Section 5.0
Inputs/Outputs

SECTION 5.0
INPUTS/OUTPUTS

The following sections describe the inputs and the outputs to the proposed OlyWest pork processing facility when it is operating at full capacity. The socioeconomic effects of construction and operation inputs are discussed in Section 6.0 as well as in the complete Socioeconomic report included in Appendix E.

5.1 INPUTS

5.1.1 Livestock

The designed capacity for the proposed facility is 9,000 hogs processed daily. The plant will not be operating at this capacity for the first year but will ramp up to full production over a 3 to 5 year period. With the daily average of 9,000 hogs processed, through a five day work week, the hourly processing capacity is 600 hogs.

5.1.1.1 Holding Facility Capacity Rationale

To minimize the time hogs spend on a truck, a delivery schedule will be made daily, and will account for hogs that would be pending processing in the on-site holding facility. Daily scheduling is essential to ensure a constant flow of live hogs coming to the facility and to ensure that there are not any over deliveries. As OlyWest is a partnership with producers Hytek Ltd. and Big Sky Farms Inc., tight control can be gained over the delivery schedule. To unload a truck load of 240 hogs, approximately 30 minutes is required. From the truck, hogs enter two receiving pens that can hold a total of 240 hogs, the capacity of the truck. From the pens, the hogs are sent into smaller holding pens that hold 80 hogs where they are rested for approximately 3 hours prior to processing. The design capacity of the holding facility is 2,780 hogs.

5.1.2 Water Requirements

Potable water supplied to the plant will be used in general processing (including sanitary consumption), the edible department, the truck wash, the protein recycling facility, the evaporative condensers, and during the weekend for miscellaneous purposes. The breakdown of water consumption is shown in Table 5.1.

Table 5.1: Drinking Water Consumption at the Proposed OlyWest Facility.

Process	Consumption per Hog (L)	Consumption per Week (m^3)
General Processing	240	**10,800**
Edible	40	**1800**

Department		
Truck Wash	35	**1575**
Protein Recycling	45	**2025**
Evaporative Condenser	40	**1800**
Weekend Use	-	**1600**
Total	400	19,600

Note: 1. Consumption per week based upon five days of processing and was estimated by Olymel.

The maximum water consumption per day will be approximately 3,600 m^3/day (951,022 US gal/day) and will occur Monday through Friday while processing 9,000 hogs per day. During the weekend, approximately 800 m^3/day of water will be used.

5.1.2.1 Water Metering Devices

There will be several water metering devices throughout the proposed facility. The main entrance of potable water from the City will have a volumetric flow meter. This meter will monitor the ongoing and cumulative flow rates to the facility. In addition to these metering devices, there will also be similar types of flow metering devices in several other locations including the holding facility, the kill area, the cut area, the blood and protein recycling area, and the exit of the pressure sanitation pumps to allow OlyWest to manage their systems.

5.1.3 Fuels

Fuels used and stored on the site will consist of one above-ground 37,854 L (10,000 US gallon) diesel fuel tank mounted on a concrete pad outside of the proposed facility. The diesel tank will be provided with a double pump, which will only work with keys, and be divided into two sections. The first section will contain standard diesel for filling up yard trucks, and will have an 11,356 L (3,000 US gallon) capacity. The second section will have a capacity of 26,498 L (7,000 US gallon) and contain coloured diesel to fill reefer units. To prevent ground spills, the diesel tank will be provided with a secondary containment vessel of 110% capacity of the tank volume, have concrete stoppers to prevent collisions and have a limit switch to prevent overfilling. The diesel tank installation will also be in accordance with existing regulations.

Natural gas is the only other fuel that will be utilized on-site, nor are there any plans to store or utilize other fuels such as propane. Natural gas will not be stored in containers on-site. Instead a continuous supply of gas will be supplied by Manitoba Hydro. It is estimated that

the proposed OlyWest facility will use approximately 6,500,000 m^3 of natural gas per year within their facility.

5.1.4 Chemicals

There will be two chemical storage rooms within the proposed OlyWest facility. In case of an accidental spill, the rooms are equipped with a chemical product recovery system. The design of the chemical storage rooms will adhere to the requirements of the Manitoba Fire Code. Drains from the room will not be connected to any drains that are connected to either the raw or sanitary wastewater systems.

No chemicals will be added in the processing of meat at the proposed facility in Winnipeg. The only processes that include chemical addition are CO_2 asphyxiation, blood anti-coagulation, wastewater pre-treatment, emission treatment from the protein recycling facility and wastewater treatment facility, and cleaning and sanitization of equipment and work areas during the clean-up shifts. A list of chemicals used in the proposed facility is included in Table 5.2.

Table 5.2: Chemicals to be used by the Proposed OlyWest Pork Processing Plant

Chemicals	Description	Usage	Package Size	Dangerous Good
ABS Yellow Cement	Cement for ABS Plastic Pipe	10 / yr	500 ml	no
Acetylene	Welding Gas	1 / 3months	0.1 m^3 cylinder	yes
AB Handsoap	Hand Soap	1 / month	45 gal	no
Anhydruous Ammonia	Fertilizer	3000-5000kg / yr	Bulk	yes
Argon	Welding Gas	5 / week	0.1 m^3 cylinder	yes
ATF Dexron III/Mercon	Transmission Fluid	4L / yr	4 L	no
Biosolve	Foam cleaner	1,100 L/day	4L-200L	yes
Birkolene B	Inedible Marker	1Drum / 3months	45 gal	no
Buffer Solution PH4.0	Field Test Reagent	1L / 3months	1L	no
Buffer Solution PH7.0	Field Test Reagent	1L / 3months	1L	no
Buffer Solution PH10.0	Field Test Reagent	1L / 3months	1L	no
Boss Ultra NF 7	Lubricant	1drum / 2months	45 gal	no
Carbon Dioxide	Asphyxiation	3,266 kg/day	100,000 kg tank	yes
Carbon Dioxide	Dry Ice Production	99,500 kg/week	100,000 kg tank	yes
CF 128-DW Insulating Foam	Polyurethane Foam, spray insulation	50 / yr	500ml	no

Conductivity Std. Sol. L1917	Field Test Reagent	3 / yr	1L	no
C plus C	Insecticide	1 pail / day	20L Pail	no
Citrate	Anti-coagulant for blood	200 kg / day	20 kg bag	no
Chemfloc AMX 61418	Wastewater Treatment	40 kg/week	20 kg bag	no
Chemfloc Ferric	Wastewater Treatment	20,000 kg/week	13 m^3 tank	yes
Chem Fresh	Deodorizer	2 / 6months	20L Pail	no
Cortrol IS3010	Powdered Dissolved Oxygen Scavenger	1 drum / month	45 gal	no
Continuum AEC3136	Water-based Corrosion Inhibitor	1 drum / 2 months	45 gal	yes
Conductivity Std. Sol. L1919	Field Test Reagent	6L / yr	1L	no
Catalyzed Molybdate Reagent	Field Test Reagent	6L / yr	1L	yes
Conquest	Cleaning Product	1 drum / month	45 gal	yes
DPD 2 Total Chlorine L2337	Field Test Reagent	1000bags / yr	100 Bag	no
Dionized Water L243	Field Test Reagent	48L / yr	4L	no
Dechlorinating Reagent L2043	Field Test Reagent	1000bags / yr	100 Bag	no
Drakeol	Mineral Oil	1 / month	45 gal	no
Efloc 218	Wastewater Treatment	3 drums / week	45 gal	no
EC-483	Cationic Flocculant	1bag / week	20 kg bag	no
E-San	Quaternary Ammonium Based Sanitizer	200 L/week	45 gal	no
Easy-Flo, Trimet, Braze	Silver Brazing Filler Metal	10lbs / yr	50lb roll	no
Foam Kill NI	Anti Foaming Agent	1 drum / week	45 gal	no
Final All Weather Blox	Anicoagulant Rodenticide	4kg / yr	4kg Pail	no
Fleetweld	Covered Electrode	20lbs / month	per lb.	no
Free Chlorine Reagent L6403	Field Test Reagent	1000 bags / yr	100 Bag	no
Ferrover Reagent L2032	Field Test Reagent	1000 bags / yr	100 Bag	no
Foam Force	Cleaning Product	200 litres / week	45 gal	yes
Fluff 2000	Laundry Detergent	1 drum / 2 months	45 gal	no
Guardsman 12	Bleach	0.5 / week	45 gal	yes
HIT-HY 20	Adhesive	10 / yr	500ml	no
HIT HY-150	2 part Adhesive	10 / yr	500ml	no
Hydrochloric Acid 50% L247	Field Test Reagent	1 / month	4L	yes
Hardness Titrating Sol L6443	Field Test Reagent	2 / yr	1L	no
Hardness Titrant L292	Field Test Reagent	2 / yr	4L	no

Hardness Indicator L6116	Field Test Reagent	2 / yr	60ml	no
Innershield	Flux Cored Electrode	20lbs / month	per lb.	no
Kleen AC9513	Acid Descaler	50L / yr	20L Pail	yes
K-100 Porcelain Cleaner	Acid-Based Porcelain Cleaner	20L / yr	20L Pail	yes
Kopr-Kote	Lubricating Greasev / Anti Sieze	20 / yr	250ml	no
Lemonex	Cleaner, Disinfectant, Deodorant	1drm/3months	45 gal	yes
LPS White Lithium Grease	Lubricating Grease	40tubes / yr	10oz Tubes	no
Liquid Circulation Cleaner	Cleaner	1drum / 2 weeks	45 gal	yes
LC-30	Cleaning Product	1 drum / week	45 gal	yes
Maverick	Knife Soap	1 pail / 3 months	20L Pail	no
Molybdovanadate L2326	Field Test Reagent	2 / yr	120 ml	yes
Methyl Purple Inducator L297	Field Test Reagent	2 / yr	250 ml	yes
Nitrite Titrant L6121	Field Test Reagent	4 / yr	1L	yes
Oxygen	Welding Gas	1 / month	3.44 m^3 cylinder	yes
Optisperse PQ4684	Internal Boiler Treatment	1 drum / month	45 gal	yes
Petrifilm Aerobic Count Plates	Microorganism counts	1 / month	Case	no
Paint Marker	Metal Marking	50 / yr	50ml	yes
Potassium Thiocyanate L6054	Field Test Reagent	2 / yr	1L	no
Potassium Iodide-Iodate L6577	Field Test Reagent	2 / yr	1L	no
Potassium Iodide-Iodate L6105	Field Test Reagent	2 / yr	1L	no
Phenolphthalein Indicator L212	Field Test Reagent	5 / yr	250ml	yes
Rubber Renue	Rejuvenates and conditions rubber	5 / yr	75ml	no
RS Special	Lubricant	1drm /3month	20L pail	yes
SU 393	Sanitiser	108jugs / week	5L jugs	yes
Sodium Metabisulfite	Heparin preservation	45 kg / day	20 kg bag	no
Sodium Chloride	Casing preservation	1,200 kg / day	40 kg bag	no
Sodium Hydroxide	Air Scrubber	15 L / hour	10,000 L tank	yes
Sodium Hydroxide	Wastewater Treatment	400 L/day	2,846 L tank	yes
Splatter Block	Weld Splatter Release	10 / yr	600 ml	no
Stainless Electrodes	Welding Electrodes	20lbs / month	per lb.	no
Streakproof Glass Cleaner	Glass Cleaner	20L/month	20L pail	no

Sulphuric Acid 52-100%	Waste Water Treatment	3totes / week	920L tote	yes
Spartan EP All Season	Gear Oil	4 / yr	20L pail	no
Subtilisin - Purafect 4000E	Alkaline Protease Mobren Biological	15kg / day	50kg Drum	no
Steamate NA5640	Steam Condensate Treatment	1 drum / month	45 gal	yes
Sani Hands	Disinfectant	3cs / week	4Lx4 / case	yes
Sulfite Indicator L6091	Field Test Reagent	2 / yr	100 gm	yes
Spectrus OX1203	Solid Microbial Control Agent	1pail / month	20L pail	yes
Sodium Hypochlorite 5-15%	Disinfectant	1000L/week	45 gal	yes
Sodium Hypochlorite	Air Scrubber	76-121 L/ hour	15,000 L tank	yes
SFA (produced by Super F)	Odour Masking Agent	410 L/year	205 L drum	yes
Thoriated Tungsten Electrodes	Welding Electrodes	40lbs / 3months	per lb.	no
Track Lube Q	Trolley lubricant	1drum / week	45 gal	no
Ucatherm PM6195	Heat Transfer Fluid	1drm / yr	45 gal	no
Unirex N2 Grease	Lubricating Grease	60 tubes / yr	10oz Tubes	no
Ultimate	Cleaner	600L/week	45 gal	yes
Varsol 3139	Solvent	40L / yr	20L Pail	yes
WR Degraser	Premium Cleaner and Degreaser	600L/week	45 gal	yes

A regular inventory of the chemicals will be done by the sanitation foreman to keep track of the chemicals used. For specific product information for dangerous goods, material safety data sheets (MSDS) can be found in Appendix F.

5.1.5 Traffic

As with any new development, traffic is expected to increase with the operation of the proposed OlyWest facility. Roads surrounding the area, Dugald Road and Plessis Road, are expected to experience the greatest influx of traffic, with Dugald Road having a larger increase from commuter traffic and Plessis Road having a larger increase from truck traffic. The annual average daily traffic (AADT) has been analyzed for when the proposed facility is operating at full production capacity in 2011 and is shown in Table 5.3. It is expected that over a 24 hr period, 2-way truck traffic as a percentage of total traffic may increase by 1%, from 8 to 9%, on Plessis Road, and have no noticeable change on Dugald Road.

Table 5.3: Change in Traffic Pre and Post Development

	Dugald Road	Plessis Road
2011 AADT without OlyWest	19,316	11,135
2011 AADT with OlyWest	20,486	11,765
Percent Increase	6.1%	5.7%
2011 Anticipated Truck Traffic without OlyWest	1,352	891
2011 Anticipated Truck Traffic with OlyWest	1,390	1,013
Percent Increase	2.8%	13.7%
Truck traffic as a percentage of total traffic without OlyWest	(1,352/19,316)*100 = 7%	(891/11,135)*100 = 8%
Truck traffic as a percentage of total traffic with OlyWest	(1,390/20,489)*100 = 7%	(1,013/11,765)*100 = 9%
Percent Increase	0%	1%

Note: 1. Data obtained from Earth Tech (Canada) Inc. traffic study.

2. Projections based a 1.5% yearly increase.

Current peak times for Dugald Road are from 7:00-800 a.m. and 4:00-5:00 p.m., while peak times for Plessis Road are 7:15-8:15 a.m. and 4:30-5:30 p.m. Current peak commuter times are not expected to be affected by the proposed facility. The proposed facility will run two shifts and a sanitary shift over a 24-hr period. To limit impact on the current traffic flow, start and end times for the proposed facility will be staggered, so as to not affect current peak traffic times. As well, all employees will be expected to be at work 45 min before starting their shift. As a result, peak traffic from the facility occurs from 5:00-6:00 a.m., 2:00-3:00 p.m., and 11:00 p.m.-12:00 a.m. With this, it is anticipated that the majority of employee traffic will depart prior to the start of normal commuter traffic peak hours. A complete traffic analysis report will be included as an addendum to this report as the final draft is not yet available.

5.2 PROCEDURES

5.2.1 Good Housekeeping

Within a facility as large as the proposed OlyWest pork processing facility, good housekeeping is essential to keep the plant operating efficiently. Good housekeeping within the hog holding facility will consist of cleaning the hog pens each time they are emptied. This will help to control odorous emissions at the source. In addition, DOA hogs will be transported to the protein recycling facility on a regular basis. Good housekeeping within the processing areas of the facility will consist of a daily sanitation shift. Following the completion of the last processing shift of the day, a sanitation shift will clean the facility with the exception of the freezer, compressor room, boiler room, and electrical room. At times there will be a weekend sanitation shift for cleaning lights, freezers, etc.

Good housekeeping practices throughout the entire proposed OlyWest facility will consist of keeping isles clear of equipment and garbage, ensuring that slippery materials are picked up off the floor and keeping drains clear.

5.2.2 Regular Inspections

Regular inspections will occur both inside and outside of the proposed facility. Within the proposed facility, inspections will be completed by OlyWest employees to ensure the equipment is still working properly and to determine if anything has to be repaired or replaced. Inspections will also be conducted to ensure that employees are following safe procedures, and to confirm that spills and accidents are being reported properly.

Inspections will also be completed by OlyWest employees outside of the plant building to ensure that all external equipment, silos, etc. are functioning properly and are not showing signs of stress or failure. Inspections will also ensure that trucks are following proper procedures while on-site, that they are being cleaned and inspected properly, and to ensure that incoming trucks are following proper designated routes.

Canadian Food Inspection Agency (CFIA) representatives will also be on-site during production hours. Representatives from CFIA will inspect the hog unloading, hog holding facility, kill floor, cutting floor, and shipping floor to ensure that all CFIA regulations are followed. There will also likely be regular visits and audits from clients to ensure that all of their specifications are being met.

Within the hog holding facility, there is a quarantine stall where hogs are held if they appear to be sick. A veterinarian will inspect the hogs within the quarantine stall and will determine if it is fit for processing or if it should killed and sent to the protein recycling facility. There are also designated veterinary inspection stations on the kill floor after the carcass is opened and eviscerated. The veterinarians are responsible for organ and carcass inspection to identify diseased tissue.

5.2.3 Spill Prevention

To prevent spills, all workers will be trained in appropriate safety and handling procedures for equipment, chemicals and products. Limited access to on-site chemicals through their storage in the on-site chemical storage room will also be a method of spill prevention. Chemicals that are used on a regular basis will be handled by people trained for their use or if the chemical is used in a process it will be supplied automatically with sensors and pumps. Silos will be inspected regularly to ensure no structural damage from repeated filling and emptying.

5.2.4 Spill Containment, Recording and Reporting

On-site chemical storage tanks will employ a double containment system with a 110% volume capacity to prevent a spill from spreading. The chemical storage room also has a chemical recovery system built in which will recover the product and is not connected to drainage lines.

There will be a designated person on-site who will be responsible for spill recording and reporting. In the event of a spill that is estimated to be over 68 L (18 US gal), this person will inform Manitoba Conservation's Emergency Response Team (945-4888).

The proposed facility will also have spill intervention kits located at strategic points where incidents are thought to be of highest probable occurrence. These kits will include absorbent rolls, granular absorbents, rubber drain seals, cement to seal tank leaks, and a barrel with a lid. Designated employees will also be trained in spill kit use.

5.2.5 Emergency Response Plan

An emergency response plan (ERP) will be implemented at the proposed facility. The ERP will be modeled after similar plans currently implemented at other Olymel facilities. Appendix G contains a sample ERP from Olymel's Red Deer Facility that will be modified for use at the proposed OlyWest facility.

The purpose of the ERP is to ensure responses to emergencies are prompt and to protect the health and safety of all employees. The Health and Safety Coordinator will keep the plan up to date with current regulations, standards and procedures to be followed by all employees. The coordinator will also ensure that all the employees are properly trained through annual drills and training. All employees will be assigned specific tasks to undertake in the event of an emergency.

In the event of an emergency, the person who discovers the incident will activate the Emergency Response System to initiate the ERP. The discoverer either calls the switchboard or notifies the nearest supervisor who then calls the switchboard. The switchboard operator next calls the appropriate emergency number (911) for their help. The operator then contacts the on-site Incident Command Post who will initiate business interruption or recovery operations. If required, a foreman or superintendent can call for an evacuation. If the emergency is localized, then the muster point is centered in the cafeteria, if the emergency

may cause danger to health and life, then the entire facility is evacuated to predetermined muster points outside.

5.3 OUTPUTS

5.3.1 Construction

5.3.1.1 Emissions to the Atmosphere

During construction there will be emissions to the atmosphere typical of a large scale construction project such as those related to construction vehicle and heavy equipment exhaust emissions. Dust emissions may be generated during travel, excavation and grading work. Odours and air emissions may be generated during painting, paving, roofing, and while adhesives and waterproofing chemicals are used. Noise will be generated on-site due to vehicles and heavy equipment use, such as pile driving and excavation.

5.3.1.2 Surface Runoff Discharges

Surface runoff during construction will be typical of a large construction site. There is potential for surface runoff to be contaminated from accidental fuel and chemical spills and construction debris. Fuel and chemical storage areas will be contained to ensure that if spills occur, they will not be in contact with surface runoff water. Construction debris will be kept to a minimum by good housekeeping measures to ensure that surface runoff quality is not affected. Surface runoff could also potentially be affected by sediment loads. Where possible, silt fences will be used to minimize the amount of sediment contained in the surface runoff discharges.

5.3.1.3 Other Wastes

Solvents, surplus building materials, used oils, package materials, etc. generated during construction will be transported from the site and disposed of, according to existing regulations, on a regular basis.

5.3.2 Start-up and Operation

For the purpose of this report, the emissions during start-up will be discussed at the same time as those of the operation. The same emissions will be observed during both project phases, though exposure levels may be different in some cases, as the ramp up to full operation will take place over three to five years. During project start-up, as compared to full operation, there will be:

- Less truck traffic so less truck emissions;
- Less hogs processed so less odour emissions from the holding pens;
- Similar sanitation wastewater volumes;
- A smaller volume of wastewater;
- Less truck bedding material/manure solids hauled off-site; and
- Fewer by-products to process.

5.3.2.1 Atmospheric Emissions

Air Emissions

Some of the steps involved in pork processing will generate minor airborne emissions such as PM_{10}, $PM_{2.5}$, CO, oxides of nitrogen (NO_X), sulphur dioxide (SO_2) (combustion sources), and odours. These emissions have been briefly modeled under a number of assumptions for information, however they are considered relatively minor. The main thrust of the air model for the proposed OlyWest site has concentrated on quantification of odour emissions. The complete air modeling report is included in Appendix H.

The model for parameters other than odour was simplified to include only emissions from the protein recycling exhaust points and a theoretical boiler. No significant emissions in terms of air quality were anticipated from the holding pens and the truck bedding material/manure solids storage area as this information is not typically monitored. Emissions information on other parameters from the remaining sources is quite limited for the same reason and is also not normally the subject of monitoring requirements. In fact, most of the emissions generated at the site outside of odour, noise and possibly dust are products of combustion of natural gas in the dryers, boilers and singers. Accordingly the document, *AP 42, Fifth Edition, Compilation of Air Pollutant Emission Factors, Volume 1: Stationary Point and Area Sources* was consulted to obtain emission factors for a theoretical boiler that could be used to determine emission rates based upon the annual natural gas usage at the plant. In addition, some information was provided by the protein recycling emission control vendor on emissions from other protein recycling facilities. This information has been used for guidance only, since the nature of the emission rates and the conditions under which they were obtained are not necessarily strictly representative of the proposed development. There are no emission factors in the literature for rendering/protein recycling facilities.

For the odour model, the only emission sources included were the two packed-media exhaust stacks from the protein recycling facility/wastewater treatment, the 65 hog pen ventilation chimneys, the vent from the truck bedding material/manure solids storage area, and the in-bound hog trucks (assumed worst case with 4 trucks in line at one time to enter the site from Plessis Road). The singers were initially thought to be a potential odour source, however further investigation indicated that this was a minimal source of odour. No significant odours were estimated from other areas of the proposed development.

Pollutant types modeled included PM_{10}, $PM_{2.5}$, NO_X, CO, and SO_2. In addition odour units (OU) were modeled from different sources using emission rates from similar sources at different locations or from vendor data.

In the absence of general NO_x criteria, all modeled NO_x emissions were assumed to be NO_2 for comparison to Manitoba Conservation's Objectives. The results of modeling the CO, SO_2, and odour emissions were also compared to the provincial objectives. A summary of the referenced objectives for the various pollutants is included as Table 5.4.

Table 5.4: Modeled Parameters Reference Objectives

Name of Pollutant	Units of Measurement	Averaging Period	Maximum Acceptable Level Concentration	Maximum Desirable Level Concentration
$PM_{2.5}$	$\mu g/m^3$	24 hours	30	
PM_{10}	$\mu g/m^3$	24 hours	50	
CO	mg/m^3	1 hour	35	15
		8 hours	15	6
NO_2	$\mu g/m^3$	1 hour	400	
		24 hour	200	
		Annual	100	60
SO_2	$\mu g/m^3$	1 hour	900	450
		24 hour	300	150
		Annual	60	30
Odour	OU	3 min	2 – residential 7 – industrial	<1

All of the emission data determined in the Air Emission Report is summarized in Table 5.5. Values in this table include emission control reductions.

Table 5.5: Proposed OlyWest Facility Emission Parameter Summary

Emission Unit	Emission Rate						Stack ID m	Stack Height m	Number of Stacks	Outlet Gas Temp deg. K	Exit Velocity m/s
	PM_{10} g/s	NO_2 g/s	CO g/s	SO_2 g/s	Odour OU/s	$PM_{2.5}$ g/s					
Protein Recycling Room Air Scrubber #1	0.226	0.073	-	-	6017.3	-	1.68	15.2	1	301.25	18.20
Protein Recycling Room Air Scrubber #2	0.226	0.073	-	-	6017.3	-	1.68	15.2	1	301.25	18.20
Theoretical Boiler[1]	0.045	0.462	0.116	0.002	-	0.045	0.80	11.1	1	440.00	10.00
Holding Pen Stacks[2]	-	-	-	-	Varies	-	Varies	9.60	65	Varies	Varies
Truck Bedding/Manure Solids	-	-	-	-	3.6	-	0.33	8.1	1	301.6	8.5
Hog Trucks	-	-	-	-	105 OU/ sm^2	-	-	-	-	-	-

Notes: 1) Fictional stack to simulate emissions from natural gas use at the site.

2) 65 stacks of varying diameter and fan size.

The model results combined with the assumed background pollutant concentrations have been determined. Table 5.6 includes a summary of the relevant criteria and the predicted airborne parameter concentrations.

Table 5.6: Summary of Parameter Concentrations

Parameter	Units of Measurement	Averaging Period	Maximum Predicted Ambient Concentration	Maximum Acceptable Level Concentration
$PM_{2.5}$	$\mu g/m^3$	24 hour	19.3	30
PM_{10}	$\mu g/m^3$	24 hour	38.1	50
CO	mg/m^3	1 hour 8 hour	3.97 2.23	35 15
NO_2	$\mu g/m^3$	1 hour 24 hour Annual	185.6 103.1 26.1	400 200 100
Odours	OU	3 min	2.19 4.96	2 – residential 7 – industrial
SO_2	$\mu g/m^3$	1 hour 24 hour Annual	171.7 143.1 0.01	900 300 60

In conclusion the modeled parameter concentrations, when combined with the assumed background concentrations do not exceed the referenced criteria based upon the modeled conditions.

Ozone Precursors and Acid Precipitation Precursors

Ozone precursors typically include volatile organic compounds (VOCs), NO_X and CO. Acid precipitation precursors typically include NO_X and SO_2. As NO_X, SO_2 and CO have previously been discussed in detail, they will not be further discussed here. It is estimated that the theoretical boiler (as described previously) may emit approximately 0.09 g/s of VOCs and the protein recycling facility room air scrubber may emit 0.109 g/s of VOCs each. The total VOC emission from the plant will be approximately 0.225 g/s. Manitoba Conservation's Air Quality department does not currently list environmental quality guidelines for general ambient VOC levels.

Greenhouse Gases

Greenhouse gas (GHG) emissions from the proposed OlyWest pork processing facility have been estimated using the procedures set out in Environment Canada's *Greenhouse Gas Inventory*. Reporting of GHG emissions is mandatory in Canada for facilities that emit 100 kilotonnes or more of CO_2 equivalent annually.

When reporting GHG emissions, the reporter is required to disaggregate the emissions by the following source categories: Stationary Fuel Combustion, Industrial Process, Venting and Flaring, Other Fugitive, Waste and Wastewater, and On-site Transportation.

The relevant source categories for the proposed OlyWest pork processing facility are the following: Stationary Fuel Combustion, Industrial Process, Waste and Wastewater, and On-site Transportation.

Under the guidelines, CO_2, methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFC), perfluorocarbons (PFC), and sulphur hexafluoride (SF_6) direct emissions are reported. However, only the direct emissions of HFC, PFC and SF_6 from industrial processes and industrial product use are to be reported where the HFC, PFC and SF_6 emissions from this facility are from applications such as refrigeration, air conditioning and fire extinguishers and therefore are not reported. From industrial processes, HFC, PFC, and SF_6 emissions are described as emissions resulting from a chemical or physical transforming of material, such as HFCs and PFCs used as foam-blowing agents and PFC emissions from anode effects in primary aluminum smelting.

The emissions from the proposed OlyWest pork processing facility are summarized in Table 5.7. The estimation method to determine the quantities of GHG emissions include emission factors and engineering estimates based upon the latest available information. To calculate the total CO_2 equivalent CH_4 emissions are multiplied by 21 and N_2O emissions by 310 to account for their global warming potential.

Table 5.7: GHG from the Proposed OlyWest Facility

Greenhouse Gas Emission Source	Quantity	Quantity Units	Emission Factor	Emission Factor Units	Total Emissions	Emission Units
Stationary Fuel Combustion						
CO_2						
Natural Gas (estimated 10% of total demand)[1]	650,000	m^3/year	1.891	kg/m^3	1,229,150	kg/year
CH_4						
Natural Gas (estimated 10% of total demand)[1]	650,000	m^3/year	0.000037	kg/m^3	24	kg/year
N_2O						
Natural Gas (estimated 10% of total demand)[1]	650,000	m^3/year	0.000033	kg/m^3	21	kg/year
Stationary Fuel Combustion Total CO_2e					**1,236,305**	**kg/year**
Industrial Process						
CO_2						
Natural Gas (estimated 90% of total demand)[1]	5,850,000	m^3/year	1.891	kg/m^3	11,062,350	kg/year
CO_2 Asphyxiation[2]	33,945	m^3/year	1.28	kg/m^3	43,450	kg/year

Total CO_2					11,105,800	
CH_4						
Natural Gas (estimated 90% of total demand)[1]	5,850,000	m^3/year	0.000037	kg/m^3	216	kg/year
Enteric Fermentation[1]	2,200	Estimated average live hog population at plant	1.5	kg/head/year	3,300	kg/year
Manure Waste Management[1]	2,200	Estimated average live hog population at plant	10	kg/head/year	22,000	kg/year
Total CH_4					25,516	
N_2O						
Natural Gas (estimated 90% of total demand)[1]	5,850,000	m^3/year	0.000033	kg/m^3	193	kg/year
Animal Waste applied as fertilizer[1]	2,200	Estimated average live hog population at plant	0.145	kg/head/year	319	kg/year
Total N_2O					512	
Total Industrial CO_2e					**11,800,381**	**kg/year**
Waste and Wastewater						
On-site Aerobic Wastewater Treatment[3]					negligible	
Total Waste and Wastewater CO_2e					**negligible**	**kg/year**
On-site Transportation						
CO_2						
Heavy Duty Diesel Vehicle[1,4]	18,250	L/year	2.73	kg/L	49,823	kg/year
CH_4						
Heavy Duty Diesel Vehicle[1,4]	18,250	L/year	0.00013	kg/L	2.4	kg/year
N_2O						
Heavy Duty Diesel Vehicle[1,4]	18,250	L/year	0.00008	kg/L	1.5	kg/year
Total On-site Transportation CO_2e					**50,325**	**kg/year**
Total CO_2e					**13,087,010**	**kg/year**
				or	**13,087**	**tonnes/year**

Notes: 1) Canada's Greenhouse Gas Inventory 1990-2002, Greenhouse Gas Division, Environment Canada.
2) Assume CO2 chamber is exhausted once per day and CO2 concentration is 70%.
3) Greenhouse Gas Division, Environment Canada.
4) Assumed fuel use 50L/day

Water Vapour

Water vapour will be lost from the hog carcasses as shrinkage, which will eventually be exhausted from the facility. It is anticipated that each hog carcass will lose approximately 2.5 kg of water. The total amount of water lost due to shrinkage will be 22,320 kg of water on a daily basis when the plant is operating at full capacity. No other significant sources of water vapour emissions are anticipated.

Ammonia

There will be no significant sources of ammonia (NH_3) emissions at the site. Fugitive emissions from leaks in the refrigeration systems are possible sources of NH_3 emissions, however this source is expected to be minimal.

Transportation Emissions

During the start-up and operational phase of the project, air emissions will be generated by employee traffic, trucks bringing live hogs to the facility, support services trucks, and final product trucks. These emissions may consist of dust, odours and air emissions typical of vehicular exhaust. As is typical with new developments, total vehicle emissions will likely increase with the additional traffic from the proposed facility. However, with the minimal increase in vehicular traffic from the proposed facility, the increase in emissions, dust and odour is expected to be minimal with standard construction management practices and controls.

Noise Emissions

A preliminary noise screening was completed using the Ontario Ministry of the Environment *Noise Screening Process for S.9 Application Supplement to Application for Approval,* a copy of which is included in Appendix I. Based on the screening, as long as a setback distance of 1,000 m is maintained between the plant building and the nearest area zoned for residential land use, there will be no significant noise impacts. As the closest land zoned for residential use is approximately 1,176 m from the closest edge of the proposed OlyWest building, the 1,000 m setback requirement is achieved.

Noise from truck engines during operation will not be significant as noise limits for vehicles are regulated and as such vehicles are built to comply with these standards. Operational noise generated at the site by two blowers and two evaporative condensers was also considered. Design specifications for each blower (as supplied by SCP Control, Inc.) are 85,000 cfm, 125 Hp and 850 rpm. Design specifications for a typical evaporative condenser were also used. Noise data for the blowers and condensers are 76 dBA (manufacturer specifications at 25 ft removed from noise source) and 86 dBA (at 25 ft removed from noise source, calculated from air inlet manufacturer specification at 5 ft) for the blower and condenser, respectively. As the facility design includes the installation of two blowers and two condensers on the roof of the building, calculations were used to obtain a total noise level of 89.5 dBA (at 25 ft)

representative of all units installed at the facility. With respect to the nearest commercial/industrial and residential receptors (distances to 200 m and 1,300 m, respectively), calculated resultant noise levels attributable to the facility were 61 dBA and 45 dBA, respectively. These noise levels do not account for any background noise present in the area.

It is assumed that the units will be operated according to manufacturer's specifications. Also, the most conservative noise data from the manufacturer's specifications were used in all calculations.

5.3.2.2 Blood Collection and Management

It is expected that approximately 3.83 kg of blood will be collected per hog while 0.48 kg of blood per hog will be lost to the first rinse of the sanitation shift where the first rinse water will be sent to the protein recycling facility for processing. It is therefore expected that 34,425 kg of blood will be collected daily and 172,125 kg of blood will be collected every week that the facility is operating. The collected blood can be sold in liquid form or can be processed in the protein recycling facility to produce blood meal. The decision as to what form the blood will be sold in will depend on market rates.

As the first rinse water used during the sanitation shift will be diverted to the protein recycling system, the blood loss to the on-site wastewater pre-treatment system is expected to be minimal. Dripping blood from the carcass after the carcass has been bled can enter the sewer system, however this quantity is expected to be very small. The only other contributor of blood to the wastewater system is blood collected in the quarantine stall. If a hog from the quarantine stall within the holding facility is deemed unfit for processing, it will be killed and bled prior to being sent to the protein recycling facility. It is estimated that the number of hogs that will need to be killed and bled from the quarantine area on a daily basis is approximately 2-3. This blood will be directed to the rotary screen within the holding facility and after screening the blood will be directed to the wastewater pre-treatment system. It is estimated that approximately 12.9 kg of blood will be sent to the on-site wastewater treatment system daily from the quarantine area. To minimize the phosphorous loading effects from the blood, the phosphorous concentration will be diluted with the inflow of other process water to a level that can be handled within the wastewater pre-treatment system, prior to discharge in the City sewer.

The blood recovery system has a contingency plan built into its management. Having the two process options available, selling as liquid and/or making blood meal, at any time provides the opportunity to divert all the blood into one system if the other is malfunctioning.

5.3.2.3 Wastewater

There are three classifications of wastewater at the proposed facility: sanitary wastewater, truck wash wastewater and process wastewater. The wastewater from the truck wash will be screened using a rotary screen and will pass through a suitable oil and sand interceptor before it is sent to the City sewer line (in accordance with City of Winnipeg By-laws). The sanitary

wastewater will be sent directly to the City sewer line. The process wastewater will be pre-treated on-site to reduce the loads entering the City of Winnipeg NEWPCC. Table 5.8 lists the anticipated effluent load leaving the proposed site on a daily basis. In determining the effluent loads, the truck wash and process wastewater were calculated as one stream and the sanitary wastewater was determined separately.

Table 5.8: Anticipated Wastewater Effluent Characteristics from the Proposed OlyWest Pork Processing Facility[1]

	Time	Anticipated Effluent Load	
		Process and Truck Wash Wastewater	Sanitary Wastewater[2,3]
FLOW DISCHARGED	Daily average over 7 days	2 520 m^3/d	121 m^3/day
	Daily maximum	3 240 m^3/d	170 m^3/day
TOTAL BOD_5	Daily average over 7 days	538 mg/L	215 mg/L
		1 355 kg/d	26 kg/day
	Daily maximum	815 mg/L	217 mg/L
		2 055 kg/d	37 kg/day
TOTAL COD[4]	Daily average over 7 days	720 mg/L	theoretical data unavailable
		1 814 kg/d	
	Daily maximum	1 080 mg/L	theoretical data unavailable
		2 721 kg/d	
TSS	Daily average over 7 days	72 mg/L	240 mg/L
		182 kg/d	29 kg/day
	Daily maximum	104 mg/L	241 mg/L
		262 kg/d	41 kg/day
TOTAL PHOSPHOROUS	Daily average over 7 days	1.7 mg/L	8.2 mg/l
		4 kg/d	1 kg/day
	Daily maximum	3.6 mg/L	8.2 mg/L
		9 kg/d	1.4 kg/day
TOTAL NITROGEN	Daily average over 7 days	163 mg/L	58 mg/L
		410 kg/d	7 kg/day
	Daily maximum	250 mg/L	59 mg/L
		630 kg/d	10 kg/day
TOTAL OIL & GREASE	Daily average over 7 days	25.5 mg/L	theoretical data unavailable
		64 kg/d	
	Daily maximum	32.5 mg/L	theoretical data unavailable
		82 kg/d	

Notes:
1. Estimates provided by Olymel.
2. Based on 1, 134 employees.
3. Based on theoretical data for daily urban discharge: 250 L/person/day X 60% = 150 L/employee/day.
4. Based on BOD/COD ratio from Olymel Vallee-Jonction results.

It is not anticipated that there will be any significant monthly variations in the wastewater effluent quality and quantity with the possible exception of extended plant shut down for vacation, etc.

Endocrine disrupting compounds (EDCs) are becoming of greater concern to the health and welfare of everything from people to the environment, as they are found everywhere but in differing quantities. Studies of the effects of EDC are sill in the early stages, and as a result, regulatory characterization and quantification is still in its preliminary stages. As such, there is no available data for likely levels of EDCs in wastewater effluent from a hog processing facility and Olymel has not collected any data on EDCs in hog plant effluent in the past.

5.3.2.4 Surface Runoff

Surface runoff will be generated from paved and compacted gravelled areas, the building roof as well as grassed areas of the property during precipitation events and during spring snow melt. The surface runoff will be collected using ditches and catch basins and will drain by gravity to a retention pond located to the east of the plant building. A detailed design of the surface drainage plan has not been completed as of yet, however the drainage plan will conform to all relevant regulations and standards. As such, the retention pond will be sized for two consecutive 1 in 25 year storm events.

The potential pollutants that may accumulate and be transported off the property would be typical of other storm water retention ponds within the City. In the hog unloading bays, the unloading area will be equipped with a trench drain which will discharge to the City sewer line and will not be connected to the retention pond system. This will ensure that any small amounts of manure that could potentially fall out of the truck during unloading and a small amount of storm water are not transported to the retention pond. As all process wastewater, blood, chemicals, and other potential liquid pollutants will be contained within the facility and within pipes, the potential for surface runoff to become contaminated by these substances is minimized. Further, storage tanks located outside of the facility will be inspected on a regular basis for leaks and damage to ensure that pollutants are not transported off-site by surface runoff.

5.3.2.5 Sludge and Solid Wastes

As the proposed OlyWest pork processing facility will utilize an on-line continuous protein recycling system, all pork by-products that cannot be sold will be processed on-site. There are no animal by-products that cannot be sent to the protein recycling facility for processing. Sludge generated from the on-site wastewater pre-treatment will be sent on a continuous basis to the protein recycling facility for processing. It is estimated that approximately 90 m^3 per day of wastewater pre-treatment sludge will be generated with an approximate solids content of 6%. Dead on arrival hogs and hogs that arrive sick at the facility and the veterinarian deems unfit for processing will also be sent on a regular basis to the protein recycling facility for processing. It is estimated that 2-3 hogs will be considered too sick to be sent for processing per day and that there will be approximately 8-15 DOA hogs per day

General garbage will be divided into two categories: domestic waste and recyclable waste. Domestic waste will be compacted in one of three compactors located on-site to reduce the volume of material for disposal. The domestic waste will then be disposed of at an authorized landfill. It is expected that approximately 150 tonnes/yr of domestic waste will be disposed at a landfill. The recyclable waste will include cardboard and paper. It is anticipated that 150 tonnes/yr of cardboard and 156 m^3/yr of paper will be recycled.

The oils and sand from the on-site truck wash interceptor will be disposed of according to all relevant regulations and standards.

Screened material from the on-site truck wash, solid manure from the on-site holding facility and bedding material from the incoming trucks will be temporarily stored in an enclosed bin on-site then follow one of three options for disposal. Approximately 3,000 tonnes/yr (12,000 kg (26,455 lb) per day) of material will be scraped out of the trucks. The manure from the holding facility (conservatively estimated at 469 tonnes (1,033,968 lbs) per year will also be collected in the container. The preferred disposal option is to use the manure and bedding material as a crop nutrient source through land application. All collected material would be moved off-site daily to agricultural land and stored in compliance with regulations set by *MLMMMR*. Land application will also follow the *MLMMMR*. The contingency plan is to dispose of the material in a licensed landfill with an option for composting in the future. These disposal options would also comply with all relevant regulations and standards.

5.3.2.6 Other Wastes

The proposed facility is expected to generate 3,485 L of used oils per year, and 1,200 L of used solvents per year. As a result it will register and obtain a provincial registration number in accordance with the Generator Registration and Carrier Licensing Regulation (Manitoba Registration 175/87) under the *Dangerous Goods Handling and Transportation Act (DGHTA)*. All hazardous waste collected on-site will be handled and disposed of by authorized salvage dealers under the *DGHTA*.

The National Pollutant Release Inventory (NPRI) is a reporting procedure for any facility that manufactures, processes, or uses substances on the NPRI list in quantities of 10 tonnes or more per year and whose employees work in excess of 20,000 hr/yr collectively. The NPRI is a Canadian national inventory of chemicals released into the environment. It consists of 323 substances (Appendix J) with specific information pertaining to the origin and activities involving the substance, the quantity released to the environment and the quantities to be shipped off-site as waste. This information is provided by the user, updated yearly and year-to-year variations must be explainable. The proposed OlyWest pork processing facility will utilize NPRI reporting as at least one of these chemicals (ammonia refrigerant) will be used in sufficient quantities at the proposed facility. The list of chemicals will be reviewed by OlyWest periodically in the future to ensure that they remain in compliance with these requirements.

5.3.3 Process Upset

5.3.3.1 Fire

In the event of a fire at the proposed facility, it is expected that similar pollutants released in any fire will be present. Bulk masses of all chemicals are not anticipated to be affected by a fire as the chemical storage rooms will be designed following Manitoba Fire Codes, and chemicals stored outside of this room all have a concrete secondary containment, so pollutants should not be released from these chemicals.

5.3.3.2 Accidental Spills and Releases

Accidental spills and releases can potentially release large amounts of pollutants, depending on the size of the spill. However, as the chemical storage room and chemical storage tanks will be equipped with secondary containment, potential pollutant release will therefore be minimized. In any case, mitigation measures will be enacted in the case of accidental spills and releases to recover the materials and/or restrict migration of pollutants in a safe manner.

5.3.3.3 Transport Accidents

As live hogs, packaging products, final products, chemicals, and diesel are all transported to the site by truck, there is potential for pollutant release due to transportation accidents. If the accident occurred between two vehicles, then any liquid found in a vehicle such as, gasoline or diesel fuel, antifreeze and oil, can be exposed as well as the material the vehicles were transporting. If the transportation accident involved a truck carrying live hogs, there is the potential to release bedding material, manure and/or hogs. Dangerous goods transported to or from the plant site will be transported in accordance to the *DGHTA*.

5.3.4 Degree of Recycling, Waste Minimization and Energy Efficiency

Cardboard and paper waste generated at the proposed OlyWest facility will be recycled to the extent practical. Furthermore, all hog by-products that cannot be sold, DOA hogs and wastewater sludge will be recycled in the protein recycling facility to produce marketable products. Water used for cooling in the protein recycling facility will be recycled and used during the sanitation shift. Also, water from the dehairing machine will be reused for cleaning within the hog holding facility. Energy efficiency is also a key consideration in the design of the ventilation system in the hog holding facility. The holding facility ventilation is achieved through roof mounted intakes with louvered controls, heat exchangers and numerous exhaust fans with check valves mounted within the exhaust chimneys. The exhaust chimneys are located over the entire holding pen area. While holding pens at other facilities have wall mounted exhaust ports, the roof mounted system aids in dispersing any odour generated in the pens. The louvers are controlled by multi-zone thermostats within the holding area (with a target temperature of approximately 18 to 23 ºC (65 to 75 ºF)) and a room air change rate of 6 exchanges per hour in the winter and 60 exchanges per hour in the summer. The temperature controlled louvers, the heat exchangers and the check valves all assist in increasing the energy efficiency of the facility.

5.3.5 Material Balance

Figures 5.1 and 5.2 indicate the process mass balance and a cut room mass balance for the proposed OlyWest pork processing facility, respectively. Bulk inputs to the process are live hogs, CO_2, citrate, water, packaging, and cleaning and maintenance chemicals. Outputs are packaged products, tallow, blood meal, meat and bone meal, and pre-treated wastewater. Packaged products, tallow, blood meal, meat and bone meal, and by-products will all leave the plant by truck. The pre-treated wastewaters will be transported by interceptor sewer to the City of Winnipeg NEWPCC for final treatment.

The process mass balance is based on the processing of 9,000 hogs per day using two worker shifts, with a processing line speed of 600 hogs per hour.

Figure 5.1 shows a detailed schematic diagram of the process and mass balance in the kill area as a typical hog passes through the plant. The incoming live weight of hogs, on average, will be 116.05 kg. After asphyxiation, each animal will be bled and lose about 4.31 kg of blood, followed by hair removal, losing 1.12 kg of hair. The carcass is eviscerated and the stomach, small intestine (casing) and rectum are removed. The small intestine is emptied, salted and packaged, while the stomach and rectum are washed and classified as edible offal. Next, organs are harvested as product, pet food or rendering depending on the organ and quality. The heart, liver, skirt, and kidneys are sent for packaging. Kidneys, hearts and livers that are considered unsuitable for human consumption are sent to either the pet food area or to the protein recycling area depending on market prices. Also sent to the pet food area or protein recycling area are lungs, spleen and inedible skirts. The head is then removed, from which the tongue, cheek meat, snout, and ears are removed for sale. The skull, gullet, blood clots, leaf lard, any meat that is contaminated from falling on the ground or due to cutting procedure, along with the large intestine, remaining viscera, bones, and trimmings are sent to the protein recycling facility. The remaining carcass, is split, inspected and sent to the snap chill area. In the snap chill and carcass cooler areas, the carcass loses approximately 2.24 kg to shrinkage.

Figure 5.2 shows a detailed schematic diagram of the process and mass balance in the cutting room where the carcass (in two halves) is apportioned into various cuts and deboned as required. The primary cut includes ham, loins, bellies, spareribs, picnics, and butts. The secondary cuts include tails hind feet, trimmings, belly skin etc. The total primary cut is 66.13 kg and the total secondary cut is 12.59 kg, with 0.23 kg lost as shrinkage. A detailed mass balance and cut balance is also included in Appendix K.

5.3.6 Water Balance

The facility requirements for potable water and the wastewater production are outlined in Table 5.9, on a per animal basis as well as a daily basis as estimated by Olymel.

Table 5.9: Water Requirements and Wastewater Production

Water Requirements	
General Processing	240 L/hog
Edible Department	40 L/hog
Truck Wash	35 L/hog
Protein Recycling	45 L/hog
Evaporative Condenser	40 L/hog
Total Water Requirements	**400 L/hog**
Processing Requirement at 9,000 hogs per day	**3,600 m^3/day**
Weekend Requirement	**800 m^3/day**
Wastewater Production	
Maximum Truck Wash and Process Pre-treated Wastewater	3,240 m^3/day
Maximum Sanitary Wastewater	170 m^3/day
Total Maximum Wastewater Production	**3,410 m^3/day**

It is assumed that there will be approximately a 10% loss in water consumed as steam with 90% of the water consumed leaving the facility as wastewater. Water consumption and wastewater production will be monitored using volumetric flow meters.

5.3.7 Decommissioning

Currently, the anticipated lifespan of the proposed facility is well over 50 years. As a result, there are no detailed decommissioning plans in place at this time. Section 10 includes a description of the general steps that will be followed in the decommissioning of the proposed facility. As relevant rules and regulations pertaining to the decommissioning of the proposed facility will be followed, pollutant exposure levels from the proposed facility and site during decommissioning are expected to be minimal.