



National Office: The Secretary, Talamh, Knockvicar, Boyle, Co. Roscommon

## **RESPONSE TO CONSULTATION DOCUMENT CER/12/181**

### **“ALARP DEMONSTRATION GUIDANCE DOCUMENT UNDER THE PETROLEUM SAFETY FRAMEWORK”**

#### **Risk Tolerability Limits.**

Proposals for advisory Risk Tolerability Limits are laid out in Section 5 and Appendix D.

The Commission for Energy Regulation’s (CER’s) own definition of Tolerability was stated in paper CER/11/137(page 40) in the terms used by UK HSE as follows:

*“...tolerable does not mean acceptable. It refers instead to a willingness of society as a whole to live with a risk so as to secure certain benefits in the confidence that the risk is one that is worth taking and that it is properly controlled. However it does not imply that...everyone would agree without reservation to take this risk or have it imposed on them”.*

Section 5 proposes Risk Tolerability Limits in two terms: Individual Risk and Societal Risk.

Talamh referred to “Societal Risk” in its previous response document in the terms that CER had defined (as above), as an expression of Tolerability.

However, in CER Draft Decision Response Paper CER/12/061, CER stated

#### *5.5 Issue 4: Societal Risk*

##### *5.5.1 Points made by respondents*

*One respondent raised concerns that the CER does not have a mandate to determine societal risk. They suggest that societal risk can only be determined by full democratic consultation and debate following a government-authorised accounting process of the potential costs and benefits in the wider socio economic-environmental sphere so that the*

*public can evaluate the situation using evidence-based cost/benefit analysis and a political decision can be made to provide Ireland's public policy on unconventional gas. They suggest that it is clear from Section 5.1.3.2 of the Consultation Response Paper that the CER is proposing that societal risks will be decided not on Irish values but on other countries values, like the UK, a country that permits nuclear power.*

#### *5.5.2 CER Response*

*Section 5.1.3.2 of the Consultation Response Paper referred to by the respondent is concerned with whether the Framework should explicitly contain a numerical limit to the safety risk generated to society by proposed petroleum operations. The term 'societal risk' is a recognised term for quantification of safety risk to members of the public, as compared to members of the workforce. It provides an additional measure of risk to individual risk as it takes into account the number of persons at risk and not just the risk to individuals. Setting a limit to 'societal risk' allows the regulator to limit the number of persons who may be exposed to a given risk hence controlling developments in highly populated areas. The required approach for addressing societal risk will be detailed in a separate ALARP Demonstration guidance document which will be issued for public consultation. The approach will be consistent with current practices in Ireland or those adopted internationally. The term does not, however, encompass all the elements that the respondent suggests should be considered in determining whether a risk is acceptable to society. As explained in Section 4.1.5 of the Consultation Response Paper, the CER's remit under the Act is in relation 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 their assessment of safety cases.**[Our emphasis added] 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.*

Plainly, then, the CER is not in a position to determine Societal Risk Tolerability Limits given their own definition of Tolerability on the previous page and their own response above.

It is similarly not in a position to determine Individual Risk Tolerability Limits.

**We reiterate, again, the CER does not have a democratic mandate to determine such limits.**

Talamh is supported in this view by the COMMISSION OF THE EUROPEAN COMMUNITIES, Brussels, 2.2.2000, COM(2000) 1 final where it is stated,

*5. Decision-makers need to be aware of the degree of uncertainty attached to the results of the evaluation of the available scientific information. **Judging what is an "acceptable" level of risk for society is an eminently political responsibility. Decision-makers faced with an unacceptable risk, scientific uncertainty and public concerns have a duty to find answers.** [Our emphasis added] Therefore, all these factors have to be taken into consideration.*

*In some cases, the right answer may be not to act or at least not to introduce a binding legal measure. A wide range of initiatives is available in the case of action, going from a legally binding measure to a research project or a recommendation.*

*The decision-making procedure should be transparent and should involve as early as possible and to the extent reasonably possible all interested parties.*

## **Societal and Individual Risk Tolerance Limits proposed by CER**

Notwithstanding the previous arguments, an examination of the Appendix D “Justification of Risk Limits” reveals no meaningful justification for the limits proposed. There has been no apparent attempt to consult with the Irish public on these issues. This present consultation will reach only a minute fraction of the population and is not accessible or comprehensible to the average person.

Recognition is given to only one public consultation in Western Australia, with no reference to a source. Unlike Ireland, Western Australia contains vast almost unpopulated regions where dangerous industrial activities can be carried out in isolation from residential areas.

The Upper Tolerability Limit for Individual Risk to a member of the public is given as  $10^{-4}$ , or one fatality a year per 10,000 of population. If the population of Ireland is taken as, say, 4 million, this effectively means the CER expects that 400 members of the public could be killed in petroleum related accidents without any question of the level of danger in the industry.

From the recorded debates it is clear that the understanding of the Oireachtas in creating the Petroleum (Exploration and Extraction) Safety Act, 2010 was to ensure that the petroleum industry was safe for the public.

**The CER's position, however, is that they find it acceptable for the public to tolerate petroleum activities with a potential danger 100 times greater than what would be tolerated in everyday life.**

**It is impossible to accept that the legislators intended this to be the outcome of making the petroleum industry safe for the public!**

If we look at the real scenario being suggested by the Unconventional Gas Industry, the hazardous activities will be concentrated in confined geographical areas. This Individual Tolerability of 400 fatalities can be expected to actually apply to the communities in a handful of counties in Ireland and not be distributed throughout the entire population.

Societal Risk Tolerance appears to be calculated on a nationwide population factor. This is of no relevance to the real life situation where the real risk is to the people who live and work in the areas where the Petroleum Activities may be carried out. In short, the concept of Societal Risk to the whole of society is not an appropriate metric to apply to the Petroleum Industry with regard to the onshore production of Unconventional Gas. It is not the whole of society that takes the risk, the risk is to the local population in the areas where the gas is being produced.

We note that the Safety Case Guidelines Document does take notice of the local resident and non-resident population. The Alarp Demonstration Guidance is inconsistent in this regard with the Safety Case Guidelines Document.

## **Proliferation of Petroleum Installations.**

No apparent recognition is given in the ALARP Demonstration Guidance Document to the accumulative risk to a local population caused by the proliferation of Petroleum Installations. The proposals being made by the Unconventional Gas Industry are for Well Pads every two kilometres in the geologically suitable regions. It would appear that the risk posed by each individual Well Pad is the only risk assessed. In real life, a person working or travelling in an area where unconventional gas is being produced could be nearby to several Well Pads during the course of a day. The risk to members of the public is therefore multiplied by the proliferation of installations. A comparable example could be drawn by the Ministry of Transport's Travel Survey in rural New Zealand where they found the mean distance an average person travelled by car as being over 50Km per day. Clearly where pads are spaced every 2Km there is a high potential risk of being in the close proximity of a pad 25 times during the course of a day.

Furthermore it is clear by reference to the work of the Paul Scherrer Institut (PSI) in their paper "Comparative Risk Assessment and the Energy-Related Severe Accident Database (ENSAD)" <http://gabe.web.psi.ch/research/ra/>

*"In the literature there exists no consensus definition of the term "severe accident". Within the framework of PSI's database ENSAD an accident is considered to be severe if it is characterized by one or several of the following consequences:*

- at least 5 fatalities or*
- at least 10 injured or*
- at least 200 evacuees or*
- extensive ban on consumption of food or*
- releases of hydrocarbons exceeding 10,000 t or*
- enforced clean-up of land and water over an area of at least 25km<sup>2</sup> or*
- economic loss of at least 5 million USD(2000).*

As can be seen the definition used by CER is too narrow an assessment of the true potential accident risks and will distort the risks by ignoring the wider definition of severe accidents.

CER are mistaken in believing it is possible for them to decide on societal risk because this is a political decision that must be made based on the relative values given to the risks versus the benefits.

## **Precautionary principle**

In the Consultation Paper on the High Level Design of the Petroleum Safety Framework CER/11/137 at 6.3.5 the CER stated:

“The precautionary principle is one such approach to management of risk which is called upon where the possibility of harmful effects on health or environment has been identified but preliminary scientific evaluation, based on the available data, proves inconclusive for assessing the level of risk. The need to apply the ‘precautionary principle’ in such circumstances is widely recognised and was endorsed by EU heads of Government in a European Resolution at Nice in December 2000. While recognising the precautionary principle, the resolution is not specific on the details as to what it should exactly entail and there are many interpretations of the principle. The approach suggests a strong bias towards avoiding a potential, highly uncertain risk (ie. Better safe than sorry but this is not expressly stated in the Resolution).”

In fact the European Commission has given the following Communication on the precautionary principle, COM/2000/0001 final, in which it states:

“However, it would be wrong to conclude that the absence of a definition has to lead to legal uncertainty. The Community authorities' practical experience with the precautionary principle and its judicial review make it possible to get an ever-better handle on the precautionary principle.”

<http://eurlex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:52000DC0001:EN:NOT>

Furthermore at point 6.4 the report examines how this principle reverses the normal burden of proof,

### **6.4 Burden of Proof**

*Community rules and those of many third countries enshrine the principle of prior approval (positive list) before the placing on the market of certain products, such as drugs, pesticides or food*

*additives. This is one way of applying the precautionary principle, by shifting responsibility for producing scientific evidence. This applies in particular to substances deemed "a priori" hazardous or which are potentially hazardous at a certain level of absorption. In this case the legislator, by way of precaution, has clearly reversed the burden of proof by requiring that the substances be deemed hazardous until proven otherwise. Hence it is up to the business community to carry out the scientific work needed to evaluate the risk. **As long as the human health risk cannot be evaluated with sufficient certainty, the legislator is not legally entitled to authorise use of the substance, unless exceptionally for test purposes.***

*In other cases, where such a prior approval procedure does not exist, it may be for the user, a private individual, a consumer association, citizens or the public authorities to demonstrate the nature of a danger and the level of risk posed by a product or process. **Action taken under the head of the precautionary principle must in certain cases include a clause reversing the burden of proof and placing it on the producer, manufacturer or importer,** but such an obligation cannot be systematically entertained as a general principle. This possibility should be examined on a case-by-case basis when a measure is adopted under the precautionary principle, pending supplementary scientific data, so as to give professionals who have an economic interest in the production and/or marketing of the procedure or product in question the opportunity to finance the necessary research on a voluntary basis.*

The conclusion arrived at is

*Measures based on the precautionary principle may assign responsibility for producing the scientific evidence necessary for a comprehensive risk evaluation.*

This principle allows policy makers to make discretionary decisions in situations where there is the possibility of harm from taking a particular course or making

a certain decision when extensive scientific knowledge on the matter is lacking. The principle implies that there is a social responsibility to protect the public from exposure to harm, when scientific investigation has found a plausible risk. These protections can be relaxed only if further scientific findings emerge that provide sound evidence that no harm will result.

The precautionary principle therefore actually requires CER to place the burden of proving any petroleum activity to be safe on the petroleum undertaking itself. In some legal systems, as in the law of the European Union, the application of the precautionary principle has been made a statutory requirement.”

The precautionary principle, like the Hippocratic Oath, derives from the maxim *Primum non nocere* which is a Latin phrase that means "first, do no harm". Non-maleficence, is also derived from the maxim.

The overarching or comprehensive Precautionary Principle or approach: [The Rise of the Precautionary Principle: A Social Movement Gathers Strength, by Nancy Myers]

*When an activity raises threats of harm to human health or the environment, precautionary measures should be taken even if some cause and effect relationships are not fully established scientifically.*

*In this context the proponent of an activity, rather than the public, should bear the burden of proof.*

***The process of applying the Precautionary Principle must be open, informed and democratic and must include potentially affected parties. It must also involve an examination of the full range of alternatives, including no action.***

It is invoked when debating the use of an action or intervention that carries an obvious risk of harm but a less certain chance of benefit.

The concept of the precautionary principle laid out at 4.5.7 of the ALARP Demonstration Guidance Document appears to differ acutely from the common understanding.



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**RESPONSE TO CONSULTATION DOCUMENT CER/12/183  
“DESIGNATED PETROLEUM ACTIVITIES REGULATIONS  
PETROLEUM SAFETY FRAMEWORK”**

**The proposed Statutory Instrument.**

It is Talamh’s understanding that Regulation in the form of a Statutory Instrument (SI) can only be drawn up and laid up before the Houses of the Oireachtas by a member of the elected executive of the Government.

Can the CER provide Constitutional authority for this draft of a Statutory Instrument being drawn up by the CER which is a non-elected body?

The proposed Statutory Instrument does not refer to regulating or permissioning a petroleum activity described as hydraulic fracturing operations (later referred to as Formation Stimulation Operations).

The scope of the two proposed documents which include regulating and permissioning hydraulic fracturing operations (later referred to as Formation Stimulation Operations) is therefore broader than the activities designated in the SI.

It is inconsistent therefore for the two proposed documents for regulating and permissioning activities to include hydraulic fracturing operations (later referred to as Formation Stimulation Operations) as an activity.

**Statutory requirements.**

Section 13( D) of the Petroleum (Exploration and Extraction) Safety Act, 2010 requires the CER to examine the nature and scope of activities and the risks

involved. The designation criteria chosen do not address the far greater risks involved with land based Petroleum Activities.

Effectively the Draft Regulations treat all activities similarly even though the risks factors change dramatically with geographical location. This will result in a false conclusion which can not be relied upon.

It is of concern that there is an absence of recognition in this document that the Draft Regulations do not extend to the construction or commissioning of any petroleum infrastructure, or the conveyance of petroleum by vessels.



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**RESPONSE TO CONSULTATION DOCUMENT CER/12/182  
“SAFETY CASE GUIDELINES - GUIDANCE DOCUMENT UNDER  
THE PETROLEUM SAFETY FRAMEWORK”**

The guidelines refer to Design Safety Cases. It appears that the Regulations do not extend to the Design of Petroleum Infrastructure.

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The scope of the two proposed documents for regulating and permissioning hydraulic fracturing operations (later referred to as Formation Stimulation Operations) document is broader than the activities designated in the SI.

It is inconsistent therefore for the two proposed documents for regulating and permissioning activities to include hydraulic fracturing operations (later referred to as Formation Stimulation Operations) as an activity.

It is inconsistent therefore for Safety Case Guidelines for regulating and permissioning activities to include hydraulic fracturing operations (later referred to as Formation Stimulation Operations) as an activity.

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