

Comments on the Consultation Paper on the High Level Design of the Petroleum Safety Framework.

In general I tend to agree with most of the proposals in the paper with regard to *conventional offshore drilling* for oil and gas, but the paper's focus is too narrow. A safe Irish petroleum exploration and extraction industry can only be safe if it does not only consider the safety of people and of property, but also of the wider environment. Although I am aware that the EPA is in charge of the environmental safety of these projects, it is still important to stress this point, and to incorporate environmental safety in the report.

In the case of *onshore exploration*, which will mainly involve unconventional gas and oil (shale gas and tight oil), exploited by means of hydraulic fracturing, the proposed measures are inadequate, and much tighter regulations need to be adopted. Because of the use of chemicals, high pressures, the unpredictable and uncontrollable effects of subterranean fracturing of rocks and the dispersed nature of the deposits, the potential for accidents is much greater in this type of exploration. These accidents will generally affect the environment more than the safety of humans or property.

In this case, I believe Ireland should adopt the recommendations in the European Parliament report "Impacts of shale gas and shale oil extraction on the environment and on human health" (IP/A/ENVI/ST/2011-07), specifically:

- that "considerations should be given to developing a new directive at European level regulating all issues in this area comprehensively", because Ireland does not have the "in house" expertise to deal with this type of exploitation,
- that "statistics on accidents and complaints should be collected and analysed at a European level" by an independent authority,
- that "it should be assessed whether the use of toxic chemicals for injection should be banned in general",
- that "the threshold for an Environmental Impact Assessment [...] should be lowered substantially",
- that "the coverage of the Water Framework Directive should be reassessed with special focus on fracturing activities", and
- that "a thorough cost/benefit analysis" should be applied in the framework of a Life Cycle Analysis, to "assess the overall benefits *for society and its citizens*" (my emphasis, i.e. not for company profits and tax revenue alone).

Because of the nature of hydraulic fracturing, different safety measures need to be adopted on different scales. (For example: an Environmental Impact Statement will need to be issued for each drilling pad, as each pad affects the area in a different way, but an individual Safety Certificate is needed for each well on each pad, as there may be up to 16 wells per pad and an accident in one of them may trigger accidents in the others. So special attention will also have to be paid to the relative placement of wells on a pad.)

The publication of this Consultation Paper coincides with the largest round of licensing ever seen in the Republic, which means that a new safety framework will likely lag behind the application for Exploration Licences. It is therefore imperative that no Exploration Licences are issued (either onshore or offshore) before the proposed safety framework is in place.

As indicated above, I would propose at least a moratorium on any onshore unconventional exploration until such time as a European-wide comprehensive safety framework is in place.

In the case of any questions I did not answer below, you may assume that I either agree with the report, at least with regard to conventional offshore drilling, or did not feel competent to answer the question.

Question/ Proposal		Do you agree?		Comments
		Yes	No	
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.		No	No provisions for minor hazards, like gas escaping/seeping into rivers or lakes in small but regularly occurring quantities, as documented in the USA in the case of hydraulic fracturing for shale gas. This has slow effects on human and animal health, but is not classed as a major disaster. Also: Environmental damage is not considered at all. The focus on major accidents involving human life or property only is too narrow.
8	Do you agree that the proposed mission statement for the Framework should be: <i>To independently regulate petroleum exploration and extraction activities to protect life</i>		No	This should be expanded to “all life and the environment”, not specifically focused on human life alone.
11	Please comment on the proposed three regulatory goals for the Framework: <i>1. That petroleum undertakings reduce risks to safety to a level</i>	Yes		Point 3 will be very difficult to achieve, as the Irish public have lost all trust in regulatory authorities.

	<p><i>that is ALARP;</i></p> <p><i>2. That petroleum undertakings achieve safety performance commensurate with the best internationally; and</i></p> <p><i>3. Engender confidence that the regulatory framework is protecting the public.</i></p>			
14	<p>Please comment on whether you consider it appropriate to set upper limits of tolerability for the following risk metrics relating to petroleum activities:</p> <p><input type="checkbox"/> Individual risk to workers; and</p> <p><input type="checkbox"/> Individual risk to members of the general public.</p>	Yes		“Individual risk to workers” should definitely be included.
15	<p>Should societal risk be addressed within the Petroleum Safety Framework? If so, should it be treated implicitly and/or explicitly?</p>	Yes		Explicitly
16	<p>Are there any other risk metrics which you consider should be adopted for the control of risks generated by designated petroleum activities?</p>	Yes		Environmental risks
19	<p>If upper limits are introduced for either individual or societal risk, please comment on whether the limits should be:</p> <p>_ left to the petroleum undertaking to set and</p> <p>_ advisory; or</p> <p>_ mandatory</p>			Definitely not left to the petroleum undertaking to set, and should be mandatory
28	<p>Please comment on the proposed approach for a Well Work Safety Permit and supporting safety cases.</p>	Yes		It is proposed that each <i>well</i> drilled should have its own safety case which will be maintained and updated throughout the life of the well from initial drilling through to abandonment. This is a very important point, especially in the

				case of hydraulic fracturing, where up to 16 wells may share the same drilling pad, with the additional risk that if one well fails, the others may also be affected.
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.			I would favour the independence of option d) Adopt an approach similar to that of the UK where the review is thorough in nature and is undertaken, at least in part, by an independent party.
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.	Yes		It is very important to have as many third party independent competent persons as possible. However, the key question here is "Who appoints these ICPs?" It is better to have a panel, considering the general loss of faith in regulatory bodies and processes in Ireland.
38	Should the CER seek to co-ordinate its audit and inspection activities with other statutory bodies where possible?	Yes		Of course. In fact, it would be better if the CER (or another, independent body) acted as an umbrella organization, covering all aspects of the safety process, with the other statutory bodies adding their reports and inspections to one overall comprehensive safety system.
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?			It should be risk-based and involve a few visits per facility per year, depending on the type of risk, and involving all appropriate statutory bodies for that risk (the more visits the better, and while keeping an eye out for other possible problems as well), and at least one total inspection of all aspects of the facility on a regular basis e.g. every 2-3 years, to make sure no aspects are overlooked.
40	Please comment on the CER proposal that a Verification Scheme should form part of the Compliance Assurance system of	Yes		

	the Petroleum Safety Framework.			
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)?	Yes		Independent third party from an external organisation (ICP) approved by the regulator. Even then, most possible ICPs will be members of the petroleum industry, so it will be difficult to assess their independence.
42	If the ICP approach is adopted by the CER, who should contract the ICP – the CER or the petroleum undertaking?			Is it possible to have a joint contract? If not, then the CER to avoid even the possibility that the ICP may be seen as corruptible.
43	Do you think that approval of the ICP is required and, if so, by whom?	Yes		Approval by CER.
44	Should the CER, or a 4th party audit the verification scheme?			CER, otherwise it gets too complicated.
45	Do you agree with the CER proposal that the Scope of Verification should be hardware Safety Critical Elements?		No	Humans are generally the weakest link in any operation (inclined to take shortcuts and put off essential maintenance), and their performance and competence needs to be assessed regularly.
46	Do you agree with the CER proposal to apply the verification scheme offshore and onshore?	Yes		See my introductory points above
53	Please comment on the proposals for the following to be to be classified as petroleum incidents to be notifiable to the CER: <input type="checkbox"/> All events/occurrences that result in the loss of human life; <input type="checkbox"/> Those events/occurrences which result in a personal injury	Yes		But once again there is no mention of the environmental effects of any type of accidents, which may result in health hazards over time.

	<p>to a member of the general public;</p> <ul style="list-style-type: none"> □ 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. 			
58	<p>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.</p>			<p>Permits should only be granted when all relevant statutory authorities are in agreement over their safety. As pointed out above , it would be better if the CER (or another, independent body) acted as an umbrella organization, covering all aspects of the safety process, with the other statutory bodies adding their reports and inspections to one overall comprehensive safety system.</p>
59	<p>Please comment on the proposals for co-ordinated audits/inspections and related information exchange under the interface, co-ordination and co-operation arrangements.</p>			<p>This is vital</p>

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?			If they are jointly and severally liable, they should submit a safety case both jointly (for the whole undertaking) and severally (each for their own role in the undertaking).