Name of Policy: **Provincial Medium Density Fibreboard (MDF) Emission Guidelines**

Replaces: None

Application: All Environmental Protection Division staff responsible for the administration of permits relating to MDF facilities.

Purpose: This policy establishes provincial emission guidelines for new MDF plants to be used as guidance for setting permit limits. Parameters for which emission guidelines have been developed are total particulates, formaldehyde and opacity.

Policy Statement: The Provincial Health Officer, the Ministry of Health Services, the Ministry of Healthy Living and Sport, and the Environmental Quality Branch of the Ministry of Environment have identified particulate matter and formaldehyde emissions from MDF facilities to be of considerable concern.

There are several options for controlling emissions from MDF plants. These options are classified as process modifications or add-on control technologies. The two primary areas for their application are the press vents and the dryers, the areas that generate most of the emissions. For formaldehyde control, the process modification for the press vents is to route emissions into the plant's energy system because it operates under high temperature, and will effectively eliminate the formaldehyde. Process modifications for dryers include reducing temperatures to prevent formaldehyde from being driven off, injecting formaldehyde scavengers, and applying resin after the dryers using mechanical techniques in place of air injection systems.

Two add-on control technology options that can be effective in reducing both particulate and formaldehyde emissions are biological gas cleaning and thermal oxidation.

Biological gas cleaning involves the use of microorganisms and is in the process of being implemented as a pilot study in the wood products industry. Thermal oxidation is a combustion process which has been installed at one MDF plant, and plans are underway for using it at other plants. Although thermal oxidation reduces particulate and formaldehyde emissions, it requires high temperatures and the use of additional fuel. This technique results in carbon dioxide and nitrogen oxide emissions being increased.

After reviewing the various emission control options and other regulatory requirements for MDF plants, and after consulting with industry, consultants and environmental groups, the Ministry developed the following emission guidelines for new MDF plants*:

Contaminant	Guidelines	Averaging Period
Total Particulates	120 mg/m^3 (a), (b)	1 hour
Formaldehyde	300 g/tonne	(c)
Opacity	15%	6 minutes

(a) For combustion sources, reference conditions are 20°C, 101.325 kPa, and dry gas concentration corrected to 8% flue gas oxygen by volume.

(b) Monitoring is to include a breakdown of particulate emissions into size fractions of PM10 and PM2.5

(c) Multiple manual source tests within a one day period until a continuous monitoring procedure acceptable to the ministry has been developed.

** - current as of July 2008*

References and Relationships: *Environmental Management Act, Waste Discharge Regulation*

Approval: _Lynn Bailey_____ **Date:** __July 8, 2008_____
Assistant Deputy Minister
Environmental Protection Division

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