



Ontario

Ministry
of the
Environment

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Environment Canada
Environmental Protection Service
Ontario Region
25 St. Clair Avenue East
7th Floor
Toronto, Ontario
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Attn: Mr. J. F. McDonald, P. Eng.
Senior Project Engineer
Pollution Control Division

Dear Mr. McDonald:

Re: Hooker Chemical

The available information about the Hooker proposal has been reviewed.

There is insufficient data to execute a heat and material balance. The sketches of the incinerator, and the temperature profile are revealing, and lead to the following comments:

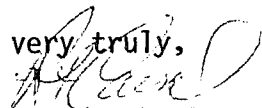
1. The assumption of retention time in Sections I and II is erroneous. This is the primary stirred reactor system, i.e. the burner per se, and the reaction is incomplete in this section.
2. The recorded steep drop in temperature at Section III, and subsequent sections indicates a quenching of propagation, and is likely to result in unburnt material being carried through the system. Smoke and odour would be emitted along with the highly toxic material in the aqueous phase injected at Section III. This prediction has been previously confirmed by observation of a similar system in Mississauga.

In summary the fundamental design is faulty. A flammable mix is not achieved within Sections I to III, thus normal stirred reactor propagation is not possible. The downstream Sections do not provide an adequately high temperature held for a defined period of time to achieve burnout.

The sewer discharge may contain more highly toxic residue than was initially introduced in the leachate, as the quenching of propagation will result in intermediate and recombinant products of combustion.

The residue burner improvement plans will not correct the fundamental error in design.

Yours very truly,


R. F. Cairns, P. Eng.
Senior Approvals Engineer
Industrial Approvals Section