

Implementation of the CWS for Iron Sintering - Manitoba Implementation Plans

Overview of the Standards:

Canada-wide Standards (CWS) are being established and implemented pursuant to the 1998 Canada-wide Accord on Environmental Harmonization of the Canadian Council of Ministers of the Environment (CCME) and its Canada-wide Environmental Standards Sub-agreement. At its March 2003 meeting, the Council of Ministers (COM) endorsed Standards for dioxins/furans from iron sintering plants. CWS are developed through an intergovernmental process engaging external stakeholders in advisory or consultative roles. Implementation of the standards are the responsibility of each jurisdiction.

Canada's only iron sintering plant is located in Ontario and this plant releases about 6.0 g TEQ/year of dioxins and furans to the atmosphere (about 4% of the national total). In a sintering plant, a feed mixture of iron-rich ore or secondary materials and fluxing agents is fed onto a series of pallets and mixed with a carbon source such as coke or coal. The carbon source combusts to provide heat to fuse the mixture into a porous solid material suitable for use as feed for a blast furnace. Dioxins and furans emitted from iron sintering plants are believed to be created through the burning of the carbon source in the sinter bed in the presence of a metal catalyst and minute quantities of chlorine as chloride ion. There is adequate chloride ion present at an appropriate temperature to allow formation of dioxins and furans within the sinter bed. Particulate emissions result when fine material that was not fused in the process escapes with the air drawn through the sinter bed; dioxins and furans appear to be adsorbed to or condensed on these particles. In addition, dioxins and furans present in the gaseous state are carried into the exhaust system.

The CWS sets out numeric targets and timeframes for reducing dioxin and furan emissions from new or expanding (200 pg/m³ TEQ) and existing (1,350 pg/m³ TEQ by 2002, 500 pg/m³ TEQ by 2005, and 200 pg/m³ TEQ by 2010) iron sintering plants. The expected emission levels for particulate matter which should be achieved when control technology designed to meet the dioxin and furan limits is employed are also identified. (For new or expanding iron sintering plants, particulate emissions should be less than 20 mg/m³ for new or expanding iron sintering plants. For existing plants, particulate emissions should be less than 50 mg/m³ by 2002 and 2005 and less than 20 mg/m³ by 2010.)

Currently, Manitoba does not have any iron sintering plants, and it is not anticipated that there will be any new facilities developed in the foreseeable future. Therefore, this sector will not be addressed further in Manitoba.

Manitoba Conservation
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