

## REPORT

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Prepared For: Regulatory Committee

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**Subject: Stock truck effluent discharges on Otago roads**

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### 1. Précis

During *gypsy day* livestock are transported by truck around Otago in between May and August. In many cases dairy cows are transported from dairy farms to other sheep and beef or cropping farms for wintering. Due to a combination of factors such as dairy farmers not standing cows prior to transportation, lack of effluent storage on trucks either by design or by poor management (i.e. not emptying) or lack of effluent collection points in Central Otago roads, there have been effluent spills on the Otago roads this season and in past seasons.

Unlike many regions Otago has an excellent network of effluent collection systems, mainly on or close to State Highway (SH) 1 (six sites) and one on Rae's Junction (collectively referred to in the report as effluent collection route). Despite this, trucks have been spilling effluent on roads in the effluent collection route. However, larger spills have been observed within the non-effluent collection route (e.g. Central Otago) mainly due to lack of effluent collection facilities and dairy farmers failing to stand cows. This is confirmed by the fact that during peak season the Rae's Junction effluent collection system, which is the only closely located system to Central Otago District, needs to be emptied more frequently (three times a day).

The key parties involved in the stock truck effluent issue are Otago Regional Council (ORC), New Zealand Police (Police), District Councils, New Zealand Transport Agency (NZTA), trucking companies/associations and dairy farmers. Apart from enforcing the Resource Management Act (RMA) provisions, Council has addressed the stock truck effluent spillage issue beyond its capacity by providing a large number of effluent collection facilities. District councils (such as Waitaki, Dunedin and Clutha) have committed to the maintenance of the facilities and effluent management in their areas.

With finding solutions to the ongoing stock truck effluent spillages on Otago roads in mind ORC staff facilitated a consultative meeting with the major stakeholders by circulating an issue paper on stock truck effluent. The meeting was convened on 5 October 2012 by council staff to collectively identify issues, roles and responsibilities and to deal with the issues. The meeting was very productive with full co-operation from the attended stakeholders for a way forward. The stakeholders wish ORC to continue with the co-ordination and facilitation role to improve the current situation. Responsibilities have been assigned to the respective stakeholders to meet and discuss

further actions in early December 2012. Council staff envisage that a clear assignment and acceptance of roles and responsibilities and actions be finalised well before the 2013 *gypsy day*.

## **2. Background**

Stock truck effluent spillage on roads has been an issue in New Zealand for the past two to three decades. However, in the recent years increasing transportation of livestock, particularly dairy cows for wintering has exacerbated this issue. In the 1990s many trucks were not fitted with effluent collection systems. Following a development of the National Stock Effluent Working Group (NSEWG) and the subsequent production of the “Industry Code of Practice for the Minimisation of Stock Effluent Spillage from Trucks on Roads” (Appendix 1) gradually this issue was being addressed.

The emphasis then turned to educating farmers to stand stock overnight before trucking. Several councils including ORC have been actively and adequately publicising the need for standing stock prior to trucking leading up to the stock trucking season from May to August which is referred to as *gypsy day*.

Nationwide there has been a substantial amount of effort to manage the stock truck effluent issue. A collation of some information is provided in Appendix 1. Road Controlling Authorities Forum (NZ) Inc which comprises 66 TLAs, DoC, NZTA and LGNZ, is an active information source for stock truck effluent related topics. The National Stock Effluent Working Group is also an active group with membership from NZTA, Regional Councils, meat industry, Ministry of Transport, farming/dairy sector, AA and Ministry of Primary Industries. Neighbouring regional councils Southland and Canterbury have also been active in reducing effluent spillage incidents. Environment Canterbury has five effluent collection points and Environment Southland has been providing temporary collection facilities with the view of providing permanent sites. Environment Southland has also successfully taken a prosecution action against a trucking company.

In 1997 the then Regional Land Transport Strategy for Otago (became operational from 28 February 1997) identified stock effluent from trucks spilled on roads as a significant land transport issue for the region. The Strategy gave a priority one ranking to the elimination of stock effluent spills from trucks and provided a target for TLAs in consultation with ORC, Transit NZ (now New Zealand Transport Agency or NZTA) and the stock haulage industry to provide stock effluent disposal sites by 2001.

In May 1999 the Service Committee of ORC approved the construction of the Allanton and Shag River sites and investigation of a further three sites around Dunedin and Oamaru. The estimated construction cost for all five sites was \$400,000. Council began to install effluent collection systems in 2000. As a result there were seven collection facilities built (Figure 1 and Table 1) with six sites located on or close to SH1 and one on Raes Junction. The total construction cost for all six sites was \$677,386.

Later Transit NZ decided to provide 50% subsidy for construction, 100% funding for roading infrastructure, landscaping and signage and 50% subsidy for the operational cost of the sites for TLAs through road maintenance cost.



**Figure 1. Otago stock effluent disposal sites.**

**Table 1. Locations, commissioned periods and construction costs of stock truck effluent collection facilities.**

<b>Location</b>	<b>Commissioned period</b>	<b>Construction cost</b>
Allanton	April 2000	\$77,560
Shag River	August 2000	\$81,540
Apes Road, Merton	September 2000	\$83,539
Blaikies Road, Clinton	September 2001	\$144,540
Allison Road, Milton	November 2001	\$97,480
Pukeuri	August 2000	\$93,164
Raes Junction	November 2005	\$99,563

As agreed by the respective TLAs all six sites on or close to SH1 are maintained by Dunedin City Council (two sites), Waitaki District Council (two sites) and Clutha District Council (two sites). At the time of considering a further three sites (Raes Junction, Kyeburn and Lindis) in Central Otago in 2003, there were discussions with CODC to enable long term maintenance of the site. In 2004 CODC declined to provide funding for the operation and maintenance of the proposed sites, noting it was supportive of the installation of the sites, but was of the view that the operational funding should be provided by ORC. Consequently Council decided to install only the Raes Junction facility and manage the operation and maintenance of this site. It is understood that 50% of the NZTA road maintenance subsidy collected by CODC is being used to subsidise the operational cost of the Raes Junction site.

### **3. Current situation in Otago**

Despite all the above proactive measures taken by Council and other parties, the spillages still continue on Otago roads for the following reasons:

- a) Dairy farmers not standing dairy cows before trucking;
- b) Effluent storage on trucks
  - a. Being absent or lacking by design or installation;
  - b. Lacking because of not emptying storage tanks on trucks
  - c. Leaking deliberately; and
  - d. Not being emptied when passing effluent collection facilities;
- c) Truck drivers' knowledge of lack of enforcement powers of Police and no enforcement history to date by Council; and
- d) Lack of effluent collection facilities in Central Otago.

#### *a) Standing cows before trucking*

Judging by the high frequency of emptying of tanks at the collection facilities during peak periods it is evident that some dairy farmers are not standing their cows prior to transporting them. Despite the timely publicity by advertisement and media releases some farmers appear to ignore this plea which has been a nuisance to trucking companies and the wider community. Under such circumstances providing frequent effluent collection points will not solve the spillage issues. This is because even a minimum of 10 litres urine/cow output could fill a holding tank (e.g. 400 litres capacity) very quickly with 50 cows being transported in a truck and trailer unit. There have been no cases of legal action against farmers who indirectly cause spillages on roads and this

may be another reason for some farmers continuing to ignore our requests to stand cows. It also appears that trucking companies tend to accept cows without standing.

*b) Truck storage tank management*

Most current and modern stock trucks are fitted with effluent storage tanks. However, it is likely that some trucks still have no storage facilities. Installation of adequate storage tanks is problematic on truck units because of the lack of space under the deck whilst trailer units could be fitted with larger storage tanks. Consequently total storage on trucks could vary from 50 to 400 litres capacity.

The major issues with the tank management is accepting cows that are not stood overnight, not emptying at the collection facilities, inadequate holding capacity and not being able to empty because of lack of effluent collection facilities *en route*. There may be also cases of deliberately leaking effluent by not closing the tank outlet judging by a prosecution case in the Southland Region.

*c) Truck drivers' knowledge of lack of enforcement*

There has been wide publicity through media that Police do not have sufficient powers under the Land Transport Act (LTA) to take legal action against truck drivers who spill effluent on roads. This coupled with the lack of enforcement action undertaken by Council to date leaves measures to avoid effluent spillage as voluntary action by the trucking companies and drivers. Other than for ethical reasons (good practice) there is no incentive for trucking companies or drivers to take measures to avoid spillages.

*d) Lack of effluent collection facilities in Central Otago*

Hawea Flat attracts a significant number of wintering cows. Therefore Central Otago has become a gateway for trucks carrying dairy cows from as far as Southland. The number of spillages on Central Otago roads have increased in the past 2-3 years. There are no effluent collection points after Raes Junction. This could be remedied by installing at least two facilities between Raes Junction and Hawea. Until additional effluent collection facilities are installed it is unreasonable for Council to enforce section 15 of the RMA in most part of Central Otago roads.

#### **4. Regulations and responsibilities**

Effluent spillages can cause the following adverse effects:

- a) Health hazard to cyclists, motorcyclists, roading contractors and pedestrians;
- b) Safety hazard to traffic;
- c) Contamination of land and water with nutrients and pathogens;
- d) Contamination of air with pathogens;
- e) Damage to road surface; and
- f) Dirty appearance of roads.

Of the above adverse effects, Council is responsible for (c) and (d), i.e. discharge of contaminants to air, land and water.

*(a) Health hazard*

It has been well documented that livestock effluent has harmful pathogens such as *salmonella* and *campylobacter*. There has been sufficient research performed on the

impacts of effluent aerosols to human health. Effluent discharged from a travelling stock truck can be carried downwind as large droplets or aerosols. Either way this is harmful to any human who is directly exposed to such a discharge. Cyclists, motorcyclists, roading contractors and pedestrians are at risk. Technically the effluent could be considered as a biohazard. The transportation of any other hazardous effluent (e.g. septic tank effluent) requires not only signage that clearly identifies the hazardous class but also systems that ensure the substance is contained to prevent spillage. Where spillage of other hazardous effluent occurs Police can take enforcement action against the driver of the truck under Land Transport rules or the LTA.

Unfortunately stock truck effluent is exempt under the insecure load provisions of the LTA. Section 42 (failure to secure load) of the LTA states:

*“(1) A person operating a motor vehicle on a road, and any person loading that vehicle commits an offence if the person fails to ensure that any load carried in or on the vehicle, or in or on a vehicle being towed by the vehicle driven by the operator, is secured and contained in such a manner that it cannot fall or escape from the vehicle.*

- (2) If a person is convicted of an offence against subsection (1),—*  
*(a) The maximum fine for an individual is \$2,000 and the court may disqualify the person from holding or obtaining a driver licence for such period as the court thinks fit;*  
*(b) The maximum fine for a body corporate is \$10,000”*

However, the above provision has an exception. “Load” in section 2 of the LTA is defined as

- “... (a) Includes part of a load; and*  
*(b) Includes covers, ropes, ties, blocks, tackles, barrows, or other equipment or object used in the securing or containing of loads on vehicles or the loading or unloading of vehicles, whether or not any other load is on the vehicle;*  
*(c) Does not include animal wastes discharged from animals being carried on a vehicle at the time:...”*

Accordingly Police are unable to enforce the LTA for stock truck effluent spillages with respect to insecure loads.

*(b) Safety hazard*

Effluent can provide slippery conditions on roads which can be a safety hazard to all traffic. Effluent spray onto windscreens is also an issue which impacts on a driver's vision. This can occur during passing manoeuvres which increases the dangers associated with such manoeuvres.

Another issue with the spills is that once effluent spills are dried they could ‘mask’ vital road markings which could be hazardous to road users. With sufficient rainfall the dried up effluent could be washed out. However, in areas where there is low rainfall such as Central Otago the road markings could be hidden under effluent spills for a long period.



Significant or cumulative effluent spills could also ‘fill up’ the rough road surfaces thus by resulting in an unintended smooth road surfaces which could be hazardous to road users. This problem can be accentuated after a light rain or drizzle or morning dews where remoistened effluent spills could provide dangerous and unexpected slippery conditions to road users.

There are enforcement options available to other parties which warrant noting:

1. Section 357 of the Local Government Act 1974 creates an offence for any person to wilfully or negligently cause or allow any liquid likely to create a danger to vehicles, to escape on to any sealed or paved surface. Only a District Council can rely on this provision;
2. Section 3 of the Land Transport (Offences and Penalties) Regulations 1999 creates an offence to:
  - a. fail to remove a dangerous substance from the road; or
  - b. fail to report a dangerous substance on the road; or
  - c. operate a vehicle in a manner that causes (or is liable to cause) annoyance to any person or damage to property.
3. Section 51 of the Government Roading Powers Act 1989 creates an offence for any person to wilfully or negligently cause or allow any liquid likely to create a danger to vehicles, to escape on to any sealed or paved surface. In order for a fine to be imposed under this section, the information or complaint must be laid by authorised individuals or organisations. These parties include NZTA and the Police.

In short all the above safety issues identified are NZTA’s responsibility.

(c) *Contamination*

Under section 15 of the RMA Council has powers to control discharges to land, air and water and discharges to land in circumstances where it may enter water. For the purposes of the RMA, the road surface would be considered as ‘land’. Rules 12.8.1.2 and 12.8.1.3 of the Regional Plan: Water for Otago deal with agricultural waste discharges to production land. There is no specific rule in Council’s Water or Air Plans allowing the discharge of stock truck effluent. Rule 12.8.3.1 states “... *except as provided for by Rules 12.8.1.1 to 12.8.2.1, the discharge of any agricultural waste or fertiliser to water, or onto or into land in circumstances where it may enter water, is a discretionary activity...*”. This means that stock truck effluent discharges to land (including roads) or water require resource consent from Council. Any discharge without resource consent would breach section 15 of the RMA.

As for the discharges to air there is no specific rule allowing the discharge of stock truck effluent. Rule 16.3.7.3 of the Regional Plan: Air provides “...*except for provided by Rule 16.3.7.1 or 16.3.7.2, the discharge of contaminants into air from waste management is a discretionary activity...*”. Accordingly this rule would be applicable to stock truck effluent. Any airborne discharge from stock trucks requires resource consent or the activity would breach section 15 of the RMA.

Both of the above provisions, i.e. discharge to land in circumstances in may enter water and discharges to air are functions of the regional councils but difficult provisions to enforce. Compared to the adverse effects of effluent spills on roads to road safety and health hazard, the effects on the environment could be argued as minor.

*(d) Damage to roads and dirty appearance*

NZTA is responsible for the management and maintenance of all state highway roads. Therefore any damage to roads or dirty roads are issues that should be dealt with by NZTA.

*(e) Effluent collection sites operation and maintenance*

While establishing effluent collection points (which includes funding, site selection, consents, construction and landscaping) is considered as a major task it should be acknowledged that the ongoing management and maintenance of these sites is also a significant task. The WDC, DCC and CDC are currently managing two sites each and ORC has been managing one site.

**Table 2. Effluent Collection Disposal Sites Maintenance and Operation Costs.**

Agency	Site	Volume m3	Number of times emptied during peak periods	Approximate costs	Where disposed
Waitaki District Council	Pukeuri	N/A	8 (for May 2012)	Combined cost Pukeuri and Shag River \$20,000 p/a	Oamaru effluent storage plant
Waitaki District Council	Shag River	N/A	8 (for May 2012)	As above	Oamaru effluent storage plant
Clutha District Council	Blaikies Road, Clinton	290 (12 month period)	10 (for May 2012)	\$15,000 p/a	Clinton oxidation plant
Clutha District Council	Allison Road, Milton	234 (12 Month period)	6 (for May 2012)	\$13,900 p/a	Balclutha oxidation plant
Dunedin City Council	Allanton	212 (six month period)	34 (for six month period)	\$5,912 – for May 2012	Green Island treatment plant
Dunedin City Council	Apes Road, Merton	84 (six month period)	17 (six month period)	\$2,626 – for May 2012	Green Island treatment plant
Otago Regional Council	Raes Junction	Approx 850 (for May 2012)	Approx 85 (for May 2012)	\$27,549 p/a	Balclutha oxidation plant

N/A – not available

All the above collection systems are operating on state highways. Without providing collection systems neither good management of stock nor a good truck effluent



containment would avoid effluent spills on roads. It is well known that the provision of adequate network of effluent collection systems would minimise effluent spillages on roads. Without such provisions stock trucks cannot be operated safely on roads. Since NZTA has the full responsibility for state highways it could be argued that the provisions and management of the collection sites is its responsibility.

In short judging by the adverse effects identified and analysed in this section council's responsibility is relatively minimal. This leaves much of the responsibility to NZTA and its enforcement authority (Police) to deal with the adverse effects caused by effluent spillages.

## **5. Enforcement**

### *Provisions under the RMA*

As previously stated Council has powers under section 15 of the RMA to deal with stock truck effluent spillages on roads. Stock truck drivers, stock truck companies or if found responsible, farmers who did not stand animals could be considered as offenders for any breaches involving stock truck effluent.

### *Case law on prosecution under the RMA*

To date there has been one prosecution case (*Southland Regional Council vs Te Anau Bulk Haulage Ltd*) involving a stock truck company. The offending took place over two consecutive days. Te Anau pleaded guilty to four charges of discharging contaminants, namely dairy effluent, from a stock truck and trailer onto land in circumstances which may have resulted in that contaminant entering water.

On one occasion the truck and trailer did not have any effluent storage tanks. On each occasion when the trucks were stopped, the Regional Council observed noticeable effluent discharges from the vehicles on to the ground. They also observed an occasion where the truck's dump valve was left open.

The court identified that the routes used by the defendant's trucks were close to or crossed three major rivers such as Waiau, Oreti and Aparima. The court recognised that the Council was unable to prove that effluent from the trucks actually entered water and any adverse effects. The court was also aware that there were no effluent disposal facilities in Southland. The court in its decision and sentencing stated, "...there is, however, a comparatively simple underlying legal principle. That is that it is an offence under the Resource Management Act to discharge contaminants to land in a situation where they might enter water. The road transport industry is subject to that law the same as everyone else, even acknowledging the practical difficulties it faces...". Te Anau was fined a total of \$6,000 for the offending.

### *Enforcement by ORC*

The above case indicates that regional councils can enforce stock truck effluent spillages on roads even when there is no proof of any direct or indirect discharge to water. The Southland Regional Council chose to prosecute the trucking company only, however as stated above, the offending driver, the trucking company and potentially the farmer could all face enforcement action if a similar situation occurs in Otago.

#### *Enforcement by other authorities*

As previously stated District Councils, Police and NZTA have powers under section 357 of the LGA 1974, section 3 of the Land Transport Regulations 1999 and section 51 of the Government Roading Powers Act 1989 respectively. These powers could be used effectively as an alternative to the RMA.

#### *Appropriate enforcement agency*

If District Councils and/or Police enforce their appropriate powers ORC enforcement may not be needed. Also if there is change to the LTA by amending the definition of “load” to include animal waste Police will have full powers for enforcement. This could be effected by lobbying NZTA and Ministry of Transport to make the necessary changes. Police, who are the enforcement agency for NZTA are better equipped and placed to deal with the enforcement of effluent spillage from vehicles. As noted above, Council staff could work alongside the Police to enforce breaches or delegate specific enforcement powers to them.

### **6. Meeting with the stakeholders**

Given the lack of progress made on dealing with stock truck effluent spillages since the installation of seven collection sites in Otago, council staff pre-circulated a draft issue paper and held a consultative meeting with the key stakeholders at the council on 5 October 2012. The following stakeholders were invited: Police, NZTA, MoT, Federated Farmers, Road Transport Association (RTA), Road Transport Forum (RTF) and CODC. With the apologies from MoT, CODC and RTF the remainder of the stakeholders were in attendance with the ORC senior staff. RTF and MoT sent their responses by letters. The meeting was chaired by council’s CE.

The group agreed to identify issues and the contributors of the issues and discuss actions to resolve issues. The group agreed to review the following:

1. Stock preparation, education of farmers, role of veterinarians
2. Stock movement timing- role of transport agents and farmers
3. Truck capability and facilities
4. Driver concerns on hygiene at collection sites, travel times/route planning, truck convoy issues
5. Network of effluent collection facilities (design and operation)
6. Facilities awareness
7. Enforcement

The group identified the following adverse effects of effluent spills:

1. Surface of road being slippery because of fresh spills and dried spills due to surface sealing and rewetted dried spills due to dews or drizzles
2. Spray on vehicle screens
3. Loss of road markings and visibility
4. Long-term corrosion and damage to road surface
5. Smell in populated areas
6. Human health issues with spray
7. Effluent runoff to waterways
8. Motorcycle safety and visibility

Following priorities were identified:

*Priority 1: Stock preparation and farmer education*

1. With the Ministry of Primary Industries support Dairy NZ and veterinarians drive farmer education. It was identified by the group that the current code of practice for stock management is not adequate.
2. In addition to dairy cows education should also target other livestock types such as sheep and beef.
3. Trucking companies engaged in stock management code and its implementation.

*Priority 2: Effluent collection site network and design*

1. Design-
  - grill design and guidance marking to improve ease of effluent dumping and capacity
  - Effluent disposal from collection sites determination
  - Discouragement of campervan usage of the facilities
2. Network determination based on extending existing sites and adding new sites (potential new sites could be Clyde, Ranfurly, Tapanui, Kingston, Outram-Middlemarch and existing site Raes Junction could be expanded)

*Priority 3: Transport management*

1. Education of truck drivers on-
  - Route planning
  - Reject poorly managed stock
  - Road safety
  - Effluent management
2. Equipment design and installation

*Priority 4: Regulatory management*

1. Police/NZTA-
  - Road safety including spray and visual effects issues
  - Road damage
2. ORC-Potential impact on waterway

*Priority 5: Immediate actions and co-ordination*

1. Priority 1- Federated Farmers
2. Priority 2- NZTA
3. Priority 3- RTA
4. Priority 4- Police
5. Priority 5- Co-ordination and facilitation –ORC. This process requires facilitating the development of strategy, programmes of work, implementation and media strategy.

The group will meet in early December to discuss progress on Priorities 1-4 and further actions.

## **7. Conclusions**

There is no doubt that stock truck effluent spillages on Otago roads have increased during the recent *gypsy day*. Lack of effluent disposal facilities in Central Otago, some farmers not standing cows, poor effluent storage on trucks, some truck drivers not using effluent disposal facilities (to empty their collection systems) and more cows being shifted are the key reasons for the increase of spillages on Otago roads.

Given the lack of further progress following the installations of seven effluent collection sites, it is timely ORC act within its capacity and responsibility to improve the current situation. The consultative meeting held recently with the key stakeholders has been open, positive and constructive. As requested by the stakeholders if ORC takes up the facilitation role, improvement of the current situation could be made with the co-operation of the stakeholders.

It is clear from the stakeholders' group meeting and the compilation of this report that from a regulatory, roles and responsibilities viewpoint ORC is a minor player in the issue of stock truck effluent spillages on roads. If farmers and trucking companies manage their respective responsibilities, i.e. stock and truck management respectively, the remainder of the responsibilities lie with NZTA. Given the positive and constructive contribution from the stakeholders at the recent consultative meeting ORC staff are confident that a substantial progress could be made in the Otago Region to deal with stock truck effluent spillages before the next *gypsy day*.

## **8. Recommendations**

That Council note this report.

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