PEPANZ
PETROLEUM EXPLORATION & PRODUCTION ASSOCIATION OF NEW ZEALAND

Enriching New Zealand's Future

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PEPANZ Submission: Draft Freshwater and Land Management Plan for Taranaki

Introduction

This document constitutes the Petroleum Exploration and Production Association of New Zealand's (PEPANZ) submission in respect of the *Draft Freshwater and Land Management Plan for Taranaki* ("the draft plan"), which was released by the Taranaki Regional Council (TRC) in May 2015.

PEPANZ represents private sector companies holding petroleum exploration and mining permits, service companies and individuals working in the industry.

In general, PEPANZ supports TRC's approach to oil and gas regulation in Taranaki and welcomes the clarification of the rules applying to oil and gas related activities.

We do however have a number of specific comments on particular aspects of relevant proposed rules and these are included in the following table, which reproduces key aspects of the relevant rules together with comments on, and proposed changes to, those rules a definition in the draft plan.

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Comments on, and suggested changes to, rules in the Draft Freshwater and Land Management Plan for Taranaki

Activity	Rule	Classification & Freshwater management unit	Conditions/standards/terms and Control/discretion/notification	**PEPANZ Comments**
Gas injection Subsurface discharge of hydrocarbons into land or into saline water associated with gas storage or hydrocarbon recovery activities pursuant to section 15(1) of the RMA.	21	Permitted A, B, C, D	(a) The discharge does not result in the target reservoir exceeding the pressure of the reservoir prior to hydrocarbon production activities commencing. (b) A daily record of reservoir pressure must be maintained and provided to the Taranaki Regional Council on request as evidence of compliance with condition (a).	Activity description - We note that saline water is not included in the definitions within the draft plan. Presumably, saline water is groundwater that is excluded by the definition of fresh groundwater, however, this could be clarified. a) We note that in some cases it may be necessary to use an injection pressure that is higher than the original formation pressure at the well bore to allow the gas to be injected at suitable rates into the reservoir, however, that will equalise rapidly as injection ceases. Pressures are generally measured at the well bore and this aspect would have to be factored into any measurement of reservoir pressure.
Stormwater and surplus drilling water discharges to land Discharge of stormwater and surplus drilling water from hydrocarbon exploration and production activities onto or into land where it may enter surface water pursuant to section 15(1) of the RMA.	22	Controlled A, B, C, D	(a) The discharge does not contain more than 230 gm-3 chloride. (b) No liquid recovered from or returned from a well is directed to the discharge or its collection and treatment system. (c) The discharge does not directly enter or directly flow to any surface water body. (d) The discharge complies with the following standard at the point of discharge: (i) total petroleum hydrocarbons less than 15 gm-3; (ii) suspended solids less than 100 gm-3; AND (iii) pH range between 6.0 – 8.5. ---------- ------- Control is reserved over: (a) Contingency plan and matters contained therein. (b) Measures to avoid, remedy, or mitigate adverse effects on soil health, and groundwater	Activity description - It would be useful to define "drilling water". (d)(iii) We note the pH limit has been narrowed to 6.0 - 8.5 compared to a range of 6.0 – 9.0 proposed in TRC's 2013 working paper. We question the justification for the narrowing of this limit and suggest that 6.0 – 9.0 is a more appropriate range. We suggest consideration is given to providing an exception to meeting the suspended solids standard at the point of discharge during, and immediately after, very high or extreme rainfall events. Experience has shown that such events can temporarily overwhelm treatment systems. In addition, the effects of higher than permitted sediment levels in the discharge under such circumstances are insignificant in the context of likely very high levels and water volumes in receiving waters. We also suggest consideration is given to widening this rule to include discharges direct to water. Given the specified standards are acceptable for discharges that may enter surface water, presumably the same standards would be acceptable for

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			and surface water. (c) Monitoring and information requirements relating to matters that the Taranaki Regional Council has reserved control over. (d) Duration of consent. (e) Review of conditions of consent and the timing and purpose of the review. (f) Payment of administrative charges and financial contributions. Resource consent applications under this rule will not be publicly notified.	direct discharge to water. We also note there may be existing sites that discharge directly to water.
Landfarming Discharge of drilling muds onto or into land associated with *landfarming* or *mix-bury cover* pursuant to section 15(1) of the RMA and associated: • use of land pursuant to section 9 of the RMA.	23	Discretionary A, B, C, D		We note that reference to "drill cuttings" has been removed from this rule in contrast to the rule proposed in TRC's 2013 working paper. We do not understand the rationale for this exclusion and consider this rule should specifically include "cuttings" as well as drilling muds. Cuttings would generally compose the majority of the volume of material requiring disposal.
Hydraulic fracturing Subsurface discharge of contaminants into land or into saline water from *hydraulic fracturing* activities pursuant to section 15(1) of the RMA and associated: • taking of hydraulic fracturing fluids as *produced water* pursuant to section 14(2) of the RMA.	24	Discretionary A, B, C, D		We are unclear as to relevance of the note which refers to "taking of hydraulic fracturing fluids as produced water pursuant to section 14(2) of the RMA" in the context of this rule covering the discharge of contaminants from hydraulic fracturing.

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Seismic surveys Use of land to drill a hole to undertake a seismic survey pursuant to section 9 of the RMA, and any associated: • discharge of water or contaminants into water or onto or into land where it may enter groundwater pursuant to section15(1) of the RMA. *Note:* *If the activity does not meet the standards, terms and conditions in this rule refer to Rule 42.*	53	Permitted A, B, C, D	(a) Holes to be capped at surface[9] on the same day that drilling occurs. (b) There shall be no aquifer cross contamination. (c) Holes to be abandoned[10] on the same day as detonation and data acquisition. (d) All drilled holes comply with the following separation distances: (i) 25 metres from any surface water and the coastal marine area; (ii) 50 metres from any effluent treatment system, holding pond or septic tank; AND (iii) 100 metres from any bore or spring used for water supply purposes[11]. (e) Only water or water-based drilling muds to be used. (f) Products used to drill and construct the hole must not be a hazardous substance in terms of the Hazardous Substances and New Organisms Act 1996. (g) Drilling cuttings must be: (i) removed following detonation and data acquisition; OR (ii) used for hole abandonment. (h) The Taranaki Regional Council must be informed that the activity is to occur at least 15 working days prior to the commencement of drilling. (i) Within 30 working days of the completion of the activity, the following information must be submitted to the Taranaki Regional Council: (i) the total area of the survey; (ii) the location and depth of shot holes; (iii) a description of the groundwater resource encountered across the whole area; AND (iv) the abandonment method applied.	(b) In practice we note this could only be an issue for deeper shot holes as shallow holes would not intersect a confined aquifer let alone two that would allow cross contamination. (c) We consider this should be amended to read "holes to be re-capped immediately upon detonation and abandoned within one month of detonation". The practical issue is that the hole is re-capped to limit water ingress. To require same day restoration could adversely affect data quality, cause HSE/logistical issues and potentially increase landholder disruption by increasing the size of crews required. Restoration (abandonment) generally occurs in an orderly manner a period after detonation of source points and the recording spread being retrieved and relocated. For larger and more complex 3D surveys and can be necessary to allow a longer period of time. (d)(i) This appears workable based on the definition of "surface water" in the draft plan (which excludes drains) although there is some uncertainty as to what constitutes a "pond". (d)(iii) The separation distance from a bore used for water supply purposes should be limited to those bores registered on the TRC database as seismic operators may be unaware of bores that are not registered. (f) The definition of hazardous substance under Hazardous Substances and New Organisms Act 1996 and the specific description is wider than necessary to avoid adverse effects. Cement for example is a hazardous substance by virtue of its corrosivity (class 8) and because it is a skin and eye irritant (classes 6.3 and 6.4). We suggest that the reference to hazardous substances be replaced by reference to non-possession of relevant ecotoxic or human toxicity properties. We would be happy to engage further with the TRC on this.

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Hydrocarbon well drilling and construction Use of land for the drilling and construction of a well pursuant to section 9 of the RMA, and any associated: • discharge of water or contaminants into water or onto land pursuant to section 15(1) of the RMA; AND • take of water or geothermal energy incidental to the activity pursuant to section 14(2) of the RMA. *Note:* *If the activity does not meet the standards, terms and conditions in this rule refer to Rule 42.*	54	Permitted A, B, C, D	(a) Water-based drilling muds are used when drilling above and adjacent to the freshwater-saltwater interface. (b) Products necessary to drill and construct the hole must not be a hazardous substance. (c) All drilled wells must comply with the following separation distances: (i) 25 metres from any surface water and the coastal marine area; AND (ii) 500 metres from adjacent bores for water supply purposes. (d) The Taranaki Regional Council is informed that the activity is to occur at least 15 working days prior to the commencement of drilling. (e) A completion diagram and a geological log of the well must be submitted to the Taranaki Regional Council within 30 working days of completing the activity.	(b) As outlined above in relation to rule 53 we consider this condition is unnecessarily restrictive and should be revised or removed. The limitation on the use of "hazardous substance" (presumably under the Hazardous Substances and New Organisms Act 1996 although this is not referenced) is wider than necessary to avoid adverse effects or achieve the intent of relevant policies such as Policy 5.7. Products necessary to drill and construct the hole such as drilling muds, cements and corrosion inhibitors can be classified as hazardous substances in terms of the Hazardous Substances and New Organisms Act 1996 although there use would pose little if any environmental risk in this context, particularly where used below the saltwater interface. It would therefore be impractical to drill and construct a well whilst achieving this condition. Cement for example is a hazardous substance by virtue of its corrosivity (class 8) and because it is a skin and eye irritant (classes 6.3 and 6.4). While cement is by definition a powder, its solidified form concrete is not hazardous. If the concern relates to the potential to pollute aquifers, it may be appropriate to frame the condition along the lines of (a). (c)(ii) A separation distance from adjacent bores used for water supply purposes is logical but the proposed 500m separation distance is unnecessarily restrictive to achieve the objectives sought and we consider could be reduced. We would welcome further engagement with the TRC on this aspect. Beyond this we note that this condition should exclude bores used by the operator itself for either sourcing water or for water monitoring and the separation distance from a bore used for water supply purposes should be limited to those bores registered on the TRC database. We also note the potential for 'reverse sensitivity' whereby a water supply bore is installed within 500m of an existing wellsite which would then make it impossible for additional wells drilled at the wellsite to meet the conditions of

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				this Rule. This could be addressed through an additional condition on Rule 52. (d) We note there is an opportunity to make a small change to align this with other similar regulatory notification requirements. We note for instance the similar notification period under the *Health and Safety in Employment (Petroleum Exploration and Extraction) Regulations 2013* is 21 days, which is generally, but not always, the same as 15 working days. Having very similar but slightly different periods increases complexity for operators and prevents alignment of processes. (e) We note information collected through logs may not be relevant to the purpose of this plan (i.e. groundwater) as logs are not necessarily taken of the shallower geological layers.
Hydrocarbon well design, operation, maintenance modification, suspension and abandonment Use of land for the construction, operation, maintenance, modification, suspension or decommissioning of a *well*[12] pursuant to section 9 of the RMA. *Note:* *If the activity does not meet the standards, terms and conditions in this rule refer to Rule 42.* [12] To ensure appropriate standards of well integrity are achieved any person who undertakes the activity must demonstrate to the Taranaki Regional Council that they	55	Permitted A, B, C, D	(a) The Well Integrity Operations (Part 6) provisions of the Health and Safety in Employment (Petroleum Exploration and Extraction) Regulations 2013 must be complied with. (b) Proof of compliance with condition (a) must be supplied to the Taranaki Regional Council upon request. (c) There shall be no unauthorised discharge of fluids from the well. (d) Any unauthorised subsurface discharge from the well must be reported to the Taranaki Regional Council within two working days of its occurrence.	Activity description - The inclusion of well "design" in the activity description is unnecessary as this is not an activity that in itself has any impacts on land or water. Suggest "construction" would be more appropriate. (a) We note work on well integrity being led by the Ministry for the Environment may once it is completed influence the drafting of this provision. We also note that in relation to footnote 12 there is no explicit reference in Part 6 of the Health and Safety in Employment (Petroleum Exploration and Extraction) Regulations 2013 to "Well Integrity Operations" although it does address this issue in practice. Accordingly we suggest a minor rewording of (a) to avoid any confusion. (c) & (d) We are unclear as to the exact meaning of the term "unauthorised discharge" in both conditions (c) and (d). Condition (c) does not specify whether this is limited to surface or subsurface discharges whereas condition (d) is limited to subsurface discharge. Condition (c) may be unnecessary as by definition any "unauthorised discharge of fluids from the well" is not permitted.

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comply with the Well Operations (Part 6) provisions of the Health and Safety in Employment (Petroleum Exploration and Extraction) Regulations 2013, or subsequent legislation.				
Taking produced water Take and use of *groundwater* incidental to the drilling for and extraction of hydrocarbons pursuant to section 14(2) of the RMA.	57	Permitted A, B, C, D		We presume that the removal of groundwater associated with hydraulic fracturing return fluid would be covered by this Rule, however, it would be useful to make this more explicit. There may be a definitional difficulty with the framing of this rule in that the draft plan's definition of "produced water" does not equate directly with that of "groundwater" as the wording suggests given the exclusion in the definition of "water chemically combined in minerals".
Existing structures Use of an existing structure (excluding pipelines used to convey liquid hazardous substances) in, on, under, or over the bed of a river or lake pursuant to section 13(1) of the RMA.	60	Permitted A, B, C, D	(a) The structure was lawfully established and in use as at 28 February 1998[14] or has since been issued a resource consent that has expired. (b) The structure does not: (i) restrict fish passage; (ii) cause flooding on adjacent properties; OR (iii) result in significant erosion, scour or deposition of any receiving water body.	We note the exclusion from this rule of "pipelines used to convey liquid hazardous substances". However, it is not entirely clear which rule or classification would be applied to the use of existing pipelines which convey liquid hazardous substances and it would be useful to provide some clarity on this. If the intent instead is to require use of pipelines to be consented then a transitional provision or process would be necessary to provide for the instances where this is not already the case. Please see also our related comments in relation to rule 64.
Maintenance or removal of other structures The use, maintenance, repair, upgrading or removal of a structure in, on, under or over the bed of a river or lake, provided for in Rules	64	Discretionary A, B, C, D		We note that the classification of the "use" of an existing pipeline as discretionary is a change to the existing situation where the use of existing pipelines (and other structures) is a permitted activity under rule 52 of the existing Freshwater Plan. As outlined above we question this change. If it is intended we would be interested to understand TRC's approach to transitional arrangements for existing pipelines

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60 – 63 but which does not meet all the standards, terms or conditions, excluding: • where the activity is undertaken in, on or under the bed of the Hangatahua (Stony) catchment (as provided for in Rule 65) pursuant to s13(1) of the RMA, and any associated: • diversion of water pursuant to s14(2) of the RMA.				which will be affected by this change. A drafting comment on this rule. The "use" of pipelines used to convey liquid hazardous substances is presumably covered by this rule however the title to this activity does not specifically include the word 'use' (although it is included in the description). As noted above in relation to Rule 60, it would be useful to make it more explicit where the "use" of pipelines that convey liquid hazardous substances is covered within the draft plan.
Structures in the Hangatahua (Stony) catchment Installation and use of a structure in, on, under or over the bed of the Hangatahua (Stony) catchment that is not otherwise provided for in Rules 60-78 • pursuant to section 13(1) of the RMA.	79	Prohibited A		We note that this rule appears to conflict with rule 78 that provides for the installation, use, alteration, removal or demolition of structures as a discretionary activity in freshwater management units A – D without any exclusion for the Hangatahua (Stony) catchment. Whereas this rule appears to make the same activities prohibited. We are concerned that this rule could be applied to prohibit the installation and use of potential future pipelines (or other structures) in, on, under, or over the bed of the Hangatahua (Stony) catchment. This would be overly restrictive and would have the effect of constraining any future development within the central Taranaki coastal area where pipeline access to Port Taranaki is required.
Definitions and acronyms				
"produced water"				We suggest review of the definition of "produced water". Consider removal of the word "fresh" from in front of "groundwater" as it is potentially misleading as

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				produced water generally refers to the extracted mixture of primarily groundwater (and any injected chemicals) that is separated from associated hydrocarbons during the testing and, in particular, the production phases of wellsite activity. We note also the existing definition obliquely captures hydrocarbons via the reference to "mineral" but it would be clearer to make an explicit reference to "hydrocarbons" as well as minerals.