

Before a Hearings Panel for the  
Freshwater Planning Instrument Parts of  
the Proposed Otago Regional Policy  
Statement 2021

---

Under	the Resource Management Act 1991 (RMA)
In the matter of	submissions and further submissions to the Freshwater Planning Instrument Parts of the Proposed Otago Regional Policy Statement 2021 (PORPS-FPI)

---

**STATEMENT OF EVIDENCE (PLANNING) OF GAVIN MCCULLAGH ON BEHALF OF  
Z ENERGY LIMITED, BP OIL NEW ZEALAND LIMITED, MOBIL OIL NEW ZEALAND  
LIMITED (THE FUEL COMPANIES, SUBMITTER FPI034 AND FURTHER SUBMITTER  
FSFPI034)**

27 JUNE 2023

---

## Qualifications and experience

1 My name is Gavin John McCullagh.

2 I am a Principal Planner with 4Sight Consulting.

3 My qualifications are a Graduate Diploma in Urban and Regional Planning from the Queensland University of Technology (2009), a Bachelor of Arts (Asian Studies) degree from the University of Southern Queensland (1992), and a Bachelor of Engineering (Civil) from the University of Queensland (1986). I have worked in planning roles in Australia and New Zealand since 2005. This work has included two years as a Principal Planner at Whanganui District Council, three years as a Team Leader – Planning with Environment Southland, and seven years in Brisbane at the Queensland Department of State Development, Infrastructure, Local Government and Planning. I also worked for thirteen years in Brisbane at the Queensland Department of Emergency Services in strategic policy and planning including in the field of mitigation of the impacts of natural hazards. I have been a full member of the Planning Institute of Australia since 2015.

4 Between October 2017 and August 2022 I worked for local government in New Zealand in the development and progression of district plan amendments, technical reports for proposed plan changes including the Southland Air Plan and climate change strategy. I joined 4Sight Consulting in August 2022 and to date have been primarily working on submissions to local authority planning instruments.

5 In preparing this evidence I have reviewed the s42A report and the tracked change version of the proposed Otago Regional Policy Statement Parts considered to be a Freshwater Planning Instrument under section 80A of the Resource Management Act 1991 (**pORPS-FPI**) prepared on behalf of the Otago Regional Council (**Council**). I prepared the submissions and further submissions on the pORPS-FPI on behalf of the Z Energy Limited, Bp Oil New Zealand Limited, Mobil Oil New Zealand Limited (the **Fuel Companies**). I am broadly familiar with the activities undertaken by the Fuel Companies, including the storage and use of hazardous substances and the management of contaminated land. To assist the Hearing Panel I have attached at **Appendix 1** a table with the submission and further submissions of the Fuel Companies and the corresponding s42A recommendations, highlighting the Fuel Companies position on these recommendations. I have also considered other material including:

(a) The submissions of;

- i. Director-General of Conservation
- ii. Dunedin City Council
- iii. Kai Tahu ki Otago
- iv. Ocean Gold
- v. Ravensdown
- vi. Royal Forest and Bird

vii. Wise Response Society

(b) Section 32 Evaluation Report: Proposed Otago Regional Policy Statement 2021;

(c) Resource Management Act 1991

6 I have read the Code of Conduct for Expert Witnesses in the Environment Court Practice Note 2023<sup>1</sup>. This evidence has been prepared in accordance with it and I agree to comply with it. I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed.

### **The Interests of the Fuel Companies**

7 The Fuel Companies receive, store and distribute refined petroleum products. The core business of the Fuel Companies is the operation and management of retail fuel networks, commercial refuelling facilities and bulk storage (terminal) facilities. The Fuel Companies also supply petroleum products to individually owned businesses.

8 Key elements of the Fuel Companies' activities in Otago include the bulk storage facilities at the Port of Otago. The Port of Otago provides the sole point of entry for ships carrying bulk petroleum products into the Otago Region. There are three existing bulk fuel storage terminals at the Port:

- Z Energy 2015 Limited (previously Chevron New Zealand), 203 Fryatt Street;
- Z Energy Limited, 9-25 Wickliffe Street; and
- BP Oil New Zealand Limited, Parry Street.

9 The terminals provide storage for approximately 45 million litres of bulk fuel, comprising petrol (95 and 91 octane), diesel, light fuel oil, and jet fuel. Fuel is supplied to the terminals via ship, with approximately 30 shipments delivered each year. Fuel is piped from the ships to storage at the terminals via wharflines.

10 Distribution of fuel from the terminals, except for bunkering of ships with light fuel oil (again via wharflines), is provided by heavy goods vehicles. These vehicles primarily serve the Otago region; however, fuel is also transported beyond the region. For instance, the terminals provide supplies into Canterbury and Southland in the event of shortages at the Bluff and Timaru terminals (and vice versa). The terminals also provide all jet fuel to Invercargill Airport (there is no jet fuel storage at Bluff), as well as Queenstown and Dunedin Airports. A special winter blend of diesel is also supplied from Dunedin into South Canterbury.

11 In total, the Fuel Companies operate 32 retail outlets under their respective brands in the Otago region in urban and rural locations. These outlets typically store liquid fuels in underground tanks.

---

<sup>1</sup> Environment Court of New Zealand Practice Note 2023, 20 December 2022

12 The interests of the Fuel Companies in the pORPS-FPI are focused on the key issues relevant to the ongoing operation, maintenance, and upgrade of their facilities.

13 The Fuel Companies submissions and further submissions on the pORPS - FPI addressed the following matters:

- Discharges of stormwater and operational waters from petroleum industry sites managed in accordance with the Environmental Guidelines for Water Discharges from Petroleum Industry Sites in New Zealand (MfE, 1998, the Guidelines);
- Disturbance of contaminated soils;
- Passive discharges from legacy contaminated land;
- Groundwater takes and discharges for temporary construction dewatering associated with the installation of underground petroleum storage systems; and
- Control of hazardous substances.

### **Scope of evidence**

14 I have been asked to prepare evidence in relation to the interests of the Fuel Companies in the pORPS-FPI. My evidence addresses the allocation and use of water for temporary dewatering activities and the role of industry good practice in the management of stormwater discharges relating to provisions LF-FW-P7, LF-PW-P7A and LF-FW-P15 and set out in detail below.

### **Evidence**

15 The Fuel Companies submission of 22 November 2022 opposed in part policy:

*LF-FW-P7 Fresh Water*

*Environmental outcomes, attribute states (including target attribute states) and limits ensure that: ...*

*(5) existing over-allocation is phased out and future over-allocation is avoided”*

The basis for opposing the notified policy is that strict avoidance of over-allocation in all circumstances may lead to the prohibition of temporary construction dewatering and discharge in over-allocated catchments when those activities are unlikely to have adverse effects on stated outcomes and limits.

16 I believe it is important to explain the nature of the temporary construction dewatering for construction and other purposes, particularly in the context of the activities of the Fuel Companies.

17 Temporary dewatering activities can be required for a range of activities. For the Fuel Companies they are most typically associated with the installation of underground fuel storage tanks at service stations or truckstops, but can also be required to facilitate the installation of underground pipelines and foundations,

particularly at bulk storage at terminals. Temporary dewatering activities are also undertaken by a range of other parties, including network utility operators.

18 Dewatering for underground fuel tank installation is typically required where groundwater is less than five to six metres below ground level and is essential to enable the safe and appropriate installation of underground fuel storage tanks in line with the relevant code of practice (HSNOCOP44)<sup>2</sup>. In particular, dewatering enables contractors to safely access the base of the tank pit to anchor tanks to beams to prevent them floating out of position. While dewatering may, in a technical sense, be considered a form of water abstraction, it is the result of the interception of groundwater rather than any desire to take or use that water. Significant measures are in fact taken to minimise the volume of water taken, including in most instances the sheet piling of the perimeter of a proposed tank pit to minimise lateral movement of water through the walls of the excavation.

19 Tank installs are infrequent activities, with tanks typically having a 20 to 25 year life cycle. The duration of dewatering takes is the time taken to excavate below the water table to complete the tank pit base preparation, install the tank, and backfill the excavation. This is approximately three to five days of typically continuous pumping, but contingency is generally sought for at least 10 days to allow for variation in local conditions and unforeseen circumstances, for instance if works are stopped during unpredicted bad weather or during technical malfunctions. Rates of take are estimated by the rate of pumping and can be up to 40 litres per second during the initial drawdown phase, decreasing to 0-20 litres per second within 24 hours to maintain the lowered water level, but are typically lower due to limited permeability in the base of tank pits. Until an excavation is undertaken and pumping commences, it is not possible to accurately predict rates and therefore volumes required.

20 Treated water from dewatering activities is typically discharged to the reticulated stormwater network where available at a particular site. However in some circumstances discharges may occur either to ground (typically via soakpits), to the reticulated wastewater network (typically where higher levels of contamination are expected), taken off site by tanker to an appropriately authorised facility or, on occasion, discharged to surface water. The method and location of the discharge is relevant to the determination of whether such takes are deemed non-consumptive. Dewatering discharges from contaminated sites typically require resource consent, if not provided for by network discharge consents.

21 The groundwater that is typically encountered is shallow water and likely to be hydrologically connected to nearby surface waters, but the subsequent discharges would also likely be into or near the same surface water body.

22 The S42A author rejected the Fuel Companies' submission on this point<sup>3</sup> arguing that "Management of specific activities is a matter for the regional plan to address. I note that the use of "avoid" in this policy is consistent with the way it is used in the NPSFM and so, if the issue does arise, it arises in the NPSFM rather than solely in the pORPS."

---

<sup>2</sup> Below ground stationary container systems for petroleum – design and installation HSNOCOP44, 2013, EPA

<sup>3</sup> S42A Report, paragraph 1378, p282

23 I agree with the point made by the author that the use of avoid is consistent with the NPS-FM. Specifically, *Policy 11: Freshwater is allocated and used efficiently, all existing over-allocation is phased out, and future over-allocation is avoided.*

24 I agree with the author that management of specific activities is a matter for regional plans and this is a matter that the Fuel Companies may pursue in the review of the regional plan, but it is appropriate for a RPS to signal how plans should deal with particular issues.

25 I also note that the Partially Operative Otago Regional Policy Statement 2019 expressly addresses this matter<sup>4</sup> in Policy 3.1.3 c) iii *“Providing for temporary dewatering activities necessary for construction or maintenance.”*

26 Significantly for this matter, the S42A author has also considered<sup>5</sup> other submissions on water use and *“agree(s) with submitters that the FPI should include more direction on allocative and technical efficiency, as well as the benefits to be derived from using water (where there is water available for use)”*. Arising from this and other submissions is the s42A author’s recommendation to create a new policy on water use: **LF-FW-P7A - Water allocation and use**. I support this recommendation as, among other things, it provides more explicit direction on:

- efficient allocation of fresh water,
- support for the social, economic and cultural wellbeing of people and communities, and
- providing for spatial and temporal sharing of allocated fresh water between uses and users where feasible.

27 In this context, I consider that temporary dewatering takes for construction and maintenance should be incorporated in the proposed new policy LF-FW-P7A. This provides clear parameters for the activity in the context of efficient allocation of fresh water. Additionally, I consider that LF-FW-P7A should also provide direction on the discharge of water associated with the specified uses.

28 The proposed amendment to LF-FW-P7A is as follows:

***LF-FW-P7A – Water allocation and use***

*Within limits and in accordance with any relevant environmental flows and levels, the benefits of using fresh water are recognised and over-allocation is either phased out or avoided by:*

*(1) allocating fresh water efficiently to support the social, economic, and cultural well-being of people and communities to the extent possible within limits, including for:*

*(a) community drinking water supplies,*

*(b) renewable electricity generation,*

*(c) land-based primary production, and*

*(d) temporary dewatering activities necessary for construction and maintenance.*

---

<sup>4</sup> Partially Operative Otago regional Policy Statement 2019, Policy 3.1.3, page 24

<sup>5</sup> S42A Report, paragraph 1407, p288

(2) ensuring that no more fresh water is abstracted than is necessary for its intended use, and any associated discharge occurs as close as practicable to the point of abstraction.

(3) ensuring that the efficiency of freshwater abstraction, storage, and conveyancing infrastructure is improved, including by providing for off-stream storage capacity, and

(4) providing for spatial and temporal sharing of allocated fresh water between uses and users where feasible.

29 Given the crucial nature of these temporary construction dewatering activities and their limited potential for adverse effects, I consider that dewatering be specifically identified in the Otago Regional Policy Statement to prevent the activity being subject to a potential prohibited activity status in over allocated catchments.

30 The Fuel Companies submission of 22 November 2022 also sought to ensure that the role of industry best practice in the management of stormwater discharge is recognised in the RPS. In the case of the Fuel Companies that is provided by the Environmental Guidelines for Water Discharges from Petroleum Industry Sites in NZ (MFE, 1998). The submission proposed that policy LF-FW-P15 be amended to include an additional clause: 5. Recognising the role of relevant industry guidelines.

31 I acknowledge the opportunity proposed by the s42A author to clarify how the proposed amendment could be incorporated. I would firstly point to method LF-VM-M3 – Community Involvement specifically identifies the inclusion of “industry-led guidelines” as a means towards maintaining or improving the health and well-being of water bodies. This is recognition in the pORPS-FPI of the role of relevant industry guidelines.

32 I propose that the addition of a clause (5) promoting the use of relevant industry-led guidelines for management of stormwater to the revised policy LF-FW-P15 is consistent with that method and consistent with other elements of the policy. The general reference to guidelines is not inconsistent with other provisions of the pORPS-FPI such as the reference to “best practice standards” in LF-FW-P16 in relation to on-site wastewater systems and animal effluent systems.

33 On the other submissions of the Fuel Companies to the pORPS-FPI, I support the recommendations of the s42A Report. This is also shown in detail in Appendix A attached.



**Gavin McCullagh**

28 JUNE 2023

**Appendix A:**

**The Freshwater Planning Instrument Parts of the Proposed Otago Regional Policy Statement: Section 42A Hearing Report**

Submission or Further Submission Number	Notified Provision	Support/Oppose	Rationale	Relief Sought	S42a Recommendation	Fuel Companies position
<b>LF-Land and Freshwater</b>						
<b>Freshwater</b>						
FPI034.002	LF-FW-P7A	Amend	The intent of the policy is supported but the strict avoidance of over-allocation (in terms of quantity) in all circumstances at clause 5 is opposed. This reflects the potential need for essential temporary construction dewatering takes, for instance to facilitate the safe and timely replacement/installation of underground infrastructure, can be required in over allocated catchments and will not necessarily be considered non consumptive, for instance where dewatering water is discharged to a reticulated stormwater or wastewater system. If this policy is retained as drafted, there is a risk that any such takes will be prohibited in over allocated catchments, despite not affecting the stated outcomes and limits.	Amend the policy or include a new policy to ensure that the avoidance direction does not lead to prohibited pathways for essential temporary construction dewatering takes necessary to facilitate operation, maintenance, upgrade, and development of infrastructure in over allocated catchments.  Retain the balance of the policy as notified.	Not accepted.  The author does not consider the amendments sought by The Fuel Companies are necessary in the pORPS. Management of specific activities is a matter for the regional plan to address. The use of “avoid” in this policy is consistent with the way it is used in the NPSFM and so, if the issue does arise, it arises in the NPSFM rather than solely in the pORPS.  The author does not recommend accepting this submission point.	Reject the recommendation.  The s42A author has recommended creation of a new policy LF-FW-P7A Water allocation and use. As outlined in the evidence, I propose amendments to the new policy as follows:  <b>LF-FW-P7A – Water allocation and use</b>  Within <i>limits</i> and in accordance with any relevant environmental flows and levels, the benefits of using <i>fresh water</i> are recognised and <i>over-allocation</i> is either phased out or avoided by:  (1) allocating <i>fresh water</i> efficiently to support the social, economic, and cultural well-being of people and communities to the extent possible within <i>limits</i> , including for:  (a) community drinking water supplies,  (b) <i>renewable electricity generation</i> ,  © <i>land-based primary production</i> , and  <u>(d) temporary dewatering activities necessary for construction and maintenance.</u>  (2) ensuring that no more <i>fresh water</i> is abstracted than is necessary for its intended use, <u>and any associated discharge occurs as close as practicable to the point of abstraction.</u>  (3) ensuring that the efficiency of <i>freshwater</i> abstraction, storage, and conveyancing <i>infrastructure</i> is improved, including by providing for off-stream storage capacity, and  (4) providing for spatial and temporal sharing of allocated <i>fresh water</i> between uses and users where feasible.
FPI034.003	LF-FW-P15	Support in part	The intent of clause 2(b) is supported but the Fuel Companies have experienced instances where network operators have not been accepting of discharges of stormwater from industrial or trade premises to the reticulated stormwater network and have insisted they be directed to wastewater, despite them being in accordance with good practice and permitted under the relevant regional plan. The Fuel Companies seek to ensure that the role of industry good practice is recognised (in the case of the Fuel Companies that is provided by the Environmental Guidelines for	Add the following to promote source control and <b>recognise the role of industry good practice:</b>	Based on the submission by the Department of Conservation and others <sup>6</sup> , the s42a author recommended accepting the submission point by DOC to split LF-FW-P15 into two policies so that there is clarity about the direction applying to each type of discharge. <sup>7</sup>	The Fuel Companies accept the recommendation to split LF-FW-15 into a stormwater policy and a wastewater policy.

<sup>6</sup> S24A Report, paragraph 1490, p 306

<sup>7</sup> S42A Report, paragraph 1509, p 312



Submission or Further Submission Number	Notified Provision	Support/Oppose	Rationale	Relief Sought	S42a Recommendation	Fuel Companies position
			Water Discharges from Petroleum Industry Sites in NZ (MFE, 1998)).	<p><b><u>4. promoting awareness and actions to reduce contaminant discharges through source control</u></b></p> <p><b><u>5. recognising the role of relevant industry guidelines.</u></b></p> <p>Retain the balance of the policy as notified.</p>	<p>In reference to the relief sought by the fuel Companies, the s42A author highlights that Fonterra, Ravensdown, Kāi Tahu ki Otago, and The Fuel Companies seek to include a new clause for promoting source control as a method for reducing contaminants in discharges of stormwater. The author agrees that is a practical and effective option for some discharges and recommended making this amendment but stopping after “discharges”. In my view, source control can be an effective method for any type of discharge<sup>8</sup>.</p> <p>The s42A author agreed with The Fuel Companies that industry guidelines can be useful resources for determining how particular types of discharges should be managed. However, the clause sought by the submitter is not clear. The s42A author suggests that this may be clarified in evidence and did not recommend accepting this submission point.<sup>9</sup></p>	<p>The Fuel Companies accept the recommendation that source control be included in LF-FW-P15.</p> <p>The Fuel Companies acknowledge that the role of relevant industry guidelines in implementing policy LF-FW-P15 is supported by method:</p> <p><i>LF-VM-M3 – Community involvement</i></p> <p><i>Otago Regional Council must work with Kāi Tahu and 1155 communities to achieve the objectives and policies in this chapter, including by:...</i></p> <p><i>(3) supporting community initiatives, industry-led guidelines, codes of practice and environmental accords that contribute to maintaining or improving the health and well-being of water bodies.</i></p> <p>And by</p> <p><i>LF-VM-M4 – other methods</i></p> <p><i>In addition to method LF-VM-M3, the methods in the LF-WAI, LF-FW, and LF-LS sections are also applicable.</i></p> <p>On that basis and the s42A author’s agreement that industry guidelines are useful the following amendment is proposed:</p> <p><b><i>LF-FW-P15 - Stormwater <del>and wastewater</del> discharges</i></b></p> <p><i>Minimise the adverse effects of direct and indirect discharges of stormwater <del>and wastewater</del> to fresh water by:</i></p> <p><i>(1) <del>except as required by LF-VM-O2 and LF-VM-O4, preferring discharges of wastewater to land over discharges to water, unless adverse effects associated with a discharge to land are greater than a discharge to water, and</del></i></p> <p><i>(2) requiring:</i></p> <p><i>(a) <del>all sewage, industrial or trade waste to be discharged into a reticulated wastewater system, where one is available,</del></i></p>

<sup>8</sup> S42A Report, paragraph 1537, p 317

<sup>9</sup> S42A Report, paragraph 1540, p 318

Submission or Further Submission Number	Notified Provision	Support/Oppose	Rationale	Relief Sought	S42a Recommendation	Fuel Companies position
						<p>(ab) integrated catchment management plans for management of stormwater in urban areas,</p> <p>(b) all stormwater to be discharged into a reticulated system, where one is made available by the operator of the reticulated system, unless alternative treatment and disposal methods will result in improved outcomes for fresh water,</p> <p>(c) implementation of methods to progressively reduce the frequency and volume of wet weather overflows <del>and minimise the likelihood of dry weather overflows occurring for reticulated stormwater and wastewater systems,</del></p> <p>(d) <del>on-site wastewater systems to be designed and operated in accordance with best practice standards,</del></p> <p>(e) that any stormwater <del>and wastewater</del> discharges do not prevent water bodies from <del>to</del> meeting any applicable water quality standards set for FMUs and/or rohe, and</p> <p>(f) the use of water sensitive <del>urban</del> design techniques <del>to avoid or mitigate the potential adverse effects of contaminants on receiving water bodies from the subdivision, use or development of land, wherever practicable, and</del></p> <p>(3) <del>promoting</del> to the greatest extent practicable, requiring the reticulation of stormwater <del>and wastewater</del> in urban areas., <del>and</del></p> <p>(4) promoting source control as a method for reducing contaminants in discharges., <del>and</del></p> <p>(5) promoting the use of relevant industry-led guidelines for management of stormwater.</p>
FPI034.004	LF-FW-M6	Support in part	Control of contaminants at source, is an effective and efficient means of minimising the potential for generation of contaminants in the first instance. For instance controls on the use of zinc and copper in metal roofs, car tyres and brake linings. This should be promoted through the RPS to achieve the objectives and polices, for instance LF-FW-P7.	Add the following to LF-FW-M6 <u>Promote awareness and actions to reduce contaminant discharges through source control</u> Retain the balance of the method as notified.	The s42A author rejects the relief sought on the basis that changes to LF-FW-P7 and LF-FW-P15 and consequential amendments to LF-FW-M6 address the issue raised in this submission	The Fuel Companies accept that the changes to LF-PW-P7, LF-PW-15 and LF-FW-M6 address the relief sought and support the recommendation.
FPI034.005	LF-FW-M7	Support in part	Further to the submission in response to LF-FW-P15, the Fuel Companies have experienced instances of network operators insisting stormwater discharges permitted under the regional plan be discharged to wastewater. This is not effects based, does not promote sustainable management and is contrary to the intention to reduce wet weather overflows from the wastewater system.	Direct network operators to accept discharges to networks, where they are permitted under the regional plan or compliant with a relevant discharge consent.  Retain the balance of the method as notified.	The s42A author does not consider it is efficient or effective to mandate operational requirements through district plans in the manner sought by The Fuel Companies and therefore did not recommend accepting this submission point. <sup>10</sup>	Support the recommendation
<b>Definitions</b>						

<sup>10</sup> S42A Report, paragraph 1639, p 340

Submission or Further Submission Number	Notified Provision	Support/Oppose	Rationale	Relief Sought	S42a Recommendation	Fuel Companies position
FPI034.001	Specified infrastructure	Support	The definition of specified infrastructure encompasses the Fuel Companies' bulk infrastructure and is supported.	Retain as notified	The s42A author has accepted the arguments of Dunedin City Council and others that policy LF-FW-P9 as notified duplicates clause 3.22 of the NPSFM and recommended deletion and replacement of the notified provision and consequently deletion of this definition.	Support the recommendation
FPI034.006	LF-LS-P21	Support		Retain as notified	The s42A author has recommended improvements to the clarity of the provision.	Support the recommendation