

## **SUMMARY OF COMMENTS/RECOMMENDATIONS**

**PROPONENT:** Winkpak Ltd.  
**PROPOSAL NAME:** Winkpak Ltd. Murray Industrial Park Complex  
**CLASS OF DEVELOPMENT:** 1  
**TYPE OF DEVELOPMENT:** Manufacturing Plant  
**CLIENT FILE NO.:** 5262.00

### **OVERVIEW:**

On February 7, 2007, Manitoba Conservation received a Proposal dated January 31, 2007, for the continued operation of a packaging material manufacturing facility located at 100 Saulteaux Crescent, on Lot 1 Plan 39607 WLTO in RL 13 and 14, Lot 2 Plan 15507 WLTO in RL 12 and 13, Lot 3 Plan 13115 WLTO in RL 12 and 13, and Lot 4 Plan 13115 WLTO in RL 12 and 13; all in the Parish of St. James in the City of Winnipeg. The facility will operate 24 hours a day, seven days a week, and will produce packaging products primarily for the protection of foods, beverages, pharmaceuticals and medical applications.

The Department, on May 28, 2007, placed copies of the Proposal in the Public Registries located at 123 Main St. (Union Station), the Winnipeg Public Library, and the Manitoba Eco-Network. Copies of the Proposal were also provided to the Technical Advisory Committee (TAC) members. A notice of the Environment Act proposal was also placed in the Winnipeg Free Press on June 2, 2007. The newspaper and TAC notifications invited responses until June 29, 2007.

### **COMMENTS FROM THE PUBLIC:**

No public responses were received.

#### **Disposition:**

No action needed.

### **COMMENTS FROM THE TECHNICAL ADVISORY COMMITTEE:**

#### **Health Canada**

No concerns.

#### **Disposition:**

No action needed.

## **Manitoba Infrastructure and Transportation – Highway Planning and Design Branch**

No comments

### **Disposition:**

No action needed.

## **Manitoba Agriculture, Food and Rural Initiatives – Land Use Branch**

No concerns.

### **Disposition:**

No action needed.

## **Manitoba Science, Technology, Energy and Mines**

No comment.

### **Disposition:**

No action needed.

## **Manitoba Culture, Heritage and Tourism – Heritage**

No concerns.

### **Disposition:**

No action needed.

## **Manitoba Conservation**

The following comments related to the air dispersion modelling were provided:

- *2.0 Chemicals of Interest/Exposure Criteria:*
- *Table 1, page 5: It is not stated in Appendix 3 how the quantities of VOCs released to the air were estimated. Were the quantities of VOCs released based on in-stack measurements, chemical analysis of the waste materials, or calculations based on Material Safety Datasheet (MSDS) data? If calculated from MSDS data, were the estimated quantities released based on the maximum concentration of the VOC in the product or an average concentration? [Note: The VOCs listed on an MSDS for a typical product tend to be given as a range (e.g., minimum-maximum concentration).*

*For the calculation of peak, short-term exposures, the maximum VOC concentration should be used.] Insufficient information was provided in the Appendix to verify the emission rates*

- *The proponent responds that the quantities of VOCs released were calculated based upon the actual concentrations of specific compounds in the various inks, solvents and adhesives as determined by the manufacturer's analysis of the various chemicals, not MSDS sheets..*
- *Table 1, page 5: The sum of column 5 "RELEASED" is 449.598 tonnes which does not correspond with the VOC releases to air as reported in the NPRI Facility and Substance Information (477.113 tonnes).*
  - *The proponent responds that they have been over reporting airborne VOC released to the NPRI system.*
- *Table 2, page 6: The use of Ontario Ministry of Environment air quality criteria was appropriate for this situation. The criteria and the modelling, however, are focused only on the short-term, 1-hour concentrations. Some of the VOCs have 24-hour average, health-based criteria which should also have been considered (e.g., n-propyl alcohol: 16,000 µg/m<sup>3</sup>; xylene: 730 µg/m<sup>3</sup>; 1-butoxy-2-propanol: 3,300 µg/m<sup>3</sup>).*
  - *The proponent provided comparisons to both 1-hour and 24-hour criteria where available.*
- *3.0 Dispersion Model*
- *page 7: Given the significant complexity of the source (e.g., multiple buildings of varying heights, multiple release points of different configurations), the use of a more refined model (e.g., AERMod) would have been more appropriate.*
  - *The proponent responds that their modelling approach has over estimated the emissions and the ground level concentrations of the emissions off property.*
- *page 8: The choice of the "rural" option for surface roughness appears to have been based on a procedure using the population density. In any industrial area, such as Murray Industrial Complex, the population density is not a good measure of surface roughness. The problem with using population as a criterion is that industrial areas (as well as the downtown core of cities on weekends) typically have very low population densities. The presence of buildings in an industrial area, even if low, will enhance dispersion over that in a rural area. Consequently, land use analysis is the better approach for assigning urban/rural classifications.*
  - *The proponent responds that they believe the choice of the rural option was appropriate. Modelling based on the urban option was completed which resulted in a 2% reduction in ground level concentrations.*
- *4.3 Emission Rates*
- *Table 5, page 11: No details were provided on how the ozone concentrations were determined. Were they estimated or were they measured in the stack?*
  - *The proponent responds that ozone levels were measured inside the ventilation system before the final air streams were added to the total flow via the Strobic*

*fans. The dilution of the final mixed air stream would make the emitted ozone levels below the level of detection.*

- 5.1 First Approximation - All Emissions Treated as a Volume Source:
- page 12: *For Column 1, the statement is made that the VOCs listed were those “that are discharged in significant amounts, and have an emission limit”. Were there other VOCs released? A complete list of VOCs, their release rates and their relevant criteria should have been provided.*
  - *The proponent responds that information on all released VOCs and their emission limits, if any, have been provided.*
- Table 6, page 14: *From the table, it appears that the emission rates were calculated from the annual releases of VOCs. If this is the case, then the emission rates calculated would be annual average emission rates. Using an annual average rate could significantly underestimate the short-term peak emission rates and therefore the short-term peak concentrations. How do the short-term peak emission rates compare with these annual averages?*
  - *The proponent responds that estimating short term peak emission rates is neither possible, nor practical.*
- Table 6, page 14: *There is a discrepancy between the emission rate for ethyl acetate shown in Table 1 (2121.4 kg/yr) and Table 6 (266,951 kg/yr). Which is the correct value?*
  - *The proponent responds that ethyl acetate is shown in two places on Table 1, and the entry on Table 6 represents the sum of those two values.*
- Table 6, page 14: *No information is provided on where the maximum concentrations occur. As well, no information is provided on the concentrations at critical receptors in the vicinity of the facility (i.e., military housing immediately to the south of the plant).*
  - *The proponent responds that the critical receptor was assumed to be the residential area about 100 m to the south of the plant. The maximum concentration was at 138 m and was assumed to be within this area.*
- 5.2 Second Approximation - Emissions Treated as a Point or Volume Source as Appropriate:
- *Given that the stack heights are only between 6.3 and 14.8 ft above the roof which is of height 22.7 ft, then building downwash should have been included in the modelling rather than modelling the stack as being unaffected by any buildings*
  - *The proponent responds that a new air dispersion model was completed where these sources were modelled as a volume source.*
- Page 21, point 4 states “the emission data is from 2002, which is considered a worst case year. Newer solvent-less process have been implemented since 2002, which would reduce the amount of solvents being released”. The NPRI data for VOC releases to air from Winpak for 2002-2005 are as follows:
  - 2002 – 477.113 tonnes
  - 2003 – 562,323 tonnes

- 2004 – 500.517 tonnes
- 2005 – 539.466 tonnes.

2003, not 2002, represents a worst case year.

- *The proponent responds that the 2002 data are reflective of the worst case year given the current equipment and plant configuration.*
- Appendix A. Stack Data:
- *Unit #23 (page 26) and Unit #83 (page 29) emit the isocyanate TDI and Unit #38 (page 27), #39 (page 28), and #80 (page 29) emit MDI. Neither TDI nor MDI, however, were assessed in the air dispersion modelling.*
  - *The proponent responds that these isocyanates are applied by a roller and are encapsulated by a second layer of film almost immediately. Sampling within the facility as part of regular industrial hygiene programs failed to detect significant isocyanate levels at the source.*
- Appendix B. Dispersion Data for Non-Vertical Emissions:
- *There appear to be some discrepancies between the building modelled and the actual facility. For instance, the initial lateral dimension of 21.2659 m (70 ft) corresponds to a length of 91.4 m (300 ft). The building length and width, however, were given as 900 ft by 660 ft on page 8. Similarly, the building height was modelled as 9.1440 m (30 ft) but the height calculated from the initial vertical dimension of 4.7762 m was 10.3 m (33.7 ft) and the actual building height where most of the sources were located was 22.7 ft.*
  - *The proponent responds that a volume source air dispersion model has been completed and therefore the individual stack configurations are no longer significant towards the model results.*
- *As noted earlier, the “urban” option should have been used instead of the “rural” option.*
  - *The proponent responded by running an air dispersion model using the “urban” option.*
- Appendix C. Dispersion Data for Vertical Emissions:
- *No rationale was provided for the choice of stack height (10.3632 m or 34 ft), stack inside diameter (0.9144 m), or stack exit velocity (1.4373 m/s).*
- *As noted earlier, building downwash should have been incorporated into the modelling (i.e., the building height should not have been set to 0.0 m) and the “urban” rather than the “rural” option should have been chosen.*
  - *The proponent responds that a volume source air dispersion model has been completed and therefore neither the individual stack configurations, nor building downwash will influence the model results.*

*The following comments related to the general proposal were provided:*

- *page 11, Section 2.6.3 :*
  - *For the processes described in 2.6.3.1 Blown Film Extrusion, 2.6.3.2 Wincoater/Wincaster Film, and 2.6.3.3 Multi Barrier Film it is indicated that heat and friction convert the pellets (polypropylene, polyethylene and resin) into a melt. Are the fumes from the melting process collected by fume hoods? Are they exhausted to ambient (odour source)? What is the number of machines in the above noted process “line(s)”?*
    - *The proponent responds that there are six Blown Film Extrusion machines, one Wincoater/Wincaster Film machine and three Multi Barrier Film machines. There are virtually no fumes given off by the melting process and therefore no odours created.*
  - *Section 2.6.3.4 Film Printing – what is the number of flexographic presses? It is indicated that Vortex wash up solvent is used to clean the printing rollers. How is the cleaning done? Dip tanks, washing cabinet, or other? What venting is provided?*
    - *The proponent responds that there are six flexographic presses and the roller cleaning is done within a closed loop system. The solvent is recycled within the system and when required replaced with the old solvent being reclaimed by the system supplier*

Disposition:

The proponent provided sufficient additional information to satisfy the Department’s concerns.

**Manitoba Intergovernmental Affairs and Trade – Community Planning Services**

No comments received.

Disposition:

No action needed.

**Manitoba Water Stewardship – Ecological Services Division**

Manitoba Water Stewardship expressed concerns related to the geothermal cooling system and the requirement of The Water Rights Act.

Disposition:

The proponent has been instructed to work with Manitoba Water Stewardship to address these concerns and achieve compliance with the requirements of The Water Rights Act.

**PUBLIC HEARING:**

A public hearing is not recommended.

**RECOMMENDATION:**

The Proponent should be issued a Licence for the continued operation of a packaging material manufacturing facility in accordance with the specifications, terms and conditions of the attached draft Licence. Enforcement of the Licence should be assigned to the Central Region of Manitoba Conservation.

A draft environment act licence is attached for the Director's consideration.

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