Responses to the Ozone Depletion

"Perhaps the single most successful international agreement to date has been the Montreal Protocol." -Kofi Annan, Secretary General of the United Nations on International Day for the Preservation of the Ozone Layer, 16 September 2005.

Global Response

Scientists and environmentalists believe that ozone depleting substances (ODS) have caused so much damage to the ozone layer, which acts as a protective shield to the earth, as explained in the August newsletter.

In response to the threat of ozone depletion, the United Nations Environment Program (UNEP) developed an international framework to control ozone depleting substances. This framework led to the Montreal Protocol on Ozone Depletion. The Montreal Protocol relates to the phase out of the production and consumption of ozone depleting substances. There is no specific requirement for equipment to be phased out. Equipment may be retained beyond the phase out dates as long as the refrigerant is safely contained. The Montreal has two sets of ODS phasing out dates, one for the developing countries and the other for the developed countries (more stringent). The phasing out date for CFC in the developing countries is 1st January 2010 (table 1).

Table 1: ODS phase out dates for developing countries

Halon & CFC Phase Out	
1999	Freeze of CFCs
2003	CFCs reduced by 20%
2005	CFCs reduced by 50%
2007	CFCs reduced by 85%
2010	100% phase out of CFCs
HCFC Phase Out	
2016	Freeze of HCFCs at 2015 average levels
2040	HCFCs phased out

The agreement was opened for signature on September 16, 1987 and since then it had undergone five revisions, in 1990 (London), 1992 (Copenhagen), 1995 (Vienna), 1997 (Montreal), 1999 (Beijing). Currently over 180 countries are parties to the Montreal Protocol. UNEP estimates that without the Montreal Protocol, the abundance of ozone-depleting substances in 2050 would be 5 times higher than today.

SIEP Minimum Environmental Standards

The following addresses Minimum Environmental Practices in operations- defined as levels of performance below which Operation Units would not operate anywhere in the world. The EP Business has adopted the following minimum standards:

- The longer term objective is to eliminate CFCs and Halons from all Shell operations.
- Losses of CFCs and Halons to air should be minimised.
- Wherever alternative options are reasonably available there should be no further purchases of systems using CFCs or Halons.
- When systems using CFCs or Halons need replacement they should be replaced with CFC/Halon free systems, wherever alternative options are reasonably available.

PDO Response

PDO has pased out Halons used in fire extinguishers in its operations. The phased out Halon is decanted, processed and currently securely stored in 1 tonne robust cylinders awaiting for the Sultanate of Oman Halon national bank establishment. The phased out Halon will then be handed in to the Halon national bank (Figure 1). In addition, the general controls with respect to the ODS are aiming to minimise impacts as follow:

- CFCs, HCFCs or HFCs shall not be knowingly vented to atmosphere
- No equipment or products containing CFCs shall be selected for purchase or lease
- No equipment containing HCFCs shall be selected for purchase or lease, unless no alternatives are available on the market
- Minimise releases from equipment containing CFCs, HCFCs and HFCs to levels of Best Practicable Means (3% of inventory/year) through enhanced maintenance programmes
- Recover and reuse CFCs, HCFCs and HFCs during servicing and maintenance
- Recover CFCs, HCFCs and HFCs from redundant equipment prior to disposal and make available for reuse
- Reuse recovered CFCs, HCFCs and HFCs wherever reasonably practicable. If CFCs, HCFCs and HFCs cannot be reused, it shall be stored until a suitable disposal method becomes available.

The effort of the world community to protect the ozone layer is a fascinating example of how humanity can act as one to face a common danger.

Figure 1: Halons Phase-out in Mina Al-Fahal

Reference:
United Nations Environment Programme
http://www.unep.org/ozone/Events