Pollution Prevention Planning for Nonylphenol and its Ethoxylates in Products

Final Evaluation Report

1. Background

In 2001, a risk assessment found that both nonylphenol (NP) and nonylphenol and its ethoxylates (NPEs) were "entering the environment in a quantity or concentration or under conditions that have or may have an immediate or long-term harmful effect on the environment or its biological diversity", and therefore it was recommended that these substances be considered toxic under the *Canadian Environmental Protection Act, 1999* (CEPA 1999). As a result, in 2002, NP and NPEs were added to the List of Toxic Substances in Schedule 1 of CEPA 1999.

A Pollution Prevention (P2) Planning Notice was chosen to manage NP and NPEs because it provides flexibility for site-specific solutions, it minimizes potential incompatibilities with existing or future provincial or municipal regulations, and it allows for early action. On December 4, 2004, Environment Canada published in the *Canada Gazette*, Part I, the Notice Requiring the Preparation and Implementation of Pollution Prevention Plans in Respect of Nonylphenol and its Ethoxylates Contained in Products (referred to as the Notice in this report).

2. Pollution Prevention Planning Notice Requirements

This Notice applied to any person or class of persons who (a) owned or operated a facility that manufactured or imported soap and cleaning products, or processing aids used in the wet textile industry or pulp and paper processing aids; and (b) purchased or otherwise acquired 2000 kilograms or more of NP and NPEs in at least one calendar year between January 1, 2003, and December 31, 2012.

Persons subject to the Notice were required to prepare and implement a P2 Plan that took into consideration the risk management objectives described in the Notice, including Phase 1 and Phase 2 reduction targets. Persons were required to consider reducing the total quantity of NP and NPEs used to manufacture products and imported in products from the base year (1998) by 50% and 95% in Phase 1 and Phase 2, respectively. Unless a person became subject to the Notice after the date of publication, timelines for each phase were the 2007 and 2010 calendar years, respectively.

Persons subject to the Notice were required to submit the following reports:

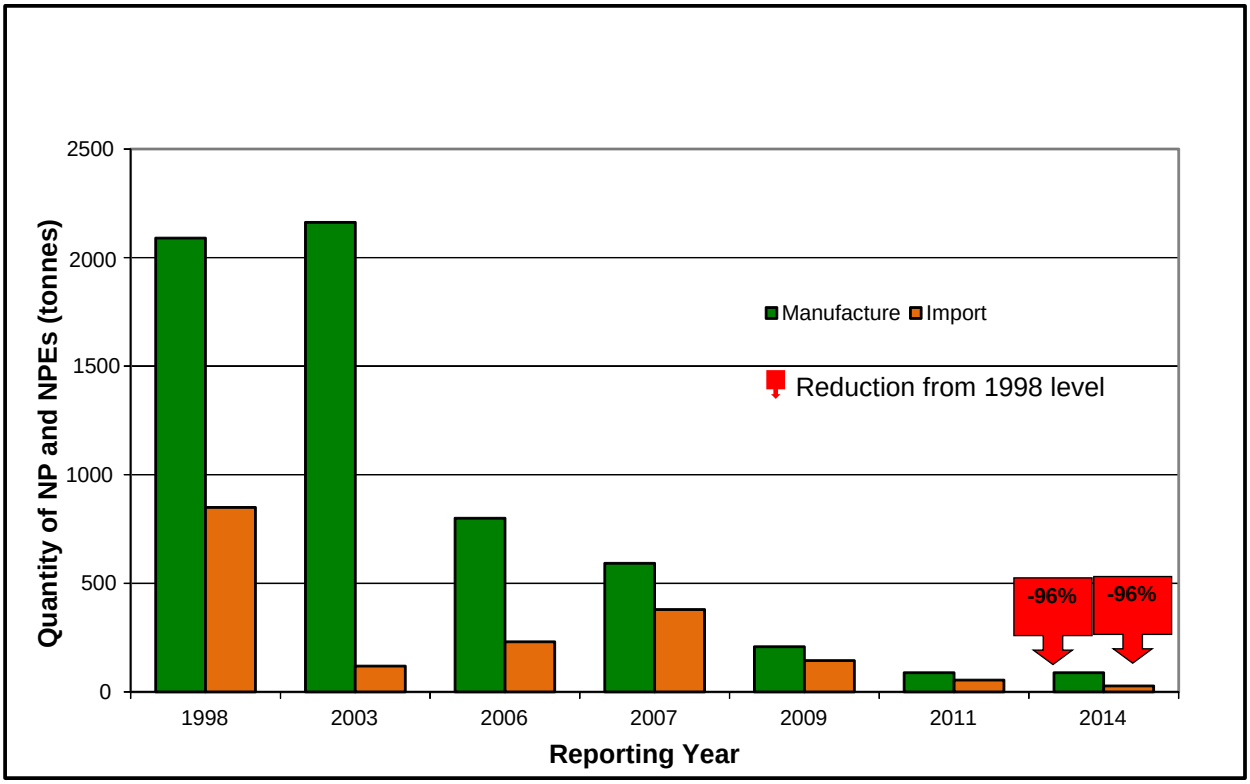
- A declaration that a P2 Plan had been prepared and was being implemented (Schedule 1);
- Annual Interim Progress Reports (3) to highlight the progress that had been made (Schedule 4);
- A declaration that a P2 Plan was implemented (Schedule 5).

3. Summary of the Results

Since the publication of the Notice, Environment Canada has received 77 submissions declaring that their facility has prepared and begun implementation of their P2 Plan (Declarations of Preparation), 70 Declarations of Implementation, and 6 ceased operation or use of NP and NPEs. Much of the following information is derived from these submissions, which are made available to the public on Environment Canada's website.

Based on reports from facilities on preparation and implementation of P2 Plans, by 2007, the Phase 1 requirements were met as manufacturers and importers reduced their total quantity of NPEs by 72% and 55%, respectively. Furthermore, by December 2013, both manufacturing and importation of products containing NP and NPEs decreased significantly (Figure 1), meeting the Phase 2 requirements. The annual use of NP and NPEs in product manufacturing decreased to 86 tonnes and imports decreased to 27 tonnes, compared with 2100 and 850 tonnes respectively in the baseline year (1998). This represents an overall reduction of 96% in NP and NPEs used to manufacture products and in imported products.

Figure 1: Reported annual use of NP and NPEs in products manufactured on site or imported for all facilities



The risk management objective for the P2 Planning Notice for NP and NPEs in products can be considered to be achieved. In reviewing the reports submitted under the P2 Notice, the majority of facilities met the risk management objective through 100% elimination of NP and NPEs in products. The reports also revealed that five facilities that did not meet the risk management objective within the specified timeline did commit either to meeting the target at a later date or to eliminating the use of NP and NPEs altogether (for example, when its entire existing inventory was consumed). Thus, net reductions of NP and NPEs may be greater than currently reported in this report.

4. Conclusion

Based on the results of the reports submitted to Environment Canada over the lifetime of the Notice, 70 of 77 facilities met the requirements of the Notice and a further 6 ceased operation or use of NP and NPEs. The overall reduction of NP and NPEs was 96% used in manufacturing of products and in imported products from the 1998 base level. Therefore, the Phase 1 and 2 targets are considered to be met.

Given the success of the Notice, the total amount of NP and NPEs used in manufacturing was estimated to be reduced to 86 tonnes and imports to 27 tonnes in 2014 compared with

2100 tonnes used in manufacturing and 850 tonnes imported in 1998 base year (based on information within reports submitted to Environment Canada).

NP and NPEs releases to the environment will continue to be monitored, notably through the National Pollutant Release Inventory, to determine if further risk management is warranted.