

STATE OF COLORADO

John W. Hickenlooper, Governor
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Executive Director and Chief Medical Officer

Dedicated to protecting and improving the health and environment of the people of Colorado

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Colorado Department
of Public Health
and Environment

January 23, 2012

Mr. Gregory P. Fletcher
Senior Remediation Adviser
Suncor Energy (USA)
5801 Brighton Blvd.
Commerce City, CO 80022

By Hand Delivery and Service
Order Date: January 23, 2012

RE: Third Interim Measure Order Requiring Additional Interim Measures
Compliance Order on Consent No. 07-05-25-01
Suncor Energy (U.S.A.) Inc.
Commerce City Refinery

Dear Mr. Fletcher:

The Colorado Department of Public Health and Environment, Hazardous Materials and Waste Management Division (the "Department") is writing in regard to the October 26, 2011 Notice of Additional Work (NOAW). The NOAW requires Suncor Energy (USA), Inc. ("Suncor") to halt the offsite migration of contamination from Plant 1, define the nature and extent of contamination that has already migrated offsite, and perform corrective measures to address the offsite contamination. The Department issued two additional Interim Measures Orders, on December 1, 2011 and December 30, 2011. The NOAW and these two interim measures orders focus on the contamination known to be migrating from the north-western corner of Suncor's Plant 1 and the activities required to halt that migration and to investigate and remediate what has already migrated offsite.

Based upon the information Suncor provided to the Department as part of implementing the NOAW and two interim orders at the north-west corner of Suncor's Plant 1, the Department now determines that the south-western corner of Plant 1 also needs to be evaluated to address any potential offsite migration and to prevent what has occurred in the north-west corner of the property. Therefore, the Department issues this Third Interim Measure Order Requiring Additional Interim Measures ("Third Interim Order") to Suncor. This Third Interim Order does not modify the requirements of the NOAW or the December 1 or December 30, 2011 interim orders, and they remain in place and effective as previously ordered. This Third Interim Order is immediately effective upon service.

I. Sample Air in Buildings on Republic Paperboard Property

1. Suncor shall immediately commence the process of securing access and sampling indoor air in all buildings located on the Republic Paperboard Company (“Republic Paperboard”) property to determine indoor air quality. Testing will commence in the buildings closest to Suncor’s property boundary, progressing south and west across the Republic Paperboard property. All air samples will be collected using procedures outlined in the Department’s April 2000 “Guidance for Analysis of Indoor Air Samples (a copy of which can be found online at <http://www.cdphe.state.co.us/hm/airsmpl.pdf>), assuming an exposure duration of 10 hours during that time of day the building is normally occupied. Test results will be compared to the Department’s action levels for worker exposure, including but not limited to the following constituents:

Chemical Abstract No.	Chemical Name (IUPAC)	Risk Basis C=Cancer NC=Noncancer	Worker Action Level (R=10-5, HI=1) ug/m3
71-43-2	Benzene	C	16.0
100-41-4	Ethylbenzene	C	49
108-88-3	Toluene	NC	22,000
1330-20-7	Xylenes (Mixture/Total)	NC	440

Outdoor air samples shall also be collected concurrent with all indoor air samples to allow the Department to distinguish the source of any detected vapors, coming from either subsurface contamination and/or the surrounding atmosphere. In response to any indoor air sample found to exceed the worker action level determined to be derived from a subsurface source, Suncor shall, within 7 days, install and commence operating a subslab depressurization system capable of intercepting vapors before they can enter the building. Performance monitoring samples will need to be collected following the installation of any mitigation system and Suncor shall document that indoor air action levels are not exceeded. All buildings on the Republic Paperboard property shall be sampled by **February 3, 2012** and mitigated by no later than **February 17, 2012**. Suncor can petition the Department before that date to discontinue indoor air sampling if returning test results clearly indicate that buildings yet to be sampled are believed to be outside the footprint of the groundwater plume. All test results will be reviewed at that time to determine the frequency of indoor air testing for both performance and verification (peripheral to impacted areas) monitoring.

2. Suncor shall submit a report to the Department by **February 29, 2012**, containing, at a minimum: tabulated summaries of the air sampling results; laboratory reports of the sampling results; individual drawings of each building sampled depicting the location of the air samples; drawing and descriptions of any mitigations systems installed; and operational test results of any installed mitigation systems.

II. Evaluate/Sample Tap Water on Republic Paperboard Property

1. Suncor shall inventory and sample all taps in buildings located on the Republic Paperboard property where employees use water for drinking, cooking, washing, bathing and showering and shall a) sample them all by **February 3, 2012** and b) provide that inventory and sample results to the Department by **February 17, 2012**. All potable water samples shall be analyzed for VOCs using EPA Method 524.2 by a laboratory certified in Colorado to perform drinking water analysis. Within 2 hours from receipt of analytical data that sampled water taps yield contaminants at concentrations above their respective drinking water standards, Suncor shall notify representatives at Republic Paperboard and within 4 hours of receipt of such data Suncor shall provide employees on that property with an alternate water supply until measures can be taken to treat or replace the source of water.
2. By **February 29, 2012**, Suncor shall submit information to the Department regarding the water distribution network on the Republic Paperboard property, including where the water supply enters the facility, how it's distributed from the point of entry, and what materials the lines are made from. The purpose of this report is to verify that any water lines that may be located above impacted groundwater aren't made from plastic which may be permeated by vapors.

III. Burlington Ditch Slurry Wall

1. Suncor shall immediately begin a field investigation and screening of groundwater beneath Republic Paperboard and the eastern and western sides of the southern end of the Burlington Ditch slurry wall. The purpose of this field investigation and screening is not to define the full nature and extent of contamination; Suncor only needs to verify that contamination isn't currently migrating and has not previously migrated around the southern end of the Burlington Ditch slurry wall, and then into or under the ditch itself. Suncor shall submit the results of this field investigation and screening to the Department, including diagrams verifying the length and location of the Burlington Ditch slurry wall and the length and location of the concrete lined section of Burlington Ditch, **by January 31, 2012**.
2. Suncor shall immediately begin a thorough investigation of groundwater beneath Republic Paperboard and the eastern and western sides of the southern end of the Burlington Ditch slurry wall. The purpose of this groundwater investigation will include: determining whether or not additional interim measures are needed to contain the contamination on Suncor's property; determining whether or not contamination has impacted, is impacting, or may impact Burlington Ditch; and determining what portion of the Republic Paperboard property or other properties have been, are, or may become impacted. This will require the installation of permanent groundwater monitoring wells that are screened at appropriate depth intervals using techniques previously approved by the Department that are sampled for both volatile and semi-volatile organic compounds. The spacing between monitoring wells shall not be more than 100 feet. Suncor shall install the wells, sample each of them and provide a report to the Department with all laboratory test results by no later **than March 16, 2012**. This requirement does not supersede groundwater testing required by Paragraphs 5 and 6 of the NOAW.

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3. Suncor shall immediately begin evaluating options to extend and/or modify the southern end of the Burlington Ditch slurry wall to ensure that contamination will not migrate into or under Burlington Ditch. These options could also be combined with other temporary measures such as the installation of a groundwater/LNAPL recovery system in this corner of the Suncor property to lower the groundwater elevation and ensure that contaminated groundwater and LNAPL remain on the east side of the Burlington Ditch slurry wall and migrate north, remaining on Suncor's property. **By March 16, 2012**, Suncor shall submit a proposal to the Department to implement any additional interim measures necessary to ensure that contamination will not migrate into or under Burlington Ditch. This proposal shall include diagrams verifying the length and location of the Burlington Ditch slurry wall; the length and location of the concrete lined section of Burlington Ditch; Suncor's proposal to protect Burlington Ditch; and a schedule of implementation. The Department reserves the right to accelerate this process if information collected under Paragraph III.1 above indicates that contamination is migrating around the Burlington Ditch slurry wall and possibly into or under Burlington Ditch.

If you have any questions regarding the technical aspects required to implement this Third Interim Order, you may contact Robert Beierle of my staff at (303) 692-3368 or robert.beierle@state.co.us . If you have questions regarding the legal aspects of this Third Interim Order, you may contact Robert Eber of the Colorado Attorney General's Office at (303) 866-5034 or rob.eber@state.co.us .

Sincerely,

Walter Avramenko
Unit Leader, Hazardous Waste Corrective Action Unit
Hazardous and Solid Waste Program
Hazardous Materials and Waste Management Division

cc: Laurie Rink, FRICO
Mark Yancey, Tri-County Health Department
Steven Rogowski, Denver Metro Waste Water
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