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FOURTH MEETING OF THE PARTIES TO THE MONTREAL PROTOCOL ON SUBSTANCES THAT DEplete THE OZONE LAYER

Copenhagen, 23-25 November 1992

EXECUTIVE SUMMARY OF THE REPORT OF THE AD HOC TECHNICAL ADVISORY COMMITTEE ON ODS DESTRUCTION TECHNOLOGIES

At the second meeting of the Parties to the Montreal Protocol, held in London in June 1990, it was decided to establish an ad hoc technical advisory committee (TAC) on destruction technologies for ozone-depleting substances (ODS). The TAC was requested to carry out a review of such technologies; make recommendations as to their approval criteria; consider related environmental issues; and examine other pertinent aspects. The most significant findings of the TAC, based on data provided in large part by its members and observers, are as follows:

ODS Destruction Programme:

Further acceleration in the phase-out of production and consumption of ODS is likely to accentuate the need for a global destruction programme. A higher profile and priority for the endorsement of destruction technologies under the Montreal Protocol seems advisable.

Global Destruction Capacity:

A preliminary conclusion was reached that world-wide destruction capacity by approved technologies appears to be inadequate to meet demand. Because of uncertainties with available data, it is recommended that periodic reassessments of this capacity be carried out.

Destruction Efficiency (DE):

The DE standard proposal of $\geq 99.99\%$ is readily achievable in well-designed and operated destruction facilities. This DE strikes a balance between very high efficiency ($\geq 99.9999\%$) destruction facilities available to a limited market, and high efficiency ($\geq 99.99\%$) facilities available to a majority of the potential world market. Given the projected low recovery rates of ODS prior to delivery to a destruction facility, this trade-off is considered quite insignificant.

Recommended Destruction Technologies:

The only destruction processes currently recommended for approval by the TAC are within the thermal oxidation category. Six processes are recommended; however, not all may be appropriate for all classes of ODS. The recommended processes are:

- Liquid Injection Incinerators;
- Reactor Cracking;

- Gaseous/Fume Oxidation;
- Rotary Kiln Incinerators;
- Cement Kilns; and
- Municipal Solid Waste Incinerators (foams only).

Environmental Impact:

Assessment of environmental issues indicates that use of efficient, well-operated destruction facilities, that are equipped with modern pollution control systems and operated to achieve the "suggested minimum standards" developed by the TAC, should negate damage to the environment from ODS destruction. It is important that these "suggested minimum standards" be adopted in countries that do not have, as yet, appropriate standards to apply.

Compliance:

Destruction facilities that use approved technologies should submit appropriate test data, which demonstrate achievement of the DE standard, to their national regulatory agency. National regulatory agencies should submit to the Ozone Secretariat a list of approved destruction facilities, along with annual reports of ODS quantities destroyed in accordance with Article 7.3 of the amended Montreal Protocol. Parties to the Montreal Protocol who operate, or plan to establish, ODS destruction facilities in their countries should commit themselves to enforce compliance with the destruction efficiency and environmental standards defined in this report.

New Technologies:

Emerging technologies may have economic and regional benefits, and their development should be actively encouraged.

UNEP Advisory Committee:

Because of the many uncertainties associated with the calculation of global ODS production and destruction capacities, it is recommended that the UNEP Ozone Secretariat establish an Advisory Panel to meet on a periodic basis to:

- Reassess ODS destruction capacities;
- Evaluate emerging technology submissions;
- Review report submissions; and
- Prepare recommendations for the annual review of the Parties.

Fugitive Losses of ODS:

To minimize the largest potential source of ODS emissions from destruction facilities, the TAC recommends that efforts be made to achieve "zero" losses through the adoption of the "good housekeeping practices" presented in this report.
