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GUIDELINES FOR HALON BANKING

Section Three

Halon Banking In Article 5(1) Countries

3.1 Introduction

As a result of the phase-out of production of halon in Article 2 countries, recycled halon is now the only available supply in the developed countries, and is the primary supply elsewhere. World-wide this has created the need for the development of systems to much contributors and consumers of halon as well as recycling procedures as outlined earlier. Article 5 countries are in a particular difficult position since, in general, their installed base is relatively small - thus the quantities of recyclable halon within a country are small - and newly produced halon is available to them at a lower cost than recycled halon. Thus, when considering banking scheme for Article 5 countries, the relative economics of providing central reclamation facilities greatly impacts the start up and operating costs of the scheme as well as the value of the recovered halon.

3.2. Local And National Banking

The necessity for, and comprehensiveness of, a halon banking scheme within a country is very dependent upon the base quantity and type of halon within the country. In virtually all countries, at the local level, the fire equipment industry will be key to the success of recycling programs. In these cases fire equipment companies will be the recyclers between contributors and consumers in the market served. They will manage quantities of halon as they become available from customers served, directing them to satisfy halon needs for service of other systems and/or for new installations. In most countries, fire equipment distributors belong to an association or are registered with a government agency. Such associations/agencies will have an important role to play in this area to ensure the fire fighting effectiveness and safe transfer of recovered halons.

At the national level, the establishment of a brokerage company to manage transfers between contributors and consumers of recyclable halon within a country may be necessary. Fire equipment companies, agencies of government, and large organizations with surplus or halon needs are the likely users of such a company. It will also have an important role to play if halon is to be imported into, or exported from, the country. Such a company would not necessarily to physically undertake halon reclamation, it may be more desirable to contract for these services to minimize capital investment. A brokerage company could be established as non-profit with cost recovery accomplished by an administrative fee. The organization of such a company would be best undertaken by a steering committee comprised of representatives from government, the fire protection community, and industrial users.

A function of such a brokerage company could be to undertake an essentiality review on behalf of the parties to the transaction. This could be accomplished by establishing an "Essentiality Review Panel" that could be made up of persons representing a balance of interest in this issue. For example, representation could come from halon contributors, halon consumers, the fire equipment industry, regulatory oversight agency, environmental advocacy groups, fire protection organizations, etc. This review panel might be necessary to satisfy the public that these important fire extinguishants would be used wisely and with the utmost respect to environmental concerns. This procedure is also important to provide confidence to present bank holders who would be in a position to contribute halons that the halons they would provide would be used wisely for essential

uses. Without such a review procedure responsible potential contributors could withhold halons from use due to concerns that they would be viewed as simply ridding themselves of a hazardous waste.

In laying out a banking plan, it is important to recognize the difference between voluntary and mandatory programs. In many countries industry is in a position to regulate itself on a voluntary basis, and to allow market forces to dictate the free flow and quality of recycled halons. In others, the necessary industry infrastructure does not exist, and government regulations will be required. Nevertheless, it is important that regulations and programs enacted by government do not hinder the collection and wise management of a recovered and recycled halons. Government has the authority and has indeed a responsibility under the Montreal Protocol to encourage and ensure the establishment of proper management procedures for recycling halons and discouraging unnecessary atmospheric venting of halons. If it is believed that wide spread intentional release of halons is taking place in lieu of proper reuse, recycling, or destruction, then regulations should be considered to prohibit this. Warning labels should be applied to all existing halon fire equipment. The labels should warn users that the contents are ozone depleting substances and advise that disposal should be through a fire equipment company. Legislative initiatives may be worth considering to supplement and strengthen industry initiative in this regard. Support of public education programs related to the halons, such as a series of pamphlets that could be distributed to users by members of fire equipment industry, would be of benefit.

A major concern of fire equipment companies and others involved in establishing a banking mechanism for recycled halons, is the fear that at some point in time national regulations could ban the use of halons, making ownership a major liability owing to their high destruction costs. As halons are very important to military operations, the military may wish to voluntarily act as a depository. This could discourage illegal and environmentally harmful venting and provide halons for important military fire protection needs. As a last resort the military could provide for the safe disposal of halons if in when this becomes practical and necessary.

3.3 Regional banking

It has been suggested that Article 5 (1) countries with small inventories of halons may wish to form regional banking services, whereby one country services the needs of a larger region. Whilst on paper this seems a good idea, e.g. sharing resources and facilities, it is the opinion of the Halons Technical Options Committee that such an operation will not work in the real world. Intergovernmental review procedures, transportation restrictions, and the problems of "hard" currency leaving a country are seen as factors that would inhibit such an operation.

3.4 Executive Committee Concerns

3.4.1 Necessity for Reclamation Facilities

The establishment of reclamation facilities for halon 1301 and halon 1211 is not a trivial undertaking. To be successful the facilities have to be used and maintained. As a minimum, a facility will need the following equipment:

- Halon recovery machine(s)

- Certified scales
- Large capacity holding tanks
- Pre-processing filtering equipment
- Gas chromatography
- Miscellaneous high pressure flexible pipes, pumps, valve connections
- Spare parts

The capital cost for providing this equipment and a minimum amount of training is estimated to be US\$ 250,000. Based on halon 1301 system lifetime of 25 years, an equipment cost recovery period of 5 years (interest fee) and a reasonable equipment repayment charge of US\$ 2.50 per pound of reclaimed halon, 10 MT of halon would have to come out of service annually. This means that for an economic operation, the installed halon 1301 base needs to exceed 250 MT. Owing to the lower equipment lifetime, and lesser demand for recycled agent, it is estimated that for an economic operation, the installed base for halon 1211 would have to exceed 1,000 MT. Based upon these estimates, the HTOC recommends the following:

- Countries with a high-level of installed capacity (exceeding 250 MT of halon 1301, and/or 1,000 MT of halon 1211) should qualify for full reclamation facilities for halon 1301 and halon 1211 respectively.
- Countries with a medium-level of installed capacity (100-250 MT of halon 1301, and/or 400-1000 MT of halon 1211) should qualify for basic halon recovery and servicing machines. The number will depend on the country size and geographic location of the main halon users.
- Countries with a low-level of installed capacity (less than 100 MT of halon 1301 and/or less than 400 MT of halon 1211) should qualify for a one time grant of US\$ 25,000 to be used for the acquisition of halon servicing equipment (MAO units) for the removal of halon systems, or for alternative programmes to be decided by the country.

3.4.2. Regulatory Framework

Regulatory controls that ban the production or importation of halon should be established within six months of the start up of a reclamation facility (or banking centre). This is because, given current market conditions, on an economic basis reclaimed halon cannot compete with newly produced halon, and thus a facility would be doomed to failure if production and/or importation of virgin halon continued. In addition, if halon 1211 portable extinguishers servicing equipment (MAO units) are provided, regulations to require that this equipment be used for servicing (hydrotesting) of extinguishers would reduce halons emission from this traditional source.

3.4.3. Incremental Support Costs

The HTOC believes that, in addition to the facility cost, funding will be required to provide support to the start up of any successfully reclamation facility (or banking centre). This funding would be required to provide: specialized training, support for equipment, advertising/promoting the facility, standards writing, clearinghouse function, conference/seminars, etc. It is estimated that this cost

would be US\$ 300,000 to US\$ 500,000 depending on the size of the country and geographic location of the main halon users.

In some circumstances concessional loans could be given to eligible countries as an incentive for a commercial operation. However, the HTOC is of the opinion that a loan would have to have a grant component, and that local equipment manufacturing would likely be a condition of acceptance.

3.4.4. Relationship Between Halon Recovery And Banking Projects

Halon recovery and recycling go hand-in-hand with halon banking. It would therefore not be logical to fund or require one without the other.

3.4.5. Necessity For Halon Banking

Halon recovery and banking has been key to the success of the early phase out of halon production in Article 2 countries. It should be noted that, since phase out, the HTOC has not recommended any production exemptions for halon 1211 or halon 1301 because it is believed that existing stocks can be directed to those users that really need them. Similarly, the HTOC believes that the needs of Article 5 countries can be met from the world-wide bank of halons, but each country's support needs will have to be examined on a case by case basis. The results of recent work on Venezuela's halon program may assist the Committee.