

CASE STUDY OF A SUCCESSFUL AUSTRALIAN NATIONAL ATMOSPHERE/AIR POLLUTION PROGRAMME/STRATEGY

NATIONAL HALON MANAGEMENT AND BANKING PROGRAM

1. The problem or issue addressed:

Halons were once one of the most widely used fire-fighting and explosion suppression agents in the world. Their use is now restricted under the internationally binding *Montreal Protocol on Substances that Deplete the Ozone Layer*. As halons are one of the most ozone-damaging substances they were amongst the first group of chemicals to be targeted for phase out under the Protocol. Production and consumption were banned in developed countries from 1994, except for essential uses, and are due to be phased-out of developing countries by 2010.

Modelled on Australia's domestic approach, the halon banking system is used to collect and store halon made available from non-essential uses, for example when facilities are phased-out or have reached the extent of their service life. This halon can then be retained for use in remaining critical use applications. Recovery, recycling, reclaiming and storing non-essential halon for other critical uses progressively reduces dependence on long-term halon imports for key sectors.

Addressing halon is an integral component of a *Halon Phaseout Strategy* prepared by India's Defence Institute of Fire Research, in recognition of halon's status as the most aggressive ozone depleting substance controlled under the Montreal Protocol. Second only to China in the production and consumption of ODS by developing countries, India had recently closed its two halon production facilities. Regulations that penalise the continued production or servicing of equipment containing halon except for approved critical uses have recently been enacted in India, as will regulations prohibiting the production and import of new halon. The provision of skills and equipment to India was intended to enable India to responsibly manage approximately 4000MT of its existing halon stock which would otherwise present an ongoing threat to the ozone layer.

2. Name of the programme:

National Halon Management and Banking Program (India)

3. **Timeframe:** 3 years Year started: 2001

4. **Status:** Ongoing (Expected) Completed in year 2005

5. Main objectives:

- To establish a National Halon Management and Banking operation in India
- To establish a critical halon users and protected facilities database
- To establish a Halon Management Group / Advisory Forum
- To develop correct procedures, operational guidelines, monitoring and reporting activities

- To develop and implement technical training and associated support requirements for both halon bank operators and major halon users
- To develop and implement a program for the collection, storage and transportation of halon from non-critical users to the national halon banking facility
- To develop and implement public and technical personnel education and awareness activities

6. Lead institution:

Ministry of Environment and Forests, Government of India

7. Other implementation arrangements and stakeholders involved:

Defence Institute of Fire Research, Government of India
Environment Canada

8. The results achieved:

Production and consumption of 427.6 ozone depleting tones of halon will be phased out, and access to existing halon will be made available to service and maintain fixed flooding halon fire protection systems and halon fire extinguishers that are designated as being critical or essential to remain installed. India's dependence on halon importation will be reduced, and recycled halon will be available locally and internationally for servicing existing systems and future critical use applications and, in turn, assist in ensuring India's compliance with its halon phase-out commitments under the *Montreal Protocol on Substances that Deplete the Ozone Layer*.

Specific key outcomes of this project:

- Critical halon users database: in conjunction with projections of India's future halon needs up to 2030, the database provides the basis for determining the quantities of recycled halon that must be retained for ongoing critical use applications;
- Halon Management Group / Advisory forum: similar to Australia's National Halon Essential Uses Panel, the group provides expert advice to the Indian government on which applications of halon can be deemed critical given the range of alternatives available;
- National halon banking operation: a physical premises and equipment for decanting, recycling, reclaiming and storing halon; development and implementation of a program for the collection, storage and transportation of halon from non-critical users to the national halon banking facility;
- Training: for national halon bank personnel and government officials in operational guidelines, monitoring and reporting on the halon management and banking activities; technical training for both the operators of the national halon banking facility and to all major halon users;
- Education and awareness raising activities: entailing development and implementation of both public and technical personnel education and awareness

activities involving the preparation and distribution of brochures covering India's overall ozone and halon phase out program, together with seminars / workshops that provide information on halon conversion projects and the impact of revised ozone legislation.

An Australian consultant (a member of the Montreal Protocol's expert Panel on halon), assisted by the operators of Department of Environment and Heritage's National Halon Bank - DASCEM Holdings Pty Ltd, implemented the project in cooperation with Indian counterparts.

India's Defence Institute of Fire Research (DIFR) was the local implementing agency and has responsibility for the Halon Bank's ongoing operation. India's National Ozone Unit, located in the Indian Ministry for Environment and Forestry monitored DIFR's implementation.

9. The relationship of the programme to internationally agreed goals and targets:

The project is an integral part of *India's Halon Phase-out Strategy* prepared by India's Defence Institute of Fire Research, leading to compliance of India's obligations under the *Montreal Protocol on Substances that Deplete the Ozone Layer*.