

IMPLEMENTING THE DUNEDIN CITY COUNCIL TRADE WASTE BYLAW

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ABSTRACT

In July 2008 the Dunedin City Council (DCC) adopted a new Trade Waste Bylaw (the Bylaw) and initiated a project to create and implement a new consenting and charging model for Trade Waste in Dunedin.

This paper describes the process, challenges and lessons learned in developing the model. It highlights the success of a two stage consultation process, and the challenges of making a scientific model work in the real world.

In order to effectively administer the Bylaw it was essential that the DCC move away from the incumbent charging and consenting system which was complicated and not applied to all trade waste customers. The aim was to move to a model that incorporates key project principles of simplicity, transparency, equity, user pays and promotes sustainability. The newly adopted model is applicable to all trade waste customers, promotes waste minimisation and is simple to understand and implement.

Alongside the key project principles consideration was given to ensuring that any proposed model was practical (for the customer, for the DCC and for the city's economy), communicated effectively to ensure strong customer feedback and incorporated efficient ways of working internally across the DCC departments.

KEYWORDS

Trade Waste; Bylaw; Lessons Learned

1 INTRODUCTION

Discharging trade waste to the sewer places an additional load on the sewerage system which is created by both the volume and concentration of the substances discharged. Where trade waste discharges are not effectively managed, there may be undesirable impacts on operational efficiency or service provision by accelerating corrosion, creating blockages, generating odours and dangerous gases or affecting sewage treatment processes. Treatment of trade waste also has a direct impact on operational costs.

In July 2008 the Dunedin City Council (DCC) adopted a new Trade Waste Bylaw (the Bylaw). When adopted the Council accepted that the Bylaw was the most appropriate mechanism to:

- protect the sewerage system, stormwater system and sewerage system workers;
- protect the environment and ensure compliance with consent conditions;
- provide a basis for monitoring discharges from industry and trade premises;
- provide a basis for charging trade waste users;
- ensure that the costs of treatment and disposal are shared fairly between trade waste and domestic dischargers;
- promote cleaner production and encourage waste minimisation and water conservation.

Upon adoption of the current Bylaw a project was initiated to determine how best to implement a new consenting and charging mechanism.

2 HISTORICAL TRADE WASTE MANAGEMENT

Prior to adoption of the Bylaw trade waste in Dunedin was managed via the Green Island Borough Council Trade Waste Bylaw No 11 1987. Under the Green Island Bylaw only 23 trade waste customers were proactively managed via consents and regular sampling. These customers were also charged for trade waste based on the volume and concentration of their discharges as they were historically deemed to pose the greatest risk to the system.

All other premises discharging trade waste to the sewer network did not require a trade waste consent prior to the adoption of the 2008 Bylaw. Trade waste issues arising from these premises were dealt with reactively and these customers were charged for wastewater services via drainage rates only.

There were issues with this approach, both in terms of appropriate management of risks, and also with equity and complexity of charging for trade waste services. The issues of risk management were well covered for the 23 consented customers; however there were many other premises that present potential risks with regards to trade waste. Two examples of issues that manifested in the DCC sewer network are:

- the need to remove substantial build up of grease and fat from the main interceptor sewer, to restore capacity and minimise flooding risk (approximate cost \$30,000);
- removal of a bituminous substance from the sewer to allow relining to take place (approximate cost \$45,000)

Where possible, the costs were recovered from the premise creating the problem. However, a lack of proactive monitoring of trade premises meant that it was extremely difficult to clearly identify the exacerbating premises either because there was a substantial delay between the cause of the problem and its discovery; or because the problem occurred at a considerable distance from the exacerbating premise; or because there were multiple exacerbating premises.

In addition to the above issues the incumbent charging model was overly complex - it utilised three different sets of unit rates for flow and contaminant loads, one for each wastewater catchment area in the city. Unit rates were not considered as part of the Council's Annual Plan process meaning there was no transparency in their calculation.

The incumbent charging model itself, which was based on a funding policy of 5% of drainage costs, did not promote sustainable behaviour as the unit rates were based on both sunk infrastructure and variable costs. This led to a situation where if a paying customer significantly reduced its load or ceased trading in a given financial year the remainder of the charged Trade Waste customers would simply face increased charges the following year to cover the lost revenue. In essence the model did not truly reflect the costs to Council of managing and treating trade waste and offered no incentive for customers to pursue waste minimisation options.

3 DEVELOPING A NEW MODEL

3.1 PROJECT SCOPE

Given the above issues a new approach was deemed necessary. Initial model development work was undertaken by consultants shortly after the Bylaw was adopted. This work identified 4,000 potential trade waste customers based on metered water usage (the only solid data point available). While there were some merits to this model most of the outcomes it produced for industry in Dunedin were regarded as being economically and politically unviable.

In parallel to this work stream the DCC Water and Waste Services Business Unit (WWSBU) completed some major organisational changes. These two factors led to the project scope being completely re-evaluated. The new scope included key project drivers which were agreed to be simplicity, transparency, equity, user pays and promoting sustainability.

Consultant engagement was retained for a short time until a tool was developed to provide DCC staff the required flexibility to pursue development of various charging and modelling options in house. Keeping the intellectual property within the WWSBU team had many benefits including enabling full buy in from staff on the final model and an ability to be flexible with the model to align with political, economic and pragmatic drivers.

3.2 CUSTOMER DEFINITIONS

After agreeing the new scope it became clear that it was necessary to formally define a Trade Waste customer as the outcomes and impacts of any new regime would vary greatly dependant on this definition. Issues existed whereby DCC record keeping and rates charging databases largely assume the customer to be the owner of a property, whereas for ease of education and enforcement the Trade Waste team regarded the customer as being the entity creating the discharge (irrespective of property ownership status). Whilst the Bylaw gives some guidance, the definition therein is not detailed enough to ensure billing and consenting are effectively and efficiently managed.

In order to make a final determination a scored analysis was undertaken to look at a variety of customer definition options and their potential outcomes with respect to the following criteria:

- 1) The trade waste customer has a direct relationship with waste producer – this is important from a trade waste management perspective in order to facilitate education, charging discussions and the ability to resolve key or emergency issues with respect to discharges to the network.
- 2) A one to one relationship between consent holder and billing – makes enforcing the Bylaw and the consent easier.
- 3) Polluter pays philosophy – the customer definition should align with this driving principle of the project.
- 4) Ease of implementation – i.e. setting up our systems.
- 5) Occupancy changes – assessing our ability to monitor and manage this.
- 6) Transparency - customer definition must align with this driving principle of the project.
- 7) The impact of the definition on the risk of either “double dipping” on charging or of not recovering enough cost.
- 8) The impact of the definition on the risk of undesirable consequential effects – e.g. would the definition drive all dentists to operate from multi use buildings rather than single use ones.
- 9) Equity – the customer definition must align with this driving principle of the project.
- 10) Promoting pre-treatment – one of the driving principles behind the Bylaw and the promoting sustainability principle of the project.
- 11) The ability to enforce the consent or Bylaw – it must be as simple as possible to do this.
- 12) Ease of Billing – administrative processes must be as simple as possible.

The analysis considered a variety of ownership combinations in a variety of single and multi tenanted properties. It resulted in the DCC definition of a trade waste customer being the producer of the waste irrespective of whether they are a tenant or property owner. Although this was likely to be more difficult to implement from an administrative perspective it was the most effective way of managing trade waste relationships and ensuring equity, user pays and transparency in any model. As it moved away from using metered water usage as part of the customer definition the potential number of trade waste dischargers was reduced to approximately 1,500. This definition also aligns with practices in most parts of New Zealand. The analysis was vital to gaining agreement internally on an issue that had the capacity to block or, at the very least, complicate future model development.

3.3 DEVELOPING THE MODEL

In developing the model it became apparent that we had two different but related concepts to contend with:

- 1) How to manage issuing trade waste consents to a large number of customers consistently and in line with Bylaw stipulations.
- 2) How to charge for treating trade waste across this diverse range of potential customers.

Both of these concepts needed solutions that aligned with the agreed project scope and key project principles.

A risk based approach was adopted to assess trade waste customers impact on the network, on the three treatment plants, and on staff and public health and safety. Using this approach categories were defined for each customer type based on their trade waste flows and contaminant loads in the context of the Bylaw limits. This then enabled decisions on how to manage each customer category within the model framework via consents.

Dunedin has a wide range of trade waste dischargers from breweries and heavy industry to hairdressers and coffee shops with wide differences in the trade wastes discharged. Using a risk based methodology to categorise these discharges was vitally important in lending clarity to any model.

With the risk based approach in mind developing a consenting and charging model followed a decision tree type approach. In this methodology certain assumptions or decisions are made at critical points in the model creation process. And possible model solutions are tested against the key project principles. On the first few passes the models produced were not equitable and did not meet the user pays principle so a review of the assumptions and decision points was undertaken and relevant changes applied. The new output was then tested against the same key project principles - this iterative method led to a variety of potential models being available for consideration.

From a consent management perspective the risk based approach coupled with consideration of the discharge limits set out in the Bylaw ultimately led to categorising customers into three tiers as follows:

- Category A (High Risk) – dischargers of trade waste whose flows and contaminant loads exceed the baseline limits set out in the Bylaw (either after or without pre-treatment). E.g. major industry.
- Category B (Medium Risk) – dischargers of trade waste whose flows and contaminant loads are below the baseline limits set out in the Bylaw only after effective pre-treatment. E.g. dentists and restaurants.
- Category C (Low Risk) - dischargers of trade waste whose flows and loads are below the baseline limits set out in the Bylaw without requiring pre-treatment. E.g. hairdressers.

Under Bylaw stipulations customers in Categories A and B were deemed *conditional* and required Trade Waste Consents. However Category C customers were deemed *permitted* and would not require consents.

Although a methodology for consent management was progressing, from a charging perspective the early models did not align with the User Pays project principle. The root cause of this problem was related to trying to recover sunk infrastructure (or fixed) costs via trade waste charges. As a result the charging aspect then focussed on options that were based on recovering variable treatment cost from trade waste customers. This satisfied both the user pays project principle and the promoting sustainability principle. By including an annual review of the proportion of variable cost associated with treating trade waste in the model the potential for cost transfer to occur from one customer to another in the event of one ceasing trading was removed.

Each of the model options subsequently developed struggled to meet the project principles of equity and ease of implementation. In addition they were overly complex and difficult to explain in lay terms. In order to overcome these issues the team looked at the problem through the eyes of the customers and Councillors. In order to reduce inequities, total costs and to simplify the model to a point where customers and Council alike were comfortable with proposed changes it was necessary to inject practical thinking into model development.

As a result agreement was reached with the DCC Environmental Health team that they would undertake site visits for their customers that were also Category B trade waste dischargers (principally restaurants and cafes) at no extra cost to the customer. This removed charging requirements for approximately 500 potential trade waste customers.

It was also concluded that as Category C customers would not need a consent they would not need monitoring so would not be charged over and above their rates – this removed an additional 500 potential customers from the trade waste charging equation.

It is worth noting that once a reasonably clear understanding of how future customers would be managed became apparent the team embarked on a parallel activity of implementing a trade waste database. The database has been successfully implemented and is achieving its intent of minimising paperwork and moving to more streamlined processes enabling management of up to 1000 potential trade waste customers.

Ultimately, the iterative design approach coupled with pragmatism and assistance from other DCC departments resulted in a model that met all of the key project principles and incorporated the following components:

- Risk based categorisation of customers for consents purposes.
- Utilises a single city wide set of unit rates to achieve transparency and simplicity.
- Incorporated a pragmatic approach to consents management utilising other DCC departments.
- Trade waste charging for Category A customers based on variable treatment costs.
- Annual fees proposed for compliance monitoring for relevant Category B customers.
- The potential for a phased approach of the model roll out.

However, the proposed model still had a number of variables that could significantly change the final costs for customers and impact the funding policy for drainage rates. As such political guidance was sought via a Councillor Working Party. The outcomes of the Councillor Working Party meetings were that the general approach was sound and guidance was obtained on the sorts of financial outcomes that would be politically and economically viable.

Table 1 highlights the charges applicable to Category A and Category B customers. It should be noted that drainage rates continue to apply to all trade waste customers in addition to these charges.

Table 1: Trade Waste Charges applicable to Category A and Category B Customers

	1) Contaminant based trade waste charges (variable)	2) Sampling Charges (variable)	3) Annual Administration fee (fixed)	4) Consent Application fee (fixed)	5) Non-Compliance charges (variable)
Conditional (Type A)	✓ New model from 1 July 2011	✓ existing	X	✓ From 1 July 2011	✓ existing
Conditional (Type B)	X	X	✓ From 1 July 2012 *	✓ From 1 December 2011	✓ existing

* Customers managed by Environmental Health that have no other trade waste activities are exempt from the annual administration fee as their routine monitoring is undertaken as part of their annual health inspection.

The final model proposal, as agreed by the Working Party, was presented to the Finance and Strategy Committee in September 2010. The report recommended that the committee approved a consultation plan to ensure the model was well understood by potentially affected parties.

4 COMMUNICATION

As the changes proposed were significant and contained new concepts to some businesses in Dunedin a two stage consultation plan was developed. An informal consultation phase with affected parties was to be followed by formal consultation through the 2011/12 Annual Plan process.

The potential financial impact of the proposal on each customer was understood, but it was not clear whether that impact was sustainable or affordable to them and the Dunedin economy. Informal consultation aimed to educate the customers about their consenting requirements, the proposed changes to charging and to enable the DCC to determine whether the model was economically viable for the city. Further internal collaboration was undertaken to enable this phase of the project. The DCC Economic Development Unit provided guidance on some of the economic drivers of the city and assisted in creating contact points with some of the potential new customers, the Otago Chamber of Commerce and the Otago Southland Employers Association.

The first stage of communication included informal consultation with customers in a variety of forms:

- A pamphlet highlighting the model, written in lay terms with assistance from the DCC communications department.
- Letters to potential Category A customers (with indicative charges) were followed up with either telephone discussions or face to face meetings to discuss the proposals, possible impacts and to obtain feedback.
- The pamphlet and targeted Category B or Category C letters were sent to all identified potential customers in those categories. These customers were invited to provide feedback either via telephone through the DCC Customer Service Agency or via a web based feedback form.
- Face to face meetings were held with the Chamber of Commerce and OSEA to obtain feedback and to advise on the potential impact to their members.
- Potential customers were able to use an online calculator to obtain indicative trade waste charges for their business.
- A media release was issued on 18 November 2010.
- An article in the monthly DCC publication sent to all residents (City Talk) was included in the December 2010 issue.

Customer feedback from this consultation was collated over a period of several weeks and provided the following results;

- The vast majority of customers were very happy that the Council had taken the time to speak to them on this topic either through meetings with Category A customers or returning calls received through the DCC Customer Service Agency.
- Existing trade waste customers were supportive of the proposals; in particular they agree that charging all trade waste customers in Dunedin fairly was important.
- National and multinational companies were supportive and had been expecting a proposal of this kind for some time based on their experiences elsewhere. Many already have or are working towards ISO, or similar, accreditation which requires a Trade Waste consent and sustainable business practices.

- In general, most customers were supportive of the principles behind the proposed changes and understood the need.
- The main area of concern came from a few smaller businesses that were worried about potential extra cost, especially related to ongoing sampling.
- Both the Otago Chamber of Commerce and Otago Southland Employers' Association support user pays models in principle. Both had minor concerns on the impact to some smaller Dunedin businesses.
- Following informal consultation with Trade Waste staff some businesses are looking more closely at their internal water and waste processes with a view to minimising usage and saving money. This will potentially result in reduced water revenues to the Council.

Based on the feedback above the proposed model was approved to be included in the 2011/12 Annual Plan process for formal consultation. In parallel further direct communication was made with potential Category A customers to begin to work through the consenting process and to discuss potential sampling regimes. This ongoing communication has resulted in a greater understanding of trade waste on both sides and led to some extremely positive discussions on sustainability and water and waste minimisation.

The formal Annual Plan process received just two submissions on the topic of Trade Waste changes and both were supportive of the proposed model.

5 CURRENT SITUATION

At time of writing the model has been adopted by the Council. There are approximately 70 Category A customers that have been consented and are being charged using the new city wide unit rates. A second phase of communication is underway for Category B customers whose consenting and charging regime begins on July 1st 2012. The vast majority of new customers are very happy with the engagement and assistance the team have provided.

6 CONCLUSION

6.1 LESSONS LEARNED – PROJECT SUCCESS AND THE KEYS TO SUCCESS

This project provided strong challenges and opportunities for improvement to existing business processes. In order to achieve a step change in the way customers are managed and charged for trade waste in Dunedin it has been essential to apply strong trade waste knowledge, strong project management techniques, a sense of pragmatism and an understanding of economic drivers in the City.

Successes of the project included:

- Strong project scope management.
- Development of intellectual property internally to the DCC. This facilitated a strong sense of ownership and buy in from staff.
- Consultation with customers.
- Collaboration with customers, other DCC departments, the Otago Chamber of Commerce, the Otago Southland Employers Association and the Councillor Working Party.
- Receiving only positive comments on the proposed model via the Annual Plan process.

The key factors to success were:

- Excellent communication at all levels. All internal and external communications were well thought out and considerable effort was put into tailoring communication to the audience. Key to the communication plan was the informal consultation phase. It was also vital that the messages conveyed at this stage were cemented by showing integrity and accountability in our following interactions with customers.
- Adding pragmatism to a scientific model. By putting ourselves in the customer's shoes we were able to think practically about what was acceptable to the DCC, the Dunedin economy and the customer base.
- Collaboration with other DCC departments, with customers and with Councillors was essential in enabling a successful model to be developed.

In summary, a two year project to deliver a way of implementing has culminated in a practical consenting and charging model that will work well for our city in future years.

ACKNOWLEDGEMENTS

Tracey Willmott, Acting Asset Planning Manager, 3 Waters and Tom Osborn, Asset Strategy Team Leader, Dunedin City Council for reviewing the paper