

Prepared for

Cargill Meat Solutions – Case Ready
180 Watson Parkway South
Guelph, Ontario
N1L 1K8

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Annual Public Report on Toxic Reduction Plan

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CARGILL MEAT SOLUTIONS

ANNUAL PUBLIC REPORT FOR

AMMONIA

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1. FACILITY INFORMATION

Substance Names and CAS number:	Ammonia (Total of ammonia [CAS RN 7664-41-7] and the ammonium ion [CAS RN 14798-03-9] in solution)
NPRI ID:	11087
Address of Facility	180 Watson Parkway South Guelph, ON N1L 1K8
Legal Name and address of the owner and the operator of the facility:	Cargill Limited/Watson Case Ready 180 Watson Parkway South Guelph, ON N1L 1K8
Number of full time employees:	576
NAICS Code:	311611
Name Position and Telephone number (and address if different from facility) of the following people	
Plan contact	Ivana Sajovic, EHS Manager (519) 993-4553
Technical contact	Taylor Roumeliotis, Manager (289) 290-0622
Highest Ranking Employee	Steve Devine, General Manager
UTM coordinates of the facility	564536 E, 4823256 N, Zone 17
For each parent Company if applicable:	
Legal name Street and mailing address Percentage ownership	N/A

2. TOXIC SUBSTANCE QUANTIFICATIONS FOR 2017 REPORTING YEAR

2.1 Other Substances

No other Toxic Substance Reduction Plans are required for the Cargill Meat Solutions (Cargill) Watson Case Ready facility.

2.2 Summary of Quantifications

Description	Reporting Period [2017]	Reporting Period [2016]	Change (tonnes) [2017] - [2016]	% Change [2017/2016] - 100%	Reason for Change in Quantification
Mass entering the facility; use (tonnes)	0.84	1.00	-0.16	-16%	Less top-up in refrigeration system required in 2017
Mass created (tonnes)	0	0	-	-	-
Mass contained in product (tonnes)	0	0	-	-	-
Mass disposed off-site to storage (tonnes)	0.205	0.0564	0.149	264%	Additional purges of noncondensable gases (NCG)
Mass transferred off-site for recycling (tonnes)	0	0	-	-	-
Mass released to air (tonnes)	0.75	0.77	-0.02	-3%	N/A - quantities are approximately equal
Mass released to water bodies (tonnes)	0	0	-	-	-
Mass released to land (tonnes)	0	0	-	-	-

3. OBJECTIVE AND TARGET

Cargill intends to minimize the use of ammonia by improving operator and system efficiencies by upgrading their computer program and developing task procedure documents. Cargill's target is to reduce the use of ammonia by 0.7% (or 0.02 tonnes).

4. TOXIC SUBSTANCE REDUCTION OPTIONS

Cargill developed a Toxic Substance Reduction Plan for the 2012 calendar year. Two options for reduction of ammonia use were selected for implementation.

4.1 Upgrade to Refrigeration System Computer Program

During sanitation shifts, an additional ammonia compressor would run unnecessarily to compensate for the heat introduced to the production areas with sanitation hot water. Cargill plans to modify their existing computer programs to remotely operate solenoid valves, which enables them to divert ammonia from the evaporators supporting the production area during these sanitation shifts. This reduces the amount of ammonia in the lines during this shift and eliminates the need to operate an additional compressor (~5 hrs of operation per day). The

computer program will also allow Cargill operators to automatically close valves to isolate sections of the piping network to repair suspected leaking connections / equipment.

4.1.1 Steps Taken in Previous Year

The Steps described in the plan that were taken during the previous calendar year:

- The final implementation step to train refrigeration engineers and operators on program changes and adopt new practices was completed in 2014.
- No steps were taken in 2017 since this upgrade was completed in 2014.

4.1.2 Reduction in Substance Use

Amount of reduction in the use, creation and discharge to air, land or water of the substance at the facility during the previous calendar year that resulted due to the steps mentioned above:

- Cargill estimated that the refrigeration system computer program upgrade resulted in a reduction of 0.020 tonnes of ammonia emitted to air first occurring in 2014 as a result of fewer fugitive leaks from less operation of certain ammonia compressors.
- No additional ammonia reductions were realized in 2017 that resulted from this option.

4.1.3 Reduction in Substance Contained in Product

The amount of reduction in the substance contained in product at the facility during the previous calendar year that resulted due to the steps mentioned above:

- None – ammonia is not contained in product.

4.1.4 Timelines

An indication of whether the timelines set out in the Plan will be met:

- All steps for this option were met within the allotted 2 year timeline (from the end of 2012).

4.2 Develop Task Procedure Sheet

Cargill plans to develop Task Procedure (TP) sheets for certain refrigeration system maintenance tasks performed by operators or contractors, primarily for safety reasons. A TP sheet for oil pot draining has been identified as the most critical task by the facility. Cargill also plans to develop a TP for leaks. These TP will inform operators how to appropriately and efficiently perform the task and record findings. For oil pot draining, the amount of ammonia gas that occasionally bubbles toward the end of the draining process will be minimized. For leaks, operators will act more quickly to limit the amount of ammonia lost to air.

4.2.1 Steps Taken in Previous Year

The Steps described in the plan that were taken during the previous calendar year:

- The final implementation step to train operators on the newly developed TP sheet for oil pot draining was completed in 2014.
- No steps were taken in 2017 since this initiative was completed in 2014.

4.2.2 Reduction in Substance Use

Amount of reduction in the use, creation and discharge to air, land or water of the substance at the facility during the previous calendar year that resulted due to the steps mentioned above:

- Cargill estimated a reduction of 0.003 tonnes of ammonia emitted to air in 2014 and 0.001 tonnes of ammonia disposed off-site as a result of efficiencies in the oil pot draining process.
- No additional ammonia reductions were realized in 2017 that resulted from this option.

4.2.3 Reduction in Substance Contained in Product

The amount of reduction in the substance contained in product at the facility during the previous calendar year that resulted due to the steps mentioned above:

- None – ammonia is not contained in product.

4.2.4 Timelines

An indication of whether the timelines set out in the Plan will be met:

- All steps for this option were met within the allotted 2 year timeline (from the end of 2012).

4.3 Additional actions taken during the previous calendar year to achieve the plan's objectives

No additional actions outside the plan were taken during the period to reduce the use of ammonia.

4.4 Comparison of Steps Taken

A comparison of the steps identified in the Plan, and the steps that have been taken is provided below:

- The Toxic Substance Reduction Plan was developed for the 2012 calendar year, and had two implementation steps (development and training) for two reduction options. Each step was allotted 1 year for completion from the end of 2012.
- Both steps were completed within the allotted timeline and have been implemented.

4.5 Amendments to the Plan

The amendments made to the Toxic Substance Reduction Plan during the previous calendar year:

- None – no amendments were made to the original Toxic Substance Reduction Plan.

5. CERTIFICATION

As of June 1, 2018, I, Steve Devine, certify that I have read the report on the toxic substance reduction plan for the toxic substance referred to below and am familiar with its contents, and to my knowledge the information contained in the report is factually accurate and the report complies with the Toxics Reduction Act, 2009 and Ontario Regulation 455/09 (General) made under that Act.

Ammonia: Total of ammonia [CAS RN 7664-41-7] and the ammonium ion [CAS RN 14798-03-9] in solution



Steve Devine
General Manager
Cargill Limited/Watson Case Ready