

BEFORE THE METRO CONTRACT REVIEW BOARD

FOR THE PURPOSE OF AUTHORIZING )  
EXECUTION OF CHANGE ORDER NO. 29 TO )  
THE CONTRACT FOR WASTE TRANSPORT )  
SERVICES FOR THE INSTALLATION OF )  
PARTICULATE FILTERS )

RESOLUTION NO. 03-3343

Introduced by Michael Jordan, with the  
concurrence of David Bragdon, Council  
President

WHEREAS, the Waste Transport Service contract between Metro and CSU Transport, Inc., provides for solid waste from the Metro region to be transported to a solid waste disposal facility located in Gilliam County, Oregon, by the use of diesel-powered tractors operated by Metro's transport contractor; and,

WHEREAS, as described in the accompanying staff report, certain types of air pollutants are released as a result of the combustion of diesel fuel consumed during the transport of solid waste from the Metro region and traveling through the Columbia Gorge; and,

WHEREAS, certain other pollutants are released by shuttle vehicles owned or operated by CSU and used in the operations of Metro's two solid waste transfer stations; and,

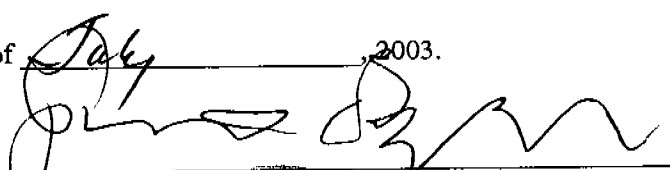
WHEREAS, the release of such pollutants can be significantly reduced in a cost-effective manner by the installation of certain filters both on the equipment used in the transport of solid waste and on the shuttle vehicle equipment used at Metro's transfer stations; and,

WHEREAS, Metro's solid waste transport Contractor has agreed to allow the installation of such air emissions filters on the equipment used in the performance of its duties under the Solid Waste Transport Service contract, subject to reimbursement from Metro and subject further to other terms as set forth in the attached Change Order No. 29; and,

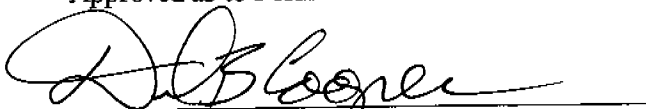
WHEREAS, the installation of these air emission filters will be beneficial to the sustainable air quality of both the Metro region and the Columbia Gorge; now therefore,

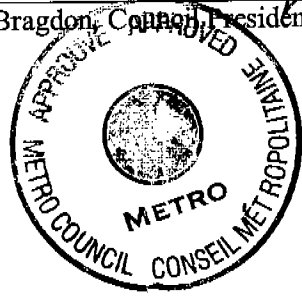
BE IT RESOLVED that the Metro Council authorizes the Chief Operating Officer to execute Change Order No. 29 to the Waste Transport Service contract, Contract No. 900848, in a form substantially similar to that set forth as the attached Exhibit "A."

ADOPTED by the Metro Council this 10<sup>th</sup> day of July, 2003.

  
David Bragdon, Council President

Approved as to Form:

  
Daniel B. Cooper, Metro Attorney



**MODIFICATION TO THE CONTRACT BETWEEN  
METRO AND CSU TRANSPORT, INC.  
ENTITLED "WASTE TRANSPORT SERVICES"**

This Change Order No. 29, dated as of the last signature date below (the "Effective Date of Change Order No. 29"), hereby amends Metro Contract No. 900848, entitled "Waste Transport Services," dated March 27, 1989, including all prior amendments (which contract and amendments are collectively referred to as the "Waste Transport Services Agreement").

In exchange for the promises and other considerations set forth in the Waste Transport Services Agreement and in this Change Order No. 29, the parties hereby agree as follows:

**A. Purpose**

The purpose of Change Order No. 29 is to provide for the purchase and installation by Contractor, subject to reimbursement from Metro as set forth herein, of (i) diesel particulate filters for up to twelve of the tractors operated by Contractor in the provision of transportation services under the Waste Transport Services Agreement, and (ii) diesel particulate filters or diesel oxidation catalyst devices for four shuttle vehicles used in solid waste transfer operations at the Metro Central and Metro South transfer stations.

**B. Provisions of Change Order No. 29**

1. Solicitation of Proposals for Installation of Filters for Existing Fleet

- a. Within 30 days of the Effective Date of Change Order No. 29, Contractor shall:
  - i. Obtain a minimum of two proposals for the purchase and installation of (i) diesel particulate filters for up to twelve of the tractors operated by Contractor in the provision of transportation services under the Waste Transport Services Agreement, and (ii) diesel particulate filters or diesel oxidation catalysts (as operationally feasible and appropriate) for four shuttle vehicles operated by Contractor at Metro Central and Metro South transfer stations; such proposals shall include information regarding the performance history, test data, and warranties of the filters and catalysts; and
  - ii. Inform the Director of the Metro Solid Waste and Recycling Department (the "Director") of the proposal that Contractor intends to use to purchase and install the diesel particulate filters and diesel oxidation catalysts, including information regarding the performance history, test data, and warranties of the filters and catalysts that Contractor intends to use.

- b. Within 10 days of its receipt of Contractor's recommended proposal, the Director shall approve or deny Contractor's recommendation, or portions thereof. If the Director denies Contractor's recommendation, or portions thereof, Contractor may revise its recommendation for further consideration, and the Director shall approve or deny Contractor's revised recommendation. If the Director denies Contractor's revised recommendation this Change Order No. 29 shall terminate.

2. Purchase, Installation, and Testing of Two Diesel Particulate Filters

- a. Within 30 days of the Director's approval of Contractor's recommendation under Section B.1 of this Change Order No. 29, Contractor shall purchase and install diesel particulate filters in two of Contractor's over-the-road tractors that are scheduled to remain in service a minimum of three years from the date of installation. Contractor shall be reimbursed for its purchase and installation costs for the filters as provided in Section B.9 of this Change Order No. 29.
- b. Within 10 days of the completed installation of the two filters as provided in subsection (a) of this section, Contractor shall perform tests acceptable to Metro on the installed filters to determine if the filters meet the specifications described in Section B.6 of this Change Order No. 29. Contractor shall be reimbursed for testing costs as provided in Section B.9 of this Change Order No. 29.
- c. Within 30 days of the completed installation of the two filters as provided in subsection (a) of this section, Contractor shall inform Metro of the general operational performance of the two vehicles in which diesel particulate filters were installed, whether Contractor had to perform additional maintenance or adjustments to the filters or to the tractors as a result of the installation of the filters, and whether Contractor believes that the filters significantly impaired the operation of the tractors.
- d. Within 40 days of the completed installation of the two filters as provided in subsection (a) of this section, the Director shall approve or deny Contractor's purchase and installation of diesel particulate filters in up to ten (10) more of Contractor's over-the-road tractors that are scheduled to remain in service a minimum of three years from the date of installation.

3. Purchase and Installation of Up to Ten More Diesel Particulate Filters

Within 60 days of the Director's approval of Contractor's purchase and installation of additional diesel particulate filters under Section B.2 of this Change Order No. 29, Contractor shall purchase and install diesel particulate filters in up to ten (10) more of Contractor's over-the-road tractors that are scheduled to remain in service a minimum of three years from the date of installation. Contractor shall be reimbursed for its purchase and installation costs for the filters as provided in Section B.9 of this Change Order No. 29.

4. Purchase, Installation, and Testing of One Diesel Particulate Filter or Diesel Oxidation Catalyst in a Shuttle Vehicle at Metro Central or Metro South Transfer Station

- a. Within 30 days of the Director's approval of Contractor's recommendation under Section B.1 of this Change Order No. 29, Contractor shall purchase and install one diesel particulate filter or diesel oxidation catalyst in one of the shuttle vehicles that Contractor uses to maneuver and position trailers at Metro Central or Metro South transfer station. Contractor shall be reimbursed for its purchase and installation costs for the filter or catalyst as provided in Section B.9 of this Change Order No. 29.
- b. Within 10 days of the completed installation of the filter or catalyst as provided in subsection (a) of this section, Contractor shall perform tests acceptable to Metro on the installed filter or catalyst to determine if it meets the specifications described in Section B.6 of this Change Order No. 29. Contractor shall be reimbursed for testing costs as provided in Section B.9 of this Change Order No. 29.
- c. Within 30 days of the completed installation of the filter or catalyst as provided in subsection (a) of this section, Contractor shall inform Metro of the general operational performance of the shuttle vehicle in which the filter or catalyst was installed, whether Contractor had to perform additional maintenance or adjustments to the filter or catalyst, or to the shuttle vehicle, as a result of the installation of the filter or catalyst, and whether Contractor believes that the filter or catalyst significantly impaired the operation of the shuttle vehicle in which it was installed.
- d. Within 40 days of the completed installation of the filter or catalyst as provided in subsection (a) of this section, the Director shall approve or deny Contractor's purchase and installation of diesel particulate filters or diesel oxidation catalysts in up to three (3) more of the shuttle vehicles Contractor uses to maneuver and position trailers at Metro Central and Metro South transfer stations.

5. Purchase and Installation of Three More Diesel Particulate Filters or Diesel Oxidation Catalysts

Within 60 days of the Director's approval of Contractor's purchase and installation of additional diesel particulate filters or diesel oxidation catalysts under Section B.4 of this Change Order No. 29, Contractor shall purchase and install diesel particulate filters or diesel oxidation catalysts in up to three (3) more of the shuttle vehicles Contractor uses to maneuver and position trailers at Metro Central and Metro South transfer stations. Contractor shall be reimbursed for its purchase and installation costs for the filters or catalysts as provided in Section B.9 of this Change Order No. 29.

6. Specifications for Diesel Particulate Filters and Diesel Oxidation Catalysts

The diesel particulate filters and diesel oxidation catalysts purchased and installed by Contractor under this Change Order No. 29 shall meet the following performance specifications:

- a. Diesel Particulate Filters - Filters shall achieve the following minimum reductions in emissions as demonstrated by test data for applications similar to those of this Contract:
  - particulate matter 70%
  - carbon monoxide 50%
  - hydrocarbons 50%

- b. Diesel Oxidation Catalysts –Catalysts shall achieve the following minimum reductions in emissions as demonstrated by test data for applications similar to those of this Contract:
- carbon monoxide 50%
  - hydrocarbons 50%

7. Maintenance

Contractor shall maintain the filters and catalysts purchased and installed pursuant to this Change Order No. 29, including all related components, as provided in the manufacturer's instructions, and at no additional cost to Metro. If any of the filters and catalysts does not perform as warranted by the manufacturer, Contractor shall pursue warranty claims against manufacturer at no additional cost to Metro. Contractor shall be responsible for all costs, including filter replacement, due to its failure to properly maintain the filter and related components.

8. Vehicles Removed from Service

If Contractor removes from service any of the tractors or shuttle vehicles in which filters or catalysts have been installed, Contractor shall remove and reinstall the filters and catalysts, to the extent the filters and catalysts are still operational, in other vehicles being used by the Contractor in the provision of transportation services under the Waste Transport Services Agreement.

9. Reimbursement of Contractor by Metro

Notwithstanding the provisions of Article 2B of the General Conditions of the Waste Transport Services Agreement, Metro shall reimburse Contractor for the cost of the work described in Sections B.1 through B.5 of this Change Order No. 29, subject to approval by Metro prior to incurring such expenses, as provided in Sections B.1.b, B.2.d, and B.4.d of this Change Order No. 29. Metro will make such reimbursement to Contractor in accordance with the Force Account procedures of Article 15(C) of the Waste Transport Services Agreement. Such reimbursed costs shall include the cost of the filters and catalysts, the labor costs to install the filters and catalysts, the cost of any special equipment necessary to properly maintain the filters and catalysts, testing and the cost to provide Contractor's maintenance personnel with any necessary training to ensure that the filters and catalysts are properly maintained.

Total reimbursement of Contractor by Metro under this Change Order No. 29 shall not exceed \$124,000. Metro will make payment to Contractor within 30 days of Metro's receipt of appropriate documentation of expenses, as provided in Article 15(C) of the Waste Transport Services Agreement. Such documentation shall include invoices that detail Contractor's labor costs and manufacturer's charges, together with original manufacturer's invoices.

10. Tax Credits/Grants

Contractor shall apply for, and use good faith efforts to obtain, any tax credits or grants available to it as a result of the installation of the diesel particulate filters and diesel oxidation

catalysts referenced in this Change Order No. 29. If Contractor receives any such tax credits or grants, Contractor may retain a portion of such tax credits and grants, not to exceed 10% of their value, to cover Contractor's documented costs to apply for and receive such tax credits and grants. Metro shall be entitled to at least 90% of the value of all such tax credits and grants that Contractor receives. Metro can elect to take its share of such tax credits and grants as either a reduction in other payments due to the Contractor or in additional work to be provided by the Contractor.

If Contractor believes its costs to apply for tax credits and grants was greater than 10% of the value of the tax credits and grants it received, Contractor may petition the Director in writing to retain more than 10% of the value of the tax credits and grants Contractor received. If Contractor makes such a petition, it shall be in the Director's sole discretion whether Contractor may retain more than 10% of the tax credits and grants it received. The Director shall respond in writing to grant or deny such a request within 10 days of its receipt. If the Director fails to respond to Contractor within 10 days, then Contractor shall retain the percentage of the tax credits and grants that it petitioned the Director to retain.

11. No Other Modifications

Except as modified herein, all other terms and conditions of the Waste Transport Services Agreement shall remain in full force and effect. Any conflict between the provisions of this Change Order No. 29, on the one hand, and the original Waste Transport Services Agreement, including other previous amendments and change orders, on the other hand, shall be resolved by reference to and reliance upon this Change Order No. 29.

CSU TRANSPORT, INC.

METRO

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Gary I. Goldberg, President

\_\_\_\_\_  
Michael Jordan, Chief Operating Officer

\_\_\_\_\_  
Date

M:\attorney\confidential\DOC#09.SW117\TNSPRLSRV24-CO#29\Change Order 29.doc  
S:\emilgejac\misc\transport\file\co29

\_\_\_\_\_  
Date

**STAFF REPORT**

**IN CONSIDERATION OF RESOLUTION NO. 03-3343 FOR THE PURPOSE OF AUTHORIZING EXECUTION OF CHANGE ORDER NO. 29 TO THE CONTRACT FOR WASTE TRANSPORT SERVICES FOR THE INSTALLATION OF PARTICULATE FILTERS**

May 21, 2003

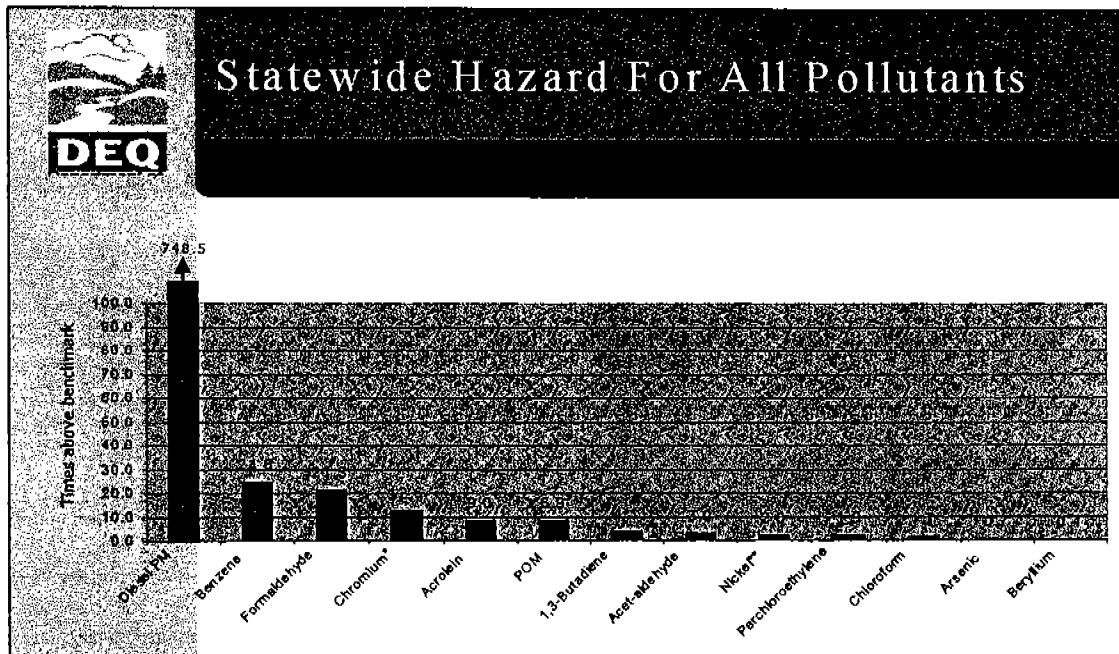
Drafted by: Chuck Geyer

**BACKGROUND**

In 1991, Metro began transporting solid waste from its transfer stations to the Columbia Ridge Landfill approximately 150 miles east of Portland. Waste is transported by a diesel powered semi-tractor trailer combination that carries a payload of 31 tons and gets approximately 6 miles per gallon. For calendar year 2002, Metro's Waste Transport Services Contractor (CSU, Inc.) traveled 5.5 million miles and consumed approximately one million gallons of fuel. The majority of each trip is within the Columbia River Gorge National Scenic Area.

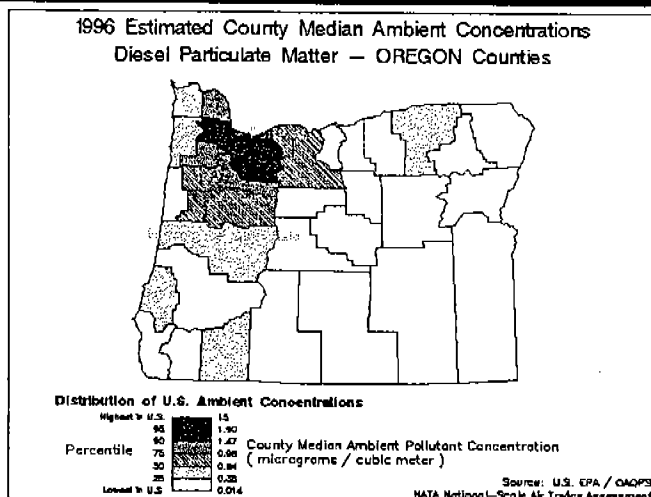
Diesel engines are used to transport the majority of freight in the United States because of their well-founded reputation for reliability, durability, power and fuel efficiency. Diesels are also known for their smoky and odorous exhaust. Increasing scientific evidence, however, indicates that diesel exhaust is more than just a nuisance. Diesel exhaust contains microscopic soot, about 200 times smaller than the period at the end of this sentence. These fine particles can be easily inhaled into the lungs and are a potent carcinogen, more even than gasoline exhaust. Scientists have also identified the soot (particulates) in diesel exhaust as a significant factor in visibility impairments (a particular concern in the Columbia Gorge Scenic Area) and global warming.<sup>1</sup> California research indicates diesel particulate matter (PM) is responsible for 70% of the cancer risks from ambient air toxics.<sup>2</sup>

In Oregon, PM has been estimated to be the largest toxic pollutant (as measured by cancer risk) by a large margin as shown in the following graph.





## What Is The Concern in Oregon?



As can be seen in the graph, diesel particulate pollution in Oregon is concentrated in the Metro region. Multnomah County in particular has one of the highest concentrations of PM in the country, ranking in the 95<sup>th</sup> percentile nationwide. The largest consumer of diesel in the Metro area is TriMet at over 6 million gallons annually. Other large users include the barging and other transportation industries. Metro itself consumes over 1 million gallons annually for the transportation of waste.

The other major pollutants released during the combustion of diesel fuel include carbon monoxide (CO), hydrocarbons (HC) and oxides of nitrogen (NO<sub>x</sub>). CO reduces the delivery of oxygen to the body's organs and tissues and is a health threat for those with cardiovascular disease. HC contributes to the formation of ozone that is responsible for choking, coughing, and stinging eyes associated with smog. NO<sub>x</sub> can irritate the lungs, cause bronchitis and pneumonia, and lower resistance to respiratory infections. NO<sub>x</sub> are an important precursor both to ozone and acid rain.<sup>3</sup>

Acting in response to state law, the California Office of Environmental Health Hazard Assessment listed diesel exhaust among the five most hazardous substances to children because of its potent contribution to asthma and other respiratory illnesses among children.

Working with staff from the DEQ Air Quality Division, Solid Waste & Recycling staff has been investigating methods to reduce emissions from transporting waste for disposal. Initial efforts focused on implementing EPA's Voluntary Diesel Retrofit Program. This program combines the use of verified technologies such as diesel particulate filters with the use of ultra-low sulfur diesel fuel to achieve emission reductions of particulates, CO and HC of up to 90%.

<sup>3</sup> EPA: Voluntary Diesel Retrofit Program web page.



However, we found that ultra-low sulfur diesel (ULSD) was not available in Oregon, nor could it be brought in from out-of-state sources in a cost-effective manner<sup>4</sup>. Staff then began investigating the technologies available to reduce emissions without burning ultra-low fuel.

EPA has not verified any technologies as being effective with regular low-sulfur diesel fuel used by CSU. It appears this is primarily due to the fact that neither manufacturers nor EPA have actively sought to verify technologies with this fuel. We then contacted manufacturers directly and found that certain particulate filter traps (DPF) were effective in reducing particulates by about 75%, and CO and HC by up to 50%, from the combustion of regular low sulfur diesel. These traps require that exhaust reach high temperatures for a long enough time to combust the trapped particulates. The vehicles transporting waste from the transfer stations to the landfill would be suitable candidates for this technology.

CSU tractors are typically retired from service after approximately 1,000,000 miles of service. Replacement tractors will be required to come equipped with newer pollution control technology as new EPA rules are phased in.<sup>5</sup> To determine the number of over-the-road tractors to install with a DPF, staff chose vehicles that would be in service a minimum of three years (the warranty period for a DPF, although the filters should last at least twice that length.) There will be twelve such vehicles appropriate for retrofitting with filters out of a total of thirty CSU tractors.

In addition to over-the-road tractors, "shuttle vehicles" are located at each transfer station to move containers to and from the compactors to receive a load of waste. These vehicles are also diesel-powered. It is unclear whether a DPF or a diesel oxidation catalyst (DOC) is appropriate for these four vehicles. A DOC achieves the same level of reduction for CO and HC, but only minimally reduces particulates. A DOC is approximately half the cost of a DPF. Both devices fit into the muffler space of the vehicle's exhaust system. The use of the DPF or DOC will be determined during the procurement process.

According to Kevin Downing of DEQ's Air Quality Division, assuming a seven-year lifetime (the remaining years of the transport contract) and a cost of \$6,000 per unit, the overall cost per ton of reduced emissions is \$900. This compares favorably to other control technologies that average \$3,000 to \$5,000 per ton. Even if the filter were used for only three years, the cost per ton of reduced emissions would still be below other control technologies.

The proposed change order would require CSU to purchase and install particulate filters in all its over-the-road tractor-trailers that would be used for at least three years after installation of filters, and require the installation of a DPF or DOC for the four primary shuttle vehicles. These costs would be passed through to Metro per the force account procedures of the Waste Transport Services contract. CSU would be responsible for all maintenance costs.

## ANALYSIS/INFORMATION

### 1. Known Opposition

Staff knows of no opposition to this change order.

---

<sup>4</sup> DEQ has applied for an EPA grant to subsidize ULSD and bring it to Oregon. If DEQ is successful, staff will investigate purchasing ULSD for use in the transport of waste, and has written a letter of interest to DEQ for its grant application.

<sup>5</sup> The EPA has adopted rules for over-the-road vehicles that require the use of ULSD by July 1, 2006, and the installation of after treatment technologies in vehicles manufactured after this date.

## **2. Legal Antecedents**

Metro Code 2.04.058(b) requires that contracts designated as having a significant impact on Metro cannot be amended without the express approval of the Metro Council. Contract No. 900848 was originally designated as having a significant impact on Metro.

## **3. Anticipated Effects**

This resolution would approve Change Order No. 29 to Contract No. 900848 between Metro and CSU Transport, Inc. This should result in over a 50% reduction of emissions for particulates, CO and HC.

## **4. Budget Impacts**

The cost to Metro should be approximately \$124,000. Adequate funds are available for the work.

## **RECOMMENDED ACTION**

The Chief Operating Officer recommends approval of Resolution No. 03-3343.

M:\rem\od\projects\Legislation\CO29dieselfiltersstfpt.doc