

IN THE MATTER OF

The Resource Management Act 1991

AND

IN THE MATTER OF

An application made to **Nelson City Council**

(Consent Authority)

BY

NELSON REGIONAL SEWERAGE BUSINESS UNIT

(the Applicant)

For the hearing of RM165114 –RM165116 for resource consents to discharge overflows of untreated sewage into the Waimea Estuary.

DECISION OF THE HEARING COMMITTEE

1 Introduction

1. This is the decision of a hearing committee comprising Independent Commissioners Dr Shane Kelly, Mr Reginald Proffit, and Dr Brent Cowie (Chair) to hear and decide an application from the Nelson Regional Sewerage Business Unit (the NRSBU, the applicant) for ongoing occasional overflows of untreated wastewater to the Waimea Inlet. Discharge permits were sought for both discharges to land and water and of odour to air associated with any potential future overflows.
2. The NRSBU is a Joint Committee of the Nelson City Council (NCC) and Tasman District Council (TDC). It has governance and funding responsibilities for the co-ordinated provision of a sewerage reticulation and pumping network as contemplated by s17(A)(4)(c) of the Local Government Act 2002.
3. The provision of sewage networks and the treatment and disposal of wastewater is a core function of Territorial Authorities under s25 of the Health Act 1956 and sub part 2 in s10 of the Local Government Act 2002. The NCC and TDC are Unitary Authorities, with both regional and district council functions. This means they are responsible for both wastewater networks, treatment and disposal, and regulating the effects of the discharges of wastewater to the environment. This is why independent commissioners were appointed to hear and decide this application.
4. We undertook a site visit on Monday 11 December 2017 prior to the hearing commencing. We were accompanied by a contractor from Nelmac, the company that provides contracted services to the NRSBU but who had no role in the hearing. We saw each of the four main pump stations and saw the recent upgrades to these, along with potential discharge points where wastewater

could overflow. We thank the applicant for providing with this opportunity, and to Alan for showing us around, as it allowed us to put the applicant's proposal in its proper context.

5. The hearing of the application commenced at 9am on Tuesday 12 December 2017 and was adjourned at about 4pm on Wednesday 13 December. We heard from counsel and seven witnesses from the applicant (along with one other written brief), three submitters and four reporting officers. A process followed where a new set of draft conditions were put forward by the applicant, together with their right of reply, and then comments on those draft conditions were provided by the officers. We closed the hearing on Friday 26 January 2018.
6. The NRSBU is a combined committee of the Nelson and Tasman unitary local authorities. It provides wastewater conveyance and treatment services to that part of Nelson City south of about Tahunauni, and that part of the Tasman District from Richmond south to about Wakefield and west to Mapua. In simple terms that wastewater is conveyed to the NRSBU wastewater treatment plant on Bell Island in the Waimea Inlet via five pump stations, four of which are the responsibility of the NRSBU, running from south to north. At the final pump station just to the west of Nelson airport, the wastewater is pumped via a pipeline under the estuary to Bell Island. We describe this more in Section 2 of this decision.
7. One of the submitters who appeared at the hearing, Mr Stephen Cross, asserted that the NRSBU is a cover for the "real applicants", the two local authorities who own the business unit. While there might be some element of truth in what Mr Cross asserted, it is not a matter that we can address here. We simply had to be satisfied that the NRBSU met the criteria in the RMA to apply for resource consent, which it does.

2 The Proposal

2.1 The NRSBU Network

8. In the normal course of events wastewater collected from the area serviced by the NRSBU would be conveyed through five pump stations and then to the wastewater treatment plant on Bell Island in the Waimea Estuary (sometimes called the Waimea Inlet). The subsequent discharge of that treated wastewater was not part of what we were considering here.
9. Wastewater is pumped from south to north along a rising main via the Beach Road (Richmond, operated by TDC), Wakatu, Saxton, Songer and Airport pump stations. Each of the NRSBU pump stations has limited dry weather storage, varying from about 1.5 hours at Saxton to 12 hours at the Airport¹. Overflows can occur, usually as a result of intense rain events, from any of these pump stations, and could occur from several during one event. Any wastewater overflow is nominally to land, but this is for no more than 10-20 metres at any of the pump stations, so it is in effect directly to the Waimea Estuary. The estuary has high ecological values, and is used for activities including contact recreation, shellfish gathering, and boating.
10. Overflows from the pump station at Richmond are not the subject of the resource consents sought here as such overflows are a prohibited activity under the Tasman District Plan², so it is only the four NRSBU pump stations in the Nelson district that we were considering here. The other 25

¹ Mr Thiant said it would be very expensive to increase storage at Saxton.

² Which is not to say that overflows do not occur from the Richmond pump station.

Nelson City Council pump stations to the north have consents for overflow discharges, which were granted in about 2012 on a non-notified basis.

11. Of the four pump stations in the NRSBU network for which consents are sought, discharges from Saxton have had potentially the most significant adverse effects. This is because discharges from three large industrial sites (Nelson Pine west of Richmond, the Alliance freezing works at Wakatu and the ENZA fruit pulping plant) all discharge their wastewater to the Saxton pump station.
12. Major upgrades were made to each of the three pump stations from Saxton north during 2013.³ These upgrades included increasing pumping capacity and the provision of internal emergency generators to enable the pump stations to continue to operate if the power supply is out.
13. The NRSBU sought resource consents to continue to discharge occasional overflows of untreated wastewater (including untreated sewerage) to land and then the coastal marine area of the estuary via overflows from the four pump stations, along with an associated application to discharge odour to air. In their evidence they often referred to these overflow discharges as “aberrational events”, but we do not use this term here as it has no legal basis in the Resource Management Act 1991 (the RMA).
14. We also note that the current applications do not cover any discharges that may result from a major earthquake, for which we assume retrospective consents would need to be sought for any emergency discharges under s330 of the RMA.

2.2 History of Overflows from the NRSBU Network

15. We were provided with information about the number and causes of wastewater overflows from 1996/97 until 2016/17. In that 20 year period up until the upgrade of the pump stations was completed in April 2013, there were a total of 81 overflows⁴, with 55 of these occurring following heavy local rain, 15 were due to equipment failure and another 11 overflows were the result of power failures. The most overflows in any year was 1998/99, when 11 overflows occurred, whereas in two years (2000/01 and 2005/06) there were no overflows recorded. It is notable that many quite large rain events did not lead to overflow discharges.
16. The volume of each overflow had been recorded since January 2007. The greatest volumes of wastewater discharged were in September and November 2011, and were both due to high intensity rain events. In September 2011 about 20,000 cubic metres (m³) of wastewater was discharged to the estuary from the Airport pump station, whereas in November 2011 43,357 m³ of wastewater was discharged at Saxton and 15,155m³ at the Airport. A further 10 overflows had exceeded 2,000 m³. During this time the most overflows (18) had occurred at Saxton, with seven at the Airport, and none at Songer Street.
17. Since the upgrade of the pump stations was completed in April 2013, there have been six overflows recorded, three each at Saxton and Songer Street. Four of these overflows were small, being between 53 and 155 m³. The only larger overflows followed intense rain in March 2016, when 3,806m³ and 2,000m³ of wastewater overflowed at Saxton and Songer Street respectively.

³ The Wakatu pump station is relatively small, and so the upgrades there were not as extensive as at the other three pump stations.

⁴ Noting that each overflow from each pump station was counted as a separate event.

18. In his evidence for the applicant Mr Thiant, the manager of the NRSBU said this rainfall event had a recurrence period of 35 years, and was the second highest rainfall recorded in Stoke since 2000. As we discuss later in this decision, climate change is very likely to make such estimates inaccurate.
19. Notwithstanding this, it was clear that these major upgrades to the pump stations will reduce the frequency, and particularly the magnitude, of future wastewater overflows from the NRSBU network.

3 The Hearing

3.1 The Case for the Applicant

20. We heard from legal counsel and seven witnesses for the applicant. One other witness for the applicant did not appear at the hearing.

Mr John Maassen, Counsel

21. Mr Maassen, who is a barrister, presented his opening legal submissions. Among the matters he discussed were:
 - The legal status of the NRSBU, which we have already discussed.
 - The rationale for the application, noting that overflow discharges could not be deemed emergency works under s330 of the RMA as they are foreseeable.
 - Environmental Risk Assessment, where he noted that the entire Waimea Inlet is an Area of Significant Conservation Value in the Nelson Resource Management Plan (NRMP), and that the risks identified by NRSBU from overflow discharges are to the ecosystem values of the inlet, the relationship of tangata whenua to the resources of the inlet, and the risks to public health from contact recreation or gathering and eating shellfish.
 - He discussed the two threshold tests for s104D, which apply because the primary application is one for a non-complying activity. He believed the application could pass both limbs of s104D.
 - The provisions of the NZ Coastal Policy Statement 2010, where he said that Policy 23(2)a is not a prohibition on our granting of the consent, although he had said to his client “that there has to be seriously good practice” here.
 - In relation to other relevant matters under s104(1)(c) he thought this could include the evidence of the local authority engineers in reducing inflow and infiltration to the wastewater network.

Mr Johan Thiant

22. Mr Thiant is the Asset Engineer for the NRSBU. His evidence focussed on describing the NRSBU network, the capital improvements made in 2013, the history of overflows, and what might happen in the future. He said the NRSBU had \$27 million invested in pump stations and rising mains, and that just over \$14 million was provided in the long term plan to upgrade the capacity of the network. The three large industrial discharges pay 30% of the costs of the entire network.
23. We have already summarised much of what Mr Thiant covered in his evidence. In answer to questions he said that:

- The three large industrial discharges all pre-treat their effluent, and have about 2 hours (Alliance) and 8 hours (Nelson Pine and ENZA storage) on site. They are presently asked to stop discharging to the network when overflows are likely to occur.
- Overflows due to rainfall are most likely during high intensity short duration events, rather than during sustained more moderate rainfall over several days.
- In his estimate at least 75% of the wastewater discharged during overflow events caused by heavy rain will be stormwater from inflow and ingress into the sewer network.

Mr Phil Ruffell

24. Mr Ruffell is an Asset Engineer with the NCC. He said about half the wastewater from the city is discharged to NRSBU network and from there to the Bell Island treatment plant, while the other half is discharged to the Nelson Wastewater Treatment Plant adjacent to the Boulder Bank north of the city.
25. Mr Ruffell described each of inflow and infiltration into wastewater networks. He provided data that showed during high rainfall events 80% of the flow in the wastewater network came directly from stormwater. He suggested that this might be getting worse as the infrastructure ages, as older parts of the network with earthenware pipes typically have higher infiltration rates than the more modern pipes. Earthenware pipes still make up 48km of the 400km wastewater network.
26. He outlined how the NCC is endeavouring to reduce both inflow (e.g. by checking individual properties to ensure there are no cross connections to the wastewater network) and replacing aging pipes (although as Mr Cross pointed out monies budgeted for system upgrades has often not been spent).
27. Asked if there was any treatment of stormwater from higher risk areas such as industrial sites, Mr Ruffell said the focus was on the storage and use of any potentially hazardous substances in such areas. There are however no sand filters for any stormwater discharges, nor any treatment of stormwater generated from the motorway which runs alongside the Waimea estuary for several kilometres (a reach to which any overflows from Wakatu or Saxton pumping stations would discharge to).

Mr Jeffery Cuthbertson

28. Mr Cuthbertson is a utilities engineer with the TDC. He said that the Council takes seriously its efforts to reduce inflow and infiltration, and described efforts in the district to cut down on inflows to the stormwater network during heavy rainfall. While TDC have few old earthenware pipes in the district, he said private laterals caused most of the problems. As an example he described how a 20 house new subdivision at Mapua with defective gully traps had discharged 90 m³ in 24 hours during a heavy rainfall event, versus a typical flow of around 6-7m³/day. The school had to close on three occasions due to downstream wastewater surcharges. In light of this and other similar experiences he (not surprisingly) described self-regulation by the building industry as “useless”.
29. In answer to questions he said that the TDC had 0.387m³/s maximum discharge capacity into the NRSBU network. They tried to smooth wastewater flows to match this capacity, but in events such as that in November 2011 there were wastewater overflows “all over the place”, including Queen Street, which has the main commercial and shopping areas in Richmond.

Mr Derrick Railton

30. Mr Railton is a Chartered Professional Engineer with very wide experience in the design of wastewater networks, including almost 15 years working with the NRSBU. The thrust of his evidence was that “aberrational” overflow discharges are inevitable in any wastewater network, and that with the upgrades completed in 2013 the NRSBU network represents “best practise” for limiting overflow discharges. This is because the upgraded network comprehensively meets both New Zealand and Australian standards, with the only weakness being the amount of wet weather storage at some pump stations.
31. In response to questions Mr Railton said that the NRSBU network compares very well with other areas and that the upgrade completed in 2013 has been very successful. Asked if there was any better example of limiting wastewater overflows he couldn’t think of anything better than the upgraded NRSBU network. Although further upgrades are budgeted for in the future, Mr Railton did not think these would necessarily be essential to better improve performance.

Mr Matthew Molloy

32. Mr Molloy is a Public Health Consultant and a former Health Protection Officer. He did not appear at the hearing, but provided written evidence, which discussed how local residents would be warned of the public health risks from any overflow of wastewater from the NRSBU network.
33. The public health response would depend on the size of an overflow discharge event, and could include signage, public warnings via the media and monitoring of faecal contaminants in the water. He concluded that the public health from such a discharge was “likely to be minor”. He was satisfied that the response was comprehensive and tailored to the nature and timing of any event. We note such response is part of the conditions of consent.

Dr Neale Hudson

34. Dr Hudson is an environmental chemist employed by NIWA. His evidence focused on the human health risk from overflow discharges, using a method known as Quantitative Microbial Risk Assessment (QMRA). The risk could be modelled using four parameters: selected pathogens (in this case nonovirus), typical virus concentrations in raw sewage, commonly accepted ingestion rates (in this case for child swimmers) and a range of sewage dilution rates.
35. In Dr Hudson’s words “both the dispersion/dilution modelling and the QRMA modelling are conservative, biased towards low probability, serious consequence events. In particular the scenarios selected for dispersion/dilution modelling were not intended to represent normal, everyday circumstances – they represent low probability, very rare events”. He then said they represent the “upper bound of risk”.
36. He noted that there was a “measurable health risk associated with contact recreation in the inlet generally”, and that this risk is likely to increase following an overflow discharge. It is essential that the management response plan is developed for these events of extremely low probability that could increase the human health risk. Such response would include signage and public notification, along with sampling to determine when the health risk falls to an acceptable level. Provided such a robust plan exists to respond to an extremely low probability, moderate risk event, he concluded the overall health risk to local communities will be very low.

Ms Olivia Johnston

37. Ms Johnston, who is a marine ecologist employed by the Cawthron Institute, had been the principal ecological investigator for the NRSBU since 2012. Her evidence discussed the potential effects of an overflow discharge on the marine ecology of the Waimea Estuary. We do not need to summarise it here as it is discussed in Section 4.3 of this decision.

38. In response to questions Ms Johnson made the following responses:

- In response to a question about the conservatism of the analysis she had started with an assessment that effects were negligible.
- As the discharge is intermittent she did not expect any permanent or chronic effects, and that any effects would likely be acute, but only short term, with recovery in between. The main concerns about effects are from high BOD₅ (biological oxygen demand) and low DO (dissolved oxygen). She did not think ammonia would be an issue based on TKN in the discharge.
- It would be very difficult to provide for any mixing zones given the variable nature of the discharge.

Mr Jeremy Butler

39. Mr Butler is a planner employed by a local firm known as Landmark Lille. His evidence in chief was pre-circulated, but he also presented supplementary evidence at the hearing.

40. We do not need to summarise his evidence here as the matters he raised are discussed elsewhere in this decision.

41. In response to questions about local iwi values Mr Butler said that the iwi landscape in Nelson and Tasman has been changing, with the NCC looking at using a staff member or contractor to provide Cultural Effects Assessments. In the past Ngati Kuia had provided that input, but their management company represented only four of the eight locally recognised iwi. Statutory acknowledgments cover all of the Coastal Marine Area in the Nelson and Tasman regions.

3.2 The Submitters

42. Although 35 parties submitted on the application, only three submitters appeared at the hearing. We did ask Ms Lojkine, who had prepared the overall s42A report, if all the matters raised in submissions had been covered during the hearing, and we took some comfort from her view that they had.

Mr Dan McGuire

43. Mr McGuire is a science graduate in marine biology who has lived in Nelson since 1974. He asserted that the NCCC has deliberately underfunded wastewater treatment, while spending too much on other activities, and that the two local councils have not properly addressed ingress and infiltration into their sewer networks. He said that the AEE did not address the issues properly, and that applicant has failed to avoid, remedy or mitigate adverse effects.

Ms Frances Minogue

44. Ms Minogue is a local resident who opposed the application. She highlighted the effects of climate change, the significant conservation values of the inlet, and that shellfish taken there are often unfit for human consumption. She acknowledged that the inlet had come a long way since the days of the Mapua chemical factory and other industrial direct discharges to the inlet. She sought that the applicant do more to reduce the effect of their activities.

Mr Stephen Cross

45. Mr Cross is a retired engineer and local resident who is a keen fisherman and surf casts off Back Beach near Tahuna. He said that the inlet was a nursery for fish species such as snapper and rig (spiny dogfish), and is used by other species for feeding.

46. He was critical of the application, the applicant and of the TDC and NCC, who he said were not doing nearly enough to address ingress and infiltration into their stormwater networks, and this was a causal factor in overflows occurring, which he considered “repulsive” in the 21st Century.

3.3 The Reporting Officers

47. We heard from four reporting officers either from or contracted to the NCC to prepare pre-circulated reports under the provisions of s42A of the RMA. Their reports were taken as read.

48. Prior to the officers presenting their reports we had made it clear that we would very likely be granting the consent for a term of 20 years, versus the five years recommended by the officers, and that we saw no need for the extensive baseline monitoring also recommended by the officers.

Ms Kate McArthur

49. Ms McArthur presented her report. In answer to questions she said:

- She asserted that the extensive baseline monitoring that she recommended was not a surrogate for State of the Environment Monitoring.
- The modelling undertaken was discussed through the process with Mr Butler, and she said that it was fit for purpose. Says it follows the main flow channels and so is intuitively about right.
- She thought there were still elements of the model that are not conservative.
- She acknowledged that during high flows overflows will be also be contaminated by faecal contaminants from other sources, including agriculture in the Saxton catchment.
- High BOD₅ in a discharge could cause acute effects but it is difficult to measure. Asked if measurements of DO could be a surrogate for measuring BOD she it could be but it could be subject to diurnal variation. In environments like the margins of the inlet the fauna tends to be tolerant, as it can be stressed by other events such as high temperatures and heavy metals.
- Asked about cumulative effects she thought these could occur if there were simultaneous discharges from Saxton and Songer.

Dr Ngaire Phillips

50. In presenting her report Dr Phillips said her assessment of effects was based on the 2017 Cawthron report prepared by Ms Johnston. While agreeing that there was evidence of chronic effects, she said this had not really been studied in any detail, and that Cawthron had only really looked at individual species and communities in the estuary, rather than how the ecosystem as a whole functioned.
51. Dr Phillips advocated for Whole Effluent Testing (WET), which she considered should be done from samples collected wet and dry conditions. In response to questions she outlined how this is a biological test using various dilutions of the wastewater.
52. She said it was likely that a significant overflow event would occur during the term of the consent, and that if a worst case event occurred it could be quite serious. A more probable scenario would be no measurable effect beyond the immediate area of the discharge.

Dr Paul Fisher

53. Dr Fisher's report focussed on the values of the Waimea estuary, particularly its avifauna, and in doing so he emphasised Policy 11 of the NZ Coastal Policy Statement 2010. State of the Environment monitoring had been carried out at four sites in the estuary on four separate occasions since 2001, but he was not aware that this showed any definite trends. He said was certain that there will be future high intensity rainfall events in and around Nelson, and that this will be exacerbated by climate change.

Ms Frances Lojkin

54. Ms Lojkin answered a number of questions that we had, particularly about the applicability and policy implications of the various planning documents. We found her report and response to questions particularly helpful, and we thank her for that.

3.4 Information Provided Post Hearing

55. After the hearing was adjourned we issued a minute that outlined the procedure to be followed after that time.
56. The applicant was to provide a new set of draft conditions, including a provision for the cessation of the three trade waste discharges when an overflow at Saxton due to high intensity rainfall is imminent, by 20 December 2017. These draft conditions were to be accompanied by a brief explanation of how the proposed event thresholds in Conditions 10 and 11 of "Version 2" of the applicant's draft conditions were calculated. Mr Maassen could also provide the right of reply on behalf of the applicant at this time. In saying this we reserved him the right to make any additional submissions by 27 January 2018.
57. The reporting officers were to provide written comment on the draft conditions proffered by the applicant by 20 January 2018. This is to focus on areas of agreement and disagreement with the applicant's draft conditions, and the reasons for any disagreements.

4 Statutory Assessment

4.1 Assessment Criteria

58. There was no debate that the application for the discharge of untreated sewerage to the coastal marine area is a non-complying activity under as it cannot meet the standards in the relevant discretionary activity rule in the Nelson Resource Management Plan (NRMP). The application to discharge odour to air is a discretionary activity, but as is usually done where the most significant application within a suite of applications is non-complying, we have “bundled” the applications and treated them all as non-complying. No consent has been recommended or issued for the application to discharge to land, which is only for a very short distance from the Saxton pump station.
59. We have not carried out any further assessment of the effects of the discharge of odour to air from an overflow. Any such effects will be temporary and less than minor. We note the provisions of the NRMP do not preclude the granting of such consent.
60. Decisions on resource consent applications are made under the criteria listed in Section 104(1) of the RMA. Subject to Part 2 of the Act, we must have regard to the following matters:
- a) any actual and potential effects on the environment of allowing the activity; and
 - b) any relevant provisions of
 - i. a national environmental standard;
 - ii. other regulations;
 - iii. a national policy statement;
 - iv. a New Zealand coastal policy statement;
 - v. a regional policy statement or proposed regional policy statement;
 - vi. a plan or proposed plan; and
 - c) any other matter the consent authority considers relevant and reasonably necessary to determine the application.
61. In addition to these criteria applications for non-complying activities have to pass through one of the two “gateway” tests of s104D of the Act. In essence these either require that the adverse effects of the activity on the environment are no more than minor, or that the application will not be contrary to the objectives and policies of the (most recent and relevant) planning documents. We note that strictly speaking we should apply the s104D tests prior to considering s104(1) matters⁵, but in this instance the s104D tests rely on both our assessments of the actual and potential effects of the activities for which consent is sought, and an analysis of the provisions of the Nelson Resource Management Plan (NRMP).
62. The wording of Section 104(1)(c) can invite debate as it is very open ended. Mr Maassen suggested that the effort of the TDC and NCC to reduce ingress and inflow into their sewerage networks was a relevant consideration under this clause. While we acknowledge this, there seems to be a very long way to go in both of these districts if significant reductions are to occur in wet weather flows into the NRSBU network. Ms Lokjine suggested two Iwi Management Plans are relevant in our assessment of the application. We discuss these in Section 4.3.2 below. In particular the

⁵ Queenstown Central Ltd v Queenstown Lakes DC (2013) NZHC 817

commissioning by the applicant of a Cultural Effects Assessment prepared by Ngati Kuia provides specific context in relation to the activity.

63. We found this to be a difficult application to assess. Wastewater overflows are very infrequent and can occur in a variety of circumstances, most notably high intensity rainfall which in the past has led to all the larger overflows. In order to assess the environmental effects of these occasional wastewater overflows a company called MetOcean Solutions Limited had modelled the extent and direction of any effluent plume from the pump stations, depending on parameters such as the volume discharged, and the state of the tide and wind direction. Based on this work the applicant and the officers had agreed to adopt a highly conservative (and so highly improbable) modelling scenario based on a sequence of assumptions that presented a worst case scenario for a possible overflow discharge. Examples of this conservatism included a four hour duration of discharge, unfavourable tide and wind conditions, and estimated maximum concentrations of contaminants in the discharge.⁶
64. For this reason the reporting officers in particular took a very conservative approach in their advice to us. However we considered the worst case scenario adopted to be so improbable (we estimate a chance of occurrence as much less than 1% during the 20 year term of consent that we have granted) that it was not very helpful to us in our evaluation of the application, particularly given the non-complying activity status of the application. We also took into account that Mr Railton said that the NRSBU network represented “best practise” for limiting wastewater overflows, and Ms Lojkin acknowledged it “was close to BPO” (best practicable option).
65. Additionally we have imposed a condition of consent, which by requiring the three large trade waste dischargers to the network to shut down their trade waste streams in the event that an overflow is likely due to high intensity rainfall, significantly reduces the effluent loading at the Saxton pump station during overflows in such events. The modelling presented to us had assumed this trade waste would form part of the overflowing untreated wastewater. For these reasons, while we have taken a moderately conservative approach to assessing the actual and potential effects of possible wastewater overflows, it is nowhere near as conservative as that presented to us at the hearing.
66. We also looked at the present application in the context of what has been discharged to the Waimea Estuary in the past. Historically untreated sewage would have been discharged to the estuary, and we heard anecdotal comment about large sharks feeding on the freezing works discharge at Wakatu. As already discussed, there have been occasional large volumes of untreated wastewater discharged from the NRSBU network, albeit during storm events, as recently as November 2011. Despite this history of mis-management, the estuary remains a valuable nursery area for fish and supports significant populations of avifauna such as waders.
67. By far the most likely cause of significant overflows is high intensity rainfall. Such events are likely to become more common due to the effects of global climate change, and are likely to often be associated with storms that lead to coastal inundation. During such events flows to the Waimea Inlet from natural streams and (particularly) urban stormwater networks will be very high, and are

⁶ The latter is highly unlikely to occur given that overflows in high intensity rainfall are substantially diluted (by at least four parts to one) by stormwater entering sewerage networks by ingress and infiltration. The upgrades to the pump stations completed in 2013 mean that power outages are unlikely to cause any significant overflows because of the provision of emergency generators.

also likely to be significantly contaminated. For instance, Dr Fisher told us that first flush stormwater monitoring in the Poorman Stream, which flows to the Waimea Estuary just south of the airport was up to 300,000 E. Coli per 100ml. In other words water quality in the inlet during such rainfalls, particularly following a dry period, is likely to be significantly degraded in any case, regardless of any overflows from the NRSBU network.

4.2 Part 2 of the Act

68. Decisions on resource consent applications are made “subject to Part 2 of the Act”. However recent Court decisions are to the effect that consideration of a resource consent application under s104 of the RMA does not permit general recourse to Part 2 unless the relevant considerations in the planning provisions are invalid, incomplete or uncertain.⁷
69. The NRMP is an old plan that dates back to about 2004, and its provisions are rather dated but we doubt they could be called “invalid, incomplete or uncertain”. The NZCPS 2010 is much more recent and its provisions are certainly comprehensive and quite clear. In light of this both Mr Maassen and Ms Lojkine considered that we did not need to do a full Part 2 analysis, and as we agree with them, only a very brief analysis is presented here.
70. Section 5 of the RMA states its purpose and defines the sustainable management of natural and physical resources. In relation to s5 we note that granting the applications will help the applicant and the community meet their social and economic needs, while the conditions on which consent is granted will avoid or mitigate most of the adverse effects of the occasional discharges of untreated sewerage from the NRSBU network.
71. There are no matters in s6 or s7 of the Act that weigh strongly against granting the application, and we heard no evidence that the application is contrary to the Principles of the Treaty of Waitangi.

4.3 Actual and Potential Effects

4.3.1 Positive effects

72. The positive effects of the proposed activity are a relevant matter to be considered under s 104. Mr Maassen proposed in his legal submissions that if the NRSBU cannot operate its system then the outcomes would include far more significant adverse effects on the coastal environment with uncontrolled discharges of sewage by people and industry, and a complete loss of the productive capacity of the community.
73. Positive effects were not specifically outlined in the Consent Application, expert evidence or 42A Officer’s report, but we accept that the continuing operation of the wastewater network provides significant benefits for the coastal environment and the community.

⁷ RJ Davidson Family Trust v Marlborough DC NZ High Court 52

4.3.2 Adverse effects

74. Key issues to be considered in relation to adverse effects are identified in the Officer's report as:
- effects on the physicochemical water quality of the Waimea Inlet;
 - effects on the microbiological water quality of the Waimea Inlet;
 - consequent effects on benthic ecology, fish and birds;
 - effects on the cultural values of Whakatū's tangata whenua Iwi;
 - effects on natural character;
 - effects on amenity values, including from the discharge of odour to air.
75. We agree with this list and consider those issues below. Due to their inter-relatedness we have consolidated them under four headings:
- a. effects on tangata whenua;
 - b. physicochemical and ecological effects;
 - c. microbial water quality; and,
 - d. natural character and odour.

Effects on tāngata whenua

76. Ngati Koata No Rangitoto Ki Te Tonga Trust Iwi Management Plan 2002 and Nga Taonga Tuku Iho Ki Whakatu Management Plan 2004⁸ seek recognition and active involvement of the respective iwi in activities within their rohe, including the coastal marine area. The Plans seek to improve water quality and protect the coastal environment including Mataitai kaimoana (food gathering places of the sea), and they have a particular focus on preserving the mauri of waterbodies. Measures were recommended to address tangata whenua concerns in the Cultural Effects Assessment from Ngati Kuia submitted with the application.

Finding in relation to effects on tangata whenua

77. We agree with Ms Lojkiné that the discharge of human sewage to coastal waters is inherently offensive to tangata whenua and where discharges occur we acknowledge that this will have adverse effects on cultural values. We also accept that the applicant has sought to avoid as far as practicable the occurrence of overflow discharges, and has engaged with iwi, including the commissioning of a Cultural Effects Assessment. Some of the measures recommended in the Cultural Effects Assessment are carried through into conditions of consent, and we believe this will help to achieve the aims of the iwi management plans.

Physicochemical and ecological effects

78. The Applicant's and Consenting Authority's technical experts agreed that contaminants in the wastewater discharges have the potential to cause rapidly occurring (acute) and slower acting (chronic) ecological effects. The potential effects of the proposed discharges were primarily

⁸ Prepared for Ngati Rarua Iwi Trust, Te Rūnanga o Toa Rangitira, Te Atiawa Manawhenua Ki Te Tau Ihu Trust, Ngati Koata No Rangitoto Ki Te Tonga Trust and Ngati Tama Manawhenua Ki Te Tau Ihu Trust

assessed by determining the characteristics of the wastewater, modelling dispersal plumes, assessing sediment quality around the outfalls, and by preparing an environmental risk assessment.

79. Analyses showed that contaminant concentrations were commonly elevated in wastewater, with a number of heavy metal concentrations exceeding available guideline values⁹. Ms Johnston used copper as a surrogate indicator to assess the potential for wastewater discharges to cause chronic water quality effects on marine biota, and concluded that the risks were low. Dr Phillips agreed, stating:

....However, given that this is a measure of long term toxicity, the persistence of these concentrations of copper in the water column are likely to be minimal, assuming rapid cessation of the discharge once detected and aeral dispersal over multiple tidal cycles. Therefore, I believe that the potential risks of chronic effects of the discharge using copper concentrations as a surrogate, are likely to be very low¹⁰.

80. Testing around the outfalls also revealed that the effects of wastewater overflows on sediment quality were small, consisting of the slight, localised elevation of some contaminant concentrations around some outfalls. Stormwater runoff was also identified as a contributing factor, which may have a greater influence on sediment quality than wastewater overflows.
81. Estimates based on the hydrodynamic modelling and median BOD (biological oxygen demand) values (which was used as a surrogate indicator for acute effects) in wastewater, suggested that the plume from the Saxton outfall could cause acute effects over an approximately 19 ha area, extending up to 2 km from the outfall (comparable estimates of plumes from the other outfalls ranged from 250 m to 600 m long). The areas affected were greater under a 'worst case' scenario, which used the highest BOD concentration recorded from the wastewater networks.
82. During questioning, Ms Johnston indicated that BOD could reduce dissolved oxygen concentrations to levels capable of killing marine biota within those areas, but she was not aware of this ever occurring. Expert's for the Consenting Authority also emphasised the potential for BOD to cause adverse effects, and highlighted that the lack observational records of die-offs does not mean they have not occurred.
83. In Dr Fisher's opinion a worst-case discharge would potentially have major consequences for threatened shorebirds and seabirds that depend on the estuary and coast for foraging and feeding¹¹. We considered the basis of Dr Fisher's concerns to be highly speculative and overly conservative. We note that while Dr Fisher indicated that bird populations have been monitored in Waimea inlet since 1983, and in general terms he described the use of the estuary by shorebirds and seabirds. However, he provided no evidence that indicated that the larger and more frequent discharges occurring prior to the pump station upgrades, had adversely affected bird populations.
84. Ms McArthur highlighted the potential for fish kills and avoidance effects, particularly if elevated BOD discharges occurred during the instream migration of juvenile 'whitebait' species in the spring to early summer and other juvenile fish species (e.g. eels) at various times throughout the year.

⁹ Table 2, Johnston, O. (2014) Assessment of environmental effects from accidental wastewater overflow on Waimea Estuary receiving environments.

¹⁰ Section 42A Officers Report, pg 73.

¹¹ Section 42A Officers Report, pg 92.

She considered discharges from Saxton or Songer to be particularly relevant as the intertidal channels they potentially effect (based on the modelling outputs) are the same channels fish will use for inward migration.

85. Ms Johnston considered the hydrodynamic modelling to be conservative and recommended viewing its results critically¹². We agreed that the modelling was conservative and were concerned about the predictions being unrealistic. Ms Johnston was questioned at length about this matter. She advised us that despite the conservatism, the model still provided a good basis for the assessing outfall effects. Both Ms McArthur¹³ and Dr Phillips also supported the model results, with Ms McArthur stating:

In my opinion, the model is fit for this purpose, reflects real-world conditions with respect to the hydro-dynamics of the inlet, and is not entirely conservative across every layer of information that the model integrates.

86. A formal risk assessment carried out by Ms Johnston in 2014 ranked toxicity and ecological disturbance risks on estuarine biota at all sites (but particularly Saxton) within the negligible to low range, with small scale temporary to moderately persistent effects considered to be likely¹⁴. She noted that the original assessment was based on professional judgement and very limited information¹⁵. The risk assessment was updated using new information obtained after 2014. Ms Johnston summarised the updated results as showing that the overall risk of having a moderate adverse ecological effect would be low¹⁶.
87. Dr Phillips did not agree with the results of the risk assessment, and advocated a conservative approach to how effects are determined, which she stated could take the form of whole effluent testing (WET) on selected relevant macrofaunal species¹⁷. She informed us that such testing would confirm whether or not toxicity effects were likely, and potentially negate the need for additional monitoring if consent was granted.
88. Ms Johnston and Dr Phillips agreed that the Saxton outfall presented the greatest risk, with Dr Phillips stating:

It is evident that the Saxton discharge presents a much greater risk than any of the other discharges. This is indicated by the much greater dilutions required to meet guidelines and the greater area of potential effects under median and maximum contaminant concentrations/values (both copper and BOD).¹⁸

¹² Evidence of Johnson, O., p 40.

¹³ Supplementary evidence, McArthur, K. 13 Dec. 2017, pg 2.

¹⁴ Table 8, Johnston, O., (2014) Assessment of environmental effects from accidental wastewater overflow on Waimea Estuary receiving environments pg 33.

¹⁵ Johnston, O., Response to Request for Further Information dated 10 August 2016, pg.5

¹⁶ Evidence of Johnson, O., p 22.

¹⁷ Section 42A Officers Report, pg 75-76.

¹⁸ Section 42A Officers Report, pg 75.

89. As noted earlier, Saxton pump station receives trade waste from three industry contributors (NPI, Alliance and ENZA) with particularly high concentrations of BOD, COD (chemical oxygen demand) and SS (suspended solids). Median concentrations of these contaminants reported for other wastewater sources in the Saxton catchment are much lower, being similar to normal domestic wastewater concentrations¹⁹.
90. During the course of the hearing we were informed by Mr Thiart that the NRSBU has the ability to require trade waste discharges from the three industrial contributors to be turned off if there was an imminent risk of an overflow from the Saxton pump station occurring. Mr Thiart indicated that switching off inputs of trade waste was a simple process that could be achieved almost immediately. A consent condition requiring trade waste inputs from the industrial contributors to be halted if the Saxton wastewater system if the pump station reaches 85% capacity was subsequently offered up by the Applicant. None of the assessments considered that action.

Finding in relation to ecological effects

91. Having considered the evidence presented to us and ability of adverse effects to be addressed through consent conditions, we are satisfied that overflows from the four pump stations will be infrequent and of relative short duration. We are also satisfied that the modelled worst-case scenario is extremely unlikely to occur. Further, upgrades to the pump stations and actions to stop inputs of trade waste from the three industrial contributors if an overflow from the Saxton pump station is imminent, means that overflow effects are likely to be less than those modelled under the 'median' scenario. However, the actual scale and magnitude of effects cannot be determined with any certainty. They will depend on the pump station involved, and the vagaries of weather, tides, overflow duration and volume, and the composition of wastewater at the time of an overflow.
92. Overall, we find that the ecological effects of the proposed discharges will be no more than minor, as discussed in Section 4.6 below.

Microbial water quality

93. Health risks arising from the discharge of microbial contaminants was identified as a key concern by the Applicant, Regulatory Authority and submitters. Evidence presented by Dr Hudson, indicated that ambient water quality in Waimea Estuary presents a measurable risk of illness in relation to contact recreation. That risk is generally in a range from 1-5% risk for gastrointestinal illness, increasing at times to 5-10% risk.
94. Risks specifically associated with discharges from the Airport, Songer, Saxton and Wakatu pump stations was assessed by modelling plume dispersion/dilution and carrying out a Quantitative Microbial Risk Assessment (QMRA). Dr Hudson, explained that conservative assumptions were used for the dispersion modelling and QMRA, such that results were biased toward low probability, serious consequence events.
95. The results of the modelling and QMRA demonstrated that the likely extent and duration of discharges effects were quite different for the four pump stations, and strongly influenced by tidal staging and weather conditions. Dr Hudson indicated that discharges from the pump stations are

¹⁹ Table 1, Johnston, O., Response to Request for Further Information dated 10 August 2016, pg.3

likely to increase health risks associated with ambient water quality. However, he went on to advise us that²⁰:

Provided adequate steps are taken to reduce the likelihood and size of an aberrant sewer discharge event, and that a robust plan exists to respond adequately to a discharge event of this nature (extremely low probability, moderate risk), the overall health risk to local communities will be very low.

96. Mr Molloy provided an overview of procedures prescribed in Section 9 of the NCC/NRSBU Emergency Procedures Manual. They include procedures for initial notification, risk assessments, swimming bans, water testing, and the lifting of bans. He considered the procedures to be adequate for notification and initial response to aberrant discharges, noting that key decision-makers are consulted early and joint decisions made. He also highlighted that the procedures are consistent with approaches used elsewhere in New Zealand, and with advice that the Ministry of Health provide to District Health Boards. Overall, Mr Malloy concludes²¹:

Should an aberrant discharge occur and the response as outlined in the relevant emergency procedures of the various organisations is undertaken, then the public health risk to the general population and recreational users is considered to be minor.

97. We heard no expert evidence that disputed Mr Malloy's conclusion.

Finding in relation to microbial water quality

98. Having considered the evidence presented to us and ability of adverse effects to be addressed through conditions we have imposed on the consent, we find that the microbial water quality effects of the proposed discharges will be minor.

Natural Character and Odour

99. Wastewater discharges have the potential to cause objectionable odours and adversely affect amenity and aesthetic values, with consequential effects on natural character (through water discolouration, production of scums, foams or films, and dispersal of human waste and debris). All of the pump stations could affect these values, but the Songer Pump was identified as having a higher potential because of its proximity to residences and two local restaurants. Such effects are expected to be localised, low frequency and temporary to moderately persistent²².
100. The Application notes that the NRSBU is not aware of any odour complaints as a result of previous discharges, and odour does not appear to be identified as a key issue in any of the submissions received (although that does not mean is not an issue of concern).
101. In relation to odour effects, the Officer's report states:

²⁰ Evidence of Hudson, N. p 7.7

²¹ Evidence of Molloy, M. p 8.6

²² Table 8, Johnston, O., (2014) Assessment of environmental effects from accidental wastewater overflow on Waimea Estuary receiving environments pg 33.

*Odour discharges may have effects on ambient air quality and on cultural and amenity values, but those effects are not anticipated to be significant due to the relatively short term nature of the discharges, and their dispersion by the tidal cycle. If offensive or objectionable odour is produced as a result of the discharges, the applicant has outlined a series of measures that could be instituted to clean-up gross contamination, which should reduce the generation of odour.*²³

102. NRSBU clean-up procedures following a sewage overflow include instructions for a site inspection and clean-up²⁴. The procedures state “When clean-up is completed, there should be no visible evidence that an overflow has occurred and any material that poses an odour risk is cleaned up/removed as best as possible”.
103. In addition, the consent can be reviewed by the regulatory authority 12 months after the date of commencement to deal with any adverse effects on the environment.

Finding in relation to natural character and odour

104. Having considered the evidence presented to us and ability of adverse effects to be addressed through proposed consent conditions, we find that the effects on natural character and odour of the proposed discharges will be minor.

Overall Finding

105. Overall we consider that given the very intermittent nature of any discharges, the likely concurrence of discharges with high rainfall events and high stormwater discharge volumes, and the lack of any evidence of chronic effects, the effects of any overflow discharges are likely to be no more than minor.

4.4 The NZ Coastal Policy Statement 2010

106. In paragraphs 5.92 to 5.107 of her s42A report Ms Lojkin helpfully took us through all the potentially relevant provisions of the NZCPS. We largely adopt that analysis and note particularly that:
- While Objective 2 and Policies 13 and 15 of the NZCPS relate to the preservation of natural character and protection of natural landscape and character values, the natural character has only of the inlet been assessed to be of moderate value (and arguably is less than that in the much modified environment near the Wakatu and Saxton pump stations given the presence of SH6 and nearby industrial sites), and as outlined above we find the effects of any overflow discharges on natural character will be minor.
 - Policy 11 seeks to protect indigenous biodiversity in the coastal environment by a variety of means, including avoiding adverse effects of activities on some taxa, habitats and environments, and avoiding significant adverse effects in other environments. We accept that overflow discharges could potentially have had some effects on the avifauna and other biota

²³ Section 42A Officers Report, pg 48

²⁴ Attachment E of the Application.

of the Waimea Estuary, but not to the extent alluded to by Dr Fisher, whose evidence in this regard we have already said was speculative. There is also no evidence of chronic effects on invertebrate and other communities close to the overflow points. Given overflows are now much less likely following the comprehensive upgrades to the pump stations completed in April 2013, such effects are likely to be less significant than they were in the past.

- Objective 3 and Policy 2 require us to take account of the Principles of Treaty of Waitangi, recognise the role of tangata whenua as kaitiaki and provide for tangata whenua involvement in the management of the coastal environment. The applicant had commissioned a Cultural Effects Assessment from Ngati Kuia, and sought further engagement with other iwi. No further engagement was entered into by iwi and no submissions from iwi were received on the notified application.

107. The consensus from Mr Maassen, Mr Butler and Ms Lojkin was the most strongly relevant policy in the NZCPS was Policy 23. The relevant sections 23(1) and 23(2) read:

(1) In managing discharges to water in the coastal environment, have particular regard to:

- (a) the sensitivity of the receiving environment;*
- (b) the nature of the contaminants to be discharged, the particular concentration of contaminants needed to achieve the required water quality in the receiving environment, and the risks if that concentration of contaminants is exceeded; and*
- (c) the capacity of the receiving environment to assimilate the contaminants; and:*
- (d) avoid significant adverse effects on ecosystems and habitats after reasonable mixing;*
- (e) use the smallest mixing zone necessary to achieve the required water quality in the receiving environment; and*
- (f) minimise adverse effects on the life-supporting capacity of water within a mixing zone.*

(2) In managing discharge of human sewage, do not allow:

- (a) discharge of human sewage directly to water in the coastal environment without treatment; and*
- (b) the discharge of treated human sewage to water in the coastal environment, unless:*
 - (i) there has been adequate consideration of alternative methods, sites and routes for undertaking the discharge; and*
 - (ii) informed by an understanding of tangata whenua values and the effects on them.*

108. We are satisfied that all the relevant matters in Policy 23(1) have been addressed elsewhere in this decision. We were advised against providing for any “mixing zone” given the infrequent nature of the discharges, the four discharge points and different dispersion patterns depending on factors such as wind and tide. We agree with that advice.

109. On the face of it Policy 23(2)(a) is effectively a prohibition on us granting the consent sought. However it reads as a prohibited activity rule rather than a policy, and by definition policy statements cannot contain rules. Perhaps because of this non statutory “guidance” has been provided by the Department of Conservation on how this particular policy is to be interpreted. That guidance reads (with emphasis added):

“Policy 23 concerns the discharge of contaminants, including human sewage. Policy 23(2)(a) is strong direction against discharges of untreated human sewage to water in the coastal environment. It signals that very clear justification should underpin any provision for discharge of untreated sewage to water in the coastal environment. However, it is not a rule, and does not mean that resource consent applications that involve discharges of untreated human sewage cannot be approved. Nor does it mean that such discharges must be classified as prohibited activities in regional coastal plans and regional plans.

As with all management of natural and physical resources, particular situations must be looked at in context. In relation to activities involving the discharge of human sewage the relevant context will include location, frequency, duration, volume, level of treatment, and the extent to which the discharge is the best practicable option (within a relevant timeframe). Relevant matters will vary according to the source of a discharge (e.g. from a treatment plant, or an overflow from a reticulation network) and whether it is in the course of normal operation or caused by an anticipated and perhaps unavoidable operational disruption (such as a blockage, power interruption or overflows in some wet weather events). There is a continuum that should result in different discharges of human sewage being dealt with differently within plans, both in policies and activity classifications (rules), and through the determination of resource consent applications. Clause 4 of Policy 23 provides particular direction in respect of discharges involving both sewage and stormwater.

Policy 23 should also be considered together with objectives and other policies in the NZCPS 2010 which address issues of discharge, water quality and infrastructure. The complete statutory framework for RMA decision making in relation to discharges both in relation to plans and consent applications applies. Sections 69 and 70 of the RMA provide some direction for rules and sections 107 and 108(2)(e) and (8) provide guidance for resource consents and conditions.”

110. Additionally, as Mr Maassen said in his opening submissions it is implausible that the NZCPS would prohibit overflow discharges from wastewater networks as none of them are fail safe. We note for instance that sewage overflows are far more common in many parts of Auckland than they are from the NRSBU network.
111. Given this guidance we are satisfied that the present application meets the intent of Policy 23, and particularly Policy 23(2)(a), of the NZCPS 2010. We are similarly satisfied that the application is generally in accordance with the overall policy direction of the NZCPS.

4.5 The Nelson Resource Management Plan (NRMP)

112. The NRMP became operative on 1 September 2004. It has been subject to a number of variations, and is presently being reviewed. It is an old plan, and as such many of its provisions are drafted in a way that is quite dated for regional resource management plans.
113. We note that there is also a Regional Policy Statement (RPS) for the Nelson region, but we agree with Mr Butler that the provisions of the NRMP flesh out those of the RPS, and so it is the plan provisions we have taken account of here.
114. The NRMP denotes the Waimea Estuary as an Area of Significant Conservation Value. This relates particularly to avifauna, including species of shorebird, gulls, waders, terns and shags.

115. The relevant provisions of the NRMP were addressed both by Mr Butler and Ms Lojkine. Many of them are of peripheral influence for our decision making. The most relevant relate to the coastal marine area and include:

Policy CM6.1 marine water quality standards

Coastal marine water quality standards should be maintained or enhanced to reflect community aspirations and tangata whenua values for:

- a) management for fisheries, fish spawning, aquatic ecosystem, and aesthetic purposes over the whole Coastal Marine Area, and*
- b) contact recreation, shell fish gathering, or cultural purposes, in specified parts of the Coastal Marine Area.*

Policy CM6.2 marine water quality standards

Coastal marine water quality standards shall be managed for the purposes set out in the following water quality classes and associated standards:

- a) Fisheries, fish spawning, aquatic ecosystem, and aesthetic purposes, Class: FEA, Area of application: to the entire Coastal Marine Area; or*
- b) Contact recreation purposes, Class: CR, Area of application: generally 200 metres seaward of mean high water springs within the areas identified as "Contact Recreation Overlay" on Planning Map A1; or*
- c) not relevant or*
- d) also not relevant*

116. The effect of these policies all the coastal marine area in the Waimea Estuary the vicinity of the overflow discharge points is to be managed for the purposes of FEA (fishing, fish spawning, aquatic ecosystem, aesthetic purposes) and, around most of the Monaco peninsula for the purposes of CR (contact recreation).
117. Policy CM6.3 applies to all discharges to the coastal marine area. It essentially says that the cumulative effects of all discharges should not have significant adverse effects. We heard no evidence that this policy would not be met.
118. Policy CM 6.4 deals with mixing zones. As already discussed we do not think they are advisable for what are temporary and not very predictable occasional discharges from one or more of four points.
119. Policy 6.5 lists assessment criteria as follows:

When considering new proposals or applications to discharge contaminants directly to water, or reviewing existing discharges, matters to be taken into account include:

- a) the water quality classification for the receiving environment, and*
- b) the total contaminant load (composition/concentration/flow rate) of the discharge, and*
- c) the presence or absence of toxic constituents, and the potential for bio-accumulative or synergistic effects, and*

- d) the assimilative capacity (including available dilution and dispersal) of the water and the existing water quality, and*
- e) actual or potential uses of the water body and the degree to which the needs of other water users are, or may be, compromised, and*
- f) scenic, aesthetic, amenity, recreational and commercial fisheries values, and*
- g) the cultural and spiritual values of tangata whenua, and*
- h) the actual or potential risk to human health from the discharge.*

120. We have discussed most of these matters in the analysis of the actual and potential effects of any overflow discharges in Section 4.3 above. The main conclusion reached was that although a larger overflow discharge could result in effects on the uses and values of the receiving environment, any such effects will only be temporary and can be mitigated by associated actions (such as signage and publicity warning of any public health risk from contact recreation). There is no evidence of larger previous discharges having chronic effects on the receiving environment, or affecting species such as fish or the avifauna that inhabit the estuary. Accordingly we do not see these policies as providing any strong direction to decline the present applications.

121. Policy CM6.6 applies directly to discharges of untreated sewage:

Untreated human sewage should not be discharged to coastal waters, unless the discharge is:

- a) of a temporary nature, and the effects are minor, or*
- b) associated with necessary maintenance work and then only if:*
- c) there has been consultation with tangata whenua in accordance with tikanga Maori, and*
- d) there has been consultation with the community generally,*
- e) it better meets the purpose of the Act than disposal on to land.*

122. We think the present application meets the relevant criteria of this policy. The discharge is temporary, for reasons we discuss below we consider the effects to be minor when weighed correctly, there has been consultation with tangata whenua, the application was publicly notified and it is not practical to discharge untreated sewage to land in the vicinity of any of the pump stations.

4.5 Section 104D of the RMA

123. As already outlined briefly as the application to discharge overflows of untreated wastewater to the coastal marine area is a non-complying activity, it has to pass at least one of the two threshold tests of s104D of the RMA.

124. In this instance it could be argued that the wording of Policy CM 6.6(a) means that these two threshold tests are reduced to one – that the adverse effects of the activity on the environment are no more than minor. However the legal test that the application will not be contrary to the objectives and policies of the (most recent and relevant) planning documents is that an application “is not repugnant to the objectives and policies when read collectively.”²⁵

²⁵ Director General of Conservation v Marlborough DC 2010 NZ Env Court 403.

125. In this instance we are satisfied that effects are no more than minor. Any effects of an overflow discharge will be temporary, and we do not think it could realistically have the “worst case” scenario used by the officers for assessing effects. Even if it were a “potential effect of low probability which has a high potential impact”²⁶, we note a recent Environment Court decision has said (after referring to another oft quoted decision):

*This is of interest because it suggests that a .major, potentially catastrophic effect could be regarded as minor if the probability of its occurrence is very low. With respect that is a sound approach to risk and within the spirit of the RMA.*²⁷

126. As we are satisfied that the effects of the activities for which consent is sought will be no more than minor, we have not thoroughly tested the applications against the second limb of s104D. Ms Lojkine “sat on the fence” about this, citing the wording of Policy CM 6.6(a). Given however that Policies and Objectives have to be read collectively when considering the second limb, we do not see this policy as a “roadblock” to passing the second limb of s104D.

5 Other Relevant Sections of the RMA

127. There are two other sections of the RMA relevant to our decision making. These are s105, which requires consideration of alternatives, and s107, which requires either a series of criteria be met by the discharge, or one of three exemption provisions apply.

128. Section 105(1) of the Act requires that we must have regard to:

- (a) *the nature of the discharge and the sensitivity of the environment to adverse effects;*
- (b) *the applicant’s reasons for the proposed choice; and*
- (c) *any other possible alternative methods of discharge, including discharge into any other receiving environment.*

129. We have discussed of the discharge and the sensitivity of the receiving environment in Section 4.3 above. There is no alternative receiving environment for occasional overflow discharges, which occur only when the wastewater network is either subject to some form of breakdown, or it cannot cope with flows during high intensity storms. It is likely that overflows will only occur for a few hours a year; at all other times wastewater is not discharged to the environment until after it has been treated.

130. In regard to s107 we accept that there is a small possibility that a discharge could have significant adverse effects on aquatic life (s107(1)(d)). As however any such discharge is temporary, it meets one of the exemption criteria of s107(2), and accordingly meets s107.

²⁶ Section (g) of definition of “effect”, s3 RMA

²⁷ Saddle Views Limited v Dunedin CC (2014) NZEnvC 243.

6 Evaluation

131. We have assessed the applications against all relevant criteria in the RMA, these being those listed in s104(1), the non-complying activity tests in s104D and Sections 105 and 107.
132. Based on this detailed assessment we have decided that the consent can be granted. It is not practical to decline it in any case, as overflow discharges will occur irrespective, and without consent they would be unauthorised and technically in breach of the RMA.
133. Any larger discharges should be infrequent and as they will almost certainly due to high intensity rainfall events their potential adverse effects will at least in part be masked by stormwater discharges. The upgrades to the pump stations completed in 2013 means any other discharges are likely to be very small and of short duration.
134. Such overflows will be dominated by domestic wastewater heavily diluted by stormwater. Conditions of consent should mean that during such events there is no substantive discharge of part treated industrial wastewater from Nelson Pine, Alliance or ENZA.

7 Term and Conditions

135. The applicant sought a term of consent of 20 years. The officers recommended a term of five years, based primarily on their view that the receiving environment was not well understood and more work was necessary before the effects of the proposal could be assessed fully. Many of the submitters also requested that we grant a short term consent.
136. We have decided to grant all the consents sought for a term of 20 years. Our main reasons for this are as follows:
 - In 2013 the applicant substantially upgraded their pumping capacity within the three main pump stations, and included back up diesel generators and associated alarm systems to try to avoid as far as practicable any overflow discharges. The longer term records provided us showed that this has much reduced the historical incidence and duration of overflows. This gives us confidence that although some overflows are inevitable, their effects are likely to be much less in the future than they were previously.
 - Any prolonged overflows should only occur during intense high rainfall events. In such events any discharge will be dominated by much diluted domestic wastewater, particularly now that conditions of consent require trade waste inputs to cease if an overflow from the Saxton pumping station is imminent. Such events will also lead to large volumes of untreated stormwater also entering the Waimea estuary, and we think the adverse effects of stormwater discharges, particularly during the “first flush”, will in large part overwhelm the effect of any overflow discharge of untreated domestic wastewater.
 - Any adverse effects on recreational users are unlikely, both because of public warnings and because significant overflow events will almost certainly be associated with high rainfall and stormwater inputs, leading to the estuary being very turbid and obviously not well suited to contact recreation at that time.

- Although we acknowledge that the receiving environment is not very well studied, we take some comfort that no chronic effects are evident from previous overflow events, one of which was of over 100,000 cubic metres of wastewater.
137. The process that took place after the hearing resulted in little disagreement about the conditions of consent. We have largely accepted the conditions proffered, with some minor changes suggested by the applicant largely accepted. We have also made some minor editorial changes, and added a trigger of any fish or bird kills as a reason to review conditions of consent.
138. The officers had not originally recommended any conditions for land use consent RM165115. When asked, they and the applicant recommended we duplicate the conditions for discharge permit RM165114. We think that would be confusing, so we have granted the land use consent with conditions that cross refer to the conditions of RM165114.



Dr Brent Cowie

Chair of the Hearing Panel on behalf of the Commissioners

16 February 2018

8 Decision

139. To grant applications RM165114, RM165115 and RM165116 for a term of 20 years from the date of this decision on the following conditions.

RM165114 – Discharge Permit to the Coastal Marine Area

General Conditions:

1. This consent must expire 20 years from the date of this decision.
2. This consent authorises discharges that are not deliberate and that arise from one or more of the following causes:
 - (a) where flows in excess of the pumping capacity at each pump station occur due to heavy rainfall events; or
 - (b) where electrical or mechanical failure results in a failure to pump at any pump station, and only until such time as pumping capacity is restored; or
 - (c) where a control system failure or human error causes a discharge, and only until such time as pumping capacity is restored; or
 - (d) where accidental rupturing or leakage of any pipework or pipeline fittings occurs, and only until such time as the rupture or leak is repaired.

Advice note

The above are the foreseeable circumstances under which an aberrational discharge may occur. Other circumstances that result in a discharge to the coastal marine area will be considered emergency events and will be addressed as an emergency work under Section 330 by the consent holder.

3. The consent holder must maintain at least the level of service for operation of the pump stations set out in **Figure 1** attached and forming part of this consent.

Infrastructure and Management

4. Discharges from the Airport, Songer and Wakatu pump stations must pass through a screen that has an aperture dimension of not greater than 25 millimetres. Two years after the date of this decision this requirement also applies to the Saxton pump station.
5. Within two years of the date of this decision, the consent holder must install and commission a sampling chamber at the Saxton pump station for the purpose of detecting and sampling wastewater discharges.
6. In the event that during a heavy rain event the wet-well capacity of the Saxton pump station reaches or exceeds 85% capacity, the consent holder must notify the three industrial contributors to the waste stream and require them to immediately cease discharging to the network until such time as they are advised by the consent holder that they may re-start their discharge. The consent holder shall only provide that advice when the risk of a discharge is reasonably assessed to be unlikely.

Monitoring

7. For each discharge overflow, the following must be monitored and recorded:

- (a) Pump station name or location of leak/rupture;
- (b) Start date and time of discharge;
- (c) End date and time of discharge;
- (d) Estimated or measured peak flow rate during discharge; and
- (e) Estimated or measured total volume of discharge.

Tide, wind and rainfall conditions shall also be recorded for the duration of each overflow. Records are to be provided to Council's monitoring officer within one (1) week of each event occurring.

Advice Note

The consent holder shall maintain a weather station at Bell Island to enable this information to be continuously and automatically collected and stored

8. Within 6 months of the date of issue of this consent, the consent holder must provide an Environmental Monitoring Plan (EMP) to Nelson City Council's Manager Consents & Compliance for certification. The EMP must be written by:

- (a) an appropriately qualified and experienced marine ecologist for the ecological components;
- (b) an appropriately qualified and experienced environmental health professional specialising in microbial health risk assessment for the microbiological components; and
- (c) a person appropriately experienced in tikanga Maori and cultural health indexing.

In this condition the following definitions apply:

WET means Whole Effluent Toxicity

WET limit test means a WET test using a single receiving environment sample with no artificial dilutions applied

WET dilution test means a WET test using a series of dilutions

DO means dissolved oxygen concentration (expressed as milligrams per litre)

In this consent, where reference is made to "discharge volume thresholds" this shall mean a discharge of at least 300 cubic metres for a discharge not associated with a heavy rain event, and at least 2000 cubic metres for a discharge that is associated with a heavy rain event.

The EMP must contain the following:

- (1) (a) A methodology for obtaining background DO, temperature, salinity, pH, electrical conductivity, and turbidity within 200 metres of the four pump stations to detect the early morning DO concentration minima in maximum wet and dry weather conditions.
- (b) A methodology and requirement for a background WET limit and dilution test of a 24 hour composite sample of raw effluent during dry weather and wet weather conditions.

- (c) Based on the results of the background WET testing a “decision tree” to mitigate effects of a discharge if there is evidence of significant toxicity (e.g. statistically significant from control results derived from the most toxic test result) shall be developed and included in the EMP.
 - (d) A requirement for background WET testing to be repeated on a five year basis from the commencement of this consent, or in the event of an overflow that meets the discharge volume thresholds listed above, five years from the date of that event.
- (2) For any discharge that meets or exceeds a discharge volume threshold, a requirement for:
- (a) both a WET dilution test of raw effluent from the sample chamber, and at least three WET limit tests of receiving environment water at the time of the next high tide when sampling is practicable and compliant with the consent holder’s health and safety policy. The sampling shall be of a design that allows for determination of the spatial and temporal extent of plume-related eco-toxic effects.
 - (b) the measurement of dissolved oxygen (DO), soluble carbonaceous BOD₅, temperature, salinity, pH, electrical conductivity and turbidity at the time of the next high tide when sampling is practicable and compliant with the consent holder’s health and safety policy. The sampling shall be of a design that allows for determination of the spatial and temporal extent of plume related water quality effects and an assessment of the DO/ soluble carbonaceous BOD₅ relationship in the receiving environment
 - (c) the collection of samples from not less than 5 locations to quantify enterococci and faecal coliform concentrations. The sample design shall be capable of providing a reasonable indication of the spatial extent and duration of effects over a period of at least 3 days, or until monitoring demonstrates enterococci concentrations are less than the lower threshold value for Category C (201 enterococci per 100mL) defined in the Ministry for the Environment/Ministry of Health Recreational Water Quality Guidelines (2003) for recreational contact (or any update of that standard).
- (3) A framework for observing and recording the characteristics of any discharges, including but not limited to plume extent and conspicuous gross solids.
- (4) A protocol for assessment of effects on cultural health.
9. The EMP must be prepared in consultation with iwi so that the author(s) is satisfied the information generated by the EMP enables iwi who have received statutory acknowledgement to understand the impacts of the discharge on the values of interest to iwi, and only to the extent that it is within the scope set out in Condition 8.
10. The draft EMP must be reviewed for comment by a suitably qualified, independent professional at the consent holder’s cost, and certified by Nelson City Council’s Manager Consents & Compliance if it adequately provides for the matters outlined in Conditions 8 and 9 above.

11. Once certified, the consent holder must provide the EMP to those iwi who have received statutory acknowledgement¹.
12. The EMP must be implemented by an appropriately qualified and experienced science provider.
13. The EMP may be amended from time to time to change the monitoring requirements. However, before being implemented under Condition 12, the amended EMP must be provided to Nelson City Council's Manager Consents & Compliance for re-certification under the requirements of Conditions 8 to 9, and must be re-circulated to iwi (Condition 11).

Compliance and Monitoring Reporting

14. Within three months of the completion of background monitoring under Condition 8 (1), and annually thereafter, a Compliance and Monitoring Report must be prepared by a suitably qualified professional, and submitted to Nelson City Council's Manager Consents & Compliance. Each annual report must cover the preceding 12-month period and address the following matters associated with the exercise of the consent:
 - (a) a record of discharges, including but not limited to the matters required to be recorded by Condition 7, that occurred during the reporting period;
 - (b) a record of any failures of the consent holder's pipework that result in a discharge to the environment;
 - (c) the causes of these discharges and, where relevant, any work undertaken to avoid future similar occurrences;
 - (d) the results of the monitoring undertaken under Condition 12 and appropriate analysis of those results; and
 - (e) recommendations for improvement of the EMP.
15. The report required by Condition 14 must be provided to iwi identified in condition 11 and shall also be uploaded to the consent holder's website.

Emergency Procedures Manual

16. Within six months of the commencement of this consent the consent holder shall update the current Emergency Procedures Manual, to set out procedures that will be followed for all discharges specified under Condition 2 from the consent holder's reticulation and pump stations to the coastal marine area. The Manual shall include, but not be limited to, the following matters:
 - (a) identification and notification requirements for the Nelson Medical Officer of Health and parties potentially affected by discharges, including a full list of iwi representatives and contacts;
 - (b) identification of the procedures that will be followed for events that may result in discharges occurring. This shall include, but not necessarily be limited to:
 - (i) procedures that will be followed during power outages and pipeline breakages, particularly in relation to contingency measures for the three industrial contributors; and

¹ s41 Ngāti Kōata, Ngāti Rārua, Ngāti Tama ki Te Tau Ihu and Te Ātiawa o Te Waka-a-Māui Claims Settlement Act 2014, s25 Ngāti Toa Rangatira Claims Settlement Act 2014 and s38 Ngāti Apa kit e Rā Tō, Ngāti Kuia, and Rangitāne o Wairau Claims Settlement Act 2014

(ii) monitoring site locations and signage locations determined in accordance with the criteria in the EMP to manage the risks to human health.

17. The consent holder must ensure that the contractors and staff responsible for the operation of the pump stations and reticulation understand and implement the procedures in the Manual relating to overflow discharges.
18. The Manual referred to in Condition 17 shall be reviewed annually in consultation with the Public Health Service (Health Protection Officer).
19. A copy of the most recent Manual shall be provided to the Nelson City Council's Manager Consents & Compliance and the Medical Officer of Health on its updating under Condition 17, and on 31 August each year.

Review of Consent

20. The Council may, in accordance with section 128 of the Act, serve notice on the consent holder of its intention to review the conditions of this consent 12 months after the date of issue of this consent and annually thereafter during the month of March, for any of the following purposes:
 - (a) to provide for synergies with other monitoring programmes that may be undertaken in the Waimea Inlet; or
 - (b) to deal with any adverse effects on the environment that may arise from the exercise of this consent. In particular, the following effects on the coastal marine area or taxa in the coastal marine area reasonable attributable to a discharge(s) under this consent:
 - (i) eutrophication of the substrate; and/or
 - (ii) evidence of significant toxicity (e.g. statistically significant from control results derived from the most toxic test result) beyond 200 metres from a point of discharge as a result of one or more discharges; and/or
 - (iii) fish or bird kills.
 - (c) the incidence of operator error causing discharges exceeding three occasions per year.
 - (d) to require the adoption of the best practicable option to remove or reduce any adverse effect on the environment.
 - (e) future plan provisions

Advice Note

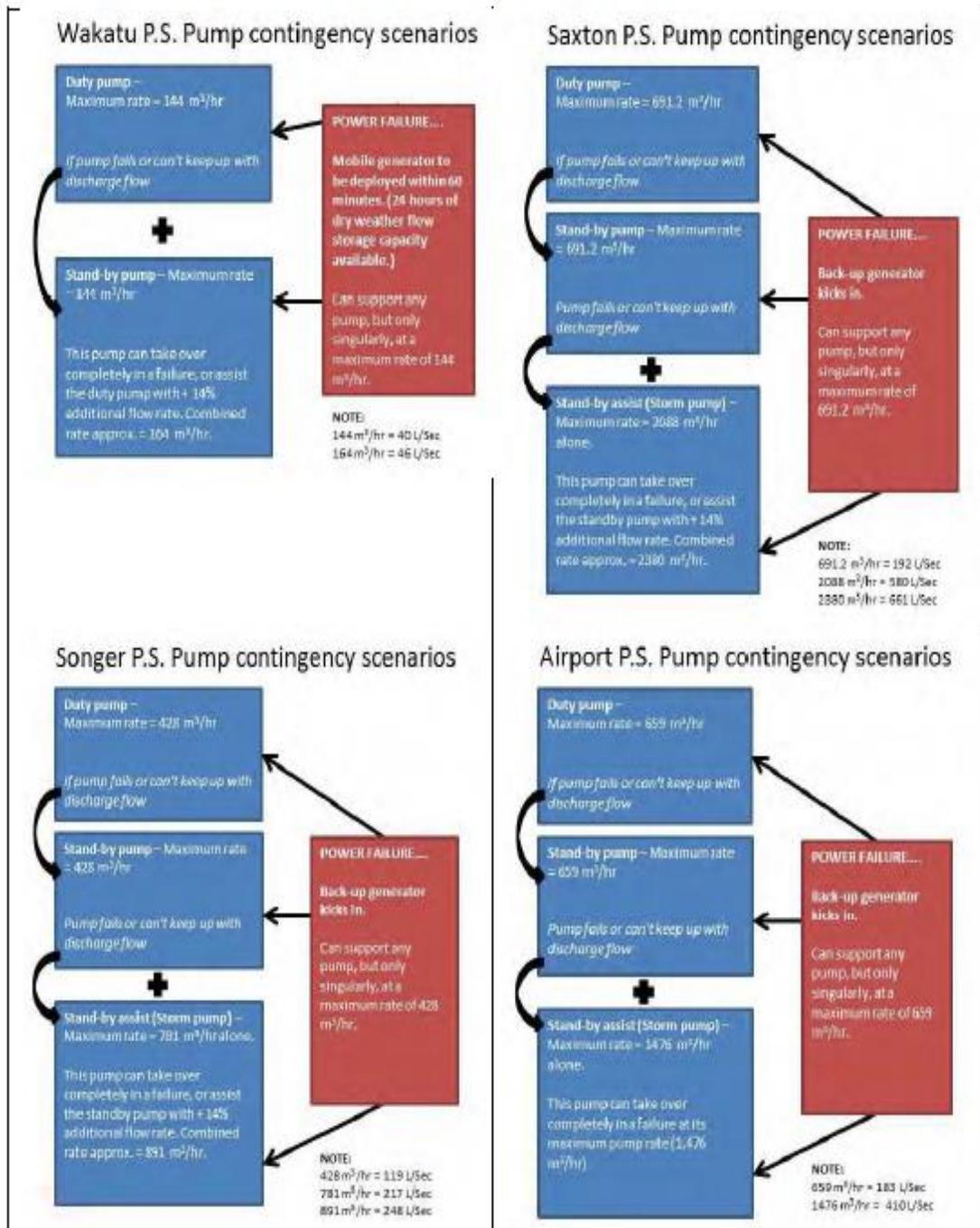
The Council may, in accordance with Section 128 of the Resource Management Act 1991, serve notice on the Consent Holder of its intention to review the conditions at any time for the following purposes:

- (a) to provide for compliance with rules relating to minimum standards of water quality in any regional plan that has been made operative since the commencement of these consents; or*
- (b) to provide for compliance with any relevant national environmental standards that have been made; or*
- (c) where there are inaccuracies in the information made available with the application that materially influenced the decision on the application and where the effects of the exercise of these consents are such that it is necessary to apply more appropriate conditions.*

Advice Note

A monitoring charge of \$100 has been included in your invoice, as conditions of consent requiring monitoring have been imposed. This charge covers the costs involved in the first hour of monitoring compliance with the consent conditions. Where additional monitoring costs are required to determine that conditions have been met, these will be charged as provided in the Council's Fees and Charges Schedule.

Figure 1: Level of service for operation of pump stations



RM165115 – Discharge Permit to land

General Conditions:

1. This consent must expire 20 years from the date of this decision.
2. This consent authorises any discharge allowed by the conditions of RM165114 to pass across land directly between the point of surcharge of an overflow discharge and the Coastal Marine Area.
3. The conditions of RM165114 also apply to this consent.

Advice Note

1. *The Council may, in accordance with Section 128 of the Resource Management Act 1991, serve notice on the Consent Holder of its intention to review the conditions at any time for the following purposes:*
 - (a) *to provide for compliance with rules relating to minimum standards of water quality in any regional plan that has been made operative since the commencement of these consents; or*
 - (b) *to provide for compliance with any relevant national environmental standards that have been made; or*
 - (c) *where there are inaccuracies in the information made available with the application that materially influenced the decision on the application and where the effects of the exercise of these consents are such that it is necessary to apply more appropriate conditions.*

Advice Note

A monitoring charge of \$100 has been included in your invoice, as conditions of consent requiring monitoring have been imposed. This charge covers the costs involved in the first hour of monitoring compliance with the consent conditions. Where additional monitoring costs are required to determine that conditions have been met, these will be charged as provided in the Council's Fees and Charges Schedule.

RM165116 – Discharge Permit to discharge to air

1. This consent shall expire 20 years from the date of this decision.
2. This consent must only be exercised when discharges of untreated sewage authorised by resource consents RM165114 and/or RM165115 are occurring.
3. Should the discharge of untreated sewage under consents RM165114 result in a discharge of offensive or objectionable odour in the opinion of Council's monitoring officer, the consent holder must undertake clean-up measures as identified in the application dated 15 April 2016 as reasonably practicable to reduce the odorous effects of the discharge.
4. The Council may, in accordance with section 128 of the Act, serve notice on the consent holder of its intention to review the conditions of this consent 12 months after the date of issue of this

consent and annually thereafter during the month of March for any one or more of the following purposes:

- (a) to deal with any adverse effects on the environment that may arise from the exercise of this consent and which it is appropriate to deal with at a later stage; or
- (b) to require the adoption of the best practicable option to remove or reduce any adverse effect on the environment.

Advice Note

The Council may, in accordance with Section 128 of the Resource Management Act 1991, serve notice on the Consent Holder of its intention to review the conditions at any time for the following purposes:

- (a) to provide for compliance with rules relating to minimum standards of water quality in any regional plan that has been made operative since the commencement of these consents; or*
- (b) to provide for compliance with any relevant national environmental standards that have been made; or*
- (c) where there are inaccuracies in the information made available with the application that materially influenced the decision on the application and where the effects of the exercise of these consents.*
- (d) future plan provisions*