

Southgate OMRC

Public Advisory Committee

Minutes from PAC Meeting #22

LYSTEK SOUTHGATE ORGANIC MATERIALS RECOVERY CENTRE

Tuesday, August 25, 2015

TIME: 7 pm

LOCATION: Southgate OMRC Facility – Eco Park

ATTENDEES:

Steve Redmond (Chair),
Simon Meulendyk – Lystek, Jacqueline Ho - Lystek
Glen Irwin, John Woodbury - Township of Southgate Councillor
Karen Cheeseman, Absent: David Hiscock

AGENDA TOPICS:

Item	Description	Action By
1.	Welcome and Introduction of Jacqueline Ho Steve welcomed Jacqueline, a recent hire as General Manager of Lystek. Jacqueline is a chemical engineer who was previously employed with a waste water treatment transfer station in the GTA. Jacqueline plans to attend the PAC meeting on a regular basis, reviewed the Terms-of-Reference prior to the meeting and provided a signed copy of the Code-of-Conduct.	Steve
2.	Review of previous meeting minutes Steve provided a quick review of the minutes from the May PAC meeting.	Accepted by consent via email within two weeks of last meeting
3.	Approval of Agenda	Moved by Glen Irwin Seconded by Karen Cheeseman
4.	Public and Media Attendance – Re: Question Period and Code of Conduct	Steve
5.	Operations Update The last quarter (June - August), has been the slow season for the OMRC as other municipalities land apply their biosolids through approved NASM Plans. The facility has been operating two shifts per day and	Simon Meulendyk

	<p>has receiving incoming material from six (6) municipalities (see summary at the end of the minutes). The sources continue to be similar to other periods however the town of Durham has started shipping liquid material to the OMRC.</p> <p>There are currently nine full time employees with plans to hire an additional two in the fall when the facility moves to three shifts.</p> <p>Land Application:</p> <p>Outgoing material is being shipped at a rate of 500 – 1,000 cubic metres (m³) per day. July was a record month for land application with 18,000 m³ applied. Applications to hay fields after the first cutting have shown positive results and demand for this application in mid-summer has increased. A disc-type injector is used on the established forage and damage has been minimal. Simon mentioned that the forage crop has re-grows quickly due to the nutrient applied.</p> <p>Lystek has experimented with rates of 2,000 – 4,000 gallons/acre and an increase in bales/acre was measured in one study.</p> <p>A question was raised about the sulfur content of the LysteGro product. Simon shared that the analysis has shown that the material contains approximately 16 lbs of sulphur per 1,000 gallons.</p>	
<p>6.</p>	<p>Community Concerns</p> <p>Odour Complaints:</p> <p>There have been two email complaints received by the Chair from one resident of Dundalk. The distribution list for the email did NOT include anyone from Lystek and this has been identified as an issue.</p> <p><i>(The Chair will ensure that in the future all email complaints are forwarded to Lystek).</i></p> <p>In addition, one complaint was received by Councillor John Woodbury. This complaint was regarding potential odour and other issues.</p> <p>Due to the requirement to monitor the operation of the facility and the weather conditions that could potentially cause an odour issue, Lystek is encouraging all residents to notify the company in a timely manner such that an appropriate response can be made.</p>	<p>Steve Redmond</p>

	Lystek's response to odour complaints may include monitoring weather data and wind direction that could provide answers to odour concerns.	
7.	Monitoring Reports The PAC reviewed the 2015 second quarter monitoring report. The consistency of the material and constituent levels are similar to previous reports and are well below regulated limits in all monitored metals and pathogens. The 2 nd quarter report is attached.	Simon
8.	Action Items: 1. Role of the regulated metals selenium and molybdenum in plants, and animals. 2. Consider bi-annual meetings (May-June and late November in 2016)	Steve (see attachment to minutes)
	Next meeting is planned for Tuesday, November 24, 2015 at 7 pm in the Southgate Organic Materials Recovery Centre boardroom.	
	Adjourn Meeting	Moved by John Woodbury

Incoming Material Summary		
Type	Volume (trucks) per day	Municipality
Cake (solid)	2-3	Toronto, Halton, Guelph,
Liquid	2-3	Orangeville, Owen Sound, Durham and Tay Township

Attachments:

- Role of Boron & Molybdenum in the Growth of Plants
- Monitoring Reports for 2nd quarter 2015

Appendix: Role of Micronutrients in Plant Growth

1. Boron:

The main functions of boron relate to cell wall strength and development, cell division, fruit and seed development, sugar transport, and hormone development.

Some functions of boron interrelate with those of nitrogen, phosphorus, potassium and calcium in plants. Balanced nutrition is essential for optimum crop growth.

The boron requirement is much higher for reproductive growth than for vegetative growth in most plant species. Boron increases flower production and retention, pollen tube elongation and germination, and seed and fruit development.

A deficiency of B can cause incomplete pollination of corn or prevent maximum pod-set in soybeans.

2. Molybdenum:

Molybdenum is an essential component of two major enzymes in plants, nitrogenase and nitrate reductase. Nitrate reductase catalyzes the reduction of NO_3^- to NO_2^- and therefore the most important function of molybdenum in plant metabolism is NO_3^- (nitrate) reduction.

Molybdenum deficiency resembles nitrogen deficiency. Plants suffering from molybdenum deficiency are restricted in growth; their leaves become pale and eventually wither. Flower formation may be restricted.

The requirement for molybdenum by plants is varied. The Cruciferae, particularly cauliflower and cabbage, have a high-molybdenum demand. The same also applies to legumes because of the requirement of the root nodule bacteria.

In a survey of 21 states in the USA, alfalfa was found to be the most common crop species showing molybdenum deficiency, followed by cauliflower, broccoli, soy beans, clover, and citrus. In general, the monocots are not very sensitive to molybdenum deficiency.

The Southgate OMRC PAC is a condition of the MOE's Environmental Compliance Approval to create an open flow of information to local residents about the biosolids processing centre in Dundalk.

Members of the PAC meet four times per year, or more often if deemed necessary. Currently, there are four volunteer community members and a chairperson on the committee. Members of the PAC include:

- Glen Irwin, a local business person and former Southgate Twp. Councillor*
- Karen Cheeseman, a local graphic artist*
- David Hiscock, a resident of Dundalk*
- John Woodbury, a Township of Southgate Councillor .*
- The committee is chaired by Stephen Redmond. He is a certified crop advisor, a former Environmental Specialist with OMAFRA and former resident of Dundalk.*

Processed Product Analysis Form
 Quarter 2 - 2015 Apr May June

Lystek Southgate Organic Materials Recovery Centre (OMRC)
 191 Eco Park Way, Dundalk, Ontario

Constituent	APR 6 - 10	APR 13 - 17	APR 20 - 24	APR 27 - MAY 1	MAY 4 - 8	MAY 11 - 15	MAY 18 - 22	MAY 25 - 29	JUNE 1 - 5	JUNE 8 - 12	JUNE 15 - 19	JUNE 22 - 26	JUNE 29 - JULY 3	Quarterly Average	Maximum Allowable Metal Concentration*	Units
Metals																
Arsenic	2.38	2.66	3.23	2.75	3.41	4.42	3.90	2.19	4.68	4.68	4.33	5.40	5.80	3.67	170	mg/kg
Cadmium	1.59	1.68	2.21	1.81	1.96	2.05	1.79	2.48	1.68	2.07	1.37	2.10	2.56	1.90	34	mg/kg
Cobalt	3.32	2.54	2.98	2.99	3.05	3.02	3.28	5.61	3.59	3.82	2.97	3.21	3.59	3.37	340	mg/kg
Chromium	71.60	66.45	76.75	69.50	73.30	69.95	76.10	88.40	69.85	80.15	71.65	79.50	75.27	75.27	2,800	mg/kg
Copper	635.10	610.80	540.00	689.70	543.50	682.20	786.00	570.00	488.80	642.99	543.50	635.40	512.50	614.00	1,700	mg/kg
Mercury	0.33	0.38	0.32	0.27	0.31	0.34	0.37	0.47	0.25	0.26	0.59	0.33	0.42	0.35	11	mg/kg
Molybdenum	8.70	8.60	9.00	9.00	8.50	8.50	10.10	11.00	11.60	10.10	8.10	10.30	10.60	9.46	94	mg/kg
Nickel	26.92	22.17	18.66	22.26	21.38	19.49	30.42	22.38	30.12	21.31	26.80	20.40	24.04	23.53	420	mg/kg
Lead	30.72	31.32	33.46	37.65	32.19	30.56	46.53	28.13	24.39	27.23	37.56	39.24	28.69	33.25	1,100	mg/kg
Selenium	2.13	1.73	2.05	2.90	2.56	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	2.27	34	mg/kg
Zinc	748.80	660.00	741.60	756.90	705.00	733.80	839.10	920.70	721.20	744.90	699.00	721.50	701.70	749.38	4,200	mg/kg
Nutrients and Physical Properties																
Total Moisture	85.46	84.46	85.87	84.14	84.87	83.99	84.88	86.77	86.42	86.14	84.49	85.67	86.03	85.26	n/a	%
Total Organic Carbon	335,100	333,300	324,500	323,000	316,900	603,400	325,300	329,000	328,500	323,300	324,100	319,800	317,700	348,850	n/a	mg/kg
Total Kjeldahl Nitrogen	33,200	37,400	50,400	33,400	33,500	37,200	33,700	52,100	37,900	36,900	37,200	33,600	34,700	38,042	n/a	mg/kg
Ammonium - N	13,198.97	17,000.97	16,046.92	14,092.50	17,762.79	18,470.77	18,336.11	13,979.52	12,858.76	10,874.22	12,197.10	12,936.22	13,362.56	14,812.90	n/a	mg/kg
Nitrate and Nitrite-N	10.42	8.68	35.00	11.74	16.66	5.46	3.98	63.20	19.32	242.00	19.76	21.00	24.80	38.10	n/a	mg/kg
Total Potassium	19,700	15,200	14,600	14,500	16,600	15,300	16,500	24,600	16,800	19,100	17,400	17,100	19,000	17,283	n/a	mg/kg
Total Phosphorus	38,700	42,800	40,000	37,400	39,600	31,100	40,300	28,500	36,200	25,900	26,900	35,800	33,900	35,267	n/a	mg/kg
Pathogens																
E.coli	<3	<3	<3	<3	<3	<3	274	<3	<3	<3	<3	<3	<3	n/a	n/a	MPN/g
Fecal Coliforms	<3	<3	<3	<3	<3	<3	274	<3	<3	<3	<3	<3	<3	n/a	1,000	MPN/g
Salmonella	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	n/a	<1	CFU/25g

* As per Section 14.2 of Environmental Compliance Approval No. 8850-8V6572

Note - Analysis completed by ABL Canada Laboratories Inc.

Note - Each sample represents a composite of a minimum of 5 grab samples collected directly from the discharge point of the process reactor on a daily basis.

BDL - Below Detectable Level

n/a - not available

NEG - negative