Responses to Public, Technical Advisory Committee and Clean Environment Commission Requests for Additional Information Regarding the OlyWest Proposal

Prepared by:
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Technical Advisory Committee Comments and Responses (T-Series)

To: Moche, Clem (CON)
Subject: OlyWest Pork Processing Facility Environment Act Proposal

Hi Clem,

Please find attached my comments on behalf of MAFRI on this EAP. Some changes are needed to the background information on the subsection on soils in Part 2.4 as indicated in my comments. My department has identified no concerns with this proposal from an agricultural perspective.

Call if you have any questions!

Thanks,

Sheri

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I have reviewed this Environment Act Proposal on behalf of Manitoba Agriculture, Food and Rural Initiatives. Land proposed for this site has been zoned M3 in the City of Winnipeg Zoning By-law and is located within an Industrial Park. Soils at this site have been mapped at a reconnaissance scale (1:126,720) as published in the Report of Reconnaissance Soil Survey of Winnipeg and Morris Map Sheet Areas by Manitoba Soils Survey (Ehrlich et al.,1953).

T1

The Winnipeg and Morris soil survey is referred to in Section 2.4 of this Environment Act Proposal, under subsection 2.4.1 Soils of the Winnipeg Area, and mention is made of several "soil series" in the study area. The proponent should be aware that these soils were mapped on a reconnaissance scale and the mapping units are in fact "soil associations", and not "soil series". A **soil association** is a sequence or family of related soils formed from similar parent material from different landscape positions resulting in different profile characteristics. These soils are adjacent to one another from hilltop to depression. Variation in soil horizons is caused by the amount of water available at each point along the slope as a function of infiltration, runoff, run-on and proximity to the water table. Each soil type located along the slope is a **soil series** (ie. a soil association is composed of more than one soil series) (Soil Management Guide, 2005, MAFRI).

In a detailed soil survey (scale of 1:50,000 or 1:20,000), where close examination can be made of each individual field or small holding, the various soil associates of the Red River association could be separated into mapping units and designated by Series names. In a reconnaissance soil survey, however, the soils are observed and mapped from two sides of each quarter section only, and the scale of mapping is too small to permit each soil associate to be shown accurately as a unit area on the soil map. Consequently, in most cases, the unit shown on a reconnaissance soil map is the association. In regard to the Red River soil association in the Winnipeg area, however, it was possible to make three separations and to show, on the reconnaissance soil maps, the location and distribution of the areas where certain soil associates were found to be dominant. Where poorly drained soils predominate, they are delineated and shown on the soils maps as the Osborne clay associate, and the inclusion of other associates, salinized and degraded soils is indicated by standard symbols.

Therefore, section 2.4.1 should actually read, "The study area includes several soil ***associations***, including the Red River, ***with its poorly drained associate of*** Osborne clay, ***and its wooded associate of*** St. Norbert, Fort Garry and Riverdale ***Associations*** (Figure 2.4) (Ehrlich et al., 1953) : only two ***have been mapped*** in the area of the proposed OlyWest site. These are the Osborne ***associate*** and ***the*** Fort Garry soil ***association."*** It is our recommendation that the last sentence of this subsection be deleted as the scale of mapping used does not lend itself to this degree of specificity. It would be beneficial to add here that the scale of mapping used in this soils report gives only a broad picture of the dominant soils and their relative distribution over a large area, and that based on this report, soils in the area are predominantly clay soils, which range from imperfectly to poorly drained.

In regard to subsection 2.4.1.1, Osborne Series, this should again refer to the Osborne ***Associate***. The description as provided is relevant for describing the typical soils within the Osborne associate as mapped on a reconnaissance scale and can otherwise remain as written. However, subsection 2.4.1.2 describes the Fort Garry Series, which would be the typical mid-slope soil representative of the Fort Garry Association. Since the Fort Garry Association is mapped within the study area, it would be better to describe the association in subsection 2.4.1.2, rather than the soil series. Therefore, the heading should be "Fort Garry ***Association***" and the accompanying description should be changed accordingly. Basically, soils of the Fort Garry association are developed on a clay and silty clay mantle which lies over strongly calcareous silty and fine sandy clay. The clay mantle may be from 15-50 cm in thickness and tongues into the pale yellow underlying material on which it rests. A lacustrine clay substrate lies beneath these sediments. The dominant associate is well drained, but a considerable acreage of poorly drained soil associates also occur within this association and are highly calcareous with some degree of salinity present.

Comment noted.

Information on the detailed geotechnical and soils investigation performed at the proposed OlyWest site, which included the drilling and sampling of 12 deep testholes and 17 shallow testholes, is provided in section 2.4.2 and Appendix A of the proposal.

T2

In Section 4.0 Process Description, subsection 4.3.3 Solid Waste outlines the options for disposing of the manure and truck bedding material. We strongly support the use of the first option, which is the application to land as a crop nutrient. Under LMMMR, no manure can be applied to land except as a fertilizer, and there are regulations on the amount of residual nitrogen that can remain in the soil after crop uptake and during the growing season, which are based on the agricultural capability of the soil. An annual manure management plan should be required, with annual soil testing of fields to which manure will be applied, to ensure that application reflects the crop requirements for nitrogen.

Comment noted. If land application of solid wastes is utilized, a manure management plan following the MLMMMR will be prepared.

T3

The last paragraph under the heading of Construction in Part 7.1.4 Soils, of Section 7.0 Mitigative Measures for Construction and Operation, begins with the sentence "The loss of the limited agricultural capability soil will be partially offset by topsoil salvage and re-vegetation; therefore residual impact is rated low". The agricultural capability of the land in question is Class 2 and 3, which is prime agricultural land. This should be better clarified in the sentence, or the reference to agricultural capability removed. The proposed site is located within an area zoned for industrial use and will ultimately be used for that purpose. We have no concerns from an agricultural perspective with the mitigative measures proposed to reduce residual impacts to soil during the construction process.

It was our understanding from the Canada Land Inventory reports that soil Classes 2 and 3 have moderate to moderately sever restrictions that restrict the range of crops, thus the soils were not considered prime agricultural land. However, the reference to agricultural land capability can be removed.

My department has no concerns with this proposal from an agricultural perspective, although we would like to see revisions to the background information on soils provided in subsection 2.4 as indicated above.

To: Moche, Clem (CON)
Subject: reply Memo – Olywest 515500

Hi

Please find attached. A signed copy is here on file and will not be forwarded unless requested.

Thank you.

Jeremy Angus
Planning & Coordination
Ecological Services
Water Stewardship
945-1007

Manitoba Water Stewardship has reviewed the above noted proposal. We offer the following comments for your consideration:

T4

On Table 5.8, daily maximum loads from the "process and truck wash wastewater" should be calculated with daily maximum flow (3,240 m3/d) rather than daily average flow (2,520 m3/d). Peak daily loads described on pages 6-14 and 6-15 should also be updated with the amended peak nitrogen and phosphorus loads.

As the on-site wastewater pre-treatment will utilize an equalization tank, the effluent flow from the plant is expected to be at a constant rate (average flow). As such, the daily maximum loads in kg/day were determined by OlyWest by using the peak loading concentration in mg/L and the average flow volume from the plant.

T5

On Page 6-21, the proponent indicates that "on a provincial basis, nutrient loading has been demonstrated to be insignificant". In fact, nutrient loading is expected to have a moderate, negative, long-term, continuous and irreversible impact (page 6-54). While this impact can be mitigated through cooperation with the City of Winnipeg, the seriousness of the impact of nutrient loading should not be underestimated. A short discussion on the potential impacts of nutrients on the aquatic environment is warranted, as the Red River does have an internationally recognized sport fishery and enters Lake Winnipeg, where a significant sport and commercial fishery exists.

The environmental examination of the proposed Olywest plant was conducted utilizing a pre-defined set of criteria (see Table 6.1 on page 6-2 of the report). These criteria were established to give a level of significance to any impact that was detected during the course of the environmental assessment.

The impact assessment tables referred to (page 6-54) in your question were initially constructed to assist the assessors of the project in understanding where significant impacts likely could occur. Each of the impacts that fell into these categories necessitated the inclusion of appropriate mitigation and/or redesign.

The assessors and the proponent for the OlyWest project were aware and highly sensitive to the issues associated with nutrient loading in Lake Winnipeg. It was in fact this issue that led to the inclusion of phosphorus removal via primary treatment at the OlyWest site (Section 4.3.2, and section 6.3.3.4) and nitrogen removal by the

City of Winnipeg (section 6.3.3.3 and section 6.3.3.4) as part of the primary design requirements of the plant. As the report points out, the increased nutrient loading to Lake Winnipeg *as a result of the construction and operation of the OlyWest Processing Plant* is expected to be negligible and insignificant.

While a discussion as to nutrient loading and its effects on the Red River, its fishery resources and Lake Winnipeg would be interesting, we do not see its application to the project at hand. We believe that by mitigating any potential for significant effects to Lake Winnipeg, the impacts to these systems are avoided, and therefore beyond the scope of the environmental assessment. Significant literature already exists on the potential impacts of nutrients on the aquatic environment encompassed by these water bodies, and a sampling is as follows:

Nutrients in Lake Winnipeg Part 1: Long-term Trends and Nutrient Sources
Nicole Armstrong, Manitoba Water Stewardship

Nutrients in Lake Winnipeg Part 2: Actions underway to reduce Nutrient Contributions
Dwight Williamson, Manitoba Water Stewardship

Translating Phosphorus Expert Committee Recommendations into Regulation Al Beck, Manitoba Conservation

Winnipeg's Wastewater Improvement Program
Nick Szoke, City of Winnipeg

A Loading Model for Lake Winnipeg - Implications for Watershed Nutrient Management Mike Stainton, Department of Fisheries and Oceans

T6

Page 6-26 suggests that the human health risks associated with pollutants released into the environment will be assessed and while both air and water emissions are mentioned, no discussion is provided on human health risks associated with water emissions.

OlyWest will discharge their pre-treated wastewater to the City of Winnipeg NEWPCC for final treatment. As stated in the City of Winnipeg's Water and Waste Department Environmental Impact Statement (2003), risks to health are typically characterized by the microbiological content of the water. Specifically "the concentration of fecal coliforms in water is used by Manitoba Conservation and other regulatory agencies as an indicator of risk to human health". The City of Winnipeg NEWPCC operates under an environmental licence which includes licence limits for fecal coliform content. The City of Winnipeg has committed to treating OlyWest's pre-treated effluent and will continue to meet the requirements of their environmental licence.

T7

Page 9-2 indicates that the liquid effluent from the proposed facility will be monitored monthly for BOD, soluble BOD, COD, soluble COD, ammonia nitrogen, total nitrogen, TSS, total oil and grease, total phosphorus, alkalinity, and pH. Given the volume of effluent produced, it is recommended that the facility undertake at minimum weekly monitoring. Nitrate-nitrite and total Kjeldahl nitrogen should also be added to the list of variables monitored. The Water Quality Management Section would appreciate an electronic copy of these effluent monitoring results along with weekly effluent volumes.

As OlyWest will be discharging their pre-treated wastewater to the City of Winnipeg, OlyWest must comply with the requirements of the City of Winnipeg Sewer By-law 7070/97. The Sewer By-Law states that "The Sewer Utility may require a person to analyze or install approved monitoring equipment to determine the character or characteristics of the wastewater discharged by the person. The results of such analyses or monitoring shall be submitted periodically to the Sewer Utility at such intervals as may be specified."
OlyWest will provide monthly monitoring and reporting to the City of Winnipeg as required.

T8

The proponent has indicated that the City of Winnipeg's North End Water Pollution Control Centre will increase their nitrogen removal capacity to compensate for the additional nitrogen load expected from the proposed facility. Similarly, the additional phosphorus load generated by the proposed facility should be removed from the City of Winnipeg's effluent prior to discharge to surface water. We recommend the City of Winnipeg's *Environment Act* licenses be amended to include the requirement to remove the additional nitrogen and phosphorus. In addition, total nitrogen and total phosphorus loads discharged from the proposed facility will need to be monitored closely to ensure that additional nutrient removal is not required by the City of Winnipeg to meet their commitments under the Lake Winnipeg Action Plan.

The City of Winnipeg is not a proponent or co-proponent of the proposed development. OlyWest expects that its application will be considered on its own merits in a reasonable time frame.

T9

No information was provided by the proponent on proposed water efficiency measures.

As described in Section 11.2 on page 11-3, OlyWest will employ conservation measures to make efficient use of resources. Conservation of water resources will, for example, be enabled through a water recycling program whereby water used in the dehairing process will be recovered and used for washing in the holding facility. It should be further noted that the economics of water usage at a food processing facility make efficient use of water an ongoing endeavour in the daily operations of the plant.

T10

Information provided by the proponent on the potential impact of endocrine disrupting substances on the aquatic environment was quite general. For example, Table 6.6 provides general information on sources of endocrine disrupters from a wide range of activities including harbours and pulp mill effluents and is not helpful in this assessment of the potential impacts of a proposed food processing facility. Considerable information exists in the literature on endocrine disrupting compounds associated with manure and food processing facilities. In addition, impacts of endocrine disrupting substances on the aquatic community are well documented. I would recommend that the proponent provide a more thorough review of the relevant literature and identify endocrine disrupting compounds that may be present in liquid and solid wastes produced by the proposed facility. An assessment of the potential impacts, proposed monitoring and mitigation should also be included.

In preparing the environmental assessment of the OlyWest plant, significant research was done into the issue of endocrine disrupting substances, referred to as EDCs or Endocrine Disrupting Compounds in the guidance document. Our review included specific research into hog operations, plus the most current research by both the Canadian federal government (Environment Canada) and the United States federal government (US EPA). In all cases, the information does not offer conclusive material with regards to a variety of issues, including:

- **A list of definitive EDCs**
- **The assay methods for determining effects**
- **The pathways involved**
- **Effects of municipal treatments**

The US EPA has established a large task force that has been working since 1996 to establish the methodology to develop a priority list of substances, and have yet to complete this task. They have established a list of over 87,000 potential EDCs, and are working towards a more compact list of substances once they develop the science to both detect and analyze these compounds. Much of the work has centred around pesticides and other industrial contaminants that have the potential to effect hormonal functions.

In Canada, alkylphenols, tributyltin, selected pesticides and industrial chemicals are being evaluated. Research activities centre around cause and effect relationships in order to protect the environment, and such research is ongoing. In addition, there has been evidence established that there may be some potential for high concentrations of estrogen and its derivatives in solid organic wastes, including all livestock manure and even human waste. This has the potential at high concentrations to effect reproduction in fish, or other aquatic organisms. To date, the pathways and the ability to determine effects is not available.

When the known science was applied to the OlyWest project, the focus was therefore to concentrate on the fate of the manure in the plant. Section 6.3.3.4 *Endocrine Disruptors* discusses this issue. Our discussion concludes with the fact that the amount of organic waste (manure) that will be contained in the effluent will be <1% of the total daily loading going to the NEWPCC. We therefore conclude that the effects will be insignificant based on the loadings currently received by the City of Winnipeg.

Further, we discussed the issue with the City of Winnipeg and reviewed their license and environmental assessment with regards to EDCs. The City of Winnipeg will ultimately be responsible for discharging the effluent into the receiving water bodies (Red River). It should be noted that at the current time, there is no indication that any EDC type effects have been observed in the aquatic community below the NEWPCC even after fairly extensive studies. The City of Winnipeg has also committed to keep apprised of the science related to EDCs and if or when such science indicates a need to establish treatment protocols, then they will of course comply.

We therefore conclude in our assessment that:

- **The potential volumes will be insignificant**
- **The developing science will be monitored**
- **If any future issues arise, the City of Winnipeg will accommodate the solutions**

In terms of the potential EDCs in waste products that are hauled from the plant for field spreading, the amounts are again at the <1% of the provincial total. This was again why we indicated that there is an insignificant or nil effect from the plant.

The OlyWest plant does not expect to discharge any significant amounts of EDCs, due to the variety of processes utilized including protein recycling, primary treatment, and animal delivery and management systems that minimize waste byproducts.

T11

The Water Quality Management Section is concerned with any discharges that have the potential to impact the aquatic environment and/or restrict present and future uses of the water. Therefore it is recommended that the license require the proponent to actively participate in any future watershed based management study, plan/or nutrient reduction program, approved by the Director, for the Red River and Lake Winnipeg.

This facility has been designed with an on-site wastewater pre-treatment system in order to reduce the nutrient load in the effluent and reduce the impact on the environment. The pre-treated wastewater will be further treated at the City of Winnipeg North End Water Pollution Control Centre which has committed to meet its environmental licence requirements. OlyWest is committed to operating in an environmentally responsible manner but would be concerned about any licensing conditions that are unreasonably open-ended.

T12

According to section 5.1.2, the proposed plant will use potable water from the City of Winnipeg. In case of municipal water supply, proper backflow prevention should be provided as per the provincial plumbing code and the WCS AWWA Cross Connection Control Manual or CSA B64.10-01 Manual for the Selection and Installation of Backflow Prevention Devices. Cross connection protection should be commensurate with the degree of backflow hazard.

Comment noted. All infrastructure associated with the project will be installed following all applicable codes.

T13

In section 2.8, the numbers and locations of groundwater wells are identified. Section 9.3 describes the proposed groundwater monitoring. However, it is not clear whether the consultant collected any baseline groundwater quality data.

OlyWest will develop a groundwater monitoring program through consultation with Manitoba Conservation. The program will consist of the installation of monitoring wells on-site and routine monitoring events. It is likely that the monitoring wells will be installed prior to construction of the OlyWest facility and groundwater monitoring and sampling will be undertaken to determine the existing groundwater conditions prior to construction.

T14

The proposed activities should not degrade the groundwater and surface water qualities on adjacent properties and make these unsuitable for use as drinking water sources. The consultant should identify such activities and recommend appropriate mitigation measures if required.

Tables 6.17 and 6.18 summarise the potential surface water and groundwater impacts during the construction and operation phases of the project respectively. As indicated in the tables, there are no significant impacts to surface water or groundwater anticipated as a result of the proposed development.

T15

As surface runoff from the site is being directed to an offsite retention pond through to the St. Boniface retention ponds to Dugald Drain and then into the Seine River, there is limited concern with contaminants entering this river and potential to affect fish. It might be appropriate to have some baseline water quality monitoring done of the water being discharged from the new retention pond to the St. Boniface retention ponds in the event of a future flood that exceeds the holding capacity.

The retention pond will be owned and operated by the City of Winnipeg, and as a result should monitoring of the pond be required, it would be the responsibility of the City.

T16

The proponents, during the construction phase and until the site area is stabilized, should also put measures in place to minimize the transport of sediment into local storm drainage that occurs from vehicles entering and exiting the site.

As described in Section 7.1.1.1 OlyWest will utilize erosion and sediment control best management practices during construction to reduce the risk of sediment travelling off-site during construction.

To: Moche, Clem (CON)
Subject: TGS Comments – Env Act Client 5155.00 – Olywest Winnipeg Pork Processing Plant.

Manitoba Transportation and Government Services has reviewed the above-noted proposal as requested by T. Braun in a letter dated Aug. 29, 2006. This Dept. has no concerns.

Alvin Dyck, B.Sc.(Env.)
Environmental Screening Technician
Highway Planning & Design Branch
Manitoba Transportation & Government Services
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Comment noted.

From: Popplow, James (HEALTH)
Subject: MB Health comments on the EAP – Olywest MN Ltd Partnership Pork Processing Facility

Manitoba Health is in receipt of the Olywest documents forwarded by your office on August 29, 2006. A copy of the complete proposal has been forwarded to the Medical Officer of Health, Winnipeg Regional Health Authority.

We are cognizant of the fact that the Minister of Conservation has directed the CEC to conduct a complete public review into the proposed facility, which will lead to a recommendation to government by the CEC on whether or not this proposal should be licensed.

The CEC hearing's terms of reference requires the CEC to make specific recommendations to address:

- any environmental and community impacts respecting odours, noise, aesthetics, dust and increases in truck traffic;
- the potential environmental impacts of the construction and operation of the proposed new hog processing plant on the environment including surface water, groundwater, wildlife and dust;
- the incremental environmental impacts of the additional pre-treated waste water on the quality of the water and the downstream uses of the Red River and Lake Winnipeg; and
- any socio-economic, social, cultural and health impacts directly related to the environmental impacts of the proposal.

Further, if the CEC recommends an Environment Act licence be issued, the terms of reference require additional recommendations to address:

- the potential environmental impacts of the construction and operation of the proposed new hog processing plant on the biological and physical environment;
- the potential environmental impacts from a sludge and solids management program associated with the waste-water pre-treatment and rendering processes;
- the incremental environmental impacts of the additional pre-treated waste water that would be sent to the City of Winnipeg's North End Pollution Control Centre, plus additional releases of waste water from affected combined sewer overflows on the quality of the water and the downstream uses of the Red River and Lake Winnipeg;
- the measures proposed by the City of Winnipeg to ensure that pre-treated waste water from OlyWest will allow the North End Pollution

Control Centre to remain in compliance with the Environment Act Licence and the interim nutrient reduction targets for phosphorus and nitrogen will be met;

- the environmental impacts of odours, noise, esthetics, dust and increases in truck traffic;
- socio-economic, social, cultural and health impacts directly related to the environmental impacts of the proposal;
- measures proposed by OlyWest to mitigate any adverse impacts resulting from the proposal and to manage any residual adverse effects; and
- monitoring programs and future research that may be proposed by OlyWest or as may otherwise be deemed appropriate.

Manitoba Health is satisfied that the funded CEC hearing will fully discuss the items of interest with regard to health impacts directly related to the environmental impacts of the Development.

Therefore, we do not expect to have further comments on this proposal until after the CEC hearings conclude and probably not until any future meeting of the technical advisory committee.

Jim Popplow
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Healthy People, Healthy Environment, Healthy Economy

From: W.P. Barto
Subject: EA Proposal: Olywest MB Limited Partnership Olywest Pork Processing Facility (File No. 5155.00)

T17

1. The EIA states that none of the plant species on the proposed OlyWest site are classified as being rare in Manitoba. However, Riddell's goldenrod (*Solidago riddellii*) is considered rare in Manitoba (it is ranked S2 in the Manitoba Conservation Data Centre [CDC]) and is listed as Threatened under the Manitoba's Endangered Species Act and as Special Concern under Canada's Species at Risk Act (www.gov.mb.ca/conservation/wildlife/managing and www.sararegistry.gc.ca/species/speciesDetails_e.cfm?sid=640, respectively).

Comment noted. Should an environmental licence be granted to the proposed development, a pre-construction inspection would be conducted at the site by a qualified person and if species of concern are observed, OlyWest would contact the Biodiversity Conservation Section of the Wildlife and Ecosystem Protection Branch to discuss possible mitigation options.

T18

2. The report notes northern harriers (*Circus cyaneus)* as hunting and nesting on the site. This is significant because it may indicate the area provides habitat that could support short-eared owls (*Asio flammeus*) that are designated as Special Concern by SARA legislation. The proponent should conduct a survey to see if this owl is present.

Please refer to Response T17.

T19

3. There is a typographical error in Appendix B under the long-eared owl (*Asio otus*) section. Currently the report reads 'this special of owl is unpredictable in its breeding distribution'. Special should be "species".

The proponent needs to be aware that if Riddell's goldenrod or short-eared owls (or any other rare or endangered species) are present, removal or destruction of individuals or their habitat may be in contravention of Subsection 10(1) "Prohibition" of The Endangered Species Act (Manitoba). In addition, the federal Species at Risk Act prohibits any activities that kill or otherwise harm COSEWIC listed plant or animal species and prohibits destruction of habitat for these species. It is the responsibility of the proponent to inspect the area prior to and during construction to determine if these species may be impacted. If species of concern are present, the proponent must contact the Biodiversity Conservation Section of the Wildlife and Ecosystem Protection Branch (Nicole Firlotte, 945-6998) to discuss possible mitigation options.

Note: Since many areas of the province have never been thoroughly surveyed, the absence of data in the CDC database in any particular geographic area does not necessarily mean that species or ecological communities of concern are not present. The information should therefore not be regarded as a final statement on the occurrence of any species of concern nor can it substitute for on-site surveys for species that will be impacted by the construction.

All proponents who conduct biological surveys in conjunction with their developments are asked to share that data with the Biodiversity Conservation Section. This will provide important updates to the CDC database.

Comment noted. Please refer to Response T17.

T20

4. Volume I:
   1. 3.2 On-site Facilities, page 3-2, 3rd paragraph: The proposal notes that "no specific provisions have been made for point source air emission monitoring facilities as meat processing and rendering facilities are not typically required to monitor emissions." Given that odour has been identified as a significant issue with this proposal, some point source air sampling should be required once the facility is operating to verify the odour emissions rates that were used in the assessment. I would recommend, therefore, that the proponent be required to install source sampling facilities to enable this sampling.

OlyWest understands that, should the proposed development be granted an environmental licence, the license would likely contain a reasonable odour nuisance clause. The odour nuisance clause relies upon complaints from the community to determine what an unacceptable ambient odour level is. As the odour nuisance clause does not require odour source measurement, there is no need to install specific point source air emission monitoring facilities. Should the odour nuisance clause, in the future, require odour source measurement, measures will be undertaken at that time to abide by the requirement.

T21

2. 3.2 On-site Facilities, page 3-2, 5th paragraph: An enclosed receiving bin will be used to hold the screened material from the truck wash, bedding materials and manure solids from the holding facility and incoming trucks. Questions that need to be addressed by the proponent include:

- How will this material be transferred to and from the receiving bin?
- How will the release of fugitive odours be minimized during the transfer to the truck for off-site disposal?
- The bin is emptied on a "regular basis". How frequent is a "regular basis"?
- Will the off-site storage and land application of these materials be part of this proposal or will these operations be dealt with through a separate application the *Manitoba Livestock Mortality and Manure Management Regulation*?

Once the hogs are transferred from the trucks to the receiving barn, the trucks are backed through a doorway into the truck dry cleaning area. The building is enclosed, with two doors, allowing two trucks to be cleaned at once. The building doors are open when the trucks are being dry cleaned. The material is scraped from the trucks and the scraped material is transferred into the receiving bin using a front end loader. The receiving bin is a roll-off type container. The manure solids from the holding facility are transferred from the rotary screen into the receiving bin by gravity. The solids from the truck wash are stored in a small container. When the container is full it is brought to the receiving bin using a front end loader and it is emptied into the receiving bin. Once the receiving bin is full it is covered. The entire bin is picked up with a truck and is sent off-site for disposal. A clean bin is dropped off at the same time the full bin is collected.

The receiving bin is located inside a closed building. The receiving bin is covered before it is picked up by the truck. Once the receiving bin is covered, the door to the building is opened and the truck picks up the receiving bin and drops off a clean bin. The door is closed again once the clean bin is placed inside the building

The number of times the bin is emptied is dependant upon how often the bin will be filled. It is estimated that the bin will be emptied at least two times per week.

The land application of the solid manure, truck scrapings and screened material from the truck wash will be dealt with through the *Manitoba Livestock Mortality and Manure Management Regulation* and is not part of the OlyWest Environment Act application.

T22

3. 4.2.6 Clean Kill Area, page 4-4, 1st paragraph: Mention is made of a "pet food area" in this paragraph and in other sections of the proposal (*e.g.*, 5.3.5 Material Balance); however, this area and the processes occurring in it are not described anywhere in the documents. Questions to be addressed include:

- How is the material that is sent to the "pet food area" processed, handled and stored?
- Is the material to be shipped to an off-site processor or will this material be processed on-site in the OlyWest facility?

- **OlyWest has two options for pet food processing; the material can be sent to either the protein recycling facility or the pet food area depending upon market conditions. The material is sent to the pet food area in plastic tubs. The material is packaged in the plastic tubs and stored in a refrigerated area and sent off-site for processing into pet food. The material will be transferred to the pet food processor in bulk packs.**
- **No pet food processing will occur on-site. The materials sent off-site will consist of fresh meat in bulk packs.**

T23

4. 4.3.1.3 Protein Recycling Facility: More details are needed on the operation of the venturi/packed-media scrubber systems and the room air packed-media scrubber. For example,

- How are the sodium hypochlorite (NaOCl) concentration and the pH of the scrubber solutions controlled?
- The supplier (SCP Control, Inc.) offers system performance claims (1,500 odour units for the venturi/packed-media scrubber system and 150 odour units from the room air/packed-media scrubber). What testing will be undertaken to confirm that the systems are actually meeting these performance claims, once the systems are operational?
- Is there any information on the reliability of these scrubber systems? What is their failure rate?
- How will the failure of one or more components of the scrubber systems be managed?

- **To control the scrubbing solutions concentration and pH, each 85,000 cfm scrubber and 12,000 cfm scrubber is equipped with an automatic chemical monitor and controller to feed and maintain the scrubbing solution with the proper concentration of oxidant chemical and pH.**
- **The terms of the supplier contract will include measures to confirm that the odour control systems are performing according to the specifications.**

  As well, there will be internal monitoring on an ongoing basis. Each scrubber exhaust is equipped with a monitoring tube. The inlet of the tube is positioned within the cross-sectional area of the stack and as the treated gas exits the stack, a portion of the gas flows through the tube. The monitoring tube outlet is typically located at the nasal height above ground level. As part of regular plant operations, a process of qualitative self assessment will also be implemented with trained staff to monitor the odour quality of the gas which flows from the monitoring tube.
- **The principals of SCP Control, Inc. have supplied scrubber systems to various industries for more than forty years. It has been found that, when maintained as described within the operational manual, the scrubber systems are very reliable and the customer reported failure rate is extremely low. When one defines failure of a unit, which requires replacement of major components to function properly, the rate is less than once per five to ten years of operation.**

- **The operator of the system is expected to maintain an inventory of spare components, as recommended by the manufacturer, to be available for replacement of non-operational components or accessories of major operational components (i.e., mechanical seals of pumps or blower bearings). Maintenance personnel of the system will note when operational components are not operating as supplied.**

T24

5. 5.3.2.1 Atmospheric Emissions, Air Emissions, page 5-11, 2nd paragraph: The facility's natural gas combustion is modelled using a "theoretical boiler". The reasons for choosing to model a "theoretical boiler" as opposed to modelling the actual sources on the site need to be provided.

The air emissions were modeled as a theoretical boiler to account for emission products of combustion processes in the processing plant. Although estimates could be made of natural gas consumption rates, specific equipment suppliers and specific models had not been selected at the time of writing and therefore model-specific emission rates were not available. Accordingly, a "theoretical boiler" was used to simulate the overall emission rates as indicated in Section 4.2.2 of the air quality impact assessment report in Appendix H of the application package.

T25

6. Table 5.5 Proposed OlyWest Facility Emission Parameter Summary: For the holding pen stacks, the range in the odour emission rates (winter to summer) should have been presented instead of the entry "varies". This would allow a relative comparison of the emissions from the different sources (protein recycling facility versus holding pen versus trucks) to be made.

The odour emission rates vary due to stack geometry not season/weather. Note 2 on Table 5.5 indicates that the "varies" terms relate to the varying diameter and fan size, and therefore varying odour emission rate. Earth Tech modified values in the model afterwards to account for seasonal variation by exhaust rate.

T26

7. Table 5.7 GHG from the Proposed OlyWest Facility:

- The emission factors and global warming potentials for the greenhouse gases are from the 1990-2002 Environment Canada report. In a more recent Environment Canada report (1990-2003), the emission factor for manure waste management was adjusted to 7.7 kg/head/year compared to the earlier 10 kg/head/year. Using the older emission factor would overestimate the emissions from manure management by about 30%, but the total greenhouse gas emissions would only be overestimated by 0.8%, which is negligible.
- The total greenhouse gas emissions from the facility are projected to be 13 ktonnes/year CO_{2eq}, so this facility will not need to report its greenhouse gas emissions to Environment Canada.

Comment noted. The most recent Environment Canada National Inventory Report with data from 1990 – 2004 available online shows Finisher Pigs at 7.9 kg/head/year. Reduction in total emissions is considered to be beneficial but negligible.

T27

8. 5.3.2.1 Atmospheric Emissions, Noise Emissions, page 5-16:

- For the noise assessment, the proponent only used an Ontario Ministry of the Environment screening procedure to identify a set-back distance.
- While estimates were provided of the anticipated noise levels in the commercial, industrial and residential areas, these calculations were not documented in *Appendix I Noise Screening*. In addition, the existing background noise levels were not assessed. The proponent should provide supporting documentation for the estimated noise levels.

As Manitoba does not have a screening procedure for noise, the Ontario Ministry of the Environment screening procedure, which is based on "conservative assumptions", was used to identify a minimum reasonable setback distance based upon equipment that will be used at the site. As indicated in Figure I.1 in Appendix I, the required setback distance of 1,000 m to the nearest area zoned for residential land use is achieved.

As described in Section 5.3.2.1 on page 5-16, operational noise generated at the site by blowers and evaporative condensers were also considered. Please see the attached pages for the calculations for expected noise levels as well as the manufacturer's specification sheets for the blowers and condensers.

Background noise levels were not measured as it was not deemed necessary to the assessment. This is supported by the proposed site meeting the requirements of the Ontario screening procedure.

T28

9. 5.3.3 Process Upset, page 5-21: Some obvious "process upsets" were not included in this section. Other upset conditions that could have been addressed include problems at the wastewater pretreatment facility and the protein recycling facility. At the protein recycling facility, difficulties with both the protein recycling operation itself and the associated air pollution control equipment should have been addressed.

Please refer to Section 8.0 Contingency Planning. This section discusses upset conditions including problems at the wastewater pre-treatment facility (Section 8.3) and the protein recycling facility and the associated air pollution control equipment (Section 8.11 and 8.2, respectively).

10. Table 6.12, Manitoba Air Quality Guidelines, page 6-26: The appropriate air quality guidelines were used in the assessment.

T29

11. Table 6.13, Ambient Background Air Quality, page 6-27:

- For $PM_{2.5}$, the maximum 2005 concentration in Winnipeg should have been used instead of the 3-year average of the 98th percentile. The maximum $PM_{2.5}$ concentration was 37.76 µg/m^3, based on the TEOM data. Manitoba Conservation recognizes that the maximum TEOM concentration was above the 24-hour provincial guideline of 30 µg/m^3. In such a situation, the assessment should have focused on the incremental increase in $PM_{2.5}$ concentration due to the facility.
- For PM_{10}, the maximum concentration shown of 22.86 µg/m^3 was actually the maximum $PM_{2.5}$ concentration from the NAPS data for 2005. The maximum 24-hour average PM_{10} was 93.65 µg/m^3, based on the TEOM data. As for $PM_{2.5}$, the maximum TEOM concentration was above the 24-hour provincial guideline of 50 µg/m^3 so the focus should have been on the incremental increase in PM_{10} concentration due to the facility.
- For carbon monoxide (CO) in 2005, the maximum 1-hour and 8-hour concentrations were 2.37 mg/m^3 (3.4 ppm) and 1.33 mg/m^3 (1.91 ppm), respectively. The concentrations shown in the table were somewhat higher (3.96 mg/m^3 and 2.22 mg/m^3) so the background CO concentrations would have been overestimated in the assessment.

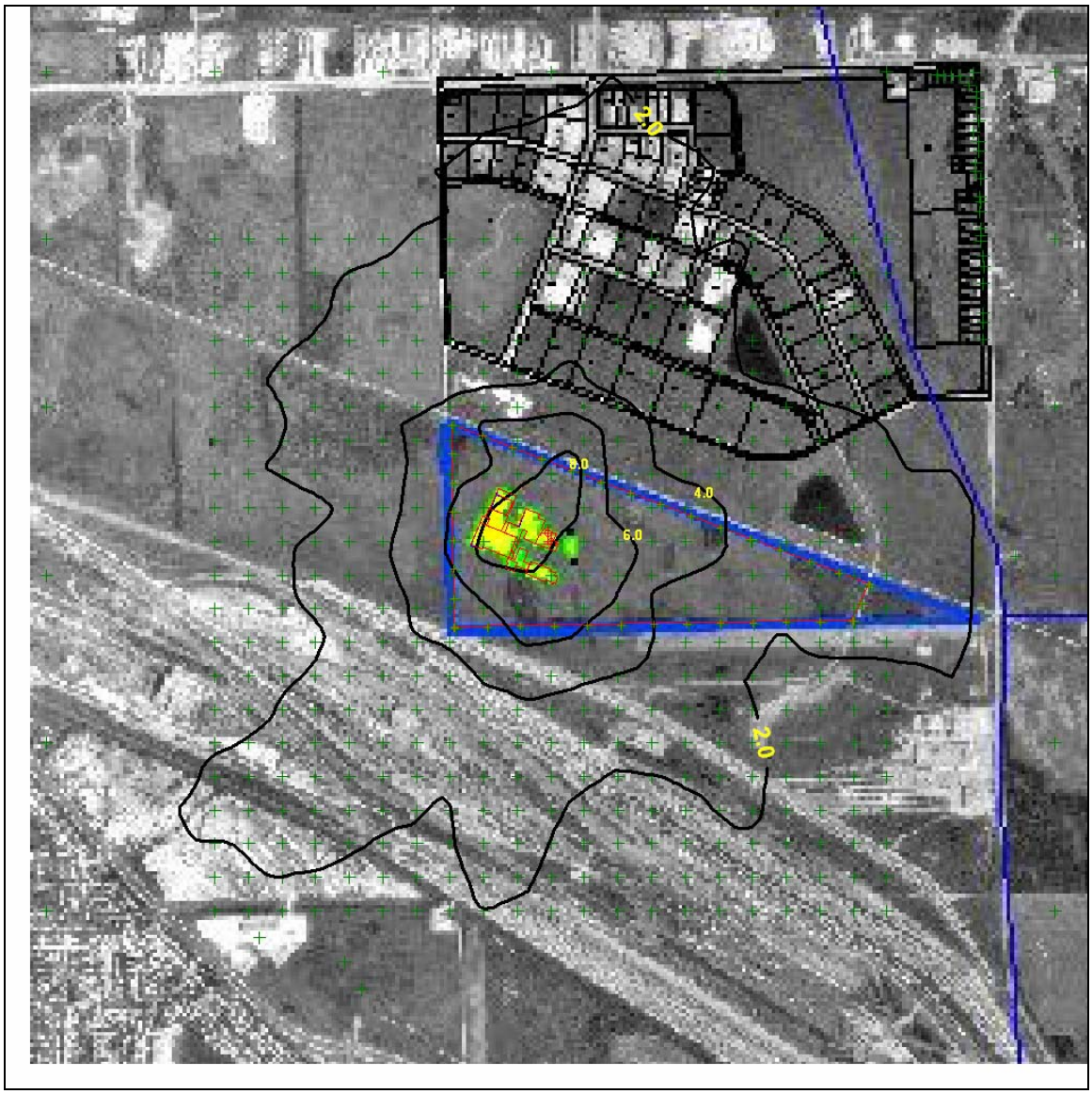
Earth Tech acknowledges the transpositional errors referred to by the reviewer.

A) In keeping with the recommendations of the reviewer the predicted maximum $PM_{2.5}$ emission from the plant is 2.3 ug/m^3. This would represent an increase of 6% if combined with the recorded maximum concentration from the Ellen St. Station. The location of the maximum is predicted to occur within the boundaries of the OlyWest site. The 3 year average, 98th percentile has been accepted by Manitoba Conservation in the past. If the emission rate were to be added to the recorded maximum from the Scotia St.

Station (22 ug/m^3) instead of the Ellen St. station, the combined value of 24.3 ug/m^3 would still be lower than the MAL of 30 ug/m^3. Maximum concentrations were compared in the application to demonstrate the relatively small air pollutant emission contribution anticipated from the proposed facility. In cases such as this where the background value for the Ellen station is already in excess of the MAL the Scotia St. station provides a comparison value for reference.

B) In keeping with the reviewer's recommendations, the predicted maximum PM_{10} emission from the plant is 15.3 ug/m^3. When added to the maximum concentration recorded in 2005 from the Ellen St. station of 93.65 ug/m^3 a value of 108.95 ug/m3 results representing an increase of 14%. The maximum concentration is predicted to occur within the boundaries of the OlyWest site while the ambient concentration created by the plant would be 8.5 ug/m^3 or less by the property boundaries. This addition would be equivalent to a potential increase of 8%.

C) Health Canada describes the magnitude of increased risk of mortality due to PM_{10} concentration increases in their 1999 document entitled "National Ambient Air Quality Objectives For Particulate Matter - Addendum to the Science Assessment Document". For background concentrations of PM_{10} averaging between 25 and 115 ug/m^3, the mean risk increase in daily deaths is 0.8% (ranging from 0.4 to 1.7 percent) per 10 ug/m^3 increase in PM_{10} concentration. Although the Ellen St. background concentration of PM_{10} already exceeds the provincial MAL of 50 ug/m^3, the potential increase in PM_{10} concentrations attributable to the proposed plant emissions will increase off-site concentrations by less than 10 ug/m^3 as shown in the figure below, and therefore the incremental risk to public is anticipated to be less than 1%.



PM_{10} Dispersion Plume Relative to Property Boundaries

D) The recorded values listed in the 2005 data are 3.4 ppm for the 1 hr maximum concentration and 1.91 ppm for the 8 hr maximum concentration from the Ellen St. station. Our calculations show that this corresponds to the values shown in the application package as follows:

ppm	mg/m^3
1 hr max = 3.4	3.9
8 hr max = 1.91	2.2

The values were calculated assuming a temperature of 25C and pressure of 101.3 kPa as stated on Manitoba Conservation's ambient air quality criteria table. A molar weight for CO of 28 g/mol was used.

T30

12. 7.1.3.2 Odours, Hog Delivery and Trucks, page 7-6: To mitigate odour impacts from the hog trucks, the proponent proposes that the truck arrival routes will avoid residential areas. The proponent should provide information on how this restriction on truck routes, especially in the case of the trucks from independent producers (*i.e.*, not from Hytek Ltd. or Big Sky Farms Inc.), will be enforced.

Delivery of all hogs to the OlyWest facility will be coordinated by OlyWest. All suppliers of hogs to OlyWest will be under contract with OlyWest and will be specifically instructed as to the proper routing to the facility.

T31

13. 8.2 Malfunction of Emission Control Equipment, page 8-1:

- The statement is made in the assessment that the OlyWest facility would need to stop operations in the event of a "major malfunction of emission control equipment". The proponent needs to define what would constitute a "major malfunction". As well, the requirement for plant shutdown in the event of a "major malfunction" should be included in the *Environment Act* licence for the facility.
- In the event of a "minor malfunction", it appears that the proponent plans to continue operating. Since the two air treatment trains handle different air streams (except for the common room air), a breakdown in one or more components of one of the trains would lead to an increase in odour emissions. The proponent did not identify what constituted a "minor malfunction". As well, the probability of a "minor malfunction", the potential range in odour emission rates as a result of a "minor malfunction", or the anticipated duration of the increased emissions were not quantified. The proponent also did not assess, as part of the air dispersion modelling of the facility, the impact that such increased odour emissions might have on ambient odour levels. Further assessment of the "minor malfunctions" should be required of the proponent.
- In terms of the operation of the emission control equipment, it is not clear how the proponent will determine that the equipment is operating properly and that a major or minor malfunction of the emission control equipment is not occurring. For example, will there be alarm systems on the emission control equipment to alert the proponent that a problem is occurring?

A major malfunction of emission control equipment would consist of non-performance of a blower or a recycle liquid pump
A minor malfunction is described as one wherein the scrubber air treatment system is not capable of maintaining either at least 40% of rated air flow at reduced static pressure drop across packing material, or at least 40% recycle pump capacity.

Additionally, a minor malfunction is defined as a loss of sensitivity of ORP and/or pH sensors and controllers; increased pressure drop across packaging material of packed bed scrubbers; loss in capacity of chemical metering pump; or chemical supply not maintained.

It is suggested that a system operator physically review the operation of the air scrubbers every four hours of plant operation and note minor deviations in system parameter values. In addition, the reviewing personnel must note all mechanical changes such as the occurrence of vibration, water seal leaks, etc.

Minor malfunctions may result in an accumulation of odorous gas within the enclosed facility and it may be necessary to close dampers to maintain a negative pressure on the enclosure. When properly detected and corrective action taken, there should not be a significant increase in odorous emissions to the atmosphere. However, during a minor malfunction, the operators must review the air scrubber systems operation more frequently.

The emission control equipment will use the monitoring tube as described previously (see response T23) to evaluate the effectiveness of the odour treatment. Further, the scrubbing systems are supplied with oxidation-reduction potential

(ORP) and pH controlling and monitoring devices as well as pressure and temperature gauges which are reviewed by operators and ensure that each monitor's readings are within a predetermined range. Continuous recorders are supplied with the ORP and pH system and such recordings are typically required to be maintained on-site for up to three to five years by some regulatory agencies.

Each operator should have available a supply of litmus paper to manually verify, during the physical review time period, the sensor response to a residual of oxidant and pH concentration. Additionally, the monitor can be supplied with an audio alarm to sound when the sensor responses are outside the programmed limits.

T32

14. 8.11 Extended Protein Recycling Facility Disruption, pages 8-4 to 8-5: In the event of an extended disruption of the protein recycling facility, the materials are to be collected and sent to an off-site rendering facility. The proponent should detail how the materials will be stored and handled to minimize fugitive releases of odours.

The materials will be transferred to a truck located inside the closed building. It is estimated that it will take approximately five to six hours to fill the truck. The truck will be covered before it leaves the building. The materials will be transferred by truck to an off-site protein recycler for processing. An empty truck will replace the full truck once it has left the building. At the end of the processing day, the truck will transfer the material to the off-site protein recycler regardless of whether the truck is full or not.

T33

15. 9.1 Point Source Particulate and Gaseous Emissions, page 9-1: The proponent is not planning any point source air emission testing. As noted previously in comment #1, some point source air sampling should be required to at least verify the odour emission rates used in the assessment and to verify that the air pollution control equipment is as effective at removing odours as described.

See response T20 and T23

T34

16. 9.2.1 Air Quality, page 9-1: For monitoring of the ambient environmental air quality, the proponent implies that the ambient air quality monitoring that Manitoba Conservation conducts in downtown Winnipeg is sufficient. The monitoring in downtown Winnipeg, however, is not close enough to the OlyWest site to be able to assess effects that the facility may be having on the local air quality.

Manitoba Conservation's website at: http://www.gov.mb.ca/conservation/airquality/pdf/2006_air_quality.pdf indicates the monitoring activities that were being undertaken in Manitoba in 2006 by both government and by private industry in support of environment act licence requirements. Review of this material demonstrates that monitoring of facilities, similar to the proposed OlyWest meat processing plant, and even other facilities in the St. Boniface industrial park area (which include plastics manufacturers, printers, pharmaceutical plants, and other heavy industrial facilities) are not being conducted. OlyWest's expected contribution to airborne pollutants is not anticipated to be significant so any decision by the Province to institute monitoring in the St. Boniface industrial park should be independent of the start-up and operation of the OlyWest facility.

T35

5. Volume II:

I. Appendix H. Air Model Report:

1. 2.2 Plant Operations: The natural gas combustion at the facility was modelled using a "theoretical boiler". The reasons for choosing to model combustion as a "theoretical boiler" as opposed to modelling the actual sources on the site need to be provided by the proponent. The proponent should provide details on the actual sources and release points at the facility.

As specified in response T24, the air emissions were modeled as a theoretical boiler to account for emission products of combustion processes as explained in Section 5.3.2.1 on page 5-11 of Volume 1 of the application. Table 2-1 of Section 2.2 in Appendix H, starting on page 2-2 lists the parameters of the expected source points of emissions.

T36

2. 4.0 Model Configuration: For the most part, the air dispersion modelling was done. In particular, the following components of the modelling were acceptable:

Modelling Component	Acceptable Methodology
3.2 Manitoba Ambient Air Quality Criteria	the air quality criteria that were used
3.3 Individual Parameter Modelling Results	the addition of background concentrations to the modelling results the use of the maximum acceptable level and maximum desirable level air quality criteria
4.1 Control	the use of regulatory defaults, urban dispersion coefficient, and flat terrain
4.2.1 Odours	the odour sources that were identified for analysis (*i.e.*, packed media exhaust stacks, hog pen ventilation chimneys, vent from truck bedding material/manure solids storage area, and in-bound hog trucks)
4.2.2 Other Parameters	the US EPA emission factors for the criteria air contaminants (CAC) emissions from the "theoretical boiler"
4.3 Receptors	the choice and density of receptors (grid, discrete receptors, and boundary)
4.4 Building Downwash Requirement Analysis	the methodology for assessing building downwash
4.5 Meteorological Data	the use of surface meteorological data from Winnipeg and upper meteorological data from The Pas
6.1 Output	the addition of background data to the modelled results and the conversion of the odour concentrations from 1-hour averages to 3-minute averages

T37

3. 4.0 Model Configuration: Some questions and concerns relating to the modelling are as follows:

Modelling Component	Questions and Concerns about Methodology
4.2.2 Other Parameters	The emission data for the protein recycling facility was obtained from the vendor of the multi-stage scrubbing system. If possible, the proponent should provide the test reports to substantiate the emissions data.
	When calculating and modelling the CAC emission rates (g/s) from the annual emissions (kg/year), the proponent assumed that the emissions were occurring 24 hours per day, 7 days per week, and 365 days per year. In contrast, however, the odour emissions were modelled based upon the actual production schedule. As a result of this approach, the CAC emission rates would be lower than if the actual production schedule had been modelled. For example, if an 18.5 hour day, 5 day a week, 250 day per year schedule had been used, the emission rates would be about 47% higher. This difference in emission rates would have the greatest effect on the shorter-term (*e.g.*, 1-hour average) concentrations calculated by the model, compared with the longer-term (*e.g.*, 24-hour, annual) concentrations. The proponent should indicate why the actual production schedule was not considered in the modelling of the CAC emissions.
4.5 Meteorological Data	While the use of the 1996 to 2000 meteorological data for Winnipeg is accepted for this modelling, it would have been preferable if the proponent had used more recent meteorological data.
4.6 Background Air Quality	See comment #11 for Volume 1.

A) Specifically applicable test reports were not available. However, the emission data was provided by the manufacturer and is guaranteed.

B) As the theoretical boiler represents a generalization of different combustion sources at the proposed facility including boilers, singers, plant heating, etc. and various portions of the plant will operate on a 24 hour basis the annual emission rates were apportioned evenly over the year. We realise that this may be a simplification of the data but felt that when combined with other unknowns such as exact location of sources and exact emissions from undetermined models of equipment, that it would be an acceptable simplification.

C) We acknowledge that the data set could have been more recent, however we still feel that the data set provides a good indication of Winnipeg's weather conditions for the purposes of this model.

D) See response T29

T38

4. 6.2 $PM_{2.5}$ Modelling Results: The background concentration of 37.76 $\mu g/m^3$ is already above the $PM_{2.5}$ air quality guideline of 30 $\mu g/m^3$. The maximum $PM_{2.5}$ modelled (2.3 $\mu g/m^3$), however, would only add about 6% to the peak $PM_{2.5}$ level.

5. 6.3 PM_{10} Modelling Results: The background concentration of 93.65 $\mu g/m^3$ is already above the PM_{10} air quality guideline of 50 $\mu g/m^3$. The maximum PM_{10} modelled (15.3 $\mu g/m^3$) would add about 14% to the peak PM_{10} level. Most of the PM_{10} emissions (about 91%) are due to emissions from the protein recycling room air scrubbers.

6. 6.5 Carbon Monoxide Modelling Results: Using the revised carbon monoxide (CO) 1-hour and 8-hour background concentrations of 2.37 mg/m^3 and 1.33 mg/m^3 results in lower total CO results than shown in the report (2.38 mg/m^3 and 1.34 mg/m^3, respectively); the revised concentrations are also below the relevant air quality criteria for carbon monoxide.

7. Figure 6.1, OlyWest Modelled Odour Concentration Isopleths:

- Additional isopleth lines would have given a better understanding of how the odour levels varied with distance from the plant (e.g., isopleths for 1.0, 1.2, 1.4, 1.6, 1.8, 2.2, 2.4, 2.6, and 2.8 should also have been plotted).
- In addition to the southern-most residences on Plessis Road, the 2.0 isopleth seems to touch on residences to the southwest in the Windsor Park area. The property of Spring's Church also seems to be affected. The potential odour impact on the area to the southwest of the OlyWest facility, however, is not discussed in the document.
- The only odour scenario modelled was that of optimal operation. The proponent has indicated that operation would continue with "minor malfunctions" of the protein recycling facility air emission control equipment; an assessment of the odour impact under less than optimal conditions would have given some insight into the implications of operating with higher odour emissions.
- In addition to the isopleth plot, a cumulative frequency plot of odour levels at a few select receptors would provide an understanding of the potential variation in odour at these locations. For example, are most of the estimated odour levels below 1.0 OU or are there a significant number near 2.0 OU?

4) See response T29

5) See response T29

6) See response T29

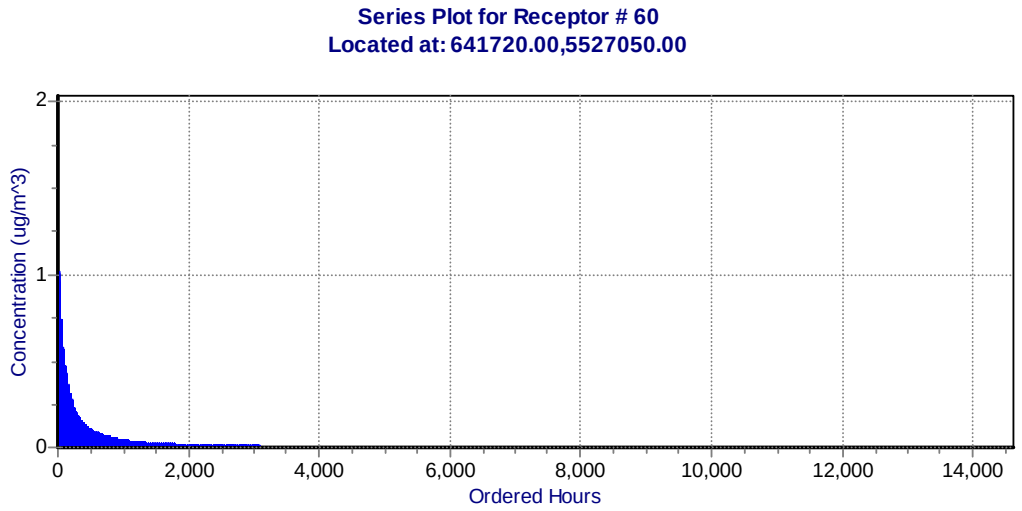
7) See below

a. Additional isopleths lines were not shown on Figure 6.1 to provide a clearer picture for comparison to the 2 and 7 OU criteria while not obscuring the relative aerial scope.

b. The area to the southwest of the OlyWest facility includes the railyard as well as the Springs Church property as indicated by the reviewer. The rail yard is considered an industrial property where a criteria of 7 would apply and no effects of significance are anticipated in this area. The area immediately southwest of the rail yard is predicted to experience odour levels near 2. Receptors were specifically modeled corresponding to the buildings on the Springs Church property and results at these locations indicated concentrations below 2 OU at a 97th percentile level or higher and therefore no significant effect from odours is anticipated.

c. The scenario modeled was that of operational worst case. Minor malfunctions of the protein recycling facility are defined in response T31 along with an assessment of the relative change in odour emission rate and methods of ensuring continued operation.

d. Table 6.1 on page 6-5 of Appendix H gives a summary of the total hours in a five year period that an odour value greater than 2OU will be noticeable by radius up to 5 km from the facility. We also provide the requested cumulative frequency plots below for the two southernmost residential receptors modeled on Plessis Road (receptors 60 and 61 where the model-predicted value was 2.0 OU or greater at only one hour at each receptor over the 5 years modeled) as well as three receptors on the Springs Church property (receptors 62, 63 and 64 where there were no model-predicted values greater than or equal to 2.0 OU). (The concentration should actually read OU). The plots clearly demonstrate predicted odour concentrations less than 2OU the majority of the time.



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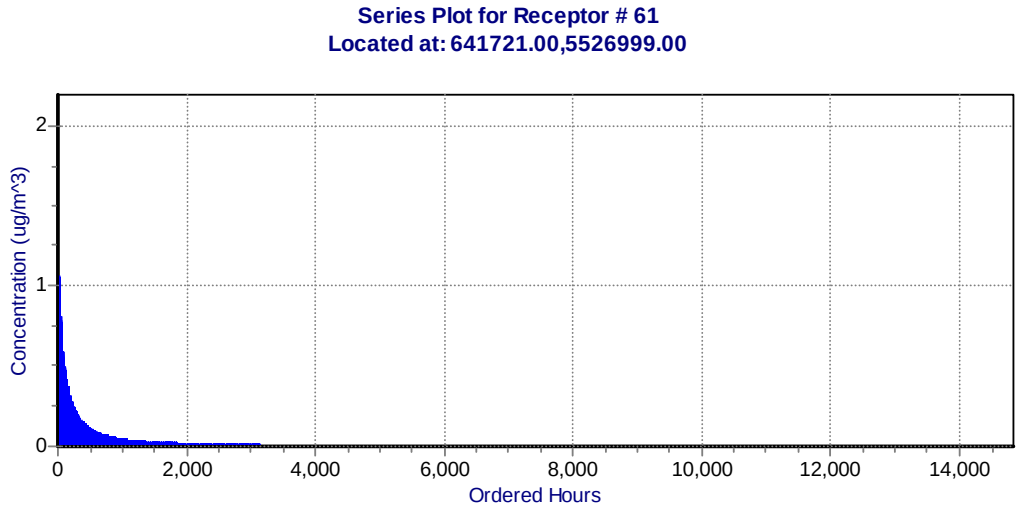

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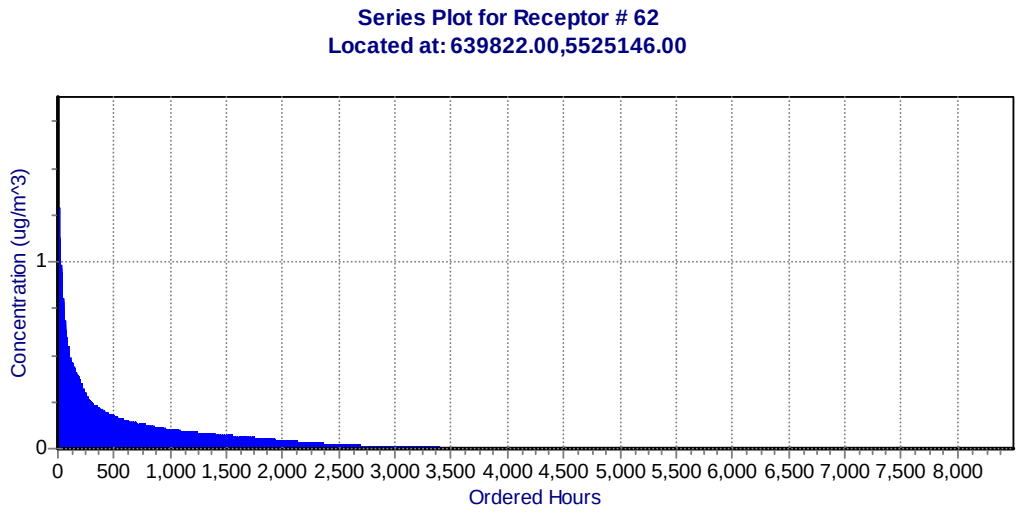

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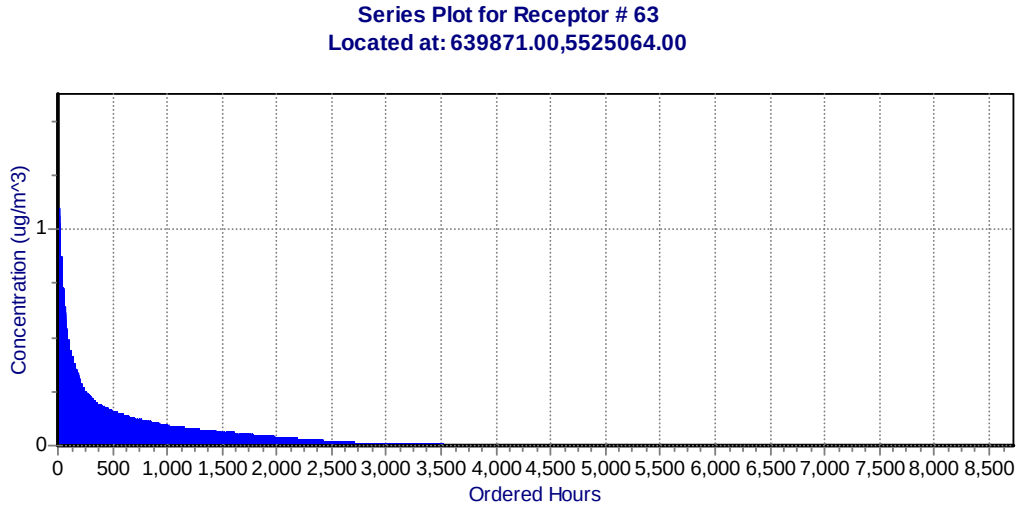

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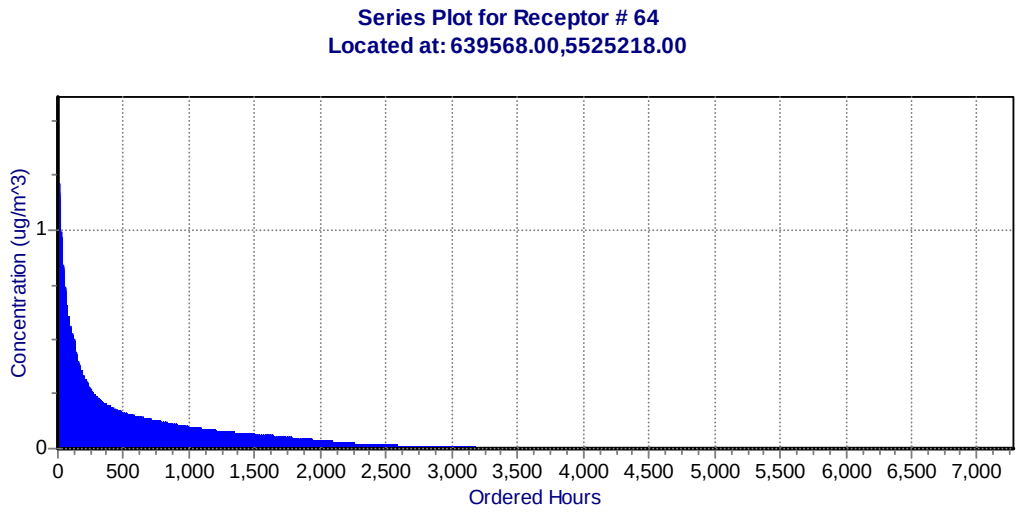

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T39

II.	**Appendix I, Noise Screening:** As noted in comment #8 for Volume I, the noise assessment was simply a screening procedure to identify the required set-back distance.	

Please see response T27.

From: McRobbie, Karen (CON)
Subject: FW: Olywest Environment Act Proposal
From: Webber, Randy (CON)

T40

Section 2.9 Ambient Air Quality

Data from the downtown continuous air monitoring station located at 65 Ellen has been compared to the air quality of a field in Transcona. A better choice may be data from the continuous air monitoring station located in the residential area at Scotia Street and Jefferson Avenue.

As the proposed OlyWest location is not in a residential zone, and is surrounded by businesses, the downtown location was chosen to provide a more conservative estimate of effects. Furthermore the Scotia St. station has a limited number of parameters measured and could not be used in all cases although it can serve as a reference as per the response to T29.

T41

Section 3.2 On Site Facilities

Page 3-2, paragraph 3

"No specific provisions have been made for point source air emissions monitoring facilities as meat processing and rendering facilities are not typically required to monitor emissions"

We do not understand the statement. A futher explanation is required. Rendering facilities have been tested/sampled at point sources in Manitoba in the past.

Please see response to Question T20. Earth Tech's enquiries to various provincial regulators indicated that emission data from meat processing facilities was not generally collected.

T42

Paragraph 5

".....option for composting in the future."

Composting on site could be odourous. Unless protected from the elements the process could not be utilized all year round.

Manure disposal at a waste disposal grounds is not commonly allowed. This may not be an acceptable option.

The is a concern about disposal of manure collected in the "bin". Information related to the land spreading location is lacking. Odour impact from the land storage area has not been determined. The Livestock Manure and Mortalities Regulation requires that a manure management plan must be filed and approved. In this case both Olywest and the receiving land owner are required to submit the plan. Storage of the manure over the winter months is a major concern. It is recommended that Olywest be required to provide a detailed back-up and acceptable disposal plan for collected manure.

Please see response to Question T21 where the preferred option is described.

Further, it is not OlyWest's intention to compost on-site. This option is the third preferred option for managing the material. If this option is required, an off-site composting location would be selected which would consider odour and potential receptors.

As a second preferred option, an environmentally licenced waste disposal grounds has been identified which would be able to accept the bedding material/manure mixture. The disposal option at the landfill is not the preferred option and will be used as a contingency option only.

T43

Section 4.1 – General Process Overview

Given the facility will accept dead on arrival hogs for processing in the protein recycling facility, is it anticipated the facility will also offer rendering services for its clients other mortalities?

OlyWest will not offer rendering services for its clients. The protein recycling facility will only accept animals that were alive when they were loaded on the trucks.

T44

Section 4.2.2 Holding Facility

Scrape clean/dry clean of trucks. It appears only the trailer is indoors and the tractor is outdoors with the over head door open. If the area is not under negative pressure odour could be emitted to atmosphere at this point. It is presumed truck washing is done in the same location?

Air emitted to atmosphere from the holding facility will have the potential to be very odourous.

Misting of the hogs over a portion of the three hour holding period for each group of hogs will create high humidity and may not do anything to reduce odour. During cold months moisture plumes released from this area may cause visibility problems under certain atmospheric conditions. It is not clear how misting will reduce odours. This statement requires further elaboration.

Page 4-3, paragraph 2. The statement is made that "every time the holding pens are emptied, they are cleaned with wash water containing a de-odourizing agent (SAF) to reduce odour." This acknowledges an odour issue may exist with the holding pens area.

The building doors are open when the trucks are being dry cleaned. The materials removed will consist primarily of bedding material. The odours emitted from the manure storage area were included as an odour source in the odour modelling. The control of fugitive odours from the truck dry cleaning area is further described in Response T21. The truck wash building is a separate building and is located to the east of the plant building as described in Section 3.1.

The primary purpose of the misting on the hogs is to calm and cool them. The hogs are misted for approximately one half hour upon their arrival and are misted again before they are sent to the CO_2 asphyxiation area as described in Section 4.2.2. Before the barn air is exhausted from the holding facility, it passes through a heat exchanger which condenses moisture and keeps moisture in the exhaust air to a

minimum. The main purpose of the misting is to calm and cool the hogs, however it can also be a contributor to good air quality by reducing dust within the holding facility.

The deodorizer in the wash water is a proactive mitigation measure used to prevent odours.

T45

Section 4.2.11 Protein Recycling

It is indicated that a continuous cooker is used in the protein recycling process, no indication of the hourly through put or maximum capacity.

Figure 4.3 Protein Recycling Process Schematic shows continuous cookers; this conflicts with above statement indicating "cooker".

Will the tallow tanks have any secondary containment in the event of an upset, spill or leak?

The hourly throughput for the protein recycling system is 18,962 kg/hour (41,804 lbs/hour) and the daily run time is 13.35 hours and uses a single cooker.

The tallow tanks are heated with steam and mixed to ensure the tallow remains in liquid phase. The tallow is an edible product which would solidify should a spill occur. Further, the tallow tanks are surrounded by a dike wall which is designed to contain 1.5 times the volume of one full tallow tank.

T46

Section 4.3.1.1 Holding Facility

The holding facility has the potential to emit strong odours without emission control equipment. The holding facility air is exchanged 60 times/hour in the summer and is vented to atmosphere through a 31 foot stack. As mentioned in the Terms of Reference covering letter *"global-state-of-the-art technology will be used"*. A wet scrubber or incinerator on this exhaust stream would be considered state-of-the-art technology. Also with only six air exchanges per hour in the winter there may be indoor air quality issues. Again, the proposal indicates misting will reduce odours with no explanation.

As described in Appendix H, Section 2.2, there are 65 holding facility ventilation stacks and the top of the stacks are at 9.6 m above the ground level. The six air changes per hour during the winter months is the ventilation rate used to best manage the facility. OlyWest will ensure that the air quality within the holding facility will meet workplace health and safety standards. Please see Response T44 for further information regarding the misting of hogs.

T47

Section 4.3.1.3 Protein Recycling Facility

Page 4-8 paragraph 1

"Generally plant operators are required to continually operate at least one room air scrubber during the warmer months of the year to provide odour control for continuous non-protein recycling source such as the wastewater treatment air and the meal silos"

The emission controls should be required to operate continually during the period indicated to ensure odour control.

The above text excerpt describes the operation of the protein recycling facility air emission control system when the plant is not in operation. As protein recycling operations occur only when the plant is in operation, it is not anticipated that significant odours will be generated when the plant is not in operation and as such, the air emission control system will only continually operate during the warmer months to provide odour control for the non-protein recycling odour sources.

T48

Page 4-9 paragraph 2

"the pH and oxidant concentrations are maintained."

Is this done manually or is an automated system used? Low oxidant concentrations will increase the intensity of the odour emissions.

Please refer to responses T23 and T31.

T49

Section 5.2.4 – Spill Containment Recording Reporting

Operation must comply with Regulation 439/87. Some reportable quantities are as low as 1 litre or 1 kilogram not 68 as stated in the document.

OlyWest's spill reporting will comply with *The Dangerous Goods Handling and Transportation Act, Environmental Accident Reporting Regulation* 439/87.

T50

Section 5.3.2 Start-up and Operations

Bullet 2 - *"Less hogs processed so less odour emissions from the holding pens;"*

This statement indicates odour will be emitted from the holding pens; which will increase over time as the plant comes up to design capacity. Without emission control equipment on the exhaust from the holding pens this odour source may have an adverse impact on downwind recipients.

Odour control in the holding facility will be through good housekeeping practices as well as a deodourizing agent added to the wash water. The air model was run based on odour values observed at similar facilities and included emissions from the holding facility. As indicated in 6.3.1.2 odour emissions are anticipated to meet the industrial and residential odour guidelines. See also response T20 and T23.

T51

Section 5.3.2.1 Atmosphere Emissions

Page 5-11

Are *"the 65 hog pen ventilation chimneys"* referred to, connected to the main 31 foot stack venting the holding facility emissions mentioned in Section 4.3.1.1 or do they vent separately to atmosphere? If these chimneys vent separately to atmosphere odours may be an issue and future emission controls if required would be impossible to incorporate into the design.

If *"the vents from the truck bedding material/manure solids storage"* referred to, vent to atmosphere without treatment odour may be an issue.

The number of arriving and waiting trucks *(assumed worst case with 4 trucks in line at one time to enter the site from Plessis Road)* could easily be increased by road conditions/weather, traffic, unforeseen private producers arrival, or a plant break down, causing additional short term odours.

Please refer to Response T46.

The truck bedding/manure storage area was included as an odour source in the odour modelling.

The four livestock trucks located along Plessis Road to enter the site is considered a worst case scenario. As per the traffic information supplied in the proposal, the frequency of arrival of incoming live hog trucks is estimated to be 3 per hour. Should an unforeseen condition arrive that would result in a backup of trucks, the trucks would be sent outside of the perimeter to drive in a holding pattern until they could access the site. Further, delivery schedules will be coordinated with producers on a daily basis to ensure trucks are not waiting to unload.

T52

Section 5.3.3 – Process Upsets

Section does not deal with what contingencies will be in place in the event of major machine or equipment breakdown or malfunctions. Are these not process upsets? What about power outages or sewer or water disruptions?

The advice document prepared by Manitoba Conservation for this proposal lists process upsets as fire, accidental spills and releases, and transport accidents. Section 8.0 Contingency Planning describes the procedures in place in the event of major equipment breakdown, malfunctions, power outages, sewer disruptions, etc.

T53

Section 6.3.1.2 Odour

There is a general concern that the proponent is relying on dispersion modeling and odour units in this proposal while recent Environment Act Licences have used an odour nuisance approach to manage this issue. As currently applied, the nuisance clause could be applied to a licencee if, over a 90 day period, five complaints from five different persons, residing, working or present in the affected area are received. Affected area includes a geographical area excluding the property of the development. Given the modeling predicts odours as high as 4.9 OU in the industrial park where the development is proposed and as high as 2 in some residential areas, it is expected that nuisance complaints will still be generated. 2 OU may be too high. Past experience has shown that 2 odour units will likely draw complaints.

Odour modelling was completed based on an operational worst case scenario and conservatively determined the potential odour impacts the facility would have. As defined in the EA (Section 6.3.1.2), an odour concentration of 2.0 is equivalent to the dilution point (1 volume of odorous sample air:1 volume of clean air) where an odour is just barely detectable by 50% of the trained assessors of the odour testing panel. The modelling further indicates that the levels at the southernmost two houses on Plessis road experiencing odour concentrations equal to or greater than 2.0 would be subjected to an odour level of 2.2 OU or less for three one-hour periods over the entire five year period (43,800 hours) modeled. See also response T20, T23 and T38.

T54

Page 6-7, paragraph 2 odour modeling

Table 2.1, page 2-6, indicates the most frequent wind direction for every month of the year is from the south. In meteorology, the wind is always given with the direction it is blowing from, for

example a north wind is a wind blowing from geographic north. We don't understand how with the predominate wind being from the south every month the proposal can "*predict the maxium odours to occur 200 m south of the plant property and approximately 370 m south of the hog receiving area".*

The wind rose found in Appendix A also shows the dominate wind direction is from the south.

Table 2.1 presents the predominant wind direction. Odour dispersion is not dependant on wind direction alone and as indicated in Appendix H, Section 4.5, meteorological data was used in the odour modelling. The meteorological data includes wind direction and wind speed among other parameters, which affect dispersion. Therefore it is possible to have the maximum odours to the south of the plant as the dispersion modelling accounts for other meteorological factors such as wind speed.

T55

Section 6.7.2 Odour

Page 6-29, paragraph 2 under Odours

Same comment as page 6-7. There seems to be a discrepancy between the wind rose dominate south wind direction and the dispersion model information stating the highest odour concentrations are south of the plant.

Please see Response T54.

T56

Section 7.1.3 Air

"To avoid these impacts, Olywest has incorporated state of the art controls in the plant design"

This proposal does not present information on alternative emission controls such as bio-filters or incinerators which are used at other rendering facilities operated in Canada, and may be considered more state of the art then the use of venturi and packed scrubber control devices.

The chemical wet scrubbing technology as proposed for OlyWest, is generally accepted as meeting the criteria for Best Available Control Technology (BACT). The US EPA defines BACT as available technology which produces the greatest reduction of air pollutants, while taking into account energy, environmental, economic and other costs. Recently, biofiltration and thermal oxidation has been gaining prominence in use but when due consideration is given to the economics (capital expenditure and operating costs) in defining BACT systems, wet scrubbing technology is a competitive BACT option.

T57

Section 8.11 Extended Protein Recycling Facility Disruption

Expansion on this section is required. Who is the off-site rendering provider referred to? Are they able to handle the volume of material on a continuous basis? How is the material to be removed off site? If blood is being processed on site can the off-site rendering provider handle this type of material and how is it removed off site? What contingency plan is in place if the off-site rendering provider is down?

Please see Response T32.

There is additional protein recycling capacity both within the Province and outside of the Province. Should the services of another licenced protein recycling provider be required, an agreement will be made between OlyWest and the protein recycling provider.

Material will be transferred by truck from the OlyWest facility to the third party protein recycling facility if required.

The blood collected at the OlyWest site can be sold in liquid form or can be sent off-site for processing at a qualified facility.

Should the off-site protein recycling be unavailable, the services of an alternative protein recycling provider will be retained.

From: David Jopling
Subject: OlyWest Pork Processing Facility – Client File No. 5155.00

T58

Provincial Planning Services has reviewed the proposal. The proposed facility is located on lands designated/zoned for industrial use and would not require an amendment to the local land use by-laws. We understand that the proponent is sensitive to the issue of potential odor concerns that may result from this facility and are satisfied that they include various methods and activities that will help reduce these effects. If the facility is built, we would encourage the proponents to continue to monitor the area for any odors that may occur and work to mitigate any future issues, if they arise.

As a matter of clarification, please be advised that the Rural Municipality (RM) of Springfield currently has 2 zoning By-laws: Zoning By-law No. 85-26 and the Town Planning Scheme 1959. The Town Planning Scheme 1959 guides the zoning for the area in the RM of Springfield that is adjacent to the City in the vicinity of the proposed OlyWest site. As indicated in Section 2.14.1 entitled Regional Land Use of the report, the RM of Springfield is in the process of adopting a new zoning By-law (By-law No. 06-14) which will replace both zoning documents.

Our division does not have any concerns with the proposal. Thank you for the opportunity to comment.

Comment noted. See also response to T20 regarding odour monitoring.

Technical Advisory Committee-Air Quality Section Comments and Responses (T-Series Continued)

TO: Mr. David Bezak, Manager
Air Quality Section
Manitoba Conservation
160 - 123 Main Street
Winnipeg MB R3C 1A5

FROM: Jean Van Dusen, M.A.Sc., P.Eng.

DATE: September 18, 2006

SUBJECT: **OlyWest MB Limited Partnership *Environment Act* Proposal Prepared by EarthTech (Canada) Inc., August 2006**

Questions up to this point were duplicated in the Technical Advisory Committee comments received on October 23, 2006. Please refer to T-Series Comments and Responses.

I. Appendix B of Appendix H. Odour Determination Methodology - Proprietary:

T59

1. B.4.4 Trucks Carrying Live Hogs:

- A sample calculation showing how the odour samples and other measurements were converted to an odour emission rate needs to be provided by the proponent.

The odour emission rates were calculated as follows:

OU/m^3 was determined by laboratory testing, the background was subtracted, and the result was then multiplied by the air flow rate from the various sources as calculated based upon flow and stack geometry from the plant design.

For the trucks, the flow was determined based upon half of the ventilation area (provided by the trailer manufacturer) and measured air velocity through the truck at the time of testing.

T60

- The measurement of an odour emission rate from a volume source, such as a truck, is challenging. While the proponent did try to control the more important variables (*e.g.*, travel time, number of hogs, wind direction, *etc.*), five downwind samples are unlikely to be sufficient to estimate the odour emission rate with any degree of accuracy. Of all the emission estimates generated from the source sampling, the least reliable would be the emission rate for the hog trucks.

The hog truck emission rate, while difficult to determine, was one of the minor sources of odour and safety factors were built into the handling of this emission rate to help compensate for the issue stated. Furthermore, the constant presence in the odour model at a location that would provide conservative effects on residential

receptors was also used for this reason. As other applicable data could not be located, the measured value was utilized for the purposes of the odour model.

T61

2. B.4.5 Building/Stack Exhaust: The average air velocity in the exhaust stack was measured with an anemometer placed inside the stack. This is not the standard source sampling methodology for determining velocity (US EPA Method 2 for in-stack velocity measurements) so the velocity measurement would be less reliable than with the US EPA method.

The emission rate from the existing stacks did not factor into the model as the proposed air volumes/velocities from the proposed plant would not be the same as those from the sampled location. These data were collected to provide comparison of data collection conditions, the flow velocity at the time of sampling did not require extremely accurate measurements for the purposes of the air model.

T62

3. B.4.8 Sample Analysis: A summary of St. Croix Sensory evaluation methods were to be included as an attachment to this appendix, but this attachment was not included with the report.

Please see report "St. Croix Sensory, Inc. Laboratory Evaluations".

T63

4. B.6 Odour Data Collection Results: This report states that copies of the laboratory reports from St. Croix Sensory Inc. were included as an attachment to this appendix, but these laboratory reports were not included.

Please see the attached proprietary analytical reports, which will be appended to Appendix "B" (see Response C17.2) and are also provided as proprietary documents.

T64

5. B.7 Interpretation of Results for Model Use: The technical basis for the conversion factor from CEN to IITRI odour units should be provided.

The conversion factor was provided by St. Croix Sensory, Inc.

T65

6. Table B.6 OlyWest Emission Factor Summary:

- The total odour from the sources modelled were:

  Protein Recycling Facility: 12,034 OU/s
  Hog Pen Stacks: 1,515.7 OU/s
  Truck Bedding/Manure Solids: 3.6 OU/s

Hog Trucks: 150 OU/s

Although the protein recycling facility emits about eight times more odour than the hog pen stacks, the air dispersion modelling output seems to suggest that these two main odour sources resulted in similar ground level concentrations. (See Page 202 of the Odour Printout.) The peak ground level concentration for the hog pen stacks was about 3.5 OU, while the peak ground level concentration for the protein recycling facility was about 3.8 OU. (Note: The source group for the protein recycling facility included only one of the two stacks so the peak ground level concentration should have been about twice the value shown of 1.89852 OU.) The modelling would suggest then that the protein recycling facility and the hog pen stacks can be equally significant in terms of odour levels.

Earth Tech agrees that the source group for the protein recycling erroneously omitted the second stack. However, the odour values overall included both stacks. The relative value for the protein recycling contribution has been recalculated as 3.8 OU.

T66

The maximum ground level concentration for all sources (4.95799 OU) occurs at a different location and date than the maximum concentrations for the separate source groups. Consequently, it is not possible to estimate the relative contribution of the protein recycling facility and hog pen stacks to the 4.96 OU. To determine the relative contribution to the maximum calculated odour level, the proponent would need to model the source groups for that specific time (1998/08/03 at 22:00) and location (640,435.25 m; 5,525,897.00 m).

As the maximum odours modeled were determined to be within Manitoba Conservation's guidelines, the relative contribution of each group to the total was not determined corresponding to the overall maximum of all sources at that specific point/time. This could be determined if necessary.

T67

- The odour emissions from the hog pen stacks were calculated assuming a rectangular vent, but the emissions were modelled assuming the vent was circular with the same diameter as the width of the rectangular vent (See Appendix C. Model Output for odour modelling). From Photo B.2, it appears that the vents are circular with a rectangular exit. Questions for the proponent include:
  - Where were the velocity and odour concentrations measured - in the rectangular or circular part of the vent?

The odour emissions were calculated based on a circular vent.

T68

- Were the stack dimensions given (0.81 m or 1.09 m) the diameter of the circular portion of the stack or the width of the rectangular portion of the stack?

The odour emissions were calculated based on a circular vent.

T69

- There seems to be some discrepancies in the hog truck emission rate reported in the documents. In Table B.5, the net odour units for the hog trucks are given as "10 OU". In Table B.6, this "10 OU" has been converted to "150 OU" (instead of "150 OU/s"), while in Table 5.5 of Volume I, the hog truck emission rate is given as "150 OU/s-m^2". According to the modelling output, however, the hog trucks were modelled as a series of volume sources using 14 individual sources emitting 9.035714 OU/s for a total of "126.5 OU". The odour emissions for the hog truck should be clarified by the proponent.

The truck emissions were misreported in Table B6 which reads 105 OU. 105 OU/s is the calculated emission rate based upon the originally measured values of odour from the truck testing conducted. The value that was used in the model corresponds to the 10 OU assumed for the trucks, which was multiplied by the emission rate of 12.6 m^3/s actually calculates to 126.5 OU. The value that was modeled is correct, however the value in Table B6 should be changed to 126.5 OU/s.

T70

II. **Appendix I. Noise Screening:** As noted in comment #8 for Volume I, the noise assessment was simply a screening procedure to identify the required set-back distance.

Please refer to Response T 27.

Clean Environment Commission Comments and Responses (C-Series)

QUESTIONS FOR THE PROPONENT

C1 Air – noise, modelling, and odour

C1.1 Noise

C1.1.1 What is the anticipated noise levels associated with Project activities in the surrounding area?

See response T27 for further information. As indicated in Section 5.3.2.1 Noise Emissions, operational noise was considered. Noise due to condensers and blowers located on the roof of the building was calculated for the nearest industrial and residential receptors. The calculated resultant noise levels attributable to the facility were 61 dBA (meeting the 70 dBA provincial objective) for the nearest industrial receptor and 45 dBA (meeting the 45 dBA provincial objective) at the nearest residential receptor respectively. As a comparison, the City of Winnipeg's noise control by-law No. 2480/79 regulates sound from air conditioners at 50-55 dBA as measured at a point of nearest reception. Also see the figure below for further reference:

Relative Significance of Sound Levels

Sound Source	Sound Level dBA
Softest sounds young people can hear	0
Rustling leaves	20
Soft music, quiet conversation	40
Normal conversation	60
Busy street traffic	80
Potential for hearing damage increases rapidly above this level	85
Heavy vehicle	90
Rock drill	110
Gun shot, saw mill chipper	120
Pain level, jet plane taking off	140

C1.2 Modelling

C1.2.1 What constitutes a "major malfunction" and a "minor malfunction" of the Project?

See response T31.

C1.2.2 How the wind rose from the Airport is applicable to the Project Site?

The meterological data from the Winnipeg Airport was used for air modelling purposes. The Winnipeg Airport was the closest meterological station for which the required meterological data for the air modelling was available and therefore was used for modelling purposes. Wind is measured at a level, open site which does not contain obstacles such as buildings, trees and hills. Therefore the Winnipeg Airport weather station can be considered relatively representative of the proposed OlyWest site.

C1.2.3 What would be the effects on 32 discrete receptors (including east of Plessis Rd., north side of Dugald Rd., Windsor Park, and St. Boniface areas) within 10 km radius of the Plant?

As indicated in Appendix H, Section 4.3, the air model utilized 932 receptors arranged based upon Manitoba Conservation's Draft Guideline. As indicated in Section 6.1, none of the total concentrations of parameters modelled exceeded the applicable maximum acceptable levels from Manitoba Conservation with the insignificant exception of odour. The odour exceedance is considered minor as the exceedance would occur over two-1 hour periods over the five year period modelled. Given the precision and conservative assumptions of the model, these excursions should not be considered an exceedance of the criteria. Therefore as the maximum acceptable levels for the parameters modelled were not exceeded, and these levels are considered protective of the preservation of ambient air quality within the Province of Manitoba, it is not anticipated that there would be significant effects on the receptors.

C1.2.4 Provide details on the operation of the venture/packed media and room air packed media scrubbers.

Please refer to Section 4.3.1.3 starting on page 4-8 for details on the air emission control system operation.

C1.2.5 Justify use of Ellen air quality data as the baseline, by cross comparison to other Winnipeg air quality monitoring station results.

See response T40.

C1.2.6 How representative are the air quality monitoring and modelling results when compared to similar facilities elsewhere?

The odour sample collection was undertaken as there was no industry data available representative of the proposed OlyWest facility. The odour modelling was conducted using site specific data and the representative samples collected. As the samples collected and modelling was site specific, the modelling results cannot be applied to other facilities.

C1.2.7 What would be the anticipated effects with respect to VOC and TSP emissions from the Project on the surrounding area?

See response to C1.2.3 above.

As indicated in Section 5.3.2.1 Ozone and Acid Precipitation Precursors, Manitoba Conservation's Air Quality Department does not currently list environmental quality guidelines for general ambient VOC levels.

C1.2.8 What would be the anticipated effect on "flag-pole" or elevated receptors as a result of emissions from the Project on the surrounding area?

The model was run assuming receptors modeled as "flag-pole" at 1.5 m above ground level.

C1.2.9 What is the justification for the assumption those emissions that have either no regulatory threshold, or have not been routinely monitored or are "not typically monitored" at other facilities as being defined as insignificant by the assessment?

The absence of provincial monitoring of similar facilities or guidelines suggests that the emissions are not a source of environmental concern.

Accordingly as stated in section 7.1.3.1,

> ***Only air contaminants for which ambient air quality criteria exist or have been adopted in Manitoba were evaluated through air dispersion modeling for potential environmental effects***

Without having a baseline to compare the emissions to, it is not possible to determine the relative effect.

For these reasons, they have been considered insignificant.

C1.2.10 What is the justification for the assumptions that singer odours are "minimal"?

In the singers, the majority of the odours are produced from burning hair. Since the carcasses will have been dehaired prior to singing, minimal odours are expected. Furthermore, facility visits did not result in recognition of notable odours in the vicinity of the functioning singer equipment.

C1.3 Odour

C1.3.1 How effective will the misting of the hog holding area be at reducing odours?

See response T44

C1.3.2 Describe operational monitoring plans, including the location of source sampling facilities.

See responses T20 and T23 with respect to odours. With respect to wastewater, source sampling facilities will be installed according to the requirements of the City of Winnipeg.

C1.3.3 Provide the manufacturer specifications for the odour control equipment to be utilized.

Manufacturer's specifications have been incorporated into Section 4.3.1.3 in the text.

C1.3.4 Break odour-modelling results down into individual sources (protein recycling vs. holding pens, etc) and how this varies seasonally.

See response T65

These maximums take seasonal and daily variation into account separately for the protein recycling system and for the holding pen exhaust by factoring exhaust rates. The trucks are modeled in place at all times. See also response T25 with respect to seasonal variation.

C1.3.5 Given the assessments definitions of significance, why is the noted exceedance on a model threshold on an individual modelled receptor referred to in the assessment as an "insignificant exception" or an "insignificant exceedance"? Should an exceedance of a noted threshold be a significant effect?

Please see Response C1.2.3 and T53. See the explanation of term "significant" in Table 6.1 of the application for further description.

C1.3.6 How do the odours from waiting trucks affect the assessment? What assumptions were used in the model?

The odour model considered odour from waiting trucks containing hogs as an odour source which was included in the assessment. The odour model assumed four trucks containing hogs were waiting to enter the site along Plessis Road. Assumptions for these trucks included that they were positioned along Plessis Road at the entrance to the industrial park, they were modeled as a line source and the odour from the trucks was considered as a constant source throughout the five year period modelled. These assumptions were considered conservative as the arrival rate is scheduled to only be three trucks per hour. Further, if more than three trucks were attempting to unload at the site at any given time, they would likely be queued closer to the plant, which would place them, as an odour source, further away from residential receptors. If significant delays were anticipated in unloading additional trucks, the trucks would be set to a holding pattern with trucks enroute until they could be accommodated or re-routed to another location. Further assumptions used in the model are discussed in the Air Model Report included in Appendix H. See also response T51.

C1.3.7 Define "barely perceptible" with respect to odour?

Barely perceptible is used to describe the odour detection threshold. Barely detectable in terms of the odour detection threshold occurs when an assessor can tell the difference between a diluted odour sample and an odour free sample, however cannot detect the odour's character (smells like…). See also Section 4.2.1 in the air model report in Appendix H of the application.

C2 Contingency

C2.1 What are "Major" and "Minor" malfunctions?

In addition to the minor and major malfunctions of the emission control equipment (see Response T31), major malfunctions would include power failure, turbidity meter failure, equalization basin failure, and sewer line failure. Minor malfunctions would include small components breaking and malfunction of process equipment.

C3 Decommissioning

C3.1 Provide decommissioning activities and effects.

Plant decommissioning is not planned within the first 50 years of operation. Should decommissioning be required, consultation with the proper authorities will help to develop an official site decommissioning plan. Please refer to Section 10 for additional details. As the building will be decommissioned in consultation with the proper authorities, no long term immitigable negative impacts are anticipated.

C4 Groundwater

C4.1 What is the risk of any Project related activities to groundwater resources?

Please refer to Section 6.3.2, 6.5.1.1 and Tables 6.17 and 6.18 for information on the potential groundwater impacts during the construction and operation phases of the project. As indicated in the tables, there are no anticipated significant impacts to groundwater as a result of the proposed development.

C5 Habitat

C5.1 What pre-construction monitoring will be performed with respect to sensitive species, and what are the plans to address any concerns?

If OlyWest is granted an environmental licence, a pre-construction inspection will be completed by a qualified person to determine if there are any sensitive species at the site at the time that construction activities are about to occur. Further, if species of concern are present at the site, OlyWest will contact the Biodiversity Conservation Section of the Wildlife and Ecosystem Protection Branch to discuss possible mitigation options.

C6 Waste-Solid

C6.1 Provide a manure management plan that also addresses contingency events that may result in land-fill disposal of manure.

See Section 3.2 and 4.3.3 of the application for the preferred options for management of the bedding material/manure mixture. A manure management plan in accordance with the *Manitoba Livestock Mortality and Manure Management Regulation* and governing regulations at that time will be submitted at the appropriate time with details of the necessary contingency measures.

C6.2 What is the Project related potential effects relating to Endocrine Disrupting Substances (Waste-solid and Wastewater issues)?

See response T10.

C7 Wastewater

C7.1 What is the Project related effects on the NEWPCC effluent characteristics as the Project ramps up production and as a result of the ongoing NEWPCC upgrade program?

As indicated in Section 6.3.3.3, the City of Winnipeg North End Water Pollution Control Centre (NEWPCC) operates under an environmental licence. The City of Winnipeg has committed to accept OlyWest's pre-treated effluent and will meet the requirements of their environmental licence. The centrate treatment facility being constructed at the NEWPCC has the capability to compensate for the additional loads that could originate from the OlyWest development, or other developments in the service area. As such, the discharge of wastewater from the OlyWest development, or other possible developments in the NEWPCC service boundary, will not affect the City's ability to comply with the current requirements contained within Environmental Act Licence no. 2864R.

C7.2 Has the Project been given assurances from the City of Winnipeg the NEWPCC effluent treatment will be increased in response to the Project?

Yes.

C7.3 Does the Project satisfy the requirements of the Federal Fisheries Act MPPPPLER?

The Meat and Poultry Products Plant Liquid Effluent Regulations (MPPPPLER) specify effluent qualities for such plants. Under their "definitions", the following (indicated in *italics*) is relevant:

- **"effluent" means all wastewaters deposited by a plant and includes process water, wash water, tank drainage, storm water and wastes from water and wastewater treatment facilities, *but does not include***
- **storm water that is protected from contamination by a deleterious substance prescribed by section 4 originating from the plant, where the average concentration of biochemical oxygen demanding matter in at least 3 samples of the storm water, taken at intervals of 15 minutes, does not exceed 50 mg/L, or**
- ***wastewater from the plant that, prior to being deposited, is treated at a site outside a plant for the purpose of controlling the pH of the wastewater and removing from the wastewater the deleterious substances prescribed by section 4, in such a manner that***
  - ***the pH of the wastewater, determined in accordance with subsection 9(3), is between 6.0 and 9.0, and***
  - ***the quantity of deleterious substances remaining in that wastewater after the treatment, when added to the quantity of deleterious substances deposited directly, does not exceed the deposit of deleterious substances authorized under section 5; (effluent)***

The combination of pre-treatment at Olywest and at the City of Winnipeg is such that the conditions indicated above are satisfied, and therefore the regulation is met. The regulation is primarily directed towards those plants that discharge directly to a surface water source.

C7.4 What are the effects of using 20,000 kg per week of ChemFloc Ferric on the NEWPCC treatment process.

As indicated in the MSDS sheet included in Appendix F, ChemFloc Ferric is used for drinking water treatment and wastewater treatment. Therefore no negative effects due to the use of ChemFloc Ferric are anticipated on the NEWPCC treatment process.

C8 Water – Drinking

C8.1 What is the risk to the aqueduct and the City of Winnipeg water quality as a result of the Project.

OlyWest will adhere to all legal and engineering requirements related to the construction and operation of their facility in the vicinity of the City of Winnipeg aqueduct. As such, there is little risk to the aqueduct and City's water quality as a result of the Project.

C8.2 What are the rules/procedures with respect to Project water supply during major drought conditions?

Water use rules and procedures which pertain to the proposed facility are being investigated by Earth Tech. A response will be provided when more information is available.

C8.3 What water use efficiency measures does the Project employ?

See response T9

C9 Water – Surface Runoff

C9.1 What is the anticipated water quality of any surface runoff water from the site?

During construction, surface runoff will be typical of a large construction site. During operation, surface runoff will be generated from paved and compacted gravelled areas, building roof, and grassed areas. Tables 6.17 and 6.18 summarise the potential surface water impacts during the construction and operation phases of the project respectively. As indicated in the tables, there are no significant impacts to surface water anticipated as a result of the proposed development. See also responses T14 through T16.

C9.2 How will snow removal affect the surface runoff water quality?

Please refer to Response C9.1.

C10 Public Involvement – Stakeholders

C10.1 What was the survey instrument used for the St. Boniface Industrial Park Survey? Please provide a copy.

An informal survey was conducted via phone or personal visit.

C10.2 Provide a copy of the aggregated results from the survey.

The aggregated survey results are summarized in Section 12.2.4 of the application.

C11 Community Advisory Committee

C11.1 Provide the notes from the 5th and 6th meetings of the CAC;

Please see attached pages for CAC meeting #5 minutes and the report generated by the CAC during meeting #6.

C11.2 Provide a report of CAC deliberations;

Please refer to Response C11.1.

C11.3 Provide Terms of Reference for the CAC.

Please see the attached CAC Operational Procedures.

C11.4 Describe what influence results from the St. Boniface Industrial Survey had on the EIS.

The survey was a tool utilized by OlyWest to gauge general sentiment amongst industrial park tenants and confirmed that not all tenants were against or for the development at that time. The survey was used as a chance to inform participants of upcoming open house events where results of the environmental assessment would be shared and feedback given. The results of the survey are summarized in Section 12.2.4 of the application.

C11.5 Please explain why the results were kept confidential.

The aggregate results were published in Section 12.2.4 of the application. The survey was undertaken with the understanding that the specific responses would be kept confidential.

C11.6 How did the CAC affect the project?

As described in Section 12.2.5, the CAC helped to identify primary issues and questions of the general public. As a result of public consultation (which includes meetings with the CAC), compensatory nitrogen removal at the NEWPCC and on-site pre-treatment to remove phosphorus, the evaluation of a private road, odour quantification and modelling, the investment in odour control technology and the structural slab under the holding pen and equalization basin were committed to by OlyWest to address public concerns.

C12 Socio-economic – Health

C12.1 Provide a baseline health study;

All relevant health issues were addressed in the application. As there are no anticipated adverse health effects predicted a baseline health study is not necessary, nor would it be practical to undertake.

C12.2 Baseline health analysis for residences within the 1.5km radius and workers in the Industrial park, including more detail on potential health impacts from plant emissions.

Please refer to Response C.12.1.

C12.3 EIS did not provide detailed consideration of potential human health effects or implications or levels of exposure where human health effects may be possible.

Where possible, the assessment compared expected emissions to applicable criteria. As the applicable criteria are considered protective of human health, it is not anticipated that there would be human health effects

C12.4 More thorough consideration of impacts on quality of life, recreational activities and work health.

The terms of the advice document indicate that, to be assessed, a direct environmental effect needs to be demonstrated. As no significant negative effects remain after mitigation, further examination of quality of life resulting from the environmental effects of the project are not required.

C13 Land Use Zoning

C13.1 What are the character and types of commercial/industrial operations in the industrial park?

The land in the St. Boniface Industrial Park is predominantly zoned industrial, with a mixture of M1, M2, M3 and MP-2 zoned land. There are areas zoned Parks, PR1, which surround and include the existing retention ponds in the industrial park. For more information on the businesses located in the park review table 12.3 located on page 12-17 of Section 12.

C13.2 Provide an assessment of the Project's compatibility with other operations in the industrial park.

As the proposed site property and the land to the south, west and east are zoned M3 Industrial and the majority of the land to the north is zoned MP-2 Industrial with a small section zoned PR1 Parks, the proposed development is compatible with the site and surrounding land use. City planners and elected officials factored facility compatibility into the zoning designations when the industrial park was conceived. The compatibility of the

project was confirmed by the City council resolution of November 23, 2005 adopting the recommendations of the thorough study by the Executive Policy Committee (attached).

C13.3 Provide more complete information on the effect of the plant on the existing businesses

See response C13.2. The OlyWest environmental assessment report considered environmental impacts in relation to receptors located within and outside the St. Boniface Industrial Park. With respect to planning objectives, see also the City of Winnipeg's EPC report including p. 13 (Local Improvement District).

C13.4 Provide a map of the Industrial Park that clearly sets out where each business is located in relation to the proposed facility by business type.

Please refer to Figure 1.1 which provides an aerial photo of the proposed site and its location in relation to surrounding businesses and residential areas. The site zoning as well as zoning in the surrounding area is also shown in Figure 2.1.

C14 Cumulative Effects

C14.1 Provide baseline for odour emissions in project site area and assess potential cumulative effect project will have in combination with odour emissions of other projects in the area.

To assess the cumulative effect of odour emissions, hourly ambient odour data would need to have been collected for the same period as the meteorological data used in the air model. In addition, data on the emission rates from each contributing source would have to be identified at numerous locations from other companies, which is not practical. The collection of this data is beyond the scope of the environmental assessment of the OlyWest plant. Further, odours are not necessarily additive and as such emissions cannot be directly added to background ambient odours to determine the cumulative effects.

C14.2 Where have cumulative effects been considered and where have they not been considered? Clarification on rationale in both instances.

The environmental assessment was conducted in a manner that was sensitive to the need to determine how an effect from the project would interact with some existing or expected effects from other projects.

A cumulative effect can occur, for example, when a particular emission from a project is at an acceptable level when considered in isolation, but constitutes a significant risk to a valued part of the ecosystem. A cumulative effect can also occur when a emission that is acceptable considered by itself reacts with other elements in the environment to produce a significant risk. Greenhouse gases that are not harmful in themselves can interact with the overall climate system to produce global warming.

While the "cumulative effects" concept is expressly stated in the Canadian Environmental Assessment Act, it is routine to take it into account when conducting an assessment under the provincial Environment Act, and the environmental assessment team has done so in examining all the issues it was mandated to study.

For example, with respect to concentrations of contaminants due to air omissions, the effects of OlyWest emissions were considered in the context of background ambient air quality. In no case did OlyWest emissions push the overall level of contaminants beyond levels legislated or recommended by public authorities. These levels generally take into

account the fact that one contaminant (such as greenhouse gas) may interact with other elements in the environment in a way that is potentially adverse to the environment.

As table 6.18 demonstrates, due to design and mitigation efforts, in many cases assisted by input from public consultations or consultations with environmental regulators, potential environmental impacts from various OlyWest sources will be nil or at negligible levels. Where the OlyWest contribution is "nil", the cumulative effect is necessarily nil as well. When an OlyWest contribution is very small in magnitude, its potential for cumulative effects is generally very small as well. The environmental assessment team was prepared to identify any situation in which an effect negligible in and of itself might have a significant cumulative effect in combination with other elements in the environment.

With respect to several issues, cumulative impact assessment presented special challenges. The potential impact noises and odours, individually and interactively, depends in part on how they are subjectively perceived by various individuals. Noises and odours cannot necessarily be added to one another arithmetically to determine an overall level; one sound for example, can be perceived as drowning out or masking another, or combining with a different sound in a way that is pleasant or unpleasant. The same holds for odours.

With respect to sound, emissions from the OlyWest plant site are expected to be at such moderate levels and at such an extensive distance from residential areas that they will not be perceptible. Cumulative effects, such as the exceedance of thresholds or unpleasant effects from mixing with other sounds, therefore, are not anticipated. While sounds from the OlyWest plant might be audible very close to it, it is not expected that there will be any situations, given the moderate level at the source, that they will combine with other sounds to produce distress or discomfort to any reasonable auditor.

With respect to odour, strenuous design efforts have been made to avoid any likelihood of significant harm from the OlyWest plant sources. The best available technologies and practices currently available will be used at the plant.

The odour model, which has been reviewed by provincial environmental experts, demonstrates that in residential areas, it will only in extremely rare instances (a few hours every five years) and in respect of only a very few residences that the odour from the plant source will, considered on its own, reach the level of "barely detectible". Odours that are not perceptible on their own are not expected to interact with other odours in such a way as to become part of a perceptible combination. Accordingly, the cumulative effects in residential areas are expected to be negligible.

With respect to the industrial park, there are no situations, even in worst case scenarios, where the plant odour will even approach the maximum level acceptable under provincial guidelines. The model (Table 6.1, volume II) shows that within a kilometre of the plant, odours will reach the level of barely detectible (a 2 on the odour model scale) or above less than 5% of the time during a five year period. Outside of one kilometre, it will be extremely rare for the odour to even be perceptible. Levels within the one kilometre radius, even in a worst case –in-five-years scenario (figure 6.1, Volume II), do not in any case rise to a level that is close to the provincial maximum of 7 odour units for an industrial area. The worst case scenarios over a five year period show that on rare occasions within the one kilometre radius levels are reached of 3 units and a few pockets of 4.

As noted earlier, odours of a different character are not necessarily experienced as additive, and in many cases one may mask the other. Once OlyWest is operating if there are ever specific locations and times in the industrial park where an OlyWest odour, combined with another, is experienced as problematic from the perspective of reasonable individuals working at the industrial park, the cumulative effect would be addressed and mitigated under the odour nuisance clause that OlyWest expects to be contained in its license. Such a clause would enable the Director to investigate, and order reasonable mitigation measures on the part of OlyWest to address the situation. OlyWest expects, however, that such a clause would mandate the Director to take into account the zoned nature of the area as a industrial park and the provincial odour nuisance guidelines.

C14.3 Why wasn't a baseline for odour emissions in the project site area provided?

Please refer to Responses C14.1 and C14.2.

C14.4 Could the modeling be undertaken taking the cumulative effects of other projects/emissions/ odours into consideration?

Please refer to Response C14.1 and C14.2. Cumulative effects of air emissions for all air emission parameters modelled (other than odour as previously described) were considered as the model added estimated OlyWest output pollutant concentrations to existing ambient concentrations of pollutants. A similar exercise could not be practically conducted as outlined in Response C14.1 in addition to the problem of defining a study area and identifying sources only within that area.

C15 Local community

C15.1 What are the potential impacts on neighbouring property values due to impacts on human health, well being and quality of life?

Please refer to Response C 12.4. As there are no likely negative impacts to human health, well being and quality of life, no adverse impacts on property values are anticipated.

C15.2 Provide more complete information on households and businesses within the 1.5 km radius of the site.

The population, number of businesses, number of dwelling, number of shopping malls, as well as number of schools, daycares, and churches within a 3 km radius (tables 2.12, 2.13, 2.14) are detailed in section 2 starting on page 2-26. A listing of all businesses in the industrial park can be found in section 12 starting on page 12-17. Further detailed socio-economic information is contained in the Socioeconomic Report. Please see Response C.17.1.

C15.3 Provide missing information on health, social and economic baselines of the communities surrounding the proposed operation.

Please refer to Response C12.1 and Response C15.5.

C15.4 Provide baseline health information for residences and businesses within 1.5 km radius of operation.

Please refer to Response C12.1.

C15.5 Provide more specific demographic information regarding residents within the 1.5 km radius.

Please refer to the following table presented in the OlyWest Socioeconomic Report which was derived from City of Winnipeg and Statistics Canada data.

Table C1 Adjacent Neighbourhood Demographic Information

Neighbourhood	Population	% 5Yr Population Change	Population Density Per km^2	% Less Than Age 20	% Over Age 64	% Age 15+ Employed	Median Family Income	% of Income From Transfers
Holden	145	-26	1,450	27	8	81	n.a.	n.a.
Maginot	1,665	-1	3,836	32	8	68	41,732	15
Mission Gardens	3,490	-1	2,361	36	4	73	59,325	8
Southdale	7,010	-2	2,301	27	9	71	73,864	6
Southland Park	895	+38	326	30	4	76	85,518	4
Transcona South	725	+8	122	24	16	60	69,087	12
All Adjacent Neighbourhoods	13,930	+2	-	30	8	77	67,364*	7
Winnipeg City	619,544	0	1,304	27	13	64	54,724	12

* Weighted average of median family incomes.

C15.6 Provide information on similar studies for businesses located in an industrial park.

See response C13.2. In addition, relevant information has been provided in the EA and the related socio-economic report.

C15.7 Provide information on recreational activities in the area that illustrates the types of activities/ or level outdoor recreational activities undertaken in the area, and outlines who engages in these activities? How these activities may be affected?

There is a leash-free dog park located within the industrial park located around the northern-most retention pond, north of the site. To the northeast, there is a golf course. The public engages in these activities. No significant adverse effects on these activities are anticipated.

C16 Inflation Impacts

C16.1 Why were inflation impacts not included in summary impacts?

Inflation impacts are considered a socio-economic impact and not an environmental impact and therefore were not included in the summary of impacts. However, increased labour costs were one of the considerations of the socio-economic study. Generally, inflation is not an issue required to be addressed as outlined in the advice document prepared by Manitoba Conservation for the project.

C17 Documentation

C17.1 Why is the socio-economic report considered a proprietary document?

While this report was initially considered proprietary as it contains certain information that was felt to be confidential, OlyWest has determined, after consultation, that it can be released as non-proprietary.

C17.2 Why is the odour determination methodology considered proprietary material?

Appendix B to Appendix H (Volume II) – Odour Determination Methodology (hereinafter "Appendix B") is proprietary because it contains confidential information regarding odorous air which was sampled at an existing hog processing plant. In order to obtain air samples from the existing plant, Earth Tech agreed that it would keep the information confidential, and it was on this basis that the owners of the existing plant allowed Earth Tech to take the air samples.

In order to preserve the confidentiality of the information received, OlyWest has provided Appendix B as a proprietary document. At the request of the CEC, OlyWest allowed the CEC and its experts to obtain and review said Appendix B on the basis that it would be kept confidential as a proprietary document. In an effort to continue to maintain confidentiality over Appendix B while at the same time allowing Appendix B to be reviewed and analyzed by qualified experts who may be retained by one or more of the participants to the CEC hearing, OlyWest is prepared to provide Appendix B (edited only to delete reference to the name of the plant) to such experts on the following conditions:

(a) **the participant(s) provide the CEC and OlyWest with the qualifications of the proposed expert to demonstrate to the satisfaction of the CEC that the person has the required expertise to give opinion evidence in respect to Appendix H;**

(b) **the participant(s) and their qualified expert agree, in writing, to keep the information contained in Appendix "B" confidential and that they will undertake not to use the information contained therein for any purposes other than those of the CEC hearing relating to the OlyWest Project (wording taken in part from Queen's Bench Rule 30.1 regarding deemed undertakings);**

(c) **the participant(s) agree that CEC Process Guideline 13(1) regarding Proprietary Information will apply to Appendix "B" at the CEC hearing regarding the OlyWest Project and Appendix "B" will be marked as "confidential" and sealed and, to the extent necessary, the Commission will restrict public access to any part of the hearing relating to evidence on any confidential aspect of Appendix "B"**

Note: By the Response to T64, Appendix "B" will also include the St. Croix Sensory, Inc. analytical reports which are also provided as proprietary documents.

C17.3 What material changes were made from the proprietary socioeconomic report to the socio-economic chapter of the EIS? Why were the changes made?

See Response C17.1

Public Comments and Responses (P-Series)

P1

1-1	"Olymel currently operates 18 slaughtering, processing and distribution facilities and, in total, processes four million hogs, four million turkeys and eighty million chickens annually. Olymel employs over 10,000 people nationally, and is a lead player in protein processing in Canada." Comment – See Appendix B

Questions - Since this Olymel is the only company of the three companies in the partnership that has a history of operating a hog slaughtering may we have specific information regarding its tract record? What is Olymel's Occupational Health and Safety Record? What is Olymel's tract record in regards to the environment? Have they had any spills? What are the results of the regular inspections? How well have they responded to suggestions/demands after these inspections? How has Olymel impacted the communities they are in? Have there been any complaints? If there have been complaints - how many? What was the nature of the complaints e.g. odor, traffic, accidents? How have the complaints been handled? Could the complainants be approached to see if they would be willing to discuss their complaints with residents in the area of the proposed plant? Are there any public reports on Olymel?

The proposed OlyWest food processing facilty will adapt Best Applied Control Technology and Best Management Practices. Hytek Ltd. was previously the majority owner of OlyWest and as of December 5, 2006, Hytek Ltd. has assumed full control of OlyWest, a Manitoba limited partnership. OlyWest commits to be environmentally responsible, an employer of choice and economically sound. OlyWest will not build a processing facility if it does not meet all provincial environmental regulations. OlyWest will not operate a processing facility if it does not adhere to all provincial regulations.

P2

1-4	"The general requirements for the site were a City with a population of more than 100,000 people to accommodate the staffing requirements of the plant."

Question – Could the plant not be five kilometers away if a bus route was added?

The addition of a bus route running outside of the City of Winnipeg would be up to Winnipeg Transit. However, the population and bus route were not the only requirements for the site selection. Further site selection criteria are described in Section 1.4.

P3

1-4	"The specific location in Winnipeg was chosen because: o demonstrate that I do not believe that the documentation provided by EarthTech contains sufficient information to facilitate the approval process; and o to encourage the stakeholders and all levels of government to develop an Agricultural Industrial Site in the Winnipeg Region with all of the following o The site is zoned M3 and is located well within an existing industrial park, therefore no rezoning was required; o The site is a large tract of land that provides maximum separation distances to residential area but is close enough to ensure convenient access to the plant by the future labour force; o The pre-treated wastewater can be accommodated at the City of Winnipeg NEWPCC; o The specific location does not require establishment of any new truck routes; o The site can easily accommodate incoming highway traffic due to its location on Winnipeg's east side; o The proximity of the Canadian National (CN) Railway's Symington Yards to the south of the proposed site provide good potential for future rail accessibility; and o City of Winnipeg Transit service can be accommodated at the site." Comments - See Appendix A – Winnipeg Two

Questions – What other areas in or around Winnipeg meet some or all of these requirements? Why are two or three sites not being reviewed and then selecting the best site? What additional costs would there be, if any, if all three levels of government developed a site that meets all of the above criteria for both OlyWest and other agricultural businesses?

The proposed OlyWest site location was chosen by the OlyWest consortium for a number of reasons as detailed in Section 1.4. The environmental assessment was conducted for the proposed site at the current proposed location and examined effects on neighboring residents and businesses. An environmental assessment cannot be conducted on a hypothetical site.

P4

2.2.6	"A few large specimens of Northern Leopard Frogs were seen on the site during June, July and August. This frog species is classified as a Species-at Risk in Canada. There is no permanent deep water on the property and deep water is essential as wintering habitat for the species. The proposed OlyWest site also has no permanent breeding habitat under normal conditions. Consequently these Leopard Frogs must strictly be regarded as transient and if the species is to be maintained in the eastern portion of the city limits, it is imperative to safeguard its critical habitat, which is definitely not on the proposed OlyWest site."
Appendix B	**"Northern Leopard Frog:** This species was never recorded on the property until mid-June and then it suddenly appeared. Throughout the remainder of June, July and August a few large specimens were seen and would have to be classed as transients because they were traversing grasslands and there was no water at the time on the OlyWest property to support them. Possibly, during the record-breaking drought of July, they were moving from one man-made lake to another. Never more than nine were seen on any one day (August 16, 2006), so they are not particularly common. Because they were seen regularly but in very small numbers this species, which is classed as a Species-at-Risk in Canada, merits special concern. There is no permanent deep water on the property and deep water is essential as wintering habitat for the species. The OlyWest property also has no permanent breeding habitat under normal conditions. Consequently these Leopard Frogs must strictly be regarded as transient and if the species is to be maintained in the eastern portion of the city limits, it is imperative to safeguard its critical habitat, which is definitely not on the OlyWest property."

Questions: Who had been looking for this species previously? How often? What would happen to this species if these frogs were lost this year? Year after year?

The study of flora and fauna was carried out by Green Spaces Environmental Consulting. The study began in April, 2006 and concluded in August, 2006. Please refer to Response T17.