the carrying on of designated petroleum activities.

The upper risk limits are proposed within the context of the application of the ALARP principle and it is a key goal of the CER to ensure that petroleum undertakings reduce all risks to safety to a level that is ALARP. This approach should prevent petroleum undertakings working towards such limits. The application of the ALARP principle tends to drive risks down from the upper risk boundary as, with the adoption of this principle, petroleum undertakings are required to demonstrate that they have adopted all reasonably practicable measures. Where available and applicable, adoption of good practice will be the minimum requirement for demonstrating risks are ALARP as good practice is, de facto, reasonably practicable. If an operator does not adopt good practice they will have to demonstrate why it is not appropriate to their operations and that the proposed alternative measures provide an equivalent, or improved level of protection to that which would have been achieved through good practice.

Following consideration of comments received, it is proposed in the Draft Decision Paper that the CER will set upper limits for individual risk under the Framework for both workers and members of the public. Limits will be adopted which are consistent with current practices in

⁶ Section 13K of the Act.

Ireland or those adopted internationally. Further details will be given in the ALARP Demonstration Guidance which will be published for consultation.

5.1.3 Consultation Question 15

Consultation Question 15

Should societal risk be addressed within the Framework? If so, should it be treated implicitly and/or explicitly?

There were 18 responses to this question. Of these responses 15 respondents agreed with the proposal, 1 disagreed with the proposal, and 2 respondents did not specify if they agreed or disagreed.

5.1.3.1 Key points made by respondents

The majority of respondents considered that societal risk should be addressed within the Framework and in an explicit manner. Several respondents suggested that the approach be aligned with that of the HSA LUP guidelines. It was also suggested that the risk assessment be based on total life cycle analysis of short, medium and long term risks. One respondent considered that societal risk should not be addressed within the Framework as this aspect has not been developed thoroughly in countries which have much more mature oil and gas industries.

Several respondents stressed the need for societal values to be considered and not just where there is a high level of novelty in the extraction process. It was suggested that the risk presented by unconventional extraction be subject to a societal risk assessment and that the views of well-informed society be canvassed.

5.1.3.2 CER Response

It is proposed to address societal risk explicitly within the Framework and to propose risk tolerability requirements for societal risk which will be expressed in terms of fatal risks and will take account of immediate and long term fatalities arising from major accident hazards. This will include consideration of major accident hazards presented by hydraulic fracturing. The approach for addressing societal risk will be consistent with current practices in Ireland or those adopted internationally.

The CER's remit under the Act is restricted to safety considerations. There is no specific requirement under the Act for the CER to consider the wider socio-economic factors or societal views in its assessment of safety cases. Other regulatory bodies, such as the ABP for land use planning, may take into account some of these wider considerations, but ultimately it is for the Minister, not the regulatory body, to consider whether the benefits of an activity to society outweigh the potential impacts and whether the activity should be allowed or not or whether the grant of certain petroleum authorisations is in the public interest.

Following consideration of comments received, it is proposed in the Draft Decision Paper that societal risk will be addressed explicitly within the Framework. The approach for addressing societal risk will be consistent with current practices in Ireland or those adopted internationally.

5.1.4 Consultation Question 16

Consultation Question 16

Are there any other risk metrics which you consider should be adopted for the control of risks generated by designated petroleum activities?

There were 15 responses to this question. Of these responses 3 respondents agreed with the proposal, 3 disagreed with the proposal, and 9 respondents did not specify if they agreed or disagreed.

5.1.4.1 *Key points made by respondents*

While some respondents considered that the proposed risk metrics were adequate, others suggested that consideration should be given to the following:

- Effect of a group of petroleum activities not just a single well pad e.g. those working on the Lough Allen Carboniferous Basin;
- Process safety metrics;
- Security of supply;
- Environmental risks;
- Long term cumulative effects of extraction; and
- Illnesses and long-term deterioration subsequent to petroleum activities.

5.1.4.2 *CER Response*

Acceptance criteria have been suggested for two risk metrics, namely individual risk and societal risk. Such metrics are widely adopted for the assessment of major accident hazards and are already in use in Ireland. Other risk metrics will be required to be reported to the CER by petroleum undertakings (see Question 51) and will be monitored by the CER but specific acceptance criteria will not be included for additional risk metrics.

The CER's function under the Act is to promote safety as respects the carrying on of designated petroleum activities. As such, the adoption of tolerability levels with respect to security of supply or environmental risks would not be appropriate. The proposed risk metrics will however have to take account of environmental type impacts which would present a significant risk to safety, either in the form of immediate or delayed fatalities. Petroleum undertakings would be expected to address all potentially fatal risks arising from the totality of their operations when demonstrating that the risks from their operations are below the specified tolerability limits for risk. Having regard to the 'General Duty' imposed on them under the Act, petroleum undertakings will in addition be required to demonstrate within the safety case that the risk to safety from all their petroleum activities are reduced to a level that is ALARP and this would include control of any long term cumulative health impacts arising from their operations.

Petroleum undertakings will be required to report certain safety performance indicators to the CER on an ongoing basis, see Question 51, and these will include process safety metrics. The CER will consult on proposed performance indicators of both a leading and lagging nature.

Following comments received, the Draft Decision Paper proposes to proceed with the suggested metrics for risk tolerability i.e. that tolerable risk levels will be advised in terms of individual risk and societal risk. Details these thresholds will be consulted upon in the ALARP Demonstration Guidance document.

5.1.5 Consultation Question 17

Consultation Question 17

Do you consider it reasonable for the CER to align proposed risk criteria introduced under the Framework with criteria adopted by the HSA for land-use planning purposes?

There were 17 responses to this question. Of these responses 13 respondents agreed with the proposal, 2 disagreed with the proposal, and 2 respondents did not specify if they agreed or disagreed.

5.1.5.1 *Key points made by respondents*

Respondents were generally in agreement that the proposed risk criteria introduced under the Framework should be aligned with that adopted by the HSA for land-use planning purposes. Several queries were received as to the relationship of the proposed safety case with the safety report currently required for sites which are subject to the COMAH Regulations. One respondent suggested that different risk criteria should apply offshore as compared to onshore and another respondent suggested that the approach needed to be wider than major accident hazards and address water pollution, smog, toxic dust and chemical contamination.

It was also suggested that with the introduction of licence options requiring unconventional extraction, it is incumbent on the regulator to advise, as fully as possible, the different agencies of the technologies and threats involved in those particular licence areas and to get their advice on the appropriate metrics and appropriate risk criteria to be considered by the regulator. Specific reference was made to the Radioactivity Protection Authority.

5.1.5.2 *CER Response*

Where possible the CER will align tolerability criteria for individual and societal risk in the Framework with criteria already in use in Ireland or adopted internationally. Consideration will specifically be given to alignment of criteria with the approach adopted by the HSA for land-use planning purposes. It is not considered that the tolerable risk level should vary between onshore and offshore as there are no grounds for suggesting the tolerable risk level should differ between onshore and offshore workers. Such an approach would not be aligned with current practices in Ireland or internationally. It is reasonable and common international practice for risk criteria for the public to differ from that for workers who chose to work at a facility. Risk to the public is addressed by the HSA in land use planning⁷.

The CER's function under the Act is to regulate safety as respects the carrying on of

⁷ HSA (Health and Safety Authority): Policy & Approach of the Health & Safety Authority to COMAH. Risk-based Land-use Planning March 2010

designated petroleum activities. As such, the adoption of tolerability levels with respect to environmental risks would not be appropriate. The proposed risk criteria will however have to take account of environmental type impacts which may present a significant risk to safety, either in the form of immediate or delayed fatalities. Having regard to their 'General Duty' under the Act, petroleum undertakings will, in addition, be required to demonstrate in the safety case that the risk to safety from all petroleum activities is reduced to a level that is ALARP and this would include control of events which could have health impacts (whether immediate or long term).

It is recognised that the Framework overlaps to an extent with requirements of the COMAH Regulations. The CER overlap with the HSA and COMAH sites will be addressed in the Detailed Design phase of the Framework development. Both parties will aim to avoid duplication of requirements where possible, and to ensure consistency of approach.

The CER fully supports the suggestion that there is a need for liaison on specific issues with other agencies where they have expert knowledge such as the Radioactivity Protection Authority on management of risks arising from radioactive substances. Support for this liaison is clearly reflected under the Strategic Intent of the Framework where one of the key roles for the CER is to work with other authorities to achieve the CER vision of '*A safe petroleum exploration and extraction industry in Ireland*'. This need is further expanded upon in the section within the Draft Decision Paper on agreed regulatory interfaces and cooperation. It is expected that the CER will liaise with the relevant agencies during the assessment of safety cases.

Following consideration of responses received, it is proposed in the Draft Decision Paper that the CER will, where appropriate, align tolerability criteria for individual and societal risk in the Framework with criteria already adopted by the HSA for land-use planning purposes.

5.1.6 Consultation Question 18

Consultation Question 18

Please comment on whether you consider the Framework should introduce a lower ALARP limit in terms of individual and societal risk. If so, whether the lower limit should be:

- left to the petroleum undertaking to set; or
- advisory?

There were 17 responses to this question. Of these responses 3 respondents agreed with the proposal, 9 disagreed with the proposal, and 5 respondents did not specify if they agreed or disagreed.

5.1.6.1 Key points made by respondents

The responses received to Question 18 were mixed with a significant number of respondents both for and against the introduction of a lower ALARP limit in terms of individual and societal risk. Views also differed on whether, if adopted, the lower limit should be advisory or left to the petroleum undertaking to set. Some respondents considered that the setting of the lower limit did not offer much benefit while one comment was received that all operations should be considered within the ALARP principle. Some respondents suggested the lower limits should

be advisory and that the CER should explicitly reserve the right to make them enforceable in the future.

5.1.6.2 *CER Response*

Experience in other countries⁸, does not suggest that the absence of a lower limit results in operators putting any additional effort into reducing risks in this area. Provision of a limit, will however ensure all petroleum undertakings are taking a consistent approach. If a limit is not suggested then each petroleum undertaking will have to individually decide upon the lower limit below which significant risk reduction consideration is not warranted. Even if a risk were to lie below the lower risk limit, petroleum undertakings are still expected to adopt good practice to manage the risk. It is proposed that the lower limit will be advisory. Petroleum undertakings could adopt a lower limit if desired but would be expected to give reasonable consideration to risks which lie in the vicinity of the lower limit, otherwise their ALARP demonstration will not be robust.

Following consideration of responses received, the CER has stated in the Draft Decision Paper that it will provide guidance on a lower bound to the tolerability of risk in the ALARP Demonstration Guidance. This will allow a more consistent approach to risk management and to allow petroleum undertakings to focus resources and attention on the control of hazards that present more significant risks.

5.1.7 **Consultation Question 19**

Consultation Question 19

If upper limits are introduced for either individual or societal risk, please comment on whether the limits should be:

- left to the petroleum undertaking to set;
- advisory; or
- mandatory?

There were 17 responses to this question. Of these responses 4 respondents agreed with the proposal, 6 disagreed with the proposal, and 7 respondents did not specify if they agreed or disagreed.

5.1.7.1 *Key points made by respondents*

The majority of respondents suggested that the upper limit to tolerable risk criteria should be mandatory while some respondents suggested the limits should be advisory or set by the petroleum undertaking and monitored by the CER. One respondent proposed that the upper limit should relate to major accident hazard risk only while another suggested that the limit should include damage to property, long-term damage to health, etc., and damage to the environment and should take account of the damage that can be inflicted through reputational deterioration of industries such as food and tourism.

Suggestions were also received that limits should be aligned with those adopted by the HSA and established standards were also mentioned.

⁸ CCPS: Guidelines for Chemical Process Quantitative Risk Analysis, Second Edition, Center for Chemical Process Safety, American Institute of Chemical Engineers, New York, 2000.

5.1.7.2 CER Response

The adoption of advisory limits, which are strictly imposed, provides the regulator with adequate means to control risks while allowing for flexibility in the adoption of said limits. There may be circumstances, as yet unforeseen, where the broader societal requirements are such that a particular activity may be deemed necessary, even if it breaches the said limits. Such an activity would be an exception and only approved after detailed consideration by the CER. In this context, it is notable that the adoption of advisory upper limits for risk tolerability is consistent with practices in many other jurisdictions and the existing HSA approach.

It is proposed in the Draft Decision Paper that upper limits will be included in the Framework for individual and societal risk and that the limits will be strongly advisory in nature. The CER's function under the Act is to promote safety as respects the carrying on of designated petroleum activities. Hence the adoption of tolerability levels with respect to environmental risks or risks to property would not be appropriate. Individual and societal risk calculations will however have to take account of environmental type impacts which would present a risk to safety, either immediate or delayed.

6. Permissioning and Designated Petroleum Activities

6.1 Consultation Questions and Responses

6.1.1 Consultation Question 20

Consultation Question 20

Having regard to the requirements of the Act, please comment on the CER's proposed criteria for the designation of petroleum activities and associated infrastructure as follows:

In order to be designated, a petroleum activity is required to meet each of the following criteria:

- (i) the activity and associated infrastructure requires a petroleum authorisation;
- (ii) the activity has the potential to generate petroleum related major accident hazards;
- (iii) the activity and associated infrastructure is connected to, or has the potential to be physically connected to, the reservoir; and
- (iv) The petroleum activity is not entirely regulated by or under another Act of the Oireachtas and its designation allows for the optimum operation of the permissioning regime

There were 17 responses to this question. Of these responses 5 respondents agreed with the proposal, 6 disagreed with the proposal, and 6 respondents did not specify if they agreed or disagreed.

6.1.1.1 Key points made by respondents

A mixture of responses was received on the proposed criteria for designation of petroleum activities and associated infrastructure. Several respondents were supportive of the approach but a similar number were concerned that the proposed criteria were too restrictive and did not adequately cover long term health impacts and risks to the environment.

Concern was voiced at restricting designated activities to those activities which had the potential to generate major accident hazards and activities/infrastructure connected to, or which has the potential to be physically connected to, the reservoir. This was considered to be too restrictive by several respondents as such an approach would neglect to recognise the potential of petroleum activities to impact the environment and local health. Such impacts are of particular concern with respect to unconventional gas extraction where concern has been voiced globally on the potential impacts of such practices. Several respondents suggested that the long term, cumulative effects of an activity needed to be assessed to demonstrate that it does not represent a major hazard.

It was suggested that the CER had no remit to restrict the focus of the Framework to major accident hazards. The Act lays out in precise terms in section 13D the criteria for designation. It was considered that the CER was compelled by the statute to follow the indicated criteria and any deviation from the Act would be unlawful. The respondent considered that the CER had no discretion concerning designation but that it had been

instructed to incorporate external opinions produced by the consultation process.

It was suggested that criterion (ii) should be amended to remove the word “major” from the text as it was considered that this term was largely a subjective term and could give rise to uncertainty as to whether a petroleum undertaking is designated by the Framework. It was suggested that criterion (iii) should be updated so as to include infrastructure that is used to service infrastructure that is directly connected to the reservoir. In particular, it should be worded such that infrastructure used for the storage of fluids and waste products (e.g. in hydraulic fracturing) should be covered by the designation. It was considered that “connected activities” of this nature should be designated, and not dealt with separately. It was suggested that criterion (iii) should also make it clear that infrastructure used in exploration (e.g. drilling) should be covered by the designation, rather than refer to infrastructure that is directly connected to, or has the potential to be connected to, the reservoir. It was suggested that designation should apply to exploration, extraction, conveyancing and decommissioning activities.

6.1.1.2 CER Response

Following consideration of the response received, the CER has removed the proposed criteria for deciding which petroleum activities would be designated petroleum activities. The proposed criteria were a practical interpretation of the criteria set out in the Act, and were not intended to limit the activities which could be designated. The criteria have been removed to avoid misinterpretation going forward in the consultation process. Reference to the criteria listed within the Act is considered sufficient to guide designation. The CER is obliged to designate petroleum activities where *safety considerations render it appropriate*. In this regard, the Act requires the CER to have regard to the following issues when designating a petroleum activity:

- a) the nature of the petroleum activity;
- b) the type of petroleum infrastructure;
- c) an assessment of the risks posed by the carrying on of the petroleum activity;
- d) the safety measures required to reduce the risks; and
- e) the extent to which the petroleum activity and petroleum infrastructure is regulated by or under another Act of the Oireachtas.

Permitting, based on the approval of a safety case, is not necessary or appropriate for every individual petroleum activity. The key aspect of designation is that it captures the main petroleum activities which could present a significant danger to workers and / or the public and differentiates between activities that require specific safety measures and different petroleum infrastructure. Consideration of the above elements results in similar categories of activities for designation as suggested in the Consultation Paper. While the list is high level it is inclusive of all significant activities that are likely to during the life of a field, from development through to decommissioning.

- **Well Work:** This includes drilling (appraisal, exploration, development, production wells), hydraulic fracturing operations, non-routine workovers/well interventions and well testing;

- **Production.** This includes the production, conveyancing and processing of hydrocarbons;
- **Combined Operations.** This includes operations involving at least two or more facilities, at least one of which is covered by a safety case; and
- **Decommissioning.** This includes from making the petroleum infrastructure hydrocarbon free to site abandonment.

The CER is required to designate petroleum activities by regulation. *Designated Petroleum Activities Regulations* will be issued for public comment which detail the CER's policy on designation and will provide details on the petroleum infrastructure associated with the above activities.

The CER recognises that some petroleum activities could have the potential to generate environmental impacts. The CER's function under the Act is to promote safety as respects the carrying on of designated petroleum activities. Given this function, the CER is required to consider environmental incidents to the extent to which they could present a risk to safety. This would include health effects arising from emissions from petroleum activities, including those associated with hydraulic fracturing. The definition of major accident has been amended to clarify this remit, see Question 3. It is recognised that environmental impacts, including long term health impacts, either from normal operations or accidental events, are also covered by existing regulatory bodies including the EPA and HSA and the CER will liaise with these bodies to ensure the ALARP demonstration is robust for environmental incidents that can impact safety.

On consideration of the responses received, it is proposed in the Draft Decision Paper that the CER will refer directly to the criteria listed in section 13D of the Act for guiding the designation of petroleum activities.

6.1.2 Consultation Question 21

Consultation Question 21

Respondents' views are invited as to the specific application of the designation criteria to the construction and installation of petroleum infrastructure.

There were 10 responses to this question. Of these responses 5 respondents agreed with the proposal, 0 disagreed with the proposal, and 5 respondents did not specify if they agreed or disagreed.

6.1.2.1 Key points made by respondents

Many respondents agreed with the proposed approach that construction and installation activities should not be covered by the Framework. The main concern voiced by several respondents was that drilling activities, including drilling of wells, workovers, etc. should not be considered to be a construction activity and should be designated under the Framework.

6.1.2.2 CER Response

Aspects of construction and installation of petroleum infrastructure which is authorised under a petroleum authorisation and which could impact the later safe operation of a petroleum facility would be required to be addressed under the Act. Appropriate risk management procedures would also be expected to be in place for any construction or installation work that is planned at, or in the vicinity of, an existing petroleum infrastructure, where workers could be exposed to petroleum hazards and the construction activities could impact petroleum activities. It is important to note that an element of the General Duty imposed on petroleum undertakings require all construction and installation of petroleum infrastructure to be sound and fit for purpose and that the petroleum infrastructure be maintained. Demonstrating compliance with this duty will form part of the Safety Case.

Following consideration of comments received, it is proposed in the Draft Decision Paper that construction and installation activities will not automatically be classed as designated petroleum activities. As detailed in Questions 22 and 23, it is proposed that well work activities including drilling, completions interventions will be classed as designated petroleum activities.

6.1.3 Consultation Question 22

Consultation Question 22

Please comment on the application of the proposed designation criteria to exploration activities.

There were 9 responses to this question. Of these responses 4 respondents agreed with the proposal, 1 disagreed with the proposal, and 4 respondents did not specify if they agreed or disagreed.

6.1.3.1 Key points made by respondents

Clarity was requested on wells and well operations and whether well abandonment (plugging and abandonment) was included. It was also suggested that seismic survey was too restrictive and instead be replaced with geophysical survey. Clarification was also sought as to whether groundwater wells would be addressed under the Framework. It was queried whether they needed to be regulated to ensure they would not affect an operational petroleum resource, directly or indirectly. It was suggested that Tables 1 and 2 in the Consultation Paper might be combined, combining development and exploration drilling. It was suggested that the absence of any reference to unconventional extraction suggests that such activities are not covered by the Framework and that information provided in relation to onshore licences was inadequate to make an assessment.

It was suggested that that drill ships should still be covered when transiting between different locations for the same operator if it could still present a major accident hazard.

6.1.3.2 CER Response

Sample activities were presented within the tables in section 7 to facilitate the consultation process by providing an indication of what activities are likely to be designated under the

Framework. The assumed breakdown of activities of exploration, extraction, conveyancing and decommissioning was adopted to reflect the breakdown adopted within the Act for petroleum activities. Under the Act, the CER is required to issue regulations which specify which activities will be designated under the Framework. This will exclude all geological/geophysical surveys including seismic surveys.

The drilling of groundwater wells, either by a petroleum undertaking or by another, would not be covered by the Framework as it is not a petroleum activity requiring a petroleum authorisation. Petroleum undertakings would however be expected to consider any potential for interaction with groundwater wells in their risk assessment of proposed activities. Water injection wells, which are sometimes used to inject water back into the reservoir, will be covered by the Framework. Abandonment of production wells is covered by the Framework as referenced under decommissioning and would require a Well Work Permit, see Question 25 for details. The Well Safety Case for an exploration/appraisal well would be expected to cover the proposed drilling programme, well completion design and operations for suspension and/or abandonment of the well as these are all likely to be carried out under a single drill programme. Unconventional gas extraction will be covered by the Framework and this will be clarified in future documents. While no reference is specifically made to shale wells in Table 1, they are considered to be covered by the generic 'well' term used. Exploitation of shale, an unconventional gas extraction process, is indicated in Table 2 which provides a more detailed breakdown of wells.

The CER will have regard to the comments received in response to the Consultation Paper in developing the *Designated Petroleum Activity Regulations*. Following consideration of comments received, the CER is minded to propose in the *Designated Petroleum Activity Regulations* that the drilling, carrying out of the completion, suspension, abandonment or testing of exploration wells which are covered by a petroleum authorisation will be designated petroleum activities. This will include well work for unconventional gas extraction. It is not currently proposed that geological/geophysical surveys, including seismic surveys, will be classed as designated petroleum activities. Nor is it currently proposed that the transiting of drill vessels between sites within Irish waters should be a designated activity as this activity, per se, does not require a petroleum authorisation. The safety case for non-production facilities would, however, be expected to address safety measures in place for managing risks associated with coming on site and leaving site (including making ready for transit).

6.1.4 Consultation Question 23

Consultation Question 23

Please comment on the application of the designation criteria to extraction activities.

There were 10 responses to this question. Of these responses 6 respondents agreed with the proposal, 0 disagreed with the proposal, and 4 respondents did not specify if they agreed or disagreed.

6.1.4.1 Key points made by respondents

There was general support for the proposed approach with a number of clarifications sought.

It was suggested that the category should be simplified to “all wells and associated production facilities” to avoid doubt as to the category of wells to be included and suggested that references to shale wells be removed as it would be covered under generic well types.

It was suggested that the absence of any reference to unconventional gas extraction is misleading, making it impossible to give a sensible answer to the question.

It was queried whether gas storage wells or water wells are included under the Framework. It was suggested that clarity was required as to whether or not the safety case would apply to areas already covered by Marine Certification e.g. stability/seaworthiness.

6.1.4.2 CER Response

Sample activities were presented within the tables in section 7 to facilitate the consultation process by providing an indication of what activities are likely to be designated under the Framework. Unconventional gas extraction will be covered by the Framework. While most wells are covered by the Framework, some wells are not. The operation of groundwater wells and wells for gas storage are not covered by the Framework as they do not require a petroleum authorisation. The operation of gas or water injection wells would be included as they will require a petroleum authorisation to be drilled.

On the question of marine issues, it is expected that safety cases for floating facilities will have to address marine issues as they can present a major accident hazard. Reference to compliance with existing marine certificates may assist with this process but there may be additional marine aspects that need to be considered in the safety case to provide a robust ALARP demonstration. The CER will liaise with appropriate marine bodies for the application of the Framework to marine issues.

The CER will have regard to the comments received in response to the Consultation Paper in developing the *Designated Petroleum Activity Regulations*. From consideration of comments received, the CER is minded to propose in the *Designated Petroleum Activity Regulations* that activities associated with wells requiring a petroleum authorisation as defined in the Act⁹, will be classed as a designated petroleum activity. This will include wells for both unconventional and conventional oil and gas extraction. The operation of injection wells, water or gas, will also be classed as a designated petroleum activity. The completion, suspension and abandonment of the said wells will also be classed as a designated petroleum activity. It is not currently proposed that the Framework will cover wells for gas storage or groundwater as these are not covered by a petroleum authorisation.

6.1.5 Consultation Question 24

Consultation Question 24

Please comment on application of the designation criteria to conveyancing activities.

There were 9 responses to this question. Of these responses 4 respondents agreed with the

⁹ See petroleum authorisation under Section 13A of the Act

proposal, 2 disagreed with the proposal, and 3 respondents did not specify if they agreed or disagreed.

6.1.5.1 Key points made by respondents

There was general support for the proposed approach to designation of conveyancing activities along with a number of suggestions. It was noted that conveyance by road tankers would not be a designated activity although unconventional extraction could demand a multiplicity of storage tanks, a wide network of pipes and significant road haulage. It was considered that, even if individual loads were considered to be small, it was not appropriate that such aspects would not be considered by the regulator. It was also suggested that shuttle tankers for offshore platforms should be covered and that specific mention should be given to risers as they require particular consideration given the dynamic loads they are subjected to, particularly when used for floaters. It was also suggested that seawater pipes should be included as seawater is often pumped at high pressure into the reservoir for pressure maintenance.

It was queried whether “terminals” i.e. facilities for the reception/onward transshipment of product, but which have no processing, or compression stations at landfall facilities were covered by the Framework.

6.1.5.2 CER Response

It is recognised that some unconventional gas extraction practices may require significant road haulage. As tanker usage, in itself, does not require a petroleum authorisation, it is not a petroleum activity and so the general operation of tankers lies outside the remit of the Act. However, the use of road vehicles on a hydrocarbon containing site or the use of shuttle tankers in close proximity to an offshore shore facility can present a major accident hazard due to the impact hazard presented by such vehicles. Where present, the impact hazard will need to be addressed in the Non-production Safety Case and/or Production Safety Case for both conventional and non-conventional extraction/production activities.

The Framework will cover risers and water injection wells and associated pipe work. It is expected that the Framework will cover terminal facilities and compression stations which are covered by a petroleum authorisation.

The CER will have regard to the comments received in response to the Consultation Paper in developing the *Designated Petroleum Activity Regulations*. Following consideration of comments received the CER is minded to propose in the *Designated Petroleum Activity Regulations* that all conveyancing activities covered by a petroleum authorisation will be classed as designated petroleum activities. A petroleum authorisation is not required for road or sea tankers, per se; hence their operation is not covered by the Framework.

6.1.6 Consultation Question 25

Consultation Question 25

Please comment on application of the designation criteria to decommissioning activities.

There were 8 responses to this question. Of these responses 4 respondents agreed with the proposal, 1 disagreed with the proposal, and 3 respondents did not specify if they agreed or disagreed.

6.1.6.1 *Key points made by respondents*

There was general support for the proposed approach along with a number of clarifications/suggestions. It was queried if Decommissioning Safety Cases would only be required to cover activities to the point where wells were plugged and abandoned.

It was noted that no reference was made to decommissioning with respect to unconventional extraction. It was suggested that while decommissioned wells could not present a major accident risk, it was known from other parts of the world that environmental damage could continue for many years from abandoned wells.

It was queried why the CER should give exemption to vessels which would be towed away from site as accidents/spills/environmental damage can occur during the tow.

6.1.6.2 *CER Response*

It is proposed that decommissioning of all production facilities should be a designated petroleum activity. Given the infrastructure that may have been developed for production, it is considered that a Decommissioning Safety Case is warranted for all production facilities even if they are designed to be towed away from site. The Decommissioning Safety Case would cover such topics as decommissioning of the subsea infrastructure, removal of risers, activities to make topsides hydrocarbon free, making ready for transit and site abandonment.

It is considered reasonable that Decommissioning Safety Cases should cover all activities associated with decommissioning, from making the facility hydrocarbon free through to site abandonment following satisfaction of all of the petroleum undertaking's obligations under the petroleum authorisation. While the petroleum risk will be minimised once the facility is hydrocarbon free, there may still be significant, high risk activities required such as removal of topsides structure/deconstruction of the jacket to warrant the activity being designated.

While no Decommissioning Safety Case/Safety Permit will be required for non-production vessels or rigs, the safety case for such facilities would be expected to address hazards associated with coming on site, proposed operations, making ready for transit and leaving site. The Framework only covers activities which are covered by a petroleum authorisation hence it cannot be extended to cover transit of such vessels.

It is proposed that the Well Safety Case will be required to be updated to take account of proposed work to abandon a well and the proposed arrangements for well abandonment. A Well Work Safety Permit would be required for this operation and the proposed conditions for well abandonment will be required to be approved by an independent Well Examiner. The Act requires a demonstration to be included in the safety case that all petroleum activities are carried out in such a manner as to reduce any risk to safety to a level that is as low as is reasonably practicable. Undertakings will be required to provide a demonstration within the safety case that the approach adopted for abandonment of a well, whether used for conventional or unconventional extraction, complies with this requirement with respect to all

risks to safety.

The CER will have regard to the comments received in response to the Consultation Paper in developing the *Designated Petroleum Activity Regulations*. Following consideration of responses received, the CER is minded to propose in the *Designated Petroleum Activity Regulations* that decommissioning of all production facilities, even if they are floating facilities and capable of being towed from the field, will be classed as designated petroleum activities. It is proposed that the decommissioning Safety Permit and safety case will cover the full spectrum of decommissioning activities, from making the facility hydrocarbon free through to site abandonment.

No Decommissioning Safety Case will be required for non-production vessels or rigs which, by their nature, are involved in transient rather than permanent operations. The safety case for non-production facilities would however be expected to address safety measures required for coming on site and leaving site (including making ready for transit).

6.1.7 Consultation Question 26

Consultation Question 26

Please comment on the CER's proposed approach to dealing with connected activities within the appropriate safety case rather than designation of such supporting activities.

There were 10 responses to this question. Of these responses 7 respondents agreed with the proposal, 0 disagreed with the proposal, and 3 respondents did not specify if they agreed or disagreed.

6.1.7.1 Key points made by respondents

The majority of respondents were supportive of the proposed approach. It was noted that it was important that the scope/boundaries of safety cases, the level of detail and activities to be addressed would need to be clearly defined or clear guidance provided on them and that this should be done in consultation with the CER.

The importance of addressing potential risks from connected operations was noted. Specific mention was made to ROV operations, catering and helicopter operations (particularly the risks presented from spills during refuelling).

It was noted that a very large number of specialised vehicles could be required for unconventional gas extraction activities and that these should be included in the appropriate safety case rather than in a separate designation. A large number of wells, possibly 16, could also be required in a small location and these would need to be considered connected activities.

6.1.7.2 CER Response

Detailed safety case guidelines will be provided as to the content of all safety cases/notifications. These guidelines will be issued for public consultation.

On the question of unconventional gas extraction wells, design safety cases will be required for each well however the interaction between wells and hazards associated with the grouping of the wells in a small area will also have to be taken into account. The use of road vehicles on a hydrocarbon containing site presents a major accident hazard due to the impact hazards presented by the vehicles. Where present, the impact hazard will need to be addressed in the Non-production Safety Case and/or Production Safety Case for both conventional and non-conventional extraction/production activities.

Where connected activities create the potential for a major accident hazard, they will be considered in detail in the safety case. Activities which may present other types of risk will also be addressed in the safety case in the petroleum undertaking's demonstration that they are meeting their general duties to ensure that any petroleum activity is carried on in such a manner as to reduce any risk to safety to a level that is as low as reasonably practicable.

Under the Act, petroleum undertakings must meet a 'General Duty' to reduce all risk to safety to a level that is ALARP and they must provide a demonstration within the safety case as to how they will achieve this requirement. Detailed guidelines will be provided as to the required content of all safety cases/notifications and the treatment of connected activities. These guidelines will be issued for public consultation.

6.1.8 Consultation Question 27

Consultation Question 27

Please comment on the six proposed principles underpinning the design of the permissioning system.

There were 10 responses to this question. Of these responses 3 respondents agreed with the proposal, 2 disagreed with the proposal, and 5 respondents did not specify if they agreed or disagreed.

6.1.8.1 Key points made by respondents

Respondents were generally supportive of the proposed principles for the design of the permissioning system but several significant comments were received on the detailed application of the principles.

As discussed under Question 29, a number of respondents consider that it was not appropriate to require approval of a concept safety case, that there would not be sufficient information available at the design stage to generate such a safety case and that the requirement for such a safety case was considered to be excessive regulation. Consultation rather than safety case approval was considered appropriate at the concept stage. It was considered that a Safety Permit was not warranted at the conceptual planning stage as there were no 'activities' being undertaken and that the final design layout of the undertaking would not be finalised at this stage. It was considered that the wording of Principle (v) - *The permissioning system should enable the CER to apply appropriate restraints to operations progressing until such a time as the proposed approach has been approved by the CER* should be reviewed in light of this comment.

It was suggested that the wording “*Where beneficial and possible*” should be removed from Principle (vi) - *Where beneficial and possible, the sequencing and issuing of submissions required under the Act should be coordinated with the licensing/Safety Permitting/approvals of other regulatory authorities*, to make the principle more definitive. It was also suggested that an additional principle should be added to the list, “*The permissioning system should have clearly defined timelines and deadlines for submission and approval of the various safety cases, which fits with industry requirements*”.

It was considered that in the case of unconventional gas extraction that risks should have to be as low as reasonably practicable and also socially acceptable.

The focus on co-ordination with other regulatory authorities and the intent to avoid duplication and unnecessary burdens on petroleum undertakings and stakeholders was welcomed. In order to prevent duplication for sites which come under both the COMAH Regulations and the Act, support was voiced for an aligned approach for the sites where, as far as possible, the same document, e.g. Safety report and safety case, would satisfy both regulators. With regard to co-ordination with other agencies, it was also noted that the CER should be mindful that groundwater is not regulated, in that extractions under 5mg/L are not subject to EPA approval.

One response suggested that the proposed permissioning principles were appropriate with the caveat that the CER should have executive control over all regulatory and licensing procedures as per the remit allocated in the Act. It was considered that the document did not detail how this would be achieved.

6.1.8.2 CER Response

The reasons for adopting a single Safety Permit for production are explained under Question 29. The proposed principles are proposed as high level guides for the permissioning system. Principle (v) is considered appropriate as a principle for the reasons set out in the Consultation Paper. Similarly principle (vi) is considered reasonable as it may not always be possible or even beneficial to align the sequencing and issuing of submissions under the Act with all other licensing/Safety Permitting/approvals of other regulatory bodies. Rather than including an additional principle, detailed guidance will be provided on timelines and deadlines required for submission and approval of the various safety cases.

‘Social acceptability’ as this is a wider remit than the Act directs the CER to address. As in respect of other environmental matters’ the CER’s remit does not apply to the regulation of groundwater except in the event that an impact on groundwater may create a risk to safety. The relevant environmental authorities such as the EPA will monitor the impact of petroleum activities on groundwater.

It is recognised that the Framework overlaps to an extent with requirements under the COMAH Regulations. The CER overlap with the HSA and COMAH sites will be addressed in the Detailed Design phase of the Framework development. Both regulatory authorities will aim to avoid duplication of requirements where possible.

The Act does not provide the CER with executive control over all regulatory and licensing

procedures. It only requires the CER to cooperate and consult with other regulatory bodies for the purpose of avoiding duplication of activities between itself and those bodies.

In light of the foregoing, it is proposed to retain the six suggested principles for permissioning.

As detailed under Question 29, following consideration of responses received, the Draft Decision Paper proposes that a single Safety Permit will be required for production and that issuance of the Safety Permit will be dependent on both an approved Design Safety Case and Production Safety Case.

6.1.9 Consultation Question 28

Consultation Question 28

Please comment on the proposed approach for a Well Work Safety Permit and supporting safety cases.

There were 10 responses to this question. Of these responses 3 respondents agreed with the proposal, 1 disagreed with the proposal, and 6 respondents did not specify if they agreed or disagreed.

6.1.9.1 Key points made by respondents

While a number of clarifications/suggestions were made, there was general support for the proposed approach of a Well Work Safety Permit based on the approval of a well design safety case and a Non-Production Safety Case. It was however queried whether it was the drilling activity or the drilling facility which would be designated.

Concern was voiced by some respondents that the approach was unduly complicated with the need for a Provisional Well Design Safety Case. It was considered that there would be insufficient information available to support a provisional well design safety case and an approach similar to that currently adopted for the Generic Well proposal to the DCENR should be adopted with the Generic Well proposal being a consultation document rather than a document for approval. It was suggested, for clarity, that the Non-Production Safety Case should be re-named the "Drilling safety case" and include:

- Well Design & Engineering
- Drilling Program
- Drilling Equipment (i.e. Rig)

It was also noted that the Safety Permit should include Aids to Navigation where relevant.

It was noted that, depending on problems faced during the programme, changes could potentially be required to the well completion during the drilling programme. The CER could therefore potentially be required to be on standby 24/7 during drilling in case a change would need to be approved.

It was suggested that a much more detailed Well Safety Case would be needed in the case

of unconventional gas extraction and that each fracking operation should require a well design safety case. Aspects such as the depth and extent of the layer within which the hydraulic fracturing would occur and any aspects which may cause harm or which could impact the wider environment should be included in the safety case. For instance consideration should be given to whether there are faults within the rock which could allow petroleum material to migrate upwards to groundwater sources and whether there could be minerals which are toxic or radioactive in the area.

6.1.9.2 *CER Response*

The approach suggested in the Consultation Paper was more detailed than similar permissioning systems adopted in other oil and gas regimes and could have been difficult to implement in the timescales associated with well work. It is considered that the approach detailed in the Draft Decision Paper will provide adequate regulation of the early design of well, while not being overly bureaucratic. Under this approach the petroleum undertaking will be required to submit a Well Notification early in the design process. The Well Notification will initiate a dialogue between the petroleum undertaking and the CER that will continue throughout the design until issue of the Well Work Permit. It is proposed the notification should contain a high level ALARP review which demonstrates that the chosen approach, particularly with regard to well locations for onshore developments, will reduce risks associated with the petroleum infrastructure to a level that is ALARP. While it is proposed that the notification takes the form of a consultation document which would not require approval by the CER, the petroleum undertakings would be advised to address any comments raised by the CER on the document as it would be unlikely that the Well Safety Case would be approved if concerns raised during consultation are not adequately addressed. Responsibility for ensuring design decisions result in risks being reduced to a level that is ALARP lies with the petroleum undertaking. This is a clear duty under the Act. If the undertaking fails to meet this duty then a Safety Permit cannot be issued until this is addressed.

It is proposed to retain the 'Non-Production Safety Case' title as a generic title as a Well Work Safety Permit may be required for operations that do not involve drilling i.e. for a well test vessel. The Non-Production Safety Case will include a description of both the facility and the operations it is capable of carrying out. Aids to navigation will be included where appropriate. The Well Safety Case will include details of the proposed operations to be carried out at the actual well of interest along with details of the proposed well completion. (See also Question 48 for related discussions). The Act requires a demonstration be included in the safety case that all petroleum activities are carried out in such a manner as to reduce any risk to safety to a level that is as low as is reasonably practicable. As hydraulic fracturing is a petroleum activity, the undertaking will have to comply with this requirement with respect to associated risk to safety.

Following consideration of comments received, it is proposed that the Well Work Safety Permit will be adopted based on the approval of a Well Safety Case and a Non-Production Safety Case. The Safety Permit will cover the proposed designated activities e.g. drilling/well test etc. A Well Notification will also be required early in the design process for planned work at a well. This will be a consultation document which will not require approval by the CER but petroleum undertakings would be advised to address any comments raised by the regulator

as it would be unlikely that the Well Safety Case would be approved if concerns raised during consultation are not adequately addressed.

As noted in the Draft Decision Paper, the CER will publish *Safety Case Guidelines*¹⁰ and *Safety Case Assessment Procedures* to provide clarity to petroleum undertakings on the appropriate contents for the safety cases described above and the manner in which the CER will assess submitted safety cases.

6.1.10 Consultation Question 29

Consultation Question 29

Please comment on the proposed approach for a Pre-Construction Safety Permit and supporting safety case.

There were 9 responses to this question. Of these responses 2 respondents agreed with the proposal, 3 disagreed with the proposal, and 4 respondents did not specify if they agreed or disagreed.

6.1.10.1 Key points made by respondents

A number of concerns were raised at the proposed approach of a Pre-Construction Safety Permit based on approval of a Concept Safety Case. While some respondents considered that the requirement for a Pre-Construction Safety Permit was overly bureaucratic there was general support for this safety permit. However, a number of respondents considered that the Pre-Construction Safety Permit should be based on an approved Design Safety Case rather than a Concept Safety Case. It was considered that insufficient information would be available at the concept stage to allow approval and that the concept would be likely to change. Approval of the design safety case would also align better with information requirement for other regulatory bodies. It was stressed that clarity was needed regarding the safety input required by the other regulators, e.g. An Bord Pleanála, DCENR, etc. and that a cohesive and efficient process should be adopted where conflicting regulatory processes, which could result in potential legal issues, were avoided.

It was queried when production was considered to have commenced for unconventional gas extraction operations, pre or post hydraulic fracturing operations. It was noted that the Pre-Construction Safety Permit should include aids to navigation where relevant.

6.1.10.2 CER Response

The approach suggested in the consultation document was significantly more bureaucratic than similar permissioning systems adopted in other oil and gas regimes. It is considered that the approach proposed in the Draft Decision Paper will provide adequate regulation of the early design of production facilities while not being overly bureaucratic. Under this approach it is expected that a petroleum undertaking will submit its Design Safety Case to the CER at such a point in time that will allow approval of the safety case by the CER prior to formal consideration of the petroleum undertaking's separate application for the approval by the

¹⁰ The Safety Case Guidelines will be developed in accordance with Section 13L of the Act.

appropriate planning authority. The specific point in time when the petroleum undertaking will be required to submit such a Design Safety Case will be set out in the *Permissioning Process Map*. Submission of the Design Safety Case will allow the CER to review the proposed design of the chosen concept and the ALARP cases made for design decisions which could impact the risks associated with the proposed concept and design. If the design deviates materially from the revised Design Safety Case in the interim period between submission of the Design Safety Case and the Production Safety Case, then the petroleum undertaking would be required to resubmit the Design Safety Case to the CER for approval. Responsibility for ensuring design decisions result in risks being reduced to a level that is ALARP lies with the petroleum undertaking. This is a clear duty under the Act. If the undertaking fails to meet this duty then a Safety Permit cannot be issued until this is addressed.

Hydraulic fracturing operations for unconventional gas extraction would be carried out under the Well Work Permit. However a Production Permit may also be required if return fluids are to be processed via the production facility.

As far as possible, the CER will endeavour to ensure that all safety case submissions, notifications and Safety Permits are aligned with existing safety permits required by other statutory authorities in order to make the regulatory process as efficient and smooth as possible.

Following consideration of responses received, it is proposed in the Draft Decision Paper that a single Safety Permit will be required for production and that issuance of the Production Safety Permit will be dependent on the acceptance of both a Design Safety Case and a Production Safety Case.

6.1.11 Consultation Question 30

Consultation Question 30

Please comment on the proposed approach for a Production Safety Permit and supporting safety cases.

There were 8 responses to this question. Of these responses 3 respondents agreed with the proposal, 2 disagreed with the proposal, and 3 respondents did not specify if they agreed or disagreed.

6.1.11.1 Key points made by respondents

While a number of clarifications/suggestions were raised, there was general support for the proposed approach of a Production Safety Permit supported by a Production Safety Case. As detailed under Question 29, a number of respondents were concerned at the proposed approach of approving a Concept Safety Case in support of a Pre-Construction Permit and that the Pre-Construction Permit should instead be based on approval of the Design Safety Case. Queries were raised as to requirements for land based sites which fell under both COMAH Regulations and the Act and whether the safety report required under the COMAH Regulations would suffice as a Production Safety Case. It was suggested that to prevent duplication the same document should satisfy both regulators.

It was queried whether the safety case risk assessment would focus on major accident hazards and noted that management and operation of wells, once commissioned, would need to be addressed within the Production Safety Case. It was also noted that the Production Safety Permit should include aids to navigation where relevant.

Concerns were voiced that the proposed approach would not be adequate to address unconventional gas extraction and that a safety case would be required for each hydraulic fracturing operation. The safety case would also need to consider pipeline management and tankers to be used among the variety of well pads required for unconventional gas extraction. It was suggested that the 5 yearly review would be inadequate and that more frequent reviews would be required for unconventional gas extraction which was considered to be a risky and ill-understood case.

6.1.11.2 CER Response

It is considered that the proposed permissioning regime will provide a robust basis for the regulatory control of designated petroleum activities. It reflects practices widely adopted in the oil and gas industry.

The Production Safety Case will include control of major accident hazards from pipelines and, where appropriate, by aids to navigation. The management and operation of wells and the reduction of associated risks will also be covered in the Production Safety Case. The Well Safety Case focuses on the design and construction of wells and will include operational requirements. If hydraulic fracturing is included in a well work programme, the proposed approach will be required to be included in the Well Safety Case which will need to be approved by the CER. The proposed well work and well completion design will also be required to be verified by the Well Examiner. The Production Safety Case will reflect how production from multiple wells is controlled and interfaces with the production facility such as emergency shutdown. Risks arising from well operations must also be considered in the quantified risk assessment for the production facility. Provisions for tanker activities are detailed in Question 24.

It is recognised that the Framework overlaps to an extent with the requirements of the COMAH Regulations. The CER overlap with the HSA and COMAH sites will be addressed in the Detailed Design phase of the Framework development. Both regulatory authorities will aim to avoid duplication of requirements where possible.

As detailed under Question 34, it is proposed that the petroleum undertaking will carry out a thorough review of the Production Safety Case every five years. The safety case content will however be reviewed on an ongoing basis by the CER through audits and inspections.

Following consideration of responses received, it is proposed in the Draft Decision Paper that a Production Safety Permit will be retained, supported by an approved Production Safety Case. As detailed under Question 29, the approval of the Design Safety Case will also be required for the Production Safety Permit.

6.1.12 Consultation Question 31

Consultation Question 31

Please comment on the proposed approach for a Combined Operations Safety Permit and supporting safety case.

There were 8 responses to this question. Of these responses 5 respondents agreed with the proposal, 1 disagreed with the proposal, and 2 respondents did not specify if they agreed or disagreed.

6.1.12.1 Key points made by respondents

There was general support for the proposed Combined Operations Safety Permit supported by an approved Combined Operations Safety Case. Some respondents did however query the need for a Combined Operations Safety Case, suggesting such operations could be addressed under the Production Safety Case.

It was suggested that the Combined Operation Safety Permit should logically apply to any trucks or mobile units providing services to an unconventional extraction location (e.g. pumps etc). It was also noted that the Combined Operations Safety Permit should include aids to navigation where relevant.

6.1.12.2 CER Response

While it is recognised that some aspects of combined operations could be covered by the Production Safety Case, the actual specifics of the combined operation such as facility type involved, proximity requirements, required interfaces between facilities, etc, will not be known until the actual operation is planned. A Combined Operations Safety Case will focus on management of risks associated with the combined nature of the operation rather than risks already addressed within the Production Safety Case.

Detailed safety case guidelines will be provided as to the content of all safety cases/notifications. These guidelines will be issued for public consultation. The impact risk presented by tanker usage on land sites, which could present a hazard, see Question 24, would normally be covered by the Production or Non-Production Safety Case as appropriate. If however a combined operation presented additional/different truck usage then this would have to be addressed in the Combined Operations Safety Case.

Following consideration of responses received, the Draft Decision Paper proposes that a Combined Operation Safety Permit will be adopted supported by an approved Combined Operations Safety Case.

6.1.13 Consultation Question 32

Consultation Question 32

Please comment on the proposed approach for a Decommissioning Safety Permit and supporting safety case.

There were 7 responses to this question. Of these responses 5 respondents agreed with the proposal, 0 disagreed with the proposal, and 2 respondents did not specify if they agreed or disagreed.

6.1.13.1 Key points made by respondents

While a number of clarifications/suggestions were raised, there was general support for the proposed Decommissioning Safety Permit supported by an approved Decommissioning Safety Case.

It was suggested that a Decommissioning Safety Permit should be required for each well involved in unconventional gas extraction. It was also proposed that there may initially only be sufficient detail available to submit a high level Decommissioning Safety Case and that this should be updated when further details were available closer to reservoir isolation and hydrocarbon freeing of the plant/equipment stages. It was queried whether the Decommissioning Safety Case would be required to cover activities post platform blowdown, (facility made hydrocarbon free). It was also noted that the Decommissioning Safety Permit should include aids to navigation where relevant.

6.1.13.2 CER Response

It is considered that there should be sufficient information available to produce a Decommissioning Safety Case without the need for a staggered submission system. If material change is proposed to the decommissioning activities then the Decommissioning Safety Case can be revised and resubmitted to capture these changes. Detailed safety case guidelines will be provided as to the content of all safety cases/notifications. These guidelines will be issued for public consultation.

The full spectrum of decommissioning activities, from making the facility hydrocarbon free through to site abandonment, will need to be addressed in the Decommissioning Safety Case. While the petroleum risk will be minimised once the facility is hydrocarbon free, there may still be significant, high risk activities required such as removal of topsides structure/deconstruction of the jacket to warrant the activity being designated.

While activities involving Non-Production Units will not require a Decommissioning Safety Case, their Non-Production Safety Case will need to address the departure from site and making ready for transit.

Following responses received, it is proposed in the Draft Decision Paper that a Decommissioning Safety Permit will be adopted supported by an approved Decommissioning Safety Case. If a decommissioning programme includes well abandonment activities, then a Well Work Permit will also be required supported by an update to the appropriate Well Safety Case.

6.1.14 Consultation Question 33

Consultation Question 33

Comments are welcome on how the CER should approach safety case assessments.

There were 16 responses to this question. Of these responses 4 respondents agreed with the proposal, 0 disagreed with the proposal, and 12 respondents did not specify if they agreed or disagreed.

6.1.14.1 Key points made by respondents

It was acknowledged by most respondents that CER would be unable to maintain all of the expertise in-house due to the scale of the industry in Ireland. It was suggested that the CER should retain some expertise and that this expertise should be of the highest level. It was also suggested that the CER should share resources with other government agencies for the review of safety cases, in particular the expertise held by the HSA or registered agencies such as Lloyds or DNV may be useful when assessing safety cases. For expertise outside of the capability of the HSA or CER, it will be necessary for the CER to contract outside experts, the fees for contracting such experts should be met by a levy imposed on the petroleum undertaking whose safety case is being assessed. It was suggested that the list of expertise required should also include geologists. Where respondents recommended that all expertise should be in-house, this was with a view to avoiding conflict of interest. Respondents also commented that the costs of resources should be neutral to the exchequer/CER and payable by the petroleum undertaking.

Respondents also suggested that: the CER should have consideration for the communities most affected by operations covered under the safety case; the CER should publish an impact assessment on maritime traffic and activity in the area; and CER personnel should participate in industry initiatives related to safety, integrity management, operations, etc. with a view to ensuring that the CER is aware of current industry best practice.

Respondents also suggested that the CER should aim to have a consistent approach to safety case assessments and that should it decide to use a large number of assessors, which has the potential to impact consistency, clear and detailed safety case Assessment Guidelines should be provided.

6.1.14.2 CER Response

The CER will maintain a practical level of expertise in-house. Where possible, use will be made of expertise that already exists within state bodies, authorities and agencies. The list of required experts provided in the Consultation Paper is a sample list; if additional experts, such as a geologist, are considered necessary, they will be sought from external sources. The potential for conflicts of interest will be considered at the tender stage for external resources and appropriate measures will be put in place to identify and address such conflicts. The approach will be cost neutral to the exchequer/CER with costs being recovered from petroleum undertakings.

The CER will cooperate with the appropriate authorities such as An Bord Pleanála and Local

Authorities in relation to the assessment of the impact of operations on the locality, specifically where safety of the public is impacted.

The CER will also work with the appropriate authorities during the Detailed Design phase of the Framework to develop an impact assessment on maritime traffic if it is deemed to be required.

The CER will look to participate in industry initiatives related to safety, integrity management and operations, and will liaise at a national, European and International level to ensure that the CER remains informed of current industry best practice.

Regarding the provision of Safety Case Assessment Guidelines, the CER will publish detailed Safety Case Assessment Manual as part of the Detailed Design phase of the Framework development.

Following consideration of responses received, it is proposed that the CER will use a mix of CER and external resources for the assessment of safety cases and that comprehensive guidance on safety case assessment will be published in the *Safety Case Assessment Manual* referred to in the Draft Decision Paper.

6.1.15 Consultation Question 34

Consultation Question 34

Respondents' views are invited on how the 5 year safety case review process should be implemented; including comment on the options presented for the review process, and suggested alternatives.

There were 9 responses to this question. Of these responses 2 respondents agreed with the proposal, 1 disagreed with the proposal, and 6 respondents did not specify if they agreed or disagreed.

6.1.15.1 Key points made by respondents

Several respondents were in favour of the adoption of an approach similar to that operated in the UK where operators are required to carry out a 5 yearly, thorough review of their safety case. A summary review report is then submitted to the regulator and the safety case is only resubmitted if there are material changes required. The UK safety case guidance¹¹ indicates that "duty holders may find it beneficial to appoint review team members, or at least a leader, from staff who are independent of those responsible for routinely maintaining and revising the safety case. Such staff could be in-house or from an external body". It was noted that clear guidance would be needed on the extent of independence required under the Framework and clarity on what constitutes an 'independent party'. It was noted that the review should include regulatory interface partners.

Some respondents consider the 5 year interval to be too long. Specific mention was made of

¹¹ A guide to the Offshore Installations (Safety Case) Regulations 2005, Guidance on Regulations, HSE Books, UK HSE

unconventional gas extraction where there is currently much research being undertaken and changes in understanding could arise within the 5 year period and hence the request for a moratorium on fracking practices. It was also noted that most major operators review their contractors' safety data on a quarterly basis and recommended that the operators enter safety data on a yearly basis.

6.1.15.2 CER Response

It is proposed that the thorough review will require the petroleum undertaking to review all aspects of their safety cases, including Well Safety Cases, to ensure they continue to accurately reflect operations and that the ALARP demonstration remains robust i.e. no changes have occurred, such as wells souring, that would impact the ALARP demonstration and no new knowledge or technology has become available which would impact the ALARP demonstration. The undertaking will have to submit a thorough review report to the CER who will be required to approve the report as providing a robust demonstration of the safety case's continued suitability and sufficiency. Where appropriate the CER will liaise with relevant regulatory interface partners regarding their assessment of the report. A specific section of the *Safety Case Assessment Manual* will detail the approach to be adopted in the thorough review, the level of independence required by the reviewer and the approval process that the CER will adopt for the review. The safety case will only be required to be resubmitted for approval if there has been material change or the case is found deficient.

While it is proposed that the formal review process will take place every 5 years, the safety case is a living document and the operator is required to ensure that all risks are reduced to a level that is ALARP throughout this period. If new developments occur or new knowledge becomes available within the 5 year period, then petroleum undertakings will be required to take account of such developments and consider whether the safety case needs to be updated in light of such developments. Similarly if material change is proposed to operations/ infrastructure in the intervening period, the safety case will be required to be updated and re-submitted for approval prior to the change being implemented. In addition the safety case content will be reviewed on an ongoing basis by the regulator through audits and inspections. Petroleum undertakings will also be required to submit safety performance data, including leading and lagging indicators, on an ongoing basis and performance will be reported in the Annual Report to the Minister which will be made publicly available.

Following consideration of responses received, it is proposed in the Draft Decision Paper that the CER will adopt an approach similar to that in place in the UK where petroleum undertakings will be required to carry out a thorough review of their safety cases every five years and detailed guidance will be provided on the level and nature of independence required in the review.

6.1.16 Consultation Question 35

Consultation Question 35

Please comment on the proposals regarding co-ordination of the CER permissioning system with other statutory processes.

There were 11 responses to this question. Of these responses 4 respondents agreed with the proposal, 0 disagreed with the proposal, and 7 respondents did not specify if they agreed or disagreed.

6.1.16.1 Key points made by respondents

The responses received are generally supportive of the CER and other agencies co-operating and co-ordinating the permissioning system. Many of the respondents are eager for a clear sequence of permissioning to be established which maps out the timelines, etc. of the various approvals. Some respondents feel that the CER should be the co-ordinating authority and that the safety permit can only be issued once all other required safety permits / authorisations have been issued.

Respondents also commented that where there is a regulatory gap, e.g. in relation to fracking impacting groundwater, the CER should fill this role.

6.1.16.2 CER Response

The regulation of petroleum activities will be a cooperative effort between CER and other statutory agencies. Each statutory authority will have primary responsibility for its own area. The CER does not have the legislative remit to supervise the activities of other agencies. The CER intends, working with other statutory authorities, to put in place a *Permissioning Process Map* which will provide guidance to petroleum undertakings and the general public on the sequence and interfaces between the various permits and licences across statutory agencies.

The CER has a remit under the Act to consider environmental events arising from petroleum activities which could also impact safety. This would include impacts on groundwater supplies to the extent that they affected safety. Where impacts on groundwater supplies that affect safety could arise from the carrying out of authorised petroleum activities, petroleum undertakings will be required to demonstrate that this risk to safety is reduced to a level that is ALARP in the safety case associated with such activities. It is recognised that other bodies, such as the EPA, have existing regulatory functions regarding the control of emissions to the environment. The CER will liaise with such bodies to ensure the ALARP demonstration is robust for environmental-type risks that can impact safety.

The Draft Decision Paper proposes that the CER will coordinate its permissioning system with other statutory processes insofar as is practicable and appropriate.

7. Compliance Assurance

7.1 Consultation Questions and Responses

7.1.1 Consultation Question 36

Consultation Question 36

Please comment on the CER's proposed broad scope and approach to audit and inspection of petroleum undertakings.

There were 8 responses to this question. Of these responses 6 respondents agreed with the proposal, 0 disagreed with the proposal, and 2 respondents did not specify if they agreed or disagreed.

7.1.1.1 *Key points made by respondents*

Respondents were generally supportive of the proposed broad scope of and approach to audit and inspection of the petroleum undertakings. It was noted that guidance would be required as to how the approach would be applied to existing operations/developments in progress. Guidance would also be needed for the performance indicators required to be submitted by petroleum undertakings. It was noted that the audit and inspection system should help to feed back lessons learned and best practices.

It was suggested that, in order to be considered truly impartial, in-house CER personnel would be required for audits and inspections although the use of third party laboratory expertise would be appropriate in order to minimise overheads of maintaining a fully equipped lab. It was alternatively suggested that the CER would not have the resources or the expertise to supervise every aspect of a large offshore development and therefore the objective should be to ensure that the operator or a third party does this.

It was suggested that the regulator should be responsible for inspecting, testing and examining the environment in which the petroleum activities take place. This is to ensure that the land around the site has not been interfered with, that no nuisance is in evidence and that waste products of any kind, etc., are not escaping from the site. It was proposed that audits and inspections should be carried out on every occasion of hydraulic fracturing. The scope of audits and inspections should concentrate on revised procedures also with knowledge of public interest matters which have arisen.

It was suggested that attention needed to be given to monitoring normal operations as well as accidental events.

7.1.1.2 *CER Response*

While a risk-based approach will be adopted for audits and inspections (see Question 39) and the frequency will be greatest for operations that present the greatest risk, the CER will undertake at least one inspection of a facility every year. Guidance will be provided on how the approach will apply to existing operations and developments in progress and on the performance indicators that petroleum undertakings will have to routinely submit to the CER.

This guidance will be issued for public comment. The performance indicators (see Question 51) will include leading and lagging indicators and will be representative of both normal operations and accidental events. Audits and inspections will mainly occur during normal operations, but additional inspections and audits are likely to arise in response to incidents. Where appropriate, findings from inspections/audits will be communicated industry wide to assist with lessons learned and promotion of best practice.

It is anticipated that a mixture of CER and external resources will be used for carrying out audits and inspections. The potential for conflicts of interest is recognised and will be considered at the tender stage for external resources and appropriate measures will be put in place to identify and address possible conflicts of interest.

On the issue of environmental audits/inspections, the CER has no remit under the Act to regulate risks to the environment except where these also impact safety. The CER's function under the Act is to promote safety as respects the carrying on of designated petroleum activities. Given this function, the CER is required to consider environmental incidents which could present a risk to safety and CER inspection and audit activities will address compliance with the Framework with regard to such risks.

Following consideration of responses received, it is proposed that the broad approach for inspections and audits will be as per that detailed in the Draft Decision Paper.

7.1.2 Consultation Question 37

Consultation Question 37

Please comment on the proposal that CER's inspectors can be a mixture of both in-house staff and third party independent competent persons.

There were 11 responses to this question. Of these responses 7 respondents agreed with the proposal, 0 disagreed with the proposal, and 4 respondents did not specify if they agreed or disagreed.

7.1.2.1 Key points made by respondents

The responses received were generally supportive of the idea that the CER's inspectors can be a mixture of both in-house staff and third party independent competent persons. Some of the respondents noted that the scope would need to be well defined and that the audit procedure would need to be established such that there is consistency in inspections. Respondents also stated that a co-ordinated approach should be taken to optimise use of existing technical resources in other agencies and control costs. Some respondents also expressed the view that the CER should sign off on all approvals regardless of who has carried out the inspection.

7.1.2.2 *CER Response*

The methods to be employed when carrying out inspections will be clearly defined to ensure consistency between petroleum safety officers.

With regard to signing off on all petroleum related approvals (including safety permits) granted by other regulatory authorities, the CER does not have the legislative powers to do this and the responsibility for delivering each such approval will remain with the relevant authority.

Following consideration of the responses received, and as reflected in the Draft Decision Paper, the petroleum safety officers will be both CER in-house staff and external independent competent persons.

7.1.3 **Consultation Question 38**

Consultation Question 38

Should the CER seek to co-ordinate its audit and inspection activities with other statutory bodies where possible?

There were 10 responses to this question. Of these responses 7 respondents agreed with the proposal, 0 disagreed with the proposal, and 3 respondents did not specify if they agreed or disagreed.

7.1.3.1 *Key points made by respondents*

The responses received were generally supportive of the idea that the CER and other agencies co-ordinate with one another regarding audit and inspection activities. Respondents suggested that some inspections could be carried out on behalf of CER. For example, the HSA could carry out inspections on behalf of the CER. It was also suggested that there be an umbrella agency to oversee safety and that other agencies would contribute to this. Some respondents noted that it would be beneficial as regards minimising overlap and disruption and would increase the effectiveness of auditing.

Respondents also commented that auditing should be risk based, with flexible scheduling adapting to incidents and reference to appropriate societal risk.

7.1.3.2 *CER Response*

The CER considers that it is beneficial for all concerned that audits are carried out by the CER in co-operation with other agencies. This will allow sharing of information, will improve the quality of inspections, reduce the interference of inspections and will reduce duplication of auditing. It is not possible for a single authority to assume a lead role under an umbrella system. However, close collaboration and co-operation under a system of MoUs will ensure that all aspects of safety regulation are covered by the various agencies.

The CER has proposed in the Draft Decision Paper that, where possible, it will co-ordinate its audit and inspection activities with other statutory bodies.

7.1.4 Consultation Question 39

Consultation Question 39

The CER is interested in respondents views on whether the audit and inspection schedule should be risk-based and involve a few visits per facility per year, or should be undertaken on a prescriptive frequency and, if so, what frequency?

There were 11 responses to this question. Of these responses 5 respondents agreed with the proposal, 0 disagreed with the proposal, and 6 respondents did not specify if they agreed or disagreed.

7.1.4.1 *Key points made by respondents*

The majority of respondents were supportive of a risk based approach to inspection with full audits carried out in the early years to establish a base line. A number of respondents suggested that there should also be a minimum requirement for inspection of a platform e.g. a minimum inspection frequency (say once a year) and a maximum time scale for inspecting the complete installation/organisation (say five years). Some respondent suggested that inspections should be based on a prescriptive frequency of at least four times a year and that inspections should be unannounced.

It was proposed that the question of audits and inspection would need to be completely reconsidered in light of unconventional gas extraction and this would need to be discussed with the various other related agencies. It was suggested that unconventional gas extraction required the utilisation of highly toxic chemicals and operation at high pressures and could lead to the potential for leaching of heavy metals and radioactive substances. As such it was suggested that continuous monitoring by the CER, with its own monitoring equipment, could be appropriate for such operations.

7.1.4.2 *CER Response*

A risk-based approach is proposed to inspection and audits. While four inspections per year may be necessary for some operations, it is not considered reasonable to require this for all operations as it would not be optimum use of resources. With a risk-based approach to inspection and audits, higher risk operations will attract more frequent inspections. Such an approach is equally applicable to hydraulic fracturing operations as to other petroleum activities. It is, however, recognised that, in the case of hydraulic fracturing, the CER may have to liaise with a number of different statutory bodies, such as the EPA and Radiological Protection Institute of Ireland, who have existing regulatory duties with respect to the potential hazards presented by hydraulic fracturing operations. The CER will liaise with such bodies to ensure the ALARP demonstration is robust for the risks to safety presented by hydraulic fracturing operations. This will include consideration of the monitoring provisions in place for emissions to land, water or air where emissions could create a risk to safety. The CER would not carry out continuous monitoring of emissions but the Framework will require petroleum undertakings to report lagging indicators of safety performance which would include reporting of releases that could impact safety.

Following consideration of responses received, it is proposed in the Draft Decision Paper that a risk based approach will be taken to CER audits and inspections. However, a minimum frequency of at least one inspection per year will be adopted and operations will be expected to have been reviewed by all relevant specialists within a 5 year period.

7.1.5 Consultation Question 40

Consultation Question 40

Please comment on the CER proposal that a verification scheme should form part of the Compliance Assurance system of the Framework.

There were 11 responses to this question. Of these responses 4 respondents agreed with the proposal, 0 disagreed with the proposal, and 7 respondents did not specify if they agreed or disagreed.

7.1.5.1 Key points made by respondents

The majority of respondents were in agreement that a verification scheme should form part of the Compliance Assurance system of the Framework and that the scheme should be based on performance standards created by the petroleum undertaking for safety critical elements and that the scheme should be managed by the petroleum undertaking. However one respondent considered that the preferred option would be to keep the role in-house to the CER as it would be difficult for the Independent Competent Person ('ICP') to be truly independent given that they are likely to function in both the regulatory and corporate sphere. Operation of the verification scheme by the petroleum undertaking would also lessen the ability of the CER to have adequate information and oversight.

It was noted that it needs to be recognised that unconventional gas extraction will involve operations that are actually 'undesignable', where it will not be possible to predict the exact effects of hydraulic fracturing on the fissures and faults spread in the many layers affected by the fracturing.

7.1.5.2 CER Response

Given the responses received, it is proposed in the Draft Decision Paper that the CER will require petroleum undertakings to establish and manage a verification scheme, based on performance standards for safety critical elements, as part of the Compliance Assurance system of the Framework.

On the question of unconventional gas extraction, petroleum operators will be required to demonstrate that all safety risks are reduced to a level that is ALARP. If a robust ALARP demonstration cannot be submitted for unconventional gas extraction or any other proposed operation, due to high uncertainty regarding the proposed process, then it will not be possible for the CER to approve the required safety case.

7.1.6 Consultation Question 41

Consultation Question 41

Do you agree that if verification is adopted, that the verifier should be a third party independent person referred to as an Independent Competent Person (ICP)? Please comment.

There were 10 responses to this question. Of these responses 7 respondents agreed with the proposal, 0 disagreed with the proposal, and 3 respondents did not specify if they agreed or disagreed.

7.1.6.1 *Key points made by respondents*

The majority of respondents were in agreement that, if verification was adopted, the verifier should be a third party independent person referred to as an Independent Competent Person (ICP). Several respondents noted that it would be difficult to demonstrate independence of the ICP and that measures would need to be in place to deal with any conflict of interest matters. It was noted that clear guidance would be required on what constituted 'independent' and queried who would appoint the ICP. It was also suggested that the CER should approve the ICP. It was noted that the proposed approach was consistent with other jurisdictions and the Certified Verification Agents (CVA) process in America, although it was common with CVA to have separate systems for design and construction.

7.1.6.2 *CER Response*

The Act provides that petroleum undertakings are ultimately responsible for the safety of petroleum operations. Consequently, it is considered that the petroleum undertaking should manage the verification scheme. If the verification scheme was managed by the CER, it is considered that this would dilute ownership/management of hazards by the petroleum undertaking. The operation of the verification scheme will, however, be reviewed through CER inspections and audits and the CER will routinely review ICB (Independent Competent Body) reports as part of its audit and inspection of the petroleum undertaking.

The potential for conflicts of interest between the ICB's verification work and other work commitments is recognised. As detailed in Question 43, the petroleum undertaking will be required to submit their choice of ICB for review and approval by the CER. The submission will detail how the competency and independence of all the ICB's personnel involved with verification will be assured.

The proposed approach, or similar, has been widely adopted in other jurisdictions. Detailed guidance will be provided by the CER on what constitutes 'independent' and the petroleum undertaking will be required to provide a demonstration of the ICP's independence with respect to proposed verification activities. The petroleum undertaking will also be required to detail measures in place to avoid conflicts of interest between the ICP's verification work and other work commitments.

Given the responses received, it is proposed in the Draft Decision Paper that, under the Framework, the verifier will be an Independent Competent Body. As detailed in Question 43,

the petroleum undertaking will be required to submit their choice of ICB for review and approval by the CER. The submission will detail how the competency and independence of all the ICB's personnel involved with verification will be assured.

7.1.7 Consultation Question 42

Consultation Question 42

If the ICP approach is adopted by the CER, who should contract the ICP – the CER or the petroleum undertaking?

There were 10 responses to this question. Of these responses 3 respondents agreed with the proposal, 0 disagreed with the proposal, and 7 respondents did not specify if they agreed or disagreed.

7.1.7.1 Key points made by respondents

Responses were split on whether the CER or the petroleum undertaking should contract the ICP. Several respondents suggested the petroleum undertaking, which would be in line with other jurisdictions, while others suggested the CER to ensure the independence of the ICP with costs being recovered from the petroleum undertaking.

7.1.7.2 CER Response

The contracting of an ICB to carry out verification is in line with practices in other jurisdictions. Ultimately the petroleum undertaking is responsible for the safety of their petroleum operations. If the CER were to contract the ICB it is considered that this would dilute ownership/management of hazards by the petroleum undertaking. It is recognised that contract arrangement could potentially undermine the independence of the ICB however this is unlikely to occur, unnoticed, in practice. The operation of the verification scheme will be reviewed through CER inspections and audits and the CER should, therefore, be in a position to identify any reluctance on the part an ICP to independently verify the performance of safety critical elements. The reputation of ICBs will also tend to ensure their verification role is discharged independently.

On consideration of responses received, it is proposed that the CER will require petroleum undertakings to contract an ICB as their verifier. The petroleum undertaking will however be required to submit their choice of ICB for review and approval by the CER. The submission will need to detail how the competency and independence of all the ICB's personnel involved with verification will be assured.

7.1.8 Consultation Question 43

Consultation Question 43

Do you think that approval of the ICP is required and, if so, by whom?

There were 10 responses to this question. Of these responses 3 respondents agreed with the proposal, 3 disagreed with the proposal, and 4 respondents did not specify if they agreed or disagreed.

7.1.8.1 *Key points made by respondents*

Responses were varied regarding approval of the ICB. Several respondents suggested that approval should not be required. Such an approach would be consistent with that of Norway and the UK and would ensure that responsibility for the verification scheme remained with the petroleum undertaking. Several respondents suggested that approval by the CER should be required or approval by professional bodies to which the ICB was a member.

It was suggested that the CER should request that the NSAI produce a standard for verification in this area and that the ICP should be trained to verify against this standard and should be subject to approval by CER. There should be a clear process to ensure that ICPs who are not fit for purpose are removed from the approval list.

7.1.8.2 *CER Response*

While approval of ICBs is not required in all jurisdictions, it is considered prudent that the CER should provide a check, before commencement of the verification contract, that the proposed ICB has the appropriate level of independence and mix of competencies to carry out the required verification activities. Detailed guidance will be provided on the basis of approval and level of independence and competence required. Verification against a standard is not considered appropriate due to the goal-setting nature of the Framework.

Following consideration of comments received, it is proposed in the Draft Decision Paper that the petroleum undertaking will be required to submit their choice of ICB for review and approval by the CER. The submission will detail how the competency and independence of all the ICB's personnel involved with verification will be assured.

7.1.9 **Consultation Question 44**

Consultation Question 44

Should the CER or a 4th party audit the verification scheme?

There were 11 responses to this question. Of these responses 2 respondents agreed with the proposal, 0 disagreed with the proposal, and 9 respondents did not specify if they agreed or disagreed.

7.1.9.1 *Key points made by respondents*

The majority of respondents were in favour of the CER auditing the verification scheme although a number of respondents supported auditing by a 4th party. It was noted that involving a 4th party would be too complicated and out of line with practices in other jurisdictions.

7.1.9.2 *CER Response*

Requiring the CER to audit the verification scheme is considered beneficial as it will ensure the CER has a detailed understanding of the verification process. In line with other aspects of compliance assurance, the CER may use the services of third parties for specialist areas if required skill sets are not available within the CER itself.

Following consideration of responses received, it is proposed in the Draft Decision Paper that the CER will audit the verification scheme.

7.1.10 Consultation Question 45

Consultation Question 45

Do you agree with the CER proposal that the Scope of Verification should be hardware Safety Critical Elements?

There were 9 responses to this question. Of these responses 6 respondents agreed with the proposal, 2 disagreed with the proposal, and 1 respondent did not specify if they agreed or disagreed. This respondent provided comments.

7.1.10.1 Key points made by respondents

Mixed responses were received on the question of whether the scope of the verification scheme should be restricted to hardware of Safety Critical Elements. The majority of respondents agreed with the proposed scope which was in line with practices in other jurisdictions. It was noted however that clarity would be required on the term 'hardware'.

A number of respondents suggested that the proposed scope was too narrow. It was suggested that verification should include the full scope of the safety case and that there should be coordination with other regulatory bodies to ensure that the full scope of the permissioning system is covered. It was also noted that humans are generally the weakest link in any operation and their performance and competence needs to be assessed regularly.

7.1.10.2 CER Response

Limiting the scope of the verification scheme to hardware of safety critical elements is a widely accepted practice in respect of which significant experience has been gained. Verification schemes are based on performance standards which are not particularly suitable for assessment of human performance or safety management systems. Other compliance assurance activities, such as the ongoing CER audits and inspections and monitoring of safety performance indicators, are more suited for the compliance assurance of such aspects.

Following responses received, it is proposed in the Draft Decision Paper that the scope of the verification scheme should be hardware safety critical elements (being those systems / equipment that play a critical role in preventing, controlling or mitigating (including emergency response) major accident hazards) and that detailed guidance will be provided on its required scope. Human performance will be addressed through other compliance assurance activities including CER audits and inspections and monitoring of safety performance indicators.

7.1.11 Consultation Question 46

Consultation Question 46

Do you agree with the CER proposal to apply the verification scheme offshore and onshore?

There were 10 responses to this question. Of these responses 9 respondents agreed with the proposal, 0 disagreed with the proposal, and 1 respondent did not specify if they agreed or disagreed. This respondent provided comments.

7.1.11.1 Key points made by respondents

Most respondents agreed that the verification scheme should apply to onshore as well as offshore operations.

7.1.11.2 CER Response

It is proposed in the Draft Decision Paper that a verification scheme will be required under the Framework for both onshore and offshore operations, as application of the verification scheme to offshore and onshore facilities will ensure consistency in compliance assurance activities onshore and offshore.

7.1.12 Consultation Question 47

Consultation Question 47

Do you agree with the CER proposal to apply the verification scheme throughout the lifecycle of petroleum infrastructure? Please comment.

There were 10 responses to this question. Of these responses 8 respondents agreed with the proposal, 0 disagreed with the proposal, and 2 respondents did not specify if they agreed or disagreed.

7.1.12.1 Key points made by respondents

There was general support from respondents that the verification scheme should apply throughout the lifecycle of a petroleum infrastructure. It was noted that different schemes would likely be needed for the exploration, production and decommissioning phases and that as facilities age, the verification activity would have to increase to reflect the increase in risk. For the operation phase it was suggested that it would be more important to have a comprehensive integrity management system in place which should also be subject to third party audit. Interest was also noted in the specific application of the verification scheme to a development that is already in progress.

7.1.12.2 CER Response

Requiring the verification scheme to operate throughout the lifecycle of the petroleum infrastructure will ensure appropriate management of safety critical elements for all phases of the lifecycle.

The petroleum undertaking will need to consider asset aging to ensure risks are reduced to a

level that is ALARP and this could include consideration of increased inspections / monitoring. If safety critical systems fail to meet the reliability levels included in performance standards, action will have to be taken either to replace systems or increase the scope and frequency of inspections. If systems exceed their initial design life, the petroleum undertaking will be required to demonstrate the continued adequacy of the system for the proposed remaining operational life of the system.

The petroleum undertaking would be expected to have a comprehensive integrity management system in place that ensures that the people, systems, processes and resources that deliver integrity are in place, in use, and will perform as required over the whole lifecycle of the asset. The integrity management system, which may include a number of measures, such as safety management systems and assurance routines, would be expected to cover both hardware and people aspects that could impact safety. All these systems will be audited/inspected by the CER. The verification scheme, operated by a third party, would focus on hardware including integrity of the hydrocarbon containing envelope, structure etc, but would extend to the management systems where these directly affect the integrity of a safety critical element e.g. the risk assessment process used to support the decision on whether to shutdown equipment, or introduce temporary measures in the case of a safety critical element that has degraded performance or is not available.

Following the comments received it is proposed in the Draft Decision Paper that a verification scheme will be required throughout the lifecycle of a petroleum infrastructure from design through to decommissioning. Different schemes will be needed for the exploration and production phase and the production scheme will likely need to be amended for decommissioning. Verification for the design and construction phase will be different again as it will focus on initial suitability. Detailed guidance will be provided on what the verification scheme should cover and how it should apply to existing operations/developments in progress.

7.1.13 Consultation Question 48

Consultation Question 48

Do you agree with the CER view that a separate well examination scheme and well management audit scheme should operate? Who should conduct this scheme? Please comment.

There were 10 responses to this question. Of these responses 6 respondents agreed with the proposal, 2 disagreed with the proposal, and 2 respondents did not specify if they agreed or disagreed.

7.1.13.1 Key points made by respondents

There was general support from respondents that a separate well examination scheme and well management audit scheme should be adopted, although views differed on who should conduct the scheme with some respondents suggesting that it should be operated by the CER while others suggested a third party independent person and others suggested possible engineering bodies which could carry out verification. Some respondents considered that it would be difficult for the CER to gain the required expertise in well technology in-house and

that an approach similar to that currently in operation should be adopted where the Minister contracts a Well Examiner who manages this process on his behalf.

Several queries were raised as to the interface between the Well Design Safety Case and the examination scheme and whether there might be duplication in the suggested approach. The scope of the scheme was also queried as to whether it covered just design and drilling of wells or whether it included the production phase. It was suggested that the assessment should include field evaluation of older wells. It was also suggested, in the case of unconventional gas extraction, that automated and continuous monitoring equipment should be installed for the exclusive use of the regulator at the expense of the petroleum undertaking concerned.

7.1.13.2 CER Response

Given the comments received, it is proposed that a Well Examination Scheme should be required under the Framework. Such a scheme is considered appropriate for wells, given their complexity, the expert knowledge required in their assessment and the fact that during the early stages of exploration and development, they may not be tied back to a facility. Such an approach is widely adopted in other jurisdictions, as is the appointment of an ICB to carry out the scheme. The approach for CER approval of the Well Examiner and CER audit of the scheme would be similar to that explained for the facility verification scheme. Detailed guidance will be provided on the content of the Well Safety Case to ensure it provides the information necessary for well verification. It is proposed that the Well Management Audit scheme would be carried out by the CER, who may use the services of third parties for this specialist area of work if required skill sets are not available within the CER itself.

The petroleum undertaking will need to consider asset aging to ensure risks are reduced to a level that is ALARP and this will include aging of wells. Well integrity must be monitored throughout the life of the well. If deterioration is evident, the Well Examiner would have to review the proposed response by the petroleum undertaking to the deterioration. Inspection and monitoring requirements for petroleum operations, including unconventional gas extraction, will be determined based on review of the details of operations received. The CER would liaise with related regulatory bodies, such as the EPA, on this aspect.

Having considered responses received it is proposed in the Draft Decision Paper that a separate Well Examination Scheme will be required under the Framework. The scheme will cover the design, construction, operation and abandonment of wells. The Well Safety Case will form the basis of the scheme as it will detail the proposed well design and work programme. The operation phase of the wells may be covered by the facility verification scheme or the Well Examination Scheme.

It is proposed that the petroleum undertaking will contract an ICB as Well Examiner to carry out the Well Examination Scheme. The petroleum undertaking will be required to submit their choice of Well Examiner for review and approval by the CER as per the facility verifier, See Question 43. The submission will detail how the competency and independence of the Well Examiner will be assured. It is proposed that the CER will audit the well examination scheme and management of wells. The CER may use the services of third parties for this specialist area of work if required skill sets are not available within the CER itself.

7.1.14 Consultation Question 49

Consultation Question 49

Should ALARP be explicitly included within the verification scheme guidance? Please comment.

There were 7 responses to this question. Of these responses 5 respondents agreed with the proposal and 2 disagreed with the proposal. Respondents also provided comments.

7.1.14.1 Key points made by respondents

Mixed responses were received to the question as to whether ALARP should be explicitly included within the verification scheme with some respondents in favour of the approach and others not. It was noted that the approach would introduce an additional layer of review at a very early stage of the development process, which will have both a time and cost impact. It was considered that the ALARP principle forms a fundamental part of a safety case and that provisions to reduce risks to a level that is ALARP would be covered in the safety case. It was also suggested that the verification scheme should check that provisions were “acceptable to the public interest”.

7.1.14.2 CER Response

Under the Framework, petroleum undertakings are required to reduce risks to a level that is ALARP. While this principle is central to the safety case, this is a relatively high level document. It is proposed that in their initial review of the verification scheme, the ICB should be required to check that petroleum undertakings have a robust ALARP demonstration in place for the performance levels adopted in the performance standards for safety critical elements. Similarly if changes are proposed to the verification scheme/safety critical elements, it is proposed that the verifier should again check that a robust ALARP demonstration is in place for the proposed changes. This approach will provide verification that petroleum undertakings are applying the ALARP principle in their decisions in relation to safety critical elements. It is not considered that this will require excessive additional workload. The verifier will only be checking what the petroleum undertaking should already have in place i.e. that there is a documented demonstration available that risks will be reduced to a level that is ALARP in line with the proposed performance standards.

It is not considered that the Act gives the CER the remit to include consideration of “acceptable to the public interest”, except to the extent that the public interest will be served in ensuring risks are reduced to a level which is ALARP which is a requirement of the Act.

7.1.15 Consultation Question 50

Consultation Question 50

The CER is interested in respondents' views on whether the CER should approve the verifications scheme in the scenario where the petroleum undertaking contracts the ICP?

There were 8 responses to this question. Of these responses 4 respondents agreed with the proposal, 2 disagreed with the proposal, and 2 respondents did not specify if they agreed or disagreed.

7.1.15.1 Key points made by respondents

Mixed responses were received on the question of whether the CER should approve verification schemes created by petroleum undertakings. Some respondents considered that the scheme should be approved by the CER to ensure operators give it the right focus and to allow the CER oversight of safety critical activities. It was also noted that such an approach would avoid risk of non-acceptance at a later stage, which could be more problematic. Others suggested that there was no need for the CER to approve the verification scheme as a high level description of the process would be included in the safety case which would be approved by the CER. Alternatively it was proposed that the CER should set clear guidelines for petroleum undertakings regarding the CER's expectations on verification and the criteria against which the scheme would be monitored.

7.1.15.2 CER Response

Ultimately, the petroleum undertaking is responsible for the safety of petroleum operations. If the verification scheme was approved by the CER, it is considered that this would dilute ownership/management of hazards by the petroleum undertaking. The CER will however audit the verification scheme, see Question 44, and will also have opportunities to comment on the operation of the verification scheme through routine inspections and audits and may raise improvement notices if the scheme is considered to be insufficiently robust.

Following consideration of responses received, it is proposed in the Draft Decision Paper that the CER will not approve the verification scheme. The *Compliance Assurance Procedures*, will detail the required approach to facility verification, and the required content and structure of the scheme. It will be part of the Verifier's remit to review the petroleum undertaking's proposed verification scheme and related performance standards and assurance routines prior to accepting and carrying out the verification scheme. The verification scheme will be a live document and any update will have to be carried out in discussion with the Verifier.

7.1.16 Consultation Question 51

Consultation Question 51

Do you agree with the CER proposal to introduce a balanced set of leading and lagging indicators within the safety case Guidelines for routine reporting by the petroleum undertaking to the CER? Please comment.

There were 9 responses to this question. Of these responses 6 respondents agreed with the proposal, 0 disagreed with the proposal, and 3 respondents did not specify if they agreed or disagreed.

7.1.16.1 Key points made by respondents

All respondents were supportive of the CER proposal to introduce a balanced set of leading and lagging indicators within the safety case Guidelines for routine reporting by the petroleum undertaking to the CER. It was proposed that the indicators are identified in discussions with petroleum undertakings. A number of different sources were suggested for existing approaches including the UK Step Change Initiative¹² and reference to international experience and analysis of changes within the technology leading to the anticipation of risks.

It was suggested that quarterly KPIs should be set and that the CER should hold Quarterly Performance Reviews with each petroleum undertaking. Such an approach was considered especially relevant in giving an early indication of deterioration in KPIs and risk management system results. It was also suggested that the reporting system should be operated in the context of the operator having a comprehensive integrity management system in place that results in the development of annual fitness to operate statements for all safety critical items.

7.1.16.2 CER Response

The proposed approach received much support from respondents and is aligned with good regulatory practices. Detailed guidance will be provided on the leading and lagging indicators which will be required to be submitted by petroleum undertakings. The CER will consider the different sources mentioned when generating the guidance.

As detailed in Question 47, petroleum undertakings would be expected to have a comprehensive integrity management system in place. The suggestion for annual fitness statements and quarterly performance reviews is not considered necessary. The performance of petroleum undertakings will be monitored on an ongoing basis both by review of safety indicators submitted, through inspections and audits by the CER and by the Verifier. The verification scheme will include performance requirements for safety critical elements and the required frequency of inspections and the operation of the scheme will be reviewed by the verifier. The frequency of inspections will depend on the nature of the hardware and could be more or less than on an annual basis. The petroleum undertaking will be required to take appropriate action when performance falls below the criteria stipulated in the performance standard.

¹² See <http://www.stepchangeinsafety.net/>

Following consideration of responses received, it is proposed in the Draft Decision Paper that the CER will introduce a balanced set of leading and lagging indicators within the safety case Guidelines for routine reporting by the petroleum undertaking to the CER. The *Compliance Assurance Procedures*, will detail indicators and their frequency of submission and will be issued for public comment. Some indicators, particularly lagging indicators, will likely be required to be submitted when an incident occurs. Others will require to be submitted on a routine basis.

7.1.17 Consultation Question 52

Consultation Question 52

Please comment on the appropriate means for ensuring compliance by petroleum undertakings with their general duties, and the CER's proposed approach to monitoring.

There were 7 responses to this question. Of these responses 3 respondents agreed with the proposal and 0 disagreed with the proposal. 4 respondents did not specify if they agreed or disagreed.

7.1.17.1 Key points made by respondents

There was general agreement with the proposal in the comments provided. Concerns were raised over the ability of petroleum undertakings to safely manage risks associated with unconventional extraction. It was proposed that where unconventional extraction is addressed that the CER must ensure through its compliance procedures that the General Duty of care is more stringently attended to by the petroleum undertakings.

Concerns were also voiced about the CER being a partner and not a manager of risk within the overall regulatory framework and that the paper was not clear on the extent of the CER's remit. The focus on major accidents hazards versus the duty on the CER to monitor the petroleum undertaking with respect to the requirements of the General Duty was mentioned to highlight this lack of clarity.

It was stated that compliance must be ensured by a tiered response depending on frequency and nature of infringements.

7.1.17.2 CER Response

Regarding the CER being a partner and not a manager of the risk within the overall regulatory framework, the CER does not have the legislative remit to have primary responsibility for safety regulation. However, it will aim to work with other statutory authorities which have their own functions and duties under their own legislation to ensure an efficient and effective regulatory Framework. See Section 2.5 for further information on the role of the CER within the wider regulatory system.

The frequency of audits and inspections is discussed further in section 7 (Question 39). Further information on the CER's enforcement powers can also be found in section 10.

The Draft Decision Paper provides that CER will regulate petroleum undertakings' compliance with their General Duty in co-operation with other statutory authorities.

8. Petroleum Incident Notification and Investigation

8.1 Consultation Questions and Responses

8.1.1 Consultation Question 53

Consultation Question 53

Please comment on the proposals for the following to be to be classified as petroleum incidents to be notifiable to the CER:

- All events/occurrences that result in the loss of human life;
- Those events/occurrences which result in a personal injury to a member of the general public;
- Those events/occurrences which result in personal injury which relate to a major accident hazard;
- All events/occurrences that result in damage to the structural integrity of petroleum infrastructure;
- All events/occurrences that result in the structural integrity of petroleum infrastructure being compromised; and
- Near misses which have the potential to cause a major accident including the failure of plant and equipment or procedural failures which could have the potential to cause a major accident or could significantly impair an undertaking's response to a major accident.

There were 12 responses to this question. Of these responses 7 respondents agreed with the proposal and 0 disagreed with the proposal. 5 respondents did not specify if they agreed or disagreed.

8.1.1.1 Key points made by respondents

In general a number of additional notifiable incidents were proposed, including:

- damage to the plant, to land, to the environment, and to heritage;
- damage to property not owned by the petroleum undertaking;
- incidents which result in long term health effects; and
- Respondents proposed to add any event that results in a loss of production fluid to the environment.

It was also suggested that:

- the expression 'those events occurrences which result in personal injury which relate to major accident hazard' could be changed to 'might result in personal injury or releases that could affect the environment or the health...';
- a definition for near misses is provided;
- references to major accident hazards should be removed as it is too limiting; and
- notifiable incidents should align as far as possible with those required by other regulators such as the HSA.

Respondents also proposed to include a requirement for reporting on environmental KPIs if

this falls under the remit of the CER. The use of Stop Cards should also be recorded and reported to the CER.

8.1.1.2 CER Response

With regard to the proposed additional notifiable incidents above, the CER will include damage to 3rd party property as a notifiable incident and those events that are known to have the potential to result in long term health impacts. Damage to plant is already notifiable and will fall under bullets four and five above. Environmental incidents that do not impact safety are not required to be directly notified to the CER and will be addressed by the appropriate environmental authority. Where they result in personal injury or loss of life they will require to be reported to the CER through the proposed notifiable incidents.

Guidance on what will constitute near misses will be provided in the *PSF Petroleum Incident Regulations*, which the CER will develop as part of Phase C of the Framework development project.

The CER will require KPIs to be reported to it and these will be determined at the Detailed Design phase of the Framework development, see Question 51 for further details. Regarding the suggestion on environmental KPIs, the CER's remit under the Act is restricted to safety considerations. There is no specific requirement under the Act for the CER to regulate risks to the environment. The CER is however required to consider environmental risks which also impact safety. It is recognised that other bodies, such as the EPA, have existing regulatory functions regarding the control of emissions to the environment. The CER will liaise with such bodies on the reporting of Environmental KPIs.

Following consideration of the responses received, it is proposed in the Draft Decision Paper that the incidents notifiable to the CER will include events or occurrences in, at or in the precincts of a petroleum infrastructure which:

- (a) results in the loss of human life;
- (b) results in personal injury being suffered by a person;
- (c) results in damage to the structural integrity of petroleum infrastructure;
- (d) results in the structural integrity of petroleum infrastructure being compromised;
- (e) results in the failure or malfunction of plant and equipment used as part of or in a manner closely associated with petroleum infrastructure;
- (f) results in damage to third party property; or
- (g) results in a near miss which has the potential to cause a major accident including the failure of plant and equipment or procedural failures which could have the potential to cause a major accident or could significantly impair an undertaking's response to a major accident.

The first five incidents above are cited in the Act. The last two events have been introduced by the CER who may under the Act make regulations which prescribe a class of event or occurrence which in their opinion may materially increase the risk of an event or occurrence which (a) results in the loss of human life, (b) results in personal injury being suffered by a person or (c) results in damage to property the ownership of which is other than with the petroleum undertaking.

In order to give full effect to the Act, and to provide clarity to petroleum undertakings on their duties under section 13S of the Act, the CER will be prescriptive in *PSF Petroleum Incident Regulations* on what events or occurrence are classified as petroleum incidents and therefore must be reported to the CER. The regulations will detail the above incidents and will prescribe a form for the petroleum undertaking to notify the CER of a petroleum incident and the classes of information to be included in the form.

8.1.2 Consultation Question 54

Consultation Question 54

Please comment on the CER's proposed approach to the investigation of petroleum incidents and follow up actions.

There were 6 responses to this question. Of these responses 3 respondents agreed with the proposal and 0 disagreed with the proposal. 3 respondents did not specify if they agreed or disagreed.

8.1.2.1 Key points made by respondents

There was general agreement in the comments received on this proposal. As with question 53, clarity on the definition of "near misses" that are reportable to the Minister and to the public was requested. A balance between lesson learning from incidents and appropriate action was called for in addition to the requirement for the communication of these lessons learned to the appropriate bodies.

It was reiterated that that incidents involving damage to property owned by the petroleum undertakings should be investigated.

8.1.2.2 CER Response

Bullet points 4 and 5 of Question 53 state that incidents involving damage to petroleum infrastructure will be notifiable to the CER. The CER will, where practical and possible, communicate information on lessons learned to the appropriate bodies as part of its ongoing operation of the Framework.

Guidance on what will constitute near misses will be provided in the *PSF Petroleum Incident Regulations*, which the CER will develop as part of Phase C of the Framework development project.

Following consideration of the responses received, the proposed approach to the investigation of petroleum incidents as set out in the Draft Decision Paper will remain unchanged from the Consultation Paper.

8.1.3 Consultation Question 55

Consultation Question 55

Please comment on the proposal that the CER will seek to liaise and cooperate with other relevant authorities in the incident investigation process?

There were 8 responses to this question. Of these responses 4 respondents agreed with the proposal and 0 disagreed with the proposal. 4 respondents did not specify if they agreed or disagreed.

8.1.3.1 *Key points made by respondents*

Respondents generally agreed with this proposal stating that co-operation with other relevant authorities in the incident investigation process is essential. It was also requested that lines of communication and responsibility are clearly defined and that authorities must work together to ensure they do not issue conflicting findings/actions. It was also proposed that consideration should also be given to the investigation of the environmental aspects of incidents.

Respondents stated that the CER specifically acknowledge that it is their duty to put in place; “A high level overview of the proposed interface, co-operation and co-ordination arrangement the CER should put in place” and that this implicitly places the CER in a position of seniority in such arrangements, which it must ensure it carries out.

It was requested that the following bodies be added to the list of authorities the CER will formally liaise with during the Framework development and operation:

- The Radiological Protection Institute of Ireland;
- Waterways Ireland;
- The Office of Public Works; and
- The Commissioners of Irish Lights.

8.1.3.2 *CER Response*

The interface arrangements between the CER and the statutory authorities involved in the regulation of petroleum activities will be published to provide clarity on the roles of all such authorities. The CER will work with the relevant authorities with the aim of avoiding duplication of efforts and increasing the efficiency of investigations. Where appropriate and possible, the CER intends to work with the relevant authorities to ensure conclusions and actions that result from investigations are aligned. Regarding environmental incidents which have an impact on safety, the CER will liaise with the appropriate environmental and investigative authorities as required. Environmental incidents which do not impact safety will not be investigated by the CER.

Through the development of the Framework, the CER proposes to take the lead in developing interface arrangements to provide clarity on the roles and responsibilities of the authorities involved in the regulation of petroleum activities. The statement referenced by the respondent from the Consultation Paper was not intended to imply that the CER has a senior investigative role and this is not the case.

The Radiological Protection Institute of Ireland and the Commissioners of Irish Lights will be added to the list of relevant authorities. As the CER does not have the statutory remit to regulate water quality, it will refer the EPA to the potential to liaise with Waterways Ireland and the Office of Public Waters as required for petroleum exploration and extraction activities. The CER will make Waterways Ireland and the Office of Public Works aware of its new safety regulatory role.

Following consideration of the responses received, the CER remains of the view that it should seek to liaise and cooperate with other relevant authorities in the incident investigation process, and this is reflected in the Draft Decision Paper.

9. Agreed Regulatory Interfaces and Co-operation

9.1 Consultation Questions and Responses

9.1.1 Consultation Question 56

Consultation Question 56

The CER are interested in respondents' comments on the proposed interface, co-ordination and co-operation arrangements. Specifically are such arrangements beneficial and are there other authorities the CER ought to have such arrangements in place with?

There were 16 responses to this question. Of these responses 7 respondents agreed with the proposal, 0 disagreed with the proposal, and 9 respondents did not specify if they agreed or disagreed.

9.1.1.1 Key points made by respondents

The responses received are generally supportive of the idea that the CER and other agencies having co-operative and co-ordinated arrangements with one another. A need for a coordinated approach to Safety Permit approvals was raised by some respondents to avoid an overly extended Safety Permitting process.

Some respondents indicated that other agencies should be added to the list of organisations with which the CER will cooperate, including: Radiological Protection Institute Ireland (RPIL); Local Authorities (Local Planning and Emergency Response Units); and the HSE; An Taisce; Local Community Groups; and Inland waterways; Department of Agriculture and the National Water authority (once set up).

9.1.1.2 CER Response

CER is committed to engaging with all relevant statutory authorities and will put in place agreed interface arrangements with those identified in the Consultation Paper. Secondary to this, the CER will make itself available for communication and interaction with other bodies where reasonable and practical and of benefit to the operation of the Framework.

Of those suggested by respondents, the RPIL, who were consulted on the Consultation Paper, will be formally added to this list. The Department of the Environment, Heritage and Local Government (DEHLG) is already a consultee and local authorities including local planning and emergency response are covered under its umbrella. Given that the DEHLG is a consultee, the CER will not add the HSE to the list at this time as it assumes the DEHLG will address all emergency response issues within the Framework development.

At this stage in the Framework development project, it is not anticipated that there will be a need for the CER and the Department of Agriculture, Food and the Marine (DAFM) to interact in the safety regulation of petroleum exploration and extraction activities.

Where a safety case has been submitted to the CER for assessment, the CER will liaise with

the local authorities, in particular the local planning authority or An Bord Pleanála as may be appropriate. It will also make itself available for communication and interaction with local community groups in the affected area. The CER operates an open door policy and welcomes input into the Framework development or operation from all concern groups, including An Taisce.

The CER regrets the omission of the Air Accident Investigation Unit (AAIU) in the list provided in the Consultation Paper. The AAIU is a consultee in the Framework development and should have been included in the original list.

Following consideration of the responses received, the CER will formally add the RPII to the list of consultees included in the Draft Decision Paper. The CER will continue to monitor the potential future involvement of the other parties mentioned such as the DAFM.

9.1.2 Consultation Question 57

Consultation Question 57

Please comment on the proposals for information sharing under the interface, co-ordination and co-operation arrangements?

There were 10 responses to this question. Of these responses 5 respondents agreed with the proposal, 0 disagreed with the proposal, and 5 respondents did not specify if they agreed or disagreed.

9.1.2.1 Key points made by respondents

The responses received are generally supportive of the idea that the CER and other agencies share information. Some of the responses indicated that the bases of sharing information between agencies should be defined, responsible and should be clear to all agencies from the outset. It was also suggested that a risk register be put in place and that agencies could notify one another if it was perceived that there is a risk in another agency's area of responsibility.

Respondents also noted that in some instances, an authority will not be in a position to share its information.

9.1.2.2 CER Response

The CER is committed to engaging with the authorities as described in the Consultation Paper and with other agencies where reasonable and practical and of benefit to the operation of the Framework.

The CER acknowledges that information cannot be shared in all instances. The information to be shared between authorities will be clearly defined and agreed upon. It is the intention of the CER that information sharing between authorities will include the reciprocal notification of potential risk areas. The principle that CER will include information sharing under the interface, co-ordination and co-operation arrangements to be put in place with other statutory authorities is included in the Draft Decision Paper. Detailed information sharing will be developed further during the Detailed Design phase of the Framework.

9.1.3 Consultation Question 58

Consultation Question 58

Please comment on the proposals for greater alignment of the permissioning processes under different statutory regimes and inclusion for the interface, co-ordination and co-operation within arrangements with other statutory authorities.

There were 11 responses to this question. Of these responses 3 respondents agreed with the proposal, 0 disagreed with the proposal, and 8 respondents did not specify if they agreed or disagreed.

9.1.3.1 *Key points made by respondents*

The responses received are generally supportive of the idea that an aligned permissioning process is established, under which the CER and other agencies would synchronise the issuing of Safety Permits, where possible. Such a system would clarify the responsibilities of all agencies with regard to jurisdiction, scope and timing. Some respondents expressed a desire for the CER to be the lead agency or for the development of an umbrella system of regulation where one agency has the overall responsibility for the process and the others contribute, and that a Safety Permit is not granted until all requirements of the consulting agencies have been met.

It was noted that there is a potential for duplication of regulation where a site qualifies under the COMAH Regulations and is also an upstream facility. This would require submission of a Safety Report to the HSA and a safety case to the CER. It was recommended that, a single document could be submitted to both regulators. It was suggested that in order to reduce duplication, the new legislation could be introduced by the relevant Government Departments to reduce regulatory overlap.

Respondents also commented that where other agencies are not actively involved, the definition of "safety" acquires a much broader interpretation for the regulator and for his responsibilities under that heading.

9.1.3.2 *CER Response*

The CER is committed to engaging with various authorities as described in the Consultation Paper and with other agencies where reasonable and practical and of benefit to the operation of the Framework. To aid clarity on roles and responsibilities, the CER's report on the *Status Analysis Review of the Existing Legislative and Regulatory System for Petroleum Exploration and Extraction in Ireland* details the roles of a number of these regulatory and investigative authorities involved in the industry.

It is not within the legislative remit of the CER to assume the responsibilities of a lead authority or to develop an umbrella system of regulation and the CER cannot undertake this role under current legislation. Each authority will carry out their own legislative functions in the regulation of petroleum exploration and extraction activities, cooperating where possible with other authorities. It is the intention of the CER, working with other statutory authorities,

to put in place a *Permissioning Process Map* which will provide guidance to petroleum undertakings and the general public on the sequence and interfaces between the various permits and licences across statutory agencies. The CER overlap with the HSA and COMAH sites will be addressed in the Detailed Design phase of the Framework development. The statutory authorities will aim to avoid duplication of regulation where possible. At present there is no move by Government to make changes to the regulation of petroleum exploration and extraction activities which could further facilitate a clear separation of such roles.

Following consideration of the responses received the CER notes in the Draft Decision Paper that it will aim to align the permissioning processes under different statutory regimes. This will incorporate the interface, co-ordination and co-operation arrangements with other statutory authorities.

9.1.4 Consultation Question 59

Consultation Question 59

Please comment on the proposals for co-ordinated audits/inspections and related information exchange under the interface, co-ordination and co-operation arrangements.

There were 10 responses to this question. Of these responses 5 respondents agreed with the proposal, 0 disagreed with the proposal, and 5 respondents did not specify if they agreed or disagreed.

9.1.4.1 Key points made by respondents

The responses received are generally supportive of co-ordinated audits and inspections and related information exchange under the interface, co-ordination and co-operation arrangements and it was noted that this section related to bodies with specific responsibilities for safety and with enforcement powers. It was suggested that inspections should cover the environment, agriculture, tourism and heritage so that the additional concerns posed by unconventional extraction are accounted for.

Some respondents requested that such information exchange is carefully planned and co-ordinated, however most respondents strongly agree with the suggestion of co-ordinated audits and inspections.

9.1.4.2 CER Response

The CER has a safety regulatory remit and does not have a direct regulatory remit for the environment, agriculture, tourism or heritage where they do not impact on safety issues. With regard to information exchange, the CER will, however, liaise and cooperate with the relevant statutory authorities such as the EPA and ABP as required to ensure that the petroleum undertaking is compliant with its General Duty under the Act to reduce all risks to safety to a level that is ALARP.

The information to be shared will be clearly defined and the process coordinated between authorities. The CER will coordinate inspection where possible and practical.

Following consideration of the responses received, the CER notes in the Draft Decision Paper that it will where possible aim to co-ordinate audits/inspections and information exchange under the interface, co-ordination and co-operation arrangements to be entered into with other statutory authorities and agencies.

10. Enforcement

10.1 Consultation Questions and Responses

10.1.1 Consultation Question 60

Consultation Question 60

Please comment on CER's proposals on enforcement. In particular the proposals with respect all persons included on a petroleum authorisation submitting a joint safety case?

There were 10 responses to this question. Of these responses 4 respondents agreed with the proposal and 1 disagreed with the proposal. 5 respondents did not specify if they agreed or disagreed.

10.1.1.1 Key points made by respondents

Where indicated, respondents generally agreed with the proposal and stated they were in line with the responsibilities of petroleum undertakings under a petroleum lease.

Respondents requested that petroleum safety officers examine the land and localities adjoining the petroleum site to ensure that no damage has been done as part of its duties.

Respondents requested whether it was a requirement of the proposal to have each duty holder sign one application for a safety case in order to hold duty holders jointly and severally responsible for the discharge of their duties under the Act. Respondents also requested whether the operator could submit the safety case application on behalf of all duty holders. Respondents requested that alternatives to the duty holders submitting a joint application or their agent operator doing so on their behalf be provided by the CER for safety case applications.

Respondents requested that the approach should be similar to that in the UK where the operator prepares and submits the safety case and has primary liability if there is a breach. Clarification is also requested on what actions must be taken where there is a change of operator or a partner in a joint venture.

Respondents indicated that the scale of the penalties in the Act which the CER can impose do not reflect the enormous potential damage that might occur as the result of petroleum activities. Legislative change is required to ensure an effective safety regime.

Respondents proposed that all persons included in the petroleum authorisation should submit a safety case both jointly (for the whole undertaking) and severally (each for their own role in the undertaking).

Respondents noted that the CER should strictly exercise its enforcement powers in particular where joint venture partnerships are involved.

10.1.1.2 CER Response

The exact remit of the Petroleum Safety Officer will be defined during the Detailed Design phase of the Framework. Respondent's comments as provided above will be taken into

account at this point.

The Draft Decision Paper notes that petroleum authorisations are often granted by the Minister for Communications, Energy and Natural Resources to more than one person, often a number of limited companies, which have come together for the purposes of exploration and exploitation of petroleum. Each of these 'persons' will generally be jointly and severally liable under that authorisation. Each of these persons owns an individual and joint duty to operate within the scope of the authorisation. They are also each duty holders for the purposes of the Act. Whilst one of the parties to a petroleum lease, for example, will typically be identified as the 'operator' and will be responsible (under the agreement between the persons named on the authorisation) for the discharge of the obligations arising under the lease, this contractual arrangement is not reflected in the Act.

Each duty holder (i.e. each named person on the authorisation) will remain responsible for the discharge of the duties imposed upon them under the Act. It is proposed that, as a matter of practice, all persons (and therefore duty holders) included on a petroleum authorisation submit a joint safety case, with them each signing the one application. The same legal effect may be achieved where a single duty holder or representative submits the joint safety case signed by that duty holder as a disclosed agent for and on behalf of each individual person. (For the avoidance of doubt, the appointment of a representative or a disclosed agent would in no way relieve the persons named on the underlying petroleum authorisation from liability under the Act.) This will enable petroleum undertakings' duties to be discharged, without requiring each named person to, for example, submit a separate safety case. On an ongoing basis, the petroleum undertaking may appoint a single duty holder or representative to act as its disclosed agent in respect of interactions with the CER, for example in relation to information provision.

Where there is any change in duty holder (for example as a result of a change of the joint venture partners under petroleum authorisation), the new authorisation holder is obliged to comply with all obligations under the Act, including, where required, to hold a Safety Permit. As such, they will be required to submit a safety case under the Act in advance of carrying on any designated petroleum activity. In some circumstances, the existing approved safety case in place may be sufficient to be submitted for the CER's consideration. However, where the change in duty holder constitutes a material alteration to the safety case previously approved by the CER (for example, where the partner discharging the role of operator changes), the submission of a revised safety case is likely to be required. In this circumstance, each of the remaining authorisation holders will be required to submit the proposed revision to the safety case to the CER for its approval in accordance with the requirements of the Act.

The CER cannot adjust the penalties on petroleum undertaking and any legislative changes which may be appropriate are a matter for the Oireachtas.

11. Safety Reporting and Published Safety Information

11.1 Consultation Questions and Responses

11.1.1 Consultation Question 61

Consultation Question 61

Please comment on the CER proposals for the publication and content of the Annual Report on the Framework.

There were 6 responses to this question. Of these responses 5 respondents agreed with the proposal and 0 disagreed with the proposal. 1 respondent did not specify if they agreed or disagreed. This respondent provided comments.

11.1.1.1 Key points made by respondents

There were no objections to the proposed publication or contents of the Annual Report. Clarity on the specific level of detail proposed to be published in the Annual Report was requested. One respondent recommended that the CER should include performance KPI's across a range of petroleum undertakings and that this information gathered will be reported publicly.

11.1.1.2 CER Response

The specific details of the contents of the relevant sections of the Annual Report will be outlined at a later stage in the Framework development project. Following consideration of the responses received the proposal for the publication and contents of the Annual Report will be carried forward from the Consultation Paper to the Draft Decision Paper.

11.1.2 Consultation Question 62

Consultation Question 62

Please comment on the CER proposals for the information it intends to publish.

There were 14 responses to this question. Of these responses 3 respondents agreed with the proposal and 0 disagreed with the proposal. 11 respondents did not specify if they agreed or disagreed.

11.1.2.1 Key points made by respondents

Further information on the specific level of detail to be published was requested. Respondents commented that detailed incident reports that may legally affect a party or legal process should not be published until after the legal actions have been resolved. Similarly, it was proposed that final reports following incident investigations should only be published after those involved have had an opportunity to comment on the report. It was also proposed that all information should be made available except where it is proved that so doing would undermine safety and that the information published should be sufficient to allow lessons to be learned and give assurance on the regulatory regime.

The publication of information on the Environmental Impact Statement information was also requested.

11.1.2.2 CER Response

Details of the information to be published will be outlined later in the Framework development project. This includes the processes the CER will employ for the publication of final incident investigation reports, such as the requirements for review by the involved parties. The CER will give consideration to the need for redaction of information that may be used for an ongoing or upcoming legal case or where the publication will undermine safety. The CER will seek to ensure that relevant information will be made available to the relevant bodies in a format designed to highlight lessons to be learned.

The publication of Environmental Impact Statement information is not within the remit of the CER.

Following consideration of the responses received, and with consideration of the CER Responses provided, the high level proposals for the information which the CER will publish remain unchanged in the Draft Decision Paper.

11.1.3 Consultation Question 63

Consultation Question 63

The CER is interested in respondents views on the criteria the CER should apply when considering an application by petroleum undertakings on the exclusion of certain information.

There were 8 responses to this question. Of these responses 2 respondents agreed with the proposal and 0 disagreed with the proposal. 6 respondents did not specify if they agreed or disagreed.

11.1.3.1 Key points made by respondents

Respondents proposed that the criteria governing the exclusion of certain information from safety cases that are requested to be viewed should include facility security, commercially sensitive information and personnel privacy. Also any information that could have an impact on potential or upcoming legal proceedings should be omitted. Other respondents stated that there should be no exceptions to public information on safety statements. It was proposed that all risks identified as being associated with petroleum activity should be published in full.

11.1.3.2 CER Response

Following consideration of the responses received the CER has proposed in the Draft Decision Paper that it will assess applications for exclusions from an approved safety case by a petroleum undertaking on a case by case basis. It acknowledges that commercially sensitive information, information on personnel privacy and information on facility security that does not impact on safety may be approved for omission. The CER will also have consideration for the redaction of information that may impact upon an ongoing or upcoming legal case. These criteria will be detailed in the *Safety Case Guidance*.

12. Continuous Improvement

12.1 Consultation Questions and Responses

12.1.1 Consultation Question 64

Consultation Question 64

The CER is interested in respondent's views on the proposed approach to continuous improvement.

There were 9 responses to this question. Of these responses 5 respondents agreed with the proposal and 0 disagreed with the proposal. 4 respondents did not specify if they agreed or disagreed.

12.1.1.1 Key points made by respondents

There was general agreement with the proposed approach to continuous improvement of the Framework. It was proposed that:

- the CER take into account technological changes and that it must be proactive not reactive in its approach to continuous improvement of the Framework;
- any improvements to the safety Framework must be arrived at by full consultation process;
- petroleum undertakings should have a formal opportunity to inform the continuous improvement process of the Framework;
- annual workshops for relevant parties should be held as an option to assist the process of continuous improvement; and
- options for gathering information should be provided that will aid the continuous improvement process such as the development of appropriate KPIs.

12.1.1.2 CER Response

The application of the ALARP principle as required by the Act includes the requirement for demonstrating that any advances in technology have been accounted for by the petroleum undertakings as part of their safety case submission. The Act also states that any changes to the Framework will require a consultation process.

The CER intends to meet with petroleum undertakings on an annual basis to discuss their performance and the continuous improvement of the Framework and it will consider the option to hold annual workshops to assist in the process of continuous improvement of the Framework.

Details of the information to be reported to the CER, such as specific KPIs, will be outlined later in the Framework development project.

Following consideration of the responses received, the proposed approach will be carried forward into the Detailed Design of the Framework.

13. Conclusion

The Consultation Paper published on 2 August 2011 received a significant number of responses, chiefly from the public and industry, statutory authorities and interest groups. This Consultation Resonse Paper aims to address all points raised by respondents and to give the reader an understanding of the manner in which the responses have been reflected in the Draft Decision Paper.

While amendments have been made throughout the Framework design, the main components of the Framework that have been updated are:

- ALARP Demonstration
- Permissioning System
- Compliance Assurance

The Draft Decision Paper, which outlines the CER's proposed way forward for the High Level Design of the Framework, is published alongside this Consultation Response Paper.

Appendix A – Respondents by Reference Number

Ref. No.	Respondent	Ref. No.	Respondent	Ref. No.	Respondent	Ref. No.	Respondent	Ref. No.	Respondent
1	Leitrim County Council	11	Anne Allen	21	Sinead McManus	31	Finbarr Brady	41	Scott Coombs
2	Derval O'Connor	12	Máirín Ní Mháirtín	22	Oliver Brady	32	Shannon & Erne Loughs Protection Alliance	42	Talamh - Protecting Natural Wealth
3	Tracey Jean Yappa	13	Sonya Oldham	23	Tomás Brides	33	Jamie Byrne	43	Joe Keenan
4	Radiological Protection Institute of Ireland	14	PSE Kinsale Energy	24	Shelly Cole	34	Paddy Reilly	44	Irish Offshore Operators Association
5	Liam Breslin	15	NSAI	25	Orlaith Fitzpatrick	35	Karina Charles	45	Judith Hoad
6	Antoine Triquet	16	Joan Walsh (2 responses)	26	Joseph Keaney	36	Saskia de Jong	46	IAA
7	Michael Cairns	17	Daniel O'Sullivan	27	Philomena Keaney	37	Margaret Dillane	47	Grainne McGarty
8	Garreth McDaid	18	Sinead Ni Chathail	28	Michael Geoghegan	38	Shell E&P Ireland	48	People's Association Watchdog
9	Ursula Schweiger & Raymond O Connor	19	Bernadette Ceelen	29	Mary Rose Geoghegan	39	Cora Molloy	49	Felix Cropp
10	Monica Grossman	20	Fiona Fitzpatrick	30	Eamon Geoghegan	40	Sean Conlon	50	Kate Crewdson

Appendix A – Respondents by Reference Number (continued)

Ref. No.	Respondent	Ref. No.	Respondent	Ref. No.	Respondent
51	Dominic Crewdson	61	Nuala McNulty	71	Eithna O'Sullivan
52	Cara Crewdson	62	Margaret Rybicki	72	Daryl Fullerton
53	Dylan Crewdson	63	Ron Beemster	73	MCS Kenny
54	Clare & William Hudson	64	Helen Birtwistle	74	Simon (X)
55	Robert Birtwistle	65	Emma Birtwistle	75	Catherine O'Keeffe
56	Annie Birtwistle	66	Przemyslaw Jozwiak	76	Health & Safety Authority
57	Katie Gerard	67	Friends of the Irish Environment	77	Commissioners for Irish Lights
58	Fergal McAloon	68	Rebecca Birtwistle	78	EPA
59	Eddie Mitchell	69	Helen Taylor	79	ABP
60	Magdalena Jozwiak	70	Dervilla Keegan	80	International Peer Review Expert Group

Appendix B – Responses submitted by Question Number

Appendix B shows:

- The respondents who directly answered the consultation questions (20 respondents);
- which questions they responded to; and
- whether they specified agreement or disagreement with the proposal.

Appendix B-3: ALARP

Respondent No	Question 13		Question 14		Question 15		Question 16		Question 17		Question 18		Question 19	
	Q Y/N	Agree Y/N												
Liam Breslin	Y		Y		Y	Y	Y		Y	N	Y		Y	
Garreth McDaid	N		N		N		N		N		N		N	
PSE Kinsale Energy	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y
NSAI	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	
Shell E&P Ireland	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y
Scott Coombs	Y	Y	Y	N	Y	Y	Y		Y	Y	Y	N	Y	N
Talamh - Protecting Natural Wealth	Y		Y		Y		N		Y		Y		Y	
IAA	Y		Y	Y	Y	Y	Y		Y	Y	Y		Y	
Eddie Mitchell	Y	Y	Y	N	Y	Y	Y		Y	Y	Y	N	Y	N
Magdalena Jozwiak	Y	Y	Y	N	Y	Y	Y		Y	Y	Y	N	Y	N
Nuala McNulty	N		N		N		N		N		N		N	
Margaret Rybicki	Y	Y	Y	N	Y	Y	Y		Y	Y	Y	N	Y	N
Ron Beemster	N		Y	Y	Y	Y	Y	Y	N		N		N	
Przemyslaw Jozwiak	Y	Y	Y	N	Y	Y	Y		Y	Y	Y	N	Y	N
Eithna O'Sullivan	Y	Y	Y	N	Y	Y	Y		Y	Y	Y	N	Y	N
Daryl Fullerton	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y
MCS Kenny	Y		Y	N	Y	N	N		Y	Y	Y	N	Y	
Catherine O'Keeffe	Y		Y		Y		Y		Y	Y	Y		Y	
Commissioners for Irish Lights	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y
ABP	Y		Y		Y	Y	N		Y		Y		Y	

Appendix B-4: Permissioning and Designated Petroleum Activities (1)

Respondent No	Question 20		Question 21		Question 22		Question 23		Question 24		Question 25	
	Q Y/N	Agree Y/N										
Liam Breslin	Y		Y		Y		Y		Y		Y	
Garreth McDaid	Y		N		N		N		N		N	
PSE Kinsale Energy	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y
NSAI	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Shell E&P Ireland	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Scott Coombs	Y	N	N		N		N		N		N	
Talamh - Protecting Natural Wealth	Y		Y		Y		Y		Y		Y	
IAA	N		N		N		N		N		N	
Eddie Mitchell	Y	N	N		N		N		N		N	
Magdalena Jozwiak	Y	N	N		N		N		N		N	
Nuala McNulty	N		N		N		N		N		N	
Margaret Rybicki	Y	N	N		N		N		N		N	
Ron Beemster	N		N		N		N		N		N	
Przemyslaw Jozwiak	Y	N	N		N		N		N		N	
Eithna O'Sullivan	Y	N	N		N		N		N		N	
Daryl Fullerton	Y	Y	Y	Y	Y		Y	Y	Y	N	Y	N
MCS Kenny	Y		Y		Y	N	Y	Y	Y	Y	N	
Catherine O'Keeffe	Y		Y		Y		Y		N		Y	
Commissioners for Irish Lights	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
ABP	Y		Y		N		Y		Y		N	

Appendix B-5: Permissioning and Designated Petroleum Activities (2)

Respondent No	Question 26		Question 27		Question 28		Question 29		Question 30	
	Q Y/N	Agree Y/N								
Liam Breslin	Y		Y		Y		Y		Y	
Garreth McDaid	N		N		N		N		N	
PSE Kinsale Energy	Y	Y	Y	N	Y		Y	N	Y	Y
NSAI	Y	Y	Y		Y		Y		Y	
Shell E&P Ireland	Y	Y	Y	Y	Y	N	Y	N	Y	N
Scott Coombs	N		N		N		N		N	
Talamh - Protecting Natural Wealth	N		Y		Y		Y		Y	
IAA	Y	Y	N		N		N		N	
Eddie Mitchell	N		N		N		N		N	
Magdalena Jozwiak	N		N		N		N		N	
Nuala McNulty	N		N		N		N		N	
Margaret Rybicki	N		N		N		N		N	
Ron Beemster	N		N		Y	Y	N		N	
Przemyslaw Jozwiak	N		N		N		N		N	
Eithna O'Sullivan	N		N		N		N		N	
Daryl Fullerton	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
MCS Kenny	Y	Y	Y	N	Y		Y	N	Y	N
Catherine O'Keeffe	Y		Y		Y		N		N	
Commissioners for Irish Lights	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
ABP	Y		Y		N		Y		N	

Appendix B-6: Permissioning and Designated Petroleum Activities (3)

Respondent No	Question 31		Question 32		Question 33		Question 34		Question 35	
	Q Y/N	Agree Y/N								
Liam Breslin	Y		Y		Y		Y		Y	
Garreth McDaid	N		N		N		N		Y	
PSE Kinsale Energy	Y	Y	Y	Y	Y		Y		Y	
NSAI	Y	Y	Y	Y	Y		Y		Y	
Shell E&P Ireland	Y	Y	Y	Y	Y	Y	Y		Y	Y
Scott Coombs	N		N		Y		N		N	
Talamh - Protecting Natural Wealth	Y		Y		Y		N		Y	
IAA	N		N		N		N		N	
Eddie Mitchell	N		N		Y		N		N	
Magdalena Jozwiak	N		N		Y		N		N	
Nuala McNulty	N		N		N		N		N	
Margaret Rybicki	N		N		Y		N		N	
Ron Beemster	N		N		N		Y		N	
Przemyslaw Jozwiak	N		N		Y		N		N	
Eithna O'Sullivan	N		N		Y		N		N	
Daryl Fullerton	Y	Y	Y	Y	Y	Y	Y	N	Y	Y
MCS Kenny	Y	N	N		Y	Y	Y	Y	Y	Y
Catherine O'Keeffe	N		N		Y		N		Y	
Commissioners for Irish Lights	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
ABP	N		N		Y		Y		Y	

Appendix B-7: Compliance Assurance (3)

Respondent No	Question 48		Question 49		Question 50		Question 51		Question 52	
	Q Y/N	A Y/N								
Liam Breslin	Y		Y	Y	N		Y		Y	
Garreth McDaid	Y		N		N		N		N	
PSE Kinsale Energy	Y	N	Y	Y	Y	Y	Y	Y	N	
NSAI	Y	Y	Y	N	Y	N	Y	Y	Y	Y
Shell E&P Ireland	Y	N	Y	N	Y	N	Y	Y	Y	Y
Scott Coombs	N		N		N		N		N	
Talamh - Protecting Natural Wealth	Y	Y	N		Y		Y		Y	
IAA	N		N		N		N		N	
Eddie Mitchell	N		N		N		N		N	
Magdalena Jozwiak	N		N		N		N		N	
Nuala McNulty	N		N		N		N		N	
Margaret Rybicki	N		N		N		N		N	
Ron Beemster	N		N		N		N		N	
Przemyslaw Jozwiak	N		N		N		N		N	
Eithna O'Sullivan	N		N		N		N		N	
Daryl Fullerton	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
MCS Kenny	Y	Y	N		Y	Y	Y	Y	N	
Catherine O'Keeffe	Y	Y	Y	Y	Y		Y		Y	
Commissioners for Irish Lights	Y	Y	Y	Y	Y	Y	Y	Y	Y	
ABP	N		N		N		N		N	

Appendix B-8: Petroleum Incident Notification and Investigation

Respondent No	Question 53		Question 54		Question 55	
	Q Y/N	A Y/N	Q Y/N	A Y/N	Q Y/N	A Y/N
Liam Breslin	Y		N		Y	
Garreth McDaid	Y		N		N	
PSE Kinsale Energy	Y	Y	Y		Y	Y
NSAI	Y	Y	Y	Y	Y	Y
Shell E&P Ireland	Y	Y	Y	Y	Y	Y
Scott Coombs	N		N		N	
Talamh - Protecting Natural Wealth	Y	Y	N		Y	
IAA	N		N		N	
Eddie Mitchell	N		N		N	
Magdalena Jozwiak	N		N		N	
Nuala McNulty	N		N		N	
Margaret Rybicki	N		N		N	
Ron Beemster	Y	Y	N		N	
Przemyslaw Jozwiak	N		N		N	
Eithna O'Sullivan	N		N		N	
Daryl Fullerton	Y		Y	Y	Y	Y
MCS Kenny	Y	Y	N		N	
Catherine O'Keeffe	Y		Y		Y	
Commissioners for Irish Lights	Y	Y	Y		Y	
ABP	Y		N		N	

Appendix B-9: Agreed Regulatory Interfaces and Co-operation

Respondent No	Question 56		Question 57		Question 58		Question 59	
	Q Y/N	A Y/N						
Liam Breslin	Y	Y	Y		Y		Y	
Garreth McDaid	N		N		N		N	
PSE Kinsale Energy	Y		Y		Y		N	
NSAI	Y	Y	Y	Y	Y		Y	Y
Shell E&P Ireland	Y	Y	Y	Y	Y	Y	Y	Y
Scott Coombs	Y		N		N		N	
Talamh - Protecting Natural Wealth	Y	Y	Y		Y		Y	
IAA	Y	Y	Y	Y	Y		Y	Y
Eddie Mitchell	Y		N		N		N	
Magdalena Jozwiak	Y		N		N		N	
Nuala McNulty	N		N		N		N	
Margaret Rybicki	Y		N		N		N	
Ron Beemster	N		N		Y		Y	
Przemyslaw Jozwiak	Y		N		N		N	
Eithna O'Sullivan	Y		N		N		N	
Daryl Fullerton	Y	Y	Y	Y	Y	Y	Y	Y
MCS Kenny	N		N		N		N	
Catherine O'Keeffe	Y		Y		Y		Y	
Commissioners for Irish Lights	Y	Y	Y	Y	Y	Y	Y	Y
ABP	Y		Y		Y		Y	

ABP	N		N		Y		N		Y	
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Glossary of Terms

Abbreviation or Term	Definition or Meaning
AAIU	Air Accident Investigation Unit
Act, The	The Electricity Regulation Act 1999, as amended inter alia by the Petroleum (Exploration and Extraction) Safety Act, 2010
ALARP	As low as reasonably practicable. For background information on ALARP see the document, Reducing Risks, Protecting People by the UK Health and Safety Executive or See <i>SAFETY, HEALTH AND WELFARE AT WORK ACT 2005</i> Part 1 Interpretation 2 “: (6) For the purposes of the relevant statutory provisions, “reasonably practicable”, in relation to the duties of an employer, means that an employer has exercised all due care by putting in place the necessary protective and preventive measures, having identified the hazards and assessed the risks to safety and health likely to result in accidents or injury to health at the place of work concerned and where the putting in place of any further measures is grossly disproportionate having regard to the unusual, unforeseeable and exceptional nature of any circumstance or occurrence that may result in an accident at work or injury to health at that place of work”
CER	Commission for Energy Regulation
CENR	Usually referred in reference to the Minister for Communications Energy and Natural Resources
Consultation Paper	Consultation Paper
DCENR	Department of Communications, Energy and Natural Resources
Designated Petroleum Activity	Section 13A of the Act defines it as ‘...a petroleum activity which is designated by the CER under section 13D [of the Act] as a petroleum activity which requires a Safety Permit under section 13P [of the Act]
Draft Decision Paper	Draft Decision Paper on the High Level Design of the Framework
EIA	Environmental Impact Assessment
EIS	Environmental Impact Statement
EHLG	Environment, Heritage and Local Government
Established Petroleum Activity	Section 13A of the Act defines it as ‘... (a) a petroleum activity which, immediately before the coming into operation of this section [Section 13] is being carried on by a petroleum undertaking, (b) is a designated petroleum activity...(c) continues to be carried on after the coming into operation of this section [Section 13] by a petroleum operation’
Exploration Licences	See Petroleum Exploration Licence
Foreshore Licence	A Foreshore Licence is generally issued by the Minister for a development that does not require exclusive occupation of the foreshore. Examples would

Abbreviation or Term	Definition or Meaning
	include repair work, some coastal protection work, undersea pipelines, cables, site investigation works and dredging works
HSA	Health and Safety Authority
IAA	Irish Aviation Authority
IPPC	Integrated Pollution Prevention and Control
IRCG	Irish Coast Guard
LA	Local Authority
Lagging indicators	Lagging indicators, which provide a reactive approach, are those which can be reviewed after an incident has occurred and can inform operators as to the cause of the incident.
Leading indicators	Leading indicators, which provide a proactive approach, are those which provide information on the performance of the safety systems in place to prevent an incident from occurring or escalating.
Learnings	Findings. Usually referred to in connection with 'lessons learned' from events
Licensing Option	Gives the Holder the first right to an Exploration Licence over all or part of the area covered by the Option
Metrics	Measurements. Usually referred to when reporting on performance i.e. the 'performance metrics' of a company assess its performance in a specified area
Minister	Minister for Communications, Energy and Natural Resources
MTTS	Minister of Transport, Tourism and Sport
MSO	Marine Survey Office
NSAI	National Standards Authority of Ireland
PAD	Petroleum Affairs Division (of DCENR)
Petroleum Authorisation	Section 13A of the Act defines it as '...any one or more of the following: (a) an exploration licence granted under section 8 of the <i>Petroleum and Other Minerals Development Act 1960 (POMD Act)</i> , (b) a petroleum prospecting licence granted under section 9 of the <i>POMD Act, 1960</i> , (c) a reserved area licence granted under section 19 of the <i>POMD Act, 1960</i> , (d) a lease option granted under section 10 of the <i>POMD Act, 1960</i> , (e) a petroleum lease granted under section 13 of the <i>POMD Act, 1960</i> , (f) a consent granted under section 5 of the <i>Continental Shelf Act, 1968</i> , (g) a consent given under section 40 of the <i>Gas Act, 1976</i> '
Petroleum Exploration Licences	A Petroleum Exploration Licence vests in the Holder the exclusive right of carrying out exploration for petroleum in a specific licensed offshore area.

Abbreviation or Term	Definition or Meaning
	<p>A Standard Exploration Licence is issued for a period of 6 years in respect of an area with water depths of up to 200 metres.</p> <p>A Deepwater Exploration Licence is issued for a period of 9 years in respect of an area with water depths exceeding 200 metres.</p> <p>A Frontier Exploration Licence is issued in respect of an area with special difficulties related to physical environment, geology or technology – where such an area is specified and announced by the Minister for Communications, Energy and Natural Resources as a 'Frontier Area'. This licence type is valid for a period of not less than 12 years and comprises a maximum of 4 phases.</p>
Petroleum Prospecting Licence	A Petroleum Prospecting Licence is non-exclusive and confers on the Licensee the right to search for petroleum in any area where an Exploration Licence, Reserved Area Licence or petroleum lease is not in force
Permissioning including Permissioning Gates	Permitting/ Authorising, stages of Safety Permitting/authorising
Petroleum Lease	Vests in the Lessee the exclusive right to produce petroleum from the leased areas ⁹⁵
Petroleum Undertaking	The Act defines it as ‘...any person to whom a petroleum authorisation has been given or granted’
PSF	Framework which is the risk-based petroleum safety Framework established under section 13L of the Act
safety case	The Act defines it as ‘...a document describing the components of the safety management system relating to the designated petroleum activity concerned’ and demonstrating how safety risks have been reduced to ALARP
Safety Permit	Means a Safety Permit issued under section 13P of the Act