

Todd Energy Aquatic Centre  
Monitoring Programme  
Annual Report  
2013-2014  
Technical Report 2014–10

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## **Executive summary**

The New Plymouth District Council (NPDC) operates the Todd Energy Aquatic Centre located on Tisch Avenue, New Plymouth. This report for the period July 2013-June 2014 describes the monitoring programme implemented by the Taranaki Regional Council (the Council) to assess the consent holder's environmental performance during the period under review, and the results and environmental effects of the Company's activities.

The NPDC holds two resource consents relating to the Todd Energy Aquatic Centre, which include a total of twelve conditions that the NPDC must satisfy. One consent allows NPDC to discharge wastewater into the Tasman Sea, and the other allows it to erect, place, use and maintain a discharge pipe at the site.

The Council's monitoring programme for the year under review included one site inspection, one marine ecological inspection, one discharge sample and one receiving water sample collected for physicochemical analysis.

The monitoring showed that the discharge of wastewater from the Todd Energy Aquatic Centre did not result in elevated levels of chlorine beyond the mixing zone. No adverse effects were observed on low shore reef biota in the vicinity of the discharge pipe.

During the year, the NPDC demonstrated a high level of environmental performance and compliance with the resource consents. During the year under review there were no unauthorised incidents associated with the Todd Energy Aquatic Centre.

This report includes recommendations for the 2014-2015 year.



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# **1. Introduction**

## **1.1 Compliance monitoring programme reports and the Resource Management Act 1991**

### **1.1.1 Introduction**

This report is the Annual Report for the period July 2013-June 2014 by the Taranaki Regional Council (The Council) describing the monitoring programme associated with two resource consents held by the New Plymouth District Council (NPDC). The NPDC operates the Todd Energy Aquatic Centre situated on Tisch Avenue at New Plymouth.

This report covers the results and findings of the monitoring programme implemented by the Council in respect of the consents that relate to discharges of pool and filter water into the Tasman Sea and to erect, place, use and maintain an ocean outfall. This is the 14th Annual Report to be prepared by the Taranaki Regional Council to cover the Todd Energy Aquatic Centre's water discharges and their effects.

### **1.1.2 Structure of this report**

Section 1 of this report sets out general information about compliance monitoring under the Resource Management Act and the Council's obligations and general approach to monitoring sites through annual programmes, the resource consents held by the NPDC, the nature of the monitoring programme in place for the period under review, and a description of the activities and operations conducted at the Todd Energy Aquatic Centre.

Section 2 presents the results of monitoring during the period under review, including scientific and technical data.

Section 3 discusses the results, their interpretation, and their significance for the environment.

Section 4 presents recommendations to be implemented in the 2014-2015 monitoring year.

A glossary of common abbreviations and scientific terms, and a bibliography, are presented at the end of the report.

### **1.1.3 The Resource Management Act (1991) and monitoring**

The Resource Management Act primarily addresses environmental 'effects' which are defined as positive or adverse, temporary or permanent, past, present or future, or cumulative. Effects may arise in relation to:

- (a) the neighbourhood or the wider community around a discharger, and may include cultural and socio-economic effects;
- (b) physical effects on the locality, including landscape, amenity and visual effects;
- (c) ecosystems, including effects on plants, animals, or habitats, whether aquatic or terrestrial;

- (d) natural and physical resources having special significance (eg, recreational, cultural, or aesthetic);
- (e) risks to the neighbourhood or environment.

In drafting and reviewing conditions on discharge permits, and in implementing monitoring programmes, the Taranaki Regional Council is recognising the comprehensive meaning of 'effects' inasmuch as is appropriate for each discharge source. Monitoring programmes are not only based on existing permit conditions, but also on the obligations of the Resource Management Act to assess the effects of the exercise of consents. In accordance with section 35 of the Resource Management Act 1991, the Council undertakes compliance monitoring for consents and rules in regional plans; and maintains an overview of performance of resource users against regional plans and consents. Compliance monitoring, including impact monitoring, also enables the Council to continuously assess its own performance in resource management as well as that of resource users particularly consent holders. It further enables the Council to continually re-evaluate its approach and that of consent holders to resource management, and, ultimately, through the refinement of methods, to move closer to achieving sustainable development of the region's resources.

#### 1.1.4 Evaluation of environmental performance

Besides discussing the various details of the performance and extent of compliance by the consent holder(s) during the period under review, this report also assigns an overall rating. The categories used by the Council, and their interpretation, are as follows:

- A **high** level of environmental performance and compliance indicates that essentially there were no adverse environmental effects to be concerned about, and no, or inconsequential (such as data supplied after a deadline) non-compliance with conditions.
- A **good** level of environmental performance and compliance indicates that adverse environmental effects of activities during the monitoring period were negligible or minor at most, or, the Council did not record any verified unauthorised incidents involving significant environmental impacts and was not obliged to issue any abatement notices or infringement notices, or, there were perhaps some items noted on inspection notices for attention but these items were not urgent nor critical, and follow-up inspections showed they have been dealt with, and any inconsequential non-compliances with conditions were resolved positively, co-operatively, and quickly.
- **Improvement required (environmental) or improvement required (administrative compliance)** (as appropriate) indicates that the Council may have been obliged to record a verified unauthorised incident involving measurable environmental impacts, and/or, there were measurable environmental effects arising from activities and intervention by Council staff was required and there were matters that required urgent intervention, took some time to resolve, or remained unresolved at the end of the period under review, and/or, there were on-going issues around meeting resource consent

conditions even in the absence of environmental effects. Abatement notices may have been issued.

- **Poor performance (environmental) or poor performance (administrative compliance)** indicates generally that the Council was obliged to record a verified unauthorised incident involving significant environmental impacts, or there were material failings to comply with resource consent conditions that required significant intervention by the Council even in the absence of environmental effects. Typically there were grounds for either a prosecution or an infringement notice.

## 1.2 Process description

The Todd Energy Aquatic Centre (Aquatic Centre) is sited on the foreshore at Tisch Avenue, New Plymouth. The facility consists of outdoor pools, including a main pool, diving pool and children's pools, and an indoor pool complex (Figure 1).

Discharge of waste water from the outdoor pool complex filtration system takes place via the original discharge pipe which is situated on the foreshore to the east of the facility (Photograph 1) and in the vicinity of an intake for water used in heat exchange by the swimming pool.

The discharge pipe consists of a 300 mm diameter encased concrete pipe and discharges at approximately mid-tide level. This structure was constructed in 1962 and has been in use ever since for the purpose of backwashing the outdoor pool filters.



**Photograph 1** Todd Energy Aquatic Centre ocean outfall

During 1993 a heated indoor aquatic centre was constructed next to the existing outdoor facility. The indoor facility consists of a main pool, children's pool and spa pool. The indoor facility has a diatomaceous earth filter which serves the main pool and four upright high pressure sand filters which serve the spa and the children's pools.

At the time of construction, the diatomaceous earth filter waste was discharged into coastal waters. This method was found to be environmentally unsatisfactory and was discontinued in late 1999. Ever since, the solid waste from the diatomaceous earth filter has been removed from the site using an effluent disposal contractor, and disposed of at the New Plymouth landfill.

In 1999, a gas fired heating system was installed to replace the original 'water to water' heat exchange unit which relied on sea water as the source of heat. The old heat exchange unit was removed from the site when the gas-fired unit was commissioned.

Current wastewater management practice for the indoor pools is that backwash water from the spa and children's pools sand filtration systems continues to be connected to the outfall and is discharged on a daily basis.

The amount of water discharged is equivalent to approximately 120 litres/minute and the total backwash cycle runs for around 5-10 minutes. The maximum volume of the discharge at 1200 litres is relatively insignificant in the context of the receiving environment, and the visual change is virtually inconspicuous due to the indoor nature of the pools and the frequency of backwashing, which is daily.

The outdoor pools are served by two large open gravity sand filters, which are located at the eastern end of the outdoor complex. These are air scoured and then backwashed through the outfall at high tide. Volumes of backwash water are significant (generally 22 m<sup>3</sup>) and the discharge can be a muddy colour for a short time. In the peak of the season, backwashes may be as frequent as 1-2 per week, but generally it is normal to backwash the outdoor pools approximately every two weeks during the summer season (from Labour weekend to Easter).

The outdoor pools are emptied once per year, generally during August, for the purpose of cleaning and maintenance. The discharge of pool water is free of chlorine, as the pools are not in use for the month prior to discharge. The pools are cleaned by mechanical methods, including water blasting, and do not involve the use of chemical cleaners. Mutton cloths are placed over the drains during water blasting and cleaning to catch all loose paint chips. The pool cleanings are discharged via the outfall.

Both the indoor and outdoor complexes are chlorinated using chlorine gas, which is contained in two separate 920 kg cylinders and chlorinator systems; one at the eastern boundary and one at the western boundary of the site. From time to time the chlorine gas is complemented by the manual dosing of calcium or sodium hypochlorite.

During July 2004 a medium pressure UV disinfection system was installed at the Aquatic Centre. This has resulted in savings on chemicals, heating, maintenance and water costs. The UV system operates by reducing the level of chloramines (combined chlorine compounds) which are the cause of the unpleasant chlorine smells in pools. Since the installation of the system the chlorine levels in the pool have decreased by 3 to 5 times to a level typically below 0.3 ppm. The water is also clearer and less milky, with bacterial levels dropping from low to nearly zero due to the water going through the UV system several times a day. Alterations were undertaken on the indoor facility in 2008 with the construction of year-round waterslides.



Figure 1 Location of Todd Energy Aquatic Centre

## 1.3 Resource consents

### 1.3.1 Water discharge permit

Section 15(1)(a) of the Resource Management Act stipulates that no person may discharge any contaminant into water, unless the activity is expressly allowed for by a resource consent or a rule in a regional plan, or by national regulations.

NPDC holds water discharge permit 2339-3 to cover the discharge of up to 12,182 m<sup>3</sup>/day of swimming pool wastewater and filter backwash wastewater via an ocean outfall into the Tasman Sea. This permit was issued by the Taranaki Regional Council on 1 May 1996 as a resource consent under Section 87(e) of the Resource Management Act. It is due to expire on 1 June 2014 and an application for consent renewal has been received from NPDC.

This permit has undergone two variations to consent conditions since it was originally granted in May 1996. The first variation was granted on 8 March 2000, to exclude the discharge of diatomaceous earth to the Tasman Sea. The second variation was granted on 24 June 2002, specifically to change special condition 1 relating to chlorine levels and other minor amendments.

There are eight special conditions attached to the consent.

Condition 1 requires that beyond a mixing zone of 30 metres the discharge will not give rise to a total residual chlorine level of greater than 0.1 g/m<sup>3</sup>.

Condition 2 requires that discharges in excess of 15 m<sup>3</sup>/day and/or containing backwash wastewater can only occur within 2 hours of high tide.

Condition 3 requires that the discharge does not give rise to any adverse effects on the receiving environment outside a 30 metre mixing zone.

Condition 4 outlines the consented maximum volume and regularity of any discharge to the Tasman Sea via the ocean outfall.

Conditions 5 and 6 require the consent holder to provide a management plan, and condition 7 requires the consent holder to provide a contingency plan, to the satisfaction of the General Manager, Taranaki Regional Council.

Condition 8 is a standard condition providing for consent review and amendment.

A copy of this permit is attached in Appendix 1.

### **1.3.2 Coastal structure permit**

The NPDC holds resource consent 4588-2 to erect, place, use and maintain a discharge pipe within the coastal marine area. This permit was issued by the Taranaki Regional Council on 1 May 1996 and is due to expire on 1 June 2014. An application for consent renewal has been received from NPDC.

The consent has four special conditions attached.

Conditions 1 and 2 require the consent holder to maintain the structure, and to notify the Council prior to any maintenance works.

Condition 3 requires that all practicable measures are undertaken to prevent undue disturbance on intertidal reef and marine life during maintenance of the structure.

Condition 4 allows the Council to review any or all of the conditions of this consent for the purpose of ensuring that the conditions adequately deal with any adverse environmental effects arising from the exercise of this consent.

A copy of the permit is attached to this report in Appendix I.

## **1.4 Monitoring programme**

### **1.4.1 Introduction**

Section 35 of the Resource Management Act sets out an obligation for the Taranaki Regional Council to gather information, monitor, and conduct research on the exercise of resource consents, and the effects arising, within the Taranaki region. The Taranaki Regional Council may therefore make and record measurements of physical and chemical parameters, take samples for analysis, carry out surveys and inspections, conduct investigations, and seek information from consent holders.

The monitoring programme for the Aquatic Centre consisted of four primary components.

### **1.4.2 Programme liaison and management**

There is generally a significant investment of time and resources by the Taranaki Regional Council in ongoing liaison with resource consent holders over consent conditions and their interpretation and application, in discussion over monitoring requirements, preparation for any reviews, renewals, or new consents, advice on the Council's environmental management strategies and the content of regional plans, and consultation on associated matters.

### **1.4.3 Site inspections**

The Aquatic Centre was visited once during the monitoring period. With regard to the consent for the discharge to water, the main points of interest were plant processes with potential or actual discharges to receiving watercourses, including contaminated stormwater and process wastewaters. Sources of data being collected by the consent holder were identified and accessed, so that performance in respect of operation, internal monitoring, and supervision could be reviewed by the Council. The neighbourhood was surveyed for environmental effects.

### **1.4.4 Chemical sampling**

Samples were collected from the Aquatic Centre when the outdoor pool was being emptied. Samples were taken of the wastewater prior to discharge via the ocean outfall and at a seawater site outside of the 30 metre mixing zone. The samples were analysed for chlorine, pH, suspended solids and turbidity.

### **1.4.5 Ecological inspections**

One inspection of the marine low tide biota around the vicinity of the discharge pipe was undertaken after a discharge event to assess compliance with condition 3(d) of the discharge permit.

## 2. Results

### 2.1 Water

#### 2.1.1 Site inspection

The Todd Energy Aquatic Centre was inspected on 8 May 2014. The site was found to be tidy and well managed and no issues were noted.



Photograph 2 Chemical storage onsite



Photograph 3 Outdoor pool prior to emptying on 8 May 2014

#### 2.1.2 Marine inspections

One marine ecological inspection was conducted during the 2013-2014 monitoring year. The inspection, undertaken on 9 May 2014, was conducted during low tide following the annual emptying of the outdoor pool. A full copy of the inspection report is appended to this report.

In summary, the range and abundance of intertidal species identified during the inspection was considered normal for this type of environment. No adverse effects on local intertidal communities were observed due to effects of the discharge of the outdoor pool from the Todd Energy Aquatic Centre.

At the time of inspection, a chlorine odour could be detected and foam was present in the vicinity of the pipe outlet. As a precautionary measure, in future, it is recommended that the pool be left out of use for a longer time (during this monitoring year the pool was left one week prior to discharge) in order to minimise the risk of adverse effects.

### 2.1.3 Results of discharge monitoring

The results of samples collected on 8 May 2014 taken prior to the pool empty, and from the receiving waters approximately one hour after the pool water began discharging, are presented in Table 1.

**Table 1** Results of pool discharge and shoreline seawater outside mixing zone

Parameter	Units	8 May 2014	
		Discharge Wastewater [STW001079]	30 m SE discharge pipe [SEA902051]
Free chlorine	g/m <sup>3</sup>	0.10	<0.1
Total chlorine	g/m <sup>3</sup>	0.15	<0.1
pH		7.4	8.1
Suspended solids	g/m <sup>3</sup>	<2	24
Temperature	°C	17.8	17.3
Turbidity	NTU	0.5	4.4

Chlorine levels in the seawater sample collected at the 30 metre mixing zone boundary were less than 0.1 g/m<sup>3</sup>. The suspended solids and turbidity of the pool water collected on 8 May 2014 were much lower than found in the receiving waters and would not have caused any visual or environmental effects.



**Photograph 4** Pool discharge entering the receiving environment on 8 May 2014

## 2.2 Investigations, interventions, and incidents

The monitoring programme for the year was based on what was considered to be an appropriate level of monitoring, review of data, and liaison with the consent holder. During the year matters may arise which require additional activity by the Council, for example the provision of advice and information, or investigation of potential or actual courses of non-compliance or failure to maintain good practices. A pro-active approach that in the first instance avoids issues occurring is favoured.

The Taranaki Regional Council operates and maintains a register of all complaints or reported and discovered excursions from acceptable limits and practices, including non-compliance with consents, which may damage the environment. The Unauthorised Incident Register (UIR) includes events where the company concerned has itself notified the Council. The register contains details of any investigation and corrective action taken.

Complaints may be alleged to be associated with a particular site. If there is potentially an issue of legal liability, the Council must be able to prove by investigation that the identified company is indeed the source of the incident (or that the allegation cannot be proven).

In the 2013-2014 period, the Council was not required to undertake significant additional investigations and interventions, or record incidents, in association with NPDC's conditions in resource consents or provisions in Regional Plans in relation to the Aquatic Centre's activities.

### 3. Discussion

#### 3.1 Discussion of plant performance

##### 3.1.1 General

The Todd Energy Aquatic Centre was well managed during the period under review and no operational issues were noted during the inspection. The site management and contingency plans were updated in January 2013, and reviewed by Council staff, who found the updates satisfactory.

#### 3.2 Environmental effects of exercise of consents

The discharged wastewater had no observable effects on the low shore reef biota in the vicinity of the discharge pipe. This is supported by the physicochemical sampling results outside the mixing zone where the chlorine concentrations complied with consent conditions.

During the intertidal inspection, foam was present within the vicinity of the pipe and there was a chlorine odour noted. As a precautionary measure, in future, it is recommended that the pool be left out of use for a longer time in order to minimise the risk of adverse effects.

#### 3.3 Evaluation of performance

A summary of the consent holder's compliance record for the year under review is provided in Tables 2 and 3.

**Table 2** Summary of performance for Consent 2339-3 - discharge swimming pool wastewater and filter backwash wastewater

Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Chlorine levels beyond 30m of mixing zone	Samples collected	Yes
2. Discharge in excess of 15 m <sup>3</sup> to occur within two hours of high tide	Inspection	Yes
3. Effects not to be observed beyond the mixing zone	Inspection of marine low tide biota	Yes
4. Limits on the volume of discharge	Not assessed during period under review	N/A
5. Management plan	Updated plan received and approved by Council in January 2007	Yes
6. Review of Management Plan	Plan was reviewed in January 2013	Yes
7. Contingency Plan	Plan reviewed in January 2013	Yes
8. Option for review of consent	Consent expiry June 2014, no remaining optional reviews	N/A
Overall assessment of consent compliance and environment performance in respect of this consent		<b>High</b>

**Table 3** Summary of performance for Consent 4588-2 - erect, place and maintain discharge pipe

Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Maintenance of structure	Inspection	Yes
2. Notification prior to maintenance works	No maintenance undertaken	N/A
3. Practical measures not to disturb intertidal reefs during maintenance	No maintenance undertaken	N/A
4. Review of consent conditions	Consent expiry June 2014, no remaining optional reviews	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		<b>High</b>

During the year, the NPDC demonstrated a high level of environmental performance and compliance with its resource consents for the Aquatic Centre. During the year under review there were no unauthorised incidents associated with the site.

### 3.4 Recommendations from the 2012-2013 Annual Report

In the 2012-2013 Annual Report, it was recommended:

1. THAT monitoring of discharges from the Todd Energy Aquatic Centre in the 2013-2014 year continue at the same level as in 2012-2013.

This recommendation was implemented in full.

### 3.5 Alterations to monitoring programmes for 2014-2015

In designing and implementing the monitoring programmes for water discharges in the region, the Taranaki Regional Council has taken into account the extent of information made available by previous authorities, its relevance under the Resource Management Act, the obligations of the Act in terms of monitoring discharges and effects, and subsequently reporting to the regional community, the scope of assessments required at the time of renewal of permits, and the need to maintain a sound understanding of industrial processes within Taranaki discharging to the environment.

It is proposed that for 2014-2015, the programme remains unaltered from that for 2013-2014. A recommendation to this effect is attached to this report.

#### **4. Recommendation**

THAT monitoring of discharges from the Todd Energy Aquatic Centre in the 2014-2015 year continue at the same level as in 2013-2014.

## Glossary of common terms and abbreviations

The following abbreviations and terms are used within this report:

Biota	Flora and fauna of a particular place.
Bund	a wall around a tank to contain its contents in the case of a leak.
g/m <sup>3</sup>	grammes per cubic metre, and equivalent to milligrammes per litre (mg/L). In water, this is also equivalent to parts per million (ppm), but the same does not apply to gaseous mixtures.
Incident	an event that is alleged or is found to have occurred that may have actual or potential environmental consequences or may involve non-compliance with a consent or rule in a regional plan. Registration of an incident by the Council does not automatically mean such an outcome had actually occurred.
Intervention	action/s taken by Council to instruct or direct actions be taken to avoid or reduce the likelihood of an incident occurring.
Investigation	action taken by Council to establish what were the circumstances/events surrounding an incident including any allegations of an incident
l/s	litres per second.
Mixing zone	the zone below a discharge point where the discharge is not fully mixed. with the receiving environment. For a stream, conventionally taken as a length equivalent to 7 times the width of the stream at the discharge point.
NTU	Nephelometric Turbidity Unit, a measure of the turbidity of water.
pH	a numerical system for measuring acidity in solutions, with 7 as neutral. Numbers lower than 7 are increasingly acidic and higher than 7 are increasingly alkaline. The scale is logarithmic i.e. a change of 1 represents a ten-fold change in strength. For example, a pH of 4 is ten times more acidic than a pH of 5.
Physicochemical	measurement of both physical properties(e.g. temperature, clarity, density) and chemical determinants ( e.g. metals and nutrients) to characterise the state of an environment.
Resource consent	refer Section 87 of the RMA. Resource consents include land use consents (refer Sections 9 and 13 of the RMA), coastal permits (Sections 12, 14 and 15), water permits (Section 14) and discharge permits (Section 15).
RMA	Resource Management Act 1991 and subsequent amendments.
SS	suspended solids.
Temp	temperature, measured in °C (degrees Celsius).
Turb	turbidity, expressed in NTU.
UI	Unauthorised Incident.
UIR	Unauthorised Incident Register – contains a list of events recorded by the Council on the basis that they may have the potential or actual environmental consequences that may represent a breach of a consent or provision in a Regional Plan.

For further information on analytical methods, contact the Council's laboratory

## Bibliography and references

- Taranaki Regional Council, 2000: New Plymouth District Council Fletcher Challenge Energy Aquatic Centre Monitoring Programme Annual Report 1999-2000. Technical Report 2000-54.
- Taranaki Regional Council, 2001: New Plymouth District Council Fletcher Challenge Energy Aquatic Centre Monitoring Programme Annual Report 2000-01. Technical Report 2001-77.
- Taranaki Regional Council, 2002: New Plymouth District Council Fletcher Challenge Energy Aquatic Centre Monitoring Programme Annual Report 2001-2002. Technical Report 2002-42.
- Taranaki Regional Council, 2003: New Plymouth District Council New Plymouth Aquatic Centre Monitoring Programme Annual Report 2002-2003. Technical Report 2003-49.
- Taranaki Regional Council, 2004: New Plymouth District Council New Plymouth Aquatic Centre Monitoring Programme Annual Report 2003-2004. Technical Report 2004-27.
- Taranaki Regional Council, 2005: New Plymouth District Council New Plymouth Aquatic Centre Monitoring Programme Annual Report 2004-2005. Technical Report 2005-29.
- Taranaki Regional Council, 2006: New Plymouth District Council New Plymouth Aquatic Centre Monitoring Programme Annual Report 2005-2006. Technical Report 2006-52.
- Taranaki Regional Council, 2007: New Plymouth District Council New Plymouth Aquatic Centre Monitoring Programme Annual Report 2006-2007. Technical Report 2007-31.
- Taranaki Regional Council, 2008: New Plymouth District Council New Plymouth Aquatic Centre Monitoring Programme Annual Report 2007-2008. Technical Report 2008-35.
- Taranaki Regional Council, 2009: New Plymouth District Council New Plymouth Aquatic Centre Monitoring Programme Annual Report 2008-2009. Technical Report 2009-25.
- Taranaki Regional Council, 2010: New Plymouth District Council New Plymouth Aquatic Centre Monitoring Programme Annual Report 2009-2010. Technical Report 2010-95.
- Taranaki Regional Council, 2011: New Plymouth District Council New Plymouth Aquatic Centre Monitoring Programme Annual Report 2010-2011. Technical Report 2011-71.
- Taranaki Regional Council, 2012: New Plymouth District Council New Plymouth Aquatic Centre Monitoring Programme Annual Report 2011-2012. Technical Report 2012-44.
- Taranaki Regional Council, 2013: New Plymouth District Council New Plymouth Aquatic Centre Monitoring Programme Annual Report 2012-2013. Technical Report 2013-98.



## **Appendix I**

### **Resource consents held by New Plymouth District Council**



Consent 2339-3



**Coastal Permit**  
**Pursuant to the Resource Management Act 1991**  
**a resource consent is hereby granted by the**  
**Taranaki Regional Council**

PRIVATE BAG 713  
47 CLOTEN ROAD  
STRATFORD  
NEW ZEALAND  
PHONE 0-6-765 7127  
FAX 0-6-765 5097

Name of  
Consent Holder: New Plymouth District Council  
Private Bag 2025  
NEW PLYMOUTH



Change To  
Conditions Date: 24 June 2002 [Granted: 1 May 1996]

**Conditions of Consent**

Consent Granted: To discharge up to 12,182 cubic metres/day of public swimming pool wastewater and filter backwash wastewater via an ocean outfall into the Tasman Sea at or about GR: P19:021-384

Expiry Date: 1 June 2014

Review Date(s): June 2006, June 2008, June 2010

Site Location: Fletcher Challenge Energy Aquatic Centre, Tisch Avenue,  
New Plymouth

Legal Description: Pt Sec E TN of New Plymouth Blk V Paritutu SD

Catchment: Tasman Sea

*For General, Standard and Special conditions  
pertaining to this consent please see reverse side of this document*

## Consent 2339-3

### General conditions

- a) On receipt of a requirement from the Chief Executive, Taranaki Regional Council (hereinafter the Chief Executive), the consent holder shall, within the time specified in the requirement, supply the information required relating to the exercise of this consent.
- b) Unless it is otherwise specified in the conditions of this consent, compliance with any monitoring requirement imposed by this consent must be at the consent holder's own expense.
- c) The consent holder shall pay to the Council all required administrative charges fixed by the Council pursuant to section 36 in relation to:
  - i) the administration, monitoring and supervision of this consent; and
  - ii) charges authorised by regulations.



### Special conditions

#### Condition 1 [changed]

1. That beyond a mixing zone of 30 metres the discharge shall not give rise to a total residual chlorine level of greater than 0.1 gram per cubic metre

#### Conditions 2 and 3 [no change]

2. That any discharge in excess of 15 cubic metres per day and/or containing filter backwash wastewater may only occur within 2 hours of high tide.
3. That beyond a mixing zone of 30 metres the discharge shall not give rise to any of the following effects in the receiving waters of the Tasman Sea:
  - a) The production of any conspicuous oil or grease films, scums or foams, or floatable or suspended materials;
  - b) Any conspicuous change in colour or visual clarity;
  - c) Any emission of objectionable odour;
  - d) Any significant adverse effects on aquatic life.

#### Condition 4 [changed]

4. That the discharge shall not exceed:
  - a)
    - i) up to 32 cubic metres/day of public swimming pool filter backwash wastewater on alternate days for the purpose of backwashing outdoor pool filters;
    - ii) up to 15 cubic metres/day of public swimming pool filter backwash wastewater on alternate days for the purpose of backwashing the spa pool and children's pool filters;
  - b)
    - i) up to 1,500 cubic metres of public swimming pool wastewater on 1 occasion per year for the purpose of draining the outdoor pool system;
    - ii) up to 1,050 cubic metres of public swimming pool wastewater on 1 occasion per year for the purpose of draining the main indoor pool system;
  - c) up to 35 cubic metres of public swimming pool wastewater on up to 25 occasions per year for the purpose of diluting the main indoor pool;
  - d) up to 15 cubic metres of public swimming pool wastewater per day for the purpose of diluting the spa pool and children's pool.

Consent 2339-3

**Conditions 5 to 7 [no change]**

5. That the consent holder shall provide a management plan, to the satisfaction of the Chief Executive, Taranaki Regional Council, for the discharge of swimming pool wastewater and filter backwash water, to ensure that adverse effects on the environment are avoided, remedied or mitigated; such plan to be received by the Taranaki Regional Council within one month of the cessation of discharges of diatomaceous earth.
6. That the management plan described in special condition 5 of this consent shall be subject to review upon two months notice by either the consent holder or the Taranaki Regional Council.
7. That the consent holder shall provide a contingency plan, to the satisfaction of the Chief Executive, Taranaki Regional Council, for action to be taken in the event of accidental discharge or spillage of chemicals, within three months of the granting of this consent.

**Condition 8 [changed]**

8. In accordance with section 128 and section 129 of the Resource Management Act 1991, the Taranaki Regional Council may serve notice of its intention to review, amend, delete or add to the conditions of this resource consent by giving notice of review during the month of June 2006, and/or June 2008 and/or June 2010, for the purpose of ensuring that the conditions are adequate to deal with any adverse effects on the environment arising from the exercise of this resource consent, which were either not foreseen at the time the application was considered or which it was not appropriate to deal with at the time.

Signed at Stratford on 24 June 2002

For and on behalf of  
Taranaki Regional Council



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Director-Resource Management



TRK964588



**COASTAL PERMIT**

**Pursuant to the RESOURCE MANAGEMENT ACT 1991  
a resource consent is hereby granted by the  
Taranaki Regional Council**

PRIVATE BAG 713  
47 CLOTON ROAD  
STRATFORD  
NEW ZEALAND  
PHONE 0-6-765 7127  
FAX 0-6-765 5097

Name of  
Consent Holder: **NEW PLYMOUTH DISTRICT COUNCIL  
PRIVATE BAG 2025 NEW PLYMOUTH**

Renewal  
Granted Date: **1 May 1996**

COPY

**CONDITIONS OF CONSENT**

Consent Granted: **TO ERECT, PLACE, USE AND MAINTAIN A DISCHARGE PIPE  
FROM THE PETROCORP AQUATIC LEISURE CENTRE WITHIN  
THE COASTAL MARINE AREA AT OR ABOUT GR: P19:021-384**

Expiry Date: **1 June 2014**

Review Date[s]: **June 2002 and June 2008**

Site Location: **PETROCORP AQUATIC CENTRE, TISCH AVENUE, NEW  
PLYMOUTH**

Legal Description: **C/T 81/202 PT RESERVE E RAILWAY LEASE TOWN OF NEW  
PLYMOUTH BLK V PARITUTU SD**

Catchment: **TASMAN SEA 902.000**

For General, Standard and Special Conditions pertaining to this consent please see reverse side of this document.

TRK964588

### GENERAL CONDITIONS

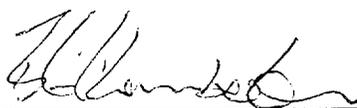
- (a) That on receipt of a requirement from the General Manager, Taranaki Regional Council (hereinafter the General Manager), the consent holder shall, within the time specified in the requirement, supply the information required relating to the exercise of this consent.
- (b) That unless it is otherwise specified in the conditions of this consent, compliance with any monitoring requirement imposed by this consent must be at the consent holder's own expense.
- (c) That the consent holder shall pay to the Council all required administrative charges fixed by the Council pursuant to section 36 in relation to:
  - (i) the administration, monitoring and supervision of this consent;
  - (ii) charges for the carrying out of the Council's functions under section 35 in relation to this consent; and
  - (iii) charges authorised by regulations.

### SPECIAL CONDITIONS

- 1) THAT the consent holder shall maintain the structure, to the satisfaction of the General Manager, Taranaki Regional Council.
- 2) THAT the consent holder shall notify the Taranaki Regional Council at least 24 hours prior to undertaking any maintenance works.
- 3) THAT the consent holder shall ensure that all practicable measures are undertaken to prevent undue disturbance of intertidal reefs and marine life in the area during maintenance of the structure licensed by this consent, to the satisfaction of the General Manager, Taranaki Regional Council.
- 4) THAT the Taranaki Regional Council may review any or all of the conditions of this consent, by giving notice of review during June 2002 and/or June 2008 for the purpose of ensuring that the conditions are adequate to deal with any adverse effects on the environment arising from the exercise of this consent.

Signed at Stratford on 1 May 1996

For and on behalf of  
TARANAKI REGIONAL COUNCIL

  
\_\_\_\_\_  
GENERAL MANAGER

**Appendix II**  
**Marine Inspection Report**



## File note

12 May 2014

Document: 1346427

### **Todd Energy Aquatic Centre intertidal biological inspection – 9 May 2014**

An inspection of intertidal biological communities in the vicinity of the Todd Energy Aquatic Centre water discharge pipe was made on 9 May 2014 between 11:10 and 11:30 (NZST) following the annual emptying of the outdoor pool on 8 May 2014. Low tide on this day occurred at 11:31 (NZST) at a height of 1.1 m.

A distinct chlorine odour could be detected at the end of the pipe where the discharge entered the receiving environment (Photograph 1). White foam/scum was present within 1m of the end of the discharge pipe (Photograph 2).



**Photograph 1** Todd Energy Aquatic Centre discharge pipe



**Photograph 2** White scum/foam present at the end of the discharge pipe

The following invertebrates were present on the upper shore in the vicinity of the pipe: molluscs *Melagraphia aethiops* (very abundant, Photograph 3), *Diloma* spp., *Turbo smaragdus*, *Cellana radians* and *Sypharochiton pelliserpentis*, barnacle *Chamaesipho* sp., shrimp *Palaemon affinis* and the polychaete worm *Spirobranchus cariniferus*. A species of green algae resembling *Ulva intestinalis* covered rocks around the pipe (Photograph 3). The brown alga *Ralfsia* sp. and red alga *Gelidium caulacanthum* were also present. This assemblage is similar to that found on previous inspections in the vicinity of the pipe, and is typical for this height on the shore. The discharge from the outdoor pool did not appear to have had any observable adverse impacts on the organisms surrounding the outfall: no dead or dying animals were seen and *Palaemon affinis* were actively swimming in the pools.



**Photograph 3** Macroalgae and molluscs adjacent to the end of the discharge pipe

Lower down on the shore, still within the influence of the pipe discharge, the following species were identified: the molluscs *Haustrum scobina* (very abundant), *Melagraphia aethiops*, *Turbo smaragdus*, *Cominella maculosa*, *Cellana radians*, *Cellana ornata*, *Xenostrobus pulex* and *Sypharochiton pelliserpentis*, barnacle *Chamaesipho* sp., sea urchin *Evechinus chloroticus* and the polychaete worms *Spirobranchus cariniferus* and *Neosabellaria kaiparaensis*. Algae included coralline turf (abundant in pools), *Hormosira banksii* (very abundant), *Notheia anomala*, *Gelidium caulacanthum* and *Ralfsia* sp. These species are similar to what would be expected at this elevation on the shore.

Foam was present around some clumps of *Hormosira banksii* at the low shore (Photograph 4). It was not obvious whether the foam was naturally occurring or had resulted from the pool discharge.



**Photograph 4** Foam in low shore rock pools

In summary, the range and abundance of intertidal species identified during this inspection are considered normal for this type of environment. No adverse effects on local intertidal biological communities were observed as a result of the outdoor pool discharge. Although a chlorine odour could be detected during the inspection and foam was present in the vicinity of the pipe outlet, physicochemical analysis of pool and seawater samples confirmed that the discharge was compliant with Special Condition 1, Consent 2339-3. As a precautionary measure, in future, it is recommended that the pool be left out of use for a longer time (during this monitoring year the pool was left one week prior to discharge) in order to minimise the risk of adverse effects.

Emily Roberts  
**Marine Ecologist**

