

From: Catherine O'
Sent: 29 September 2011 22:08
To: Eamonn Murtagh
Subject: Consultation Paper on the High Level Design of the Petroleum Safety Framework.

Eamonn,

please find enclosed comment on the paper drafted by CER on the Consultation Paper on the High Level Design of the Petroleum Safety Framework. Apologies, I'm a bit late on it I know but I hope you can consider my submission attached.

Just to give you my background, I'm a chartered civil engineer and have previously worked extensively on groundwater schemes in various parts of the country, as a result my responses given focus primarily on that aspect of the works.

I would generally be concerned that assessment of the hazard proposed by onshore extraction (via fracking) would be exceptionally difficult given the nature of aquifers in the country. This is primarily due to the fact that it is difficult to assess their location in terms of depth and area and volume of water contained therein. Investigation should be implemented where drilling indicates that a ground water supply is present, generally the drillers themselves are familiar with this, identification & assessment of water ingress at different levels is a normal function of groundwater well drilling. This would allow an assessment of environmental impacts on onshore extraction to be monitored and assessed on a case by case basis.

Also, the CER does not seem to be proposing to try to control the environmental impacts of proposed works, which I think may cause difficulty if you are to gain public support and trust, particularly given recent environmental impacts of the likes of BP incidents in recent years.

Please do not hesitate to contact me if you have any queries or require any further information.

Regards,

Catherine

Consultation Question 1

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

Fracking – difficult to estimate the safety risk, i.e. the volume of solids being pulled up, in the case of glacial aquifers, essentially the ground is being pulled from under the rig, a method of assessing this would be required (monitoring the volume of fines being pulled up would be one method of doing this).

Consultation Question 1

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

Consultation Question I

It should be a statutory function of the CER to monitor groundwater supplied in the area in order to assess and determine the risk of proposed petroleum extraction at any particular location, in particular where group water well schemes are in situ.

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.

Agree in general, however I understand that the EPA's enforcement powers in relation to environmental issues are at best limited. The CER would be best placed to monitor the effect of proposed petroleum seeking activities on the groundwater supplies, a co-ordinated approach should be needed, and I am of the opinion that to leave this function to the EPA would leave Irelands groundwater resources open to pollution.

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.

The definition seems to be restricted to the "major loss of life", does this cover loss of natural resources, loss of amenity, impact of an incident which could be extremely environmentally hazardous however does not cause major loss of life. I think the definition needs to be broadened.

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?

See response to question 2, I think the CER would be best placed to determine the effects on groundwater resources.

Consultation Question 5

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

- j) A Statement of Strategic Intent;
- k) ALARP Demonstration Guidance;
- l) Agreed Interfaces, Co-operation & Co-ordination with Regulatory Authorities;
- m) A Permissioning System;

- n) A Compliance Assurance System;
- o) An Incident Investigation System;
- p) An Enforcement System;
- q) A Safety Reporting and Published Safety Information System; and
- r) A Continuous Improvement System.

In general the above are reasonably clearly defined.

Consultation Question 6

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

ALARP should be reasonably specific on the effect of onshore drilling for natural groundwater.

Consultation Question 7

Do you agree that the proposed vision for the Framework should be:
A safe Irish petroleum exploration and extraction industry.

Yes

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

I think it should be expanded to include the 'natural environment'

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.*

In general I agree with the above, however in line with CER's aim of independently regulating the industry, again at risk of reiterating, it will be difficult to co-ordinate regulation with the EPA, primarily as unless the EPA has funding to determine the effects of drilling, they will be reliant on currently published information which would not be sufficiently accurate. Information regarding groundwater resources can be determined by the drillers at the testing & investigation stage of the works to provide a more accurate snapshot of the potential risks and effects of any proposed extractions.

Consultation Question 10

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

Yes, monitoring of the surrounding environs, including groundwater at all stages of the project lifecycle.

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.

In general I agree with the above statements.

Consultation Question 12

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

No

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.

I don't agree with the assessment, as the risks/impacts do not make reference to the potential impact on the environment, natural resources and the wealth that they supply (such as drinking water) and the potential impact that the works may have on our environment. I strongly believe that this should be incorporated, otherwise how can you engender confidence that the framework is protecting the public if all risk are deemed individual/societal and not environmental.

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.

I'm not familiar with limits of tolerability in relation to individual risk to workers, and in general I think the setting of limits in this context would cause contractors/companies to work towards limits as opposed to site specific and possibly low probability but high factor risks.

Consultation Question 15

Should societal risk be addressed within the Petroleum Safety Framework? If so, should it be treated implicitly and/or explicitly? Yes this seems a sensible approach, I'm unclear as to whether they should be treated implicitly or explicitly.

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?

Yes environmental risks, this should not be limited to the EIS process.

Consultation Question 17

Do you consider it reasonable for the CER to align proposed risk criteria introduced under

the Petroleum Safety Framework with criteria adopted by the HSA for land-use planning purposes?

Yes

Consultation Question 18

Please comment on whether you consider the Petroleum Safety 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?

I think lower levels could be set, and taken as advisory, with a caveat that further risk assessment may be necessary where site factors indicate that it is necessary.

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?

I think that they should be mandatory.

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

In general I agree provided that the definition of major accident hazard is revised to include environmental concerns.

Consultation Question 21

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

The installation of the wells, which would be during the construction stage, can offer valuable information with regard to groundwater supplies. The CER should be mindful of this and needs to make some allowance for monitoring this aspect of the works, in order to determine the effect of onshore extraction on the countrys groundwater supplies

Consultation Question 22

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

This depends on the amount of onshore drilling envisaged, however if this is the case, should groundwater well drilling be regulated (to ensure that they would not affect an operational petroleum resource, directly or indirectly (by allowing groundwater into it say?))

. Consultation Question 23

Please comment on the application of the designation criteria to extraction activities.
Generally agree, does a land well include a groundwater well?

Consultation Question 24

Please comment on application of the designation criteria to conveyancing activities.
No comment

Consultation Question 25

Please comment on application of the designation criteria to decommissioning activities.
As per my response to Q23

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.
As per my response to Q26

Consultation Question 27

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

Where authorities actively regulate activities yes co-ordinating with other agencies and avoiding duplication of work is sensible, but the CER should be mindful that groundwater is not regulated, in that extractions under 5MGL are not subject to EPA approval.

Consultation Question 28

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

Well designs & their safety cases should consider the effect on the wider environs and attempt to estimate their impact (ie this may entail the drilling of nearby wells to estimate the extent of groundwater reservoir supplies)

Consultation Question 30

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

No comment

Consultation Question 31

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

No comment

Consultation Question 32

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

No comment

Consultation Question 33

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

In general, the CER should know enough so that if it employs third party specialists, it knows that they are doing a good job. So yes they should also be technically competent.

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.

No comment

Consultation Question 35

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

Generally agree, however I would point out that just because another statutory body does not regulate an activity, if the CER determines that some form of regulation may be required, it should have the authority to implement it. Particularly in relation to groundwater.

Consultation Question 36

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

No comment

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.

Generally agree

Consultation Question 38

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

Generally agree

Consultation Question 40

Please comment on the CER proposal that a Verification Scheme should form part of the Compliance Assurance system of the Petroleum Safety Framework.

Generally agree

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.

Generally agree, will there be a body set up for this? Who appoints this person, the petroleum undertaking? In which case it may not be fully independent.

Consultation Question 42

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

Consultation Question 43

Do you think that approval of the ICP is required and, if so, by whom? **Engineers Ireland, Geological society of Ireland, EPA.**

Consultation Question 44

Should the CER, or a 4th party audit the verification scheme? **Yes but on a 10 year basis to ensure clarity I suppose.**

Consultation Question 45

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

I'm unclear on this

Consultation Question 46

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

Yes

Consultation Question 47

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

Yes it should be applied at all stages

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. **Yes I do agree, engineers Ireland, the geological society of Ireland, the irish hydro geologists association are possible contenders.**

Consultation Question 49

Should ALARP be explicitly included within the verification scheme guidance? Please comment. **Yes it should be.**

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? **In general the CER probably should approve verification scheme unless it so desires to and as long as it has the powers to disapprove a verification scheme in exceptional circumstances.**

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.

Generally agree

Would generally agree.

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.

Generally Agree

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;

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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.

Those incidents which have a negative environmental impact also need to be classified as petroleum incidents notified to the CER.

Consultation Question 54

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

The incidents being investigated should also include for investigation of damage to properties owned by the petroleum undertaking.

Consultation Question 55

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

I would generally be supportive of the proposals outlined.

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?

Waterways Ireland and the OPW (who manage rivers etc., I think)

Consultation Question 57

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

Generally agree

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 cooperation within arrangements with other statutory authorities.

Generally agree

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.

I would generally agree however where possible I think CER should take the lead (& not leave it up to other bodies)

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?

I would generally agree on the above.

Consultation Question 61

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

No comment

Consultation Question 62

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

Any EIS information should also be published.

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.

I've no issue with rates of extraction etc. being excluded due to commercial sensitivities but the risks identified should be published in full.