## **APPENDIX** A

#### PARTIES TO THE MONTREAL PROTOCOL (AS OF MARCH 29, 2005)

The table below includes both Article 5 and non Article 5 (Article 2) countries. A check mark indicates ratification/accession/acceptance/approval of the agreement. Updates to this table are posted on the web site of the Montreal Protocol Ozone Secretariat at http://www.unep.org/ozone/Treaties\_and\_Ratification/2C\_ratificationTable.asp

U.S. companies may trade HCFCs with Article 5 countries regardless of whether an Article 5 country has ratified the Copenhagen and Beijing Amendments because Article 5 countries have no HCFC obligations under the Protocol until 2016. After 2016, trade in HCFCs with Article 5 countries can only occur if they have ratified both the Copenhagen and Beijing Amendments.

U.S. companies may only trade HCFCs with an Article 2 country that has ratified the Copenhagen and Beijing Amendments, unless that Article 2 country has complied with the notification procedures in paragraph 2(c) of Decision XV/3 established by the Parties to the Montreal Protocol. To see if an Article 2 country without a check mark under the Copenhagen and Beijing Amendments has submitted information to satisfy the requirements of paragraph 2(c) of Decision XV/3, please check the Ozone Secretariat's website at (http://www.unep.org/ozone/) and Appendix 3 of Annex 2 to the regulations published under 40 CFR Part 82, Subpart A.

| COUNTRY             | MONTREAL<br>PROTOCOL | London<br>Amendment | COPENHAGEN<br>Amendments | MONTREAL<br>Amendments | <b>B</b> EIJING<br>AMENDMENTS |
|---------------------|----------------------|---------------------|--------------------------|------------------------|-------------------------------|
| Albania             | √                    |                     |                          |                        |                               |
| Algeria             | √                    | $\checkmark$        | $\checkmark$             |                        |                               |
| Angola              | √                    |                     |                          |                        |                               |
| Antigua and Barbuda | √                    | $\checkmark$        | $\checkmark$             | $\checkmark$           |                               |
| Argentina           | √                    | $\checkmark$        | $\checkmark$             | $\checkmark$           |                               |
| Armenia             | √                    | $\checkmark$        | $\checkmark$             |                        |                               |
| Australia           | $\checkmark$         | $\checkmark$        | $\checkmark$             | √                      |                               |
| Austria             | $\checkmark$         | $\checkmark$        | $\checkmark$             | √                      | $\checkmark$                  |
| Azerbaijan          | √                    | $\checkmark$        | $\checkmark$             | √                      |                               |
| Bahamas             | √                    | $\checkmark$        | $\checkmark$             | √                      | $\checkmark$                  |
| Bahrain             | √                    | $\checkmark$        | ~                        | √                      |                               |
| Bangladesh          | √                    | √                   | √                        | √                      |                               |
| Barbados            | √                    |                     | √                        | √                      | ~                             |

| COUNTRY                  | Montreal<br>Protocol | London<br>Amendment | COPENHAGEN<br>Amendments | Montreal<br>Amendments | <b>BELJING</b><br>AMENDMENTS |
|--------------------------|----------------------|---------------------|--------------------------|------------------------|------------------------------|
| Belarus                  | $\checkmark$         | $\checkmark$        |                          |                        |                              |
| Belgium                  | $\checkmark$         | $\checkmark$        | $\checkmark$             | $\checkmark$           |                              |
| Belize                   | $\checkmark$         | $\checkmark$        | √                        |                        |                              |
| Benin                    | √                    | √                   | √                        |                        |                              |
| Bhutan                   | √                    | √                   | √                        | $\checkmark$           | $\checkmark$                 |
| Bolivia                  | $\checkmark$         | $\checkmark$        | √                        | $\checkmark$           |                              |
| Bosnia and Herzegovina   | $\checkmark$         | $\checkmark$        | √                        | $\checkmark$           |                              |
| Botswana                 | $\checkmark$         | $\checkmark$        | √                        |                        |                              |
| Brazil                   | $\checkmark$         | $\checkmark$        | √                        |                        |                              |
| Brunei Darussalam        | $\checkmark$         |                     |                          |                        |                              |
| Bulgaria                 | $\checkmark$         | √                   | √                        | √                      | √                            |
| Burkina Faso             | $\checkmark$         | √                   | √                        | √                      | √                            |
| Burundi                  | $\checkmark$         | $\checkmark$        | √                        | √                      | $\checkmark$                 |
| Cambodia                 | √                    |                     |                          |                        |                              |
| Cameroon                 | $\checkmark$         | $\checkmark$        | √                        |                        |                              |
| Canada                   | $\checkmark$         | $\checkmark$        | √                        | $\checkmark$           | $\checkmark$                 |
| Cape Verde               | $\checkmark$         | $\checkmark$        | $\checkmark$             | $\checkmark$           |                              |
| Central African Republic | $\checkmark$         |                     |                          |                        |                              |
| Chad                     | √                    | $\checkmark$        | $\checkmark$             | $\checkmark$           |                              |
| Chile                    | $\checkmark$         | $\checkmark$        | √                        | $\checkmark$           | $\checkmark$                 |
| China                    | $\checkmark$         | $\checkmark$        | √                        |                        |                              |
| Colombia                 | √                    | $\checkmark$        | √                        | $\checkmark$           |                              |
| Comoros                  | $\checkmark$         | $\checkmark$        | √                        | $\checkmark$           | $\checkmark$                 |
| Congo                    | $\checkmark$         | $\checkmark$        | √                        | $\checkmark$           | $\checkmark$                 |

| COUNTRY                                       | MONTREAL<br>PROTOCOL | London<br>Amendment | COPENHAGEN<br>Amendments | Montreal<br>Amendments | BEIJING<br>AMENDMENTS |
|---|----------------------|---------------------|--------------------------|------------------------|-----------------------|
| Congo, Democratic<br>Republic of              | √                    | $\checkmark$        | √                        | √                      |                       |
| Cook Islands                                  | √                    | $\checkmark$        | √                        | √                      | √                     |
| Costa Rica                                    | √                    | √                   | √                        |                        |                       |
| Cote d'Ivoire                                 | √                    | $\checkmark$        | $\checkmark$             |                        |                       |
| Croatia                                       | √                    | √                   | √                        | √                      | √                     |
| Cuba  | √                    | √                   | √                        |                        |                       |
| Cyprus  | √                    | √                   | √                        | √                      | √                     |
| Czech Republic                                | √                    | √                   | √                        | √                      | √                     |
| Denmark                                       | √                    | √                   | √                        | √                      | √                     |
| Djibouti                                      | √                    | √                   | √                        | √                      |                       |
| Dominica                                      | √                    | √                   |                          |                        |                       |
| Dominican Republic                            | √                    | √                   | √                        |                        |                       |
| Ecuador                                       | √                    | √                   | √                        |                        |                       |
| Egypt   | √                    | √                   | √                        | √                      |                       |
| El Salvador<br>Equatorial Guinea <sup>1</sup> | √                    | √                   | √                        | √                      |                       |
| Eritrea                                       | √                    |                     |                          |                        |                       |
| Estonia                                       | √                    | $\checkmark$        | √                        | $\checkmark$           | $\checkmark$          |
| Ethiopia                                      | √                    |                     |                          |                        |                       |
| European Community                            | √                    | $\checkmark$        | √                        | $\checkmark$           | $\checkmark$          |
| Federated States of<br>Micronesia             | √                    | $\checkmark$        | √                        | $\checkmark$           | $\checkmark$          |
| Fiji  | √                    | √                   | √                        |                        |                       |
| Finland                                       | √                    | √                   | √                        | √                      | $\checkmark$          |
| France  | √                    | √                   | √                        | √                      | $\checkmark$          |
| Gabon   | $\checkmark$         | $\checkmark$        | $\checkmark$             | $\checkmark$           | $\checkmark$          |

| COUNTRY       | Montreal<br>Protocol | London<br>Amendment | COPENHAGEN<br>Amendments | Montreal<br>Amendments | <b>Beijing</b><br>Amendments |
|---------------|----------------------|---------------------|--------------------------|------------------------|------------------------------|
| Gambia        | $\checkmark$         | $\checkmark$        |                          |                        |                              |
| Georgia       | √                    | $\checkmark$        | $\checkmark$             | $\checkmark$           |                              |
| Germany       | √                    | √                   | √                        | $\checkmark$           | $\checkmark$                 |
| Ghana         | √                    | √                   | √                        |                        |                              |
| Greece        | √                    | √                   | √                        |                        |                              |
| Grenada       | √                    | √                   | √                        | √                      | √                            |
| Guatemala     | √                    | √                   | √                        | √                      | √                            |
| Guinea        | √                    | √                   |                          |                        |                              |
| Guinea Bissau | √                    | √                   | √                        | √                      | √                            |
| Guyana        | √                    | √                   | √                        | √                      |                              |
| Haiti         | √                    | √                   | √                        | √                      |                              |
| Honduras      | √                    | √                   | √                        |                        |                              |
| Hungary       | √                    | √                   | √                        | √                      | √                            |
| Iceland       | √                    | √                   | √                        | √                      | √                            |
| India         | √                    | √                   | √                        | √                      | √                            |
| Indonesia     | √                    | √                   | √                        |                        |                              |
| Iran          | √                    | √                   | √                        | √                      |                              |
| Ireland       | √                    | √                   | √                        |                        |                              |
| Israel        | √                    | √                   | √                        | √                      | √                            |
| Italy         | √                    | √                   | √                        | √                      | √                            |
| Jamaica       | √                    | √                   | √                        | √                      | √                            |
| Japan         | √                    | √                   | √                        | √                      | √                            |
| Jordan        | √                    | √                   | √                        | √                      | √                            |
| Kazakhstan    | √                    | $\checkmark$        |                          |                        |                              |

| COUNTRY                                   | Montreal<br>Protocol | London<br>Amendment | COPENHAGEN<br>Amendments | Montreal<br>Amendments | BEIJING<br>AMENDMENTS |
|---|----------------------|---------------------|--------------------------|------------------------|-----------------------|
| Kenya                                     | $\checkmark$         | $\checkmark$        | $\checkmark$             | $\checkmark$           |                       |
| Kiribati                                  | $\checkmark$         | $\checkmark$        | √                        | $\checkmark$           | $\checkmark$          |
| Korea, Democratic<br>People's Republic of | $\checkmark$         | $\checkmark$        | $\checkmark$             | $\checkmark$           | $\checkmark$          |
| Korea, Republic of                        | √                    | √                   | √                        | $\checkmark$           | $\checkmark$          |
| Kuwait                                    | √                    | $\checkmark$        | √                        | $\checkmark$           |                       |
| Kyrgyzstan                                | √                    | √                   | √                        | $\checkmark$           |                       |
| Lao, People's<br>Democratic Republic      | √                    |                     |                          |                        |                       |
| Latvia                                    | √                    | √                   | $\checkmark$             | √                      | $\checkmark$          |
| Lebanon                                   | √                    | √                   | √                        | √                      |                       |
| Lesotho                                   | √                    |                     |                          |                        |                       |
| Liberia                                   | √                    | √                   | √                        |                        |                       |
| Libyan Arab Jamahiriya                    | √                    | √                   | √                        |                        |                       |
| Liechtenstein                             | √                    | √                   | √                        | √                      | $\checkmark$          |
| Lithuania                                 | √                    | √                   | √                        |                        |                       |
| Luxembourg                                | √                    | √                   | √                        | $\checkmark$           | $\checkmark$          |
| Madagascar                                | √                    | √                   | √                        | √                      | √                     |
| Malawi                                    | √                    | √                   | √                        |                        |                       |
| Malaysia                                  | √                    | √                   | √                        | √                      | $\checkmark$          |
| Maldives                                  | √                    | √                   | √                        | √                      | $\checkmark$          |
| Mali                                      | √                    | √                   | √                        | √                      | $\checkmark$          |
| Malta                                     | √                    | $\checkmark$        | √                        | $\checkmark$           | $\checkmark$          |
| Marshall Islands                          | $\checkmark$         | $\checkmark$        | $\checkmark$             | $\checkmark$           |                       |
| Mauritania                                | √                    |                     |                          |                        |                       |
| Mauritius                                 | √                    | $\checkmark$        | $\checkmark$             | $\checkmark$           | $\checkmark$          |

| COUNTRY          | Montreal<br>Protocol | London<br>Amendment | COPENHAGEN<br>Amendments | MONTREAL<br>Amendments | <b>BELJING</b><br>AMENDMENTS |
|------------------|----------------------|---------------------|--------------------------|------------------------|------------------------------|
| Mexico           | $\checkmark$         | $\checkmark$        | √                        |                        |                              |
| Moldova          | √                    | √                   | √                        |                        |                              |
| Monaco           | √                    | √                   | √                        | √                      | $\checkmark$                 |
| Mongolia         | √                    | √                   | √                        | √                      |                              |
| Morocco          | √                    | √                   | √                        |                        |                              |
| Mozambique       | √                    | √                   | √                        |                        |                              |
| Myanmar          | √                    | √                   |                          |                        |                              |
| Namibia          | √                    | √                   | √                        |                        |                              |
| Nauru            | √                    | √                   | √                        | √                      | $\checkmark$                 |
| Nepal            | √                    | √                   |                          |                        |                              |
| Netherlands      | $\checkmark$         | √                   | √                        | √                      | $\checkmark$                 |
| New Zealand      | √                    | √                   | √                        | √                      | $\checkmark$                 |
| Nicaragua        | √                    | √                   | √                        |                        |                              |
| Niger            | √                    | $\checkmark$        | √                        | $\checkmark$           |                              |
| Nigeria          | √                    | √                   | √                        | √                      |                              |
| Niue             | √                    | √                   | √                        | $\checkmark$           | $\checkmark$                 |
| Norway           | √                    | √                   | √                        | $\checkmark$           | $\checkmark$                 |
| Oman             | √                    | √                   | √                        | √                      | $\checkmark$                 |
| Pakistan         | √                    | $\checkmark$        | √                        |                        |                              |
| Palau            | √                    | √                   | √                        | √                      | $\checkmark$                 |
| Panama           | √                    | √                   | √                        | √                      | $\checkmark$                 |
| Papua New Guinea | √                    | √                   | √                        |                        |                              |
| Paraguay         | √                    | √                   | √                        | $\checkmark$           |                              |
| Peru             | √                    | $\checkmark$        | $\checkmark$             |                        |                              |

| COUNTRY                             | Montreal<br>Protocol | London<br>Amendment | COPENHAGEN<br>Amendments | MONTREAL<br>Amendments | <b>BELJING</b><br>AMENDMENTS |
|-------------------------------------|----------------------|---------------------|--------------------------|------------------------|------------------------------|
| Philippines                         | $\checkmark$         | $\checkmark$        | $\checkmark$             |                        |                              |
| Poland                              | √                    | $\checkmark$        | √                        | $\checkmark$           |                              |
| Portugal                            | √                    | √                   | √                        | √                      |                              |
| Qatar                               | √                    | √                   | √                        |                        |                              |
| Romania                             | $\checkmark$         | √                   | √                        | √                      |                              |
| Russian Federation                  | $\checkmark$         | √                   |                          |                        |                              |
| Rwanda                              | $\checkmark$         | √                   | $\checkmark$             | √                      | $\checkmark$                 |
| Saint Kitts and Nevis               | $\checkmark$         | $\checkmark$        | $\checkmark$             | $\checkmark$           |                              |
| Saint Lucia                         | $\checkmark$         | $\checkmark$        | $\checkmark$             | √                      | $\checkmark$                 |
| Saint Vincent and the<br>Grenadines | √                    | √                   | √                        |                        |                              |
| Sao Tome and Principe               | $\checkmark$         | $\checkmark$        | √                        | $\checkmark$           | $\checkmark$                 |
| Samoa                               | √                    | √                   | √                        | √                      | $\checkmark$                 |
| Saudi Arabia                        | $\checkmark$         | √                   | √                        |                        |                              |
| Senegal                             | $\checkmark$         | √                   | $\checkmark$             | $\checkmark$           | $\checkmark$                 |
| Serbia and Montenegro               | $\checkmark$         | √                   | $\checkmark$             | √                      | $\checkmark$                 |
| Seychelles                          | $\checkmark$         | $\checkmark$        | $\checkmark$             | $\checkmark$           | $\checkmark$                 |
| Sierra Leone                        | $\checkmark$         | $\checkmark$        | $\checkmark$             | $\checkmark$           | $\checkmark$                 |
| Singapore                           | $\checkmark$         | $\checkmark$        | $\checkmark$             | $\checkmark$           |                              |
| Slovakia                            | $\checkmark$         | $\checkmark$        | $\checkmark$             | $\checkmark$           | $\checkmark$                 |
| Slovenia                            | √                    | √                   | √                        | √                      | $\checkmark$                 |
| Solomon Islands                     | $\checkmark$         | √                   | √                        | √                      |                              |
| Somalia                             | $\checkmark$         | √                   | √                        | √                      | $\checkmark$                 |
| South Africa                        | $\checkmark$         | $\checkmark$        | √                        |                        |                              |
| Spain                               | $\checkmark$         | $\checkmark$        | $\checkmark$             | $\checkmark$           | $\checkmark$                 |

| COUNTRY                                      | Montreal<br>Protocol | London<br>Amendment | COPENHAGEN<br>Amendments | MONTREAL<br>Amendments | BEIJING<br>AMENDMENTS |
|--|----------------------|---------------------|--------------------------|------------------------|-----------------------|
| Sri Lanka                                    | $\checkmark$         | $\checkmark$        | √                        | $\checkmark$           | $\checkmark$          |
| Sudan  | √                    | √                   | √                        |                        |                       |
| Suriname                                     | $\checkmark$         |                     |                          |                        |                       |
| Swaziland                                    | $\checkmark$         |                     |                          |                        |                       |
| Sweden                                       | √                    | √                   | √                        | √                      | $\checkmark$          |
| Switzerland                                  | √                    | √                   | √                        | √                      | $\checkmark$          |
| Syrian Arab Republic                         | √                    | √                   | √                        | √                      |                       |
| Tajikistan                                   | $\checkmark$         | $\checkmark$        |                          |                        |                       |
| Tanzania, United<br>Republic                 | √                    | √                   | √                        | √                      | $\checkmark$          |
| Thailand                                     | $\checkmark$         | $\checkmark$        | $\checkmark$             | $\checkmark$           |                       |
| The Former Yugoslav<br>Republic of Macedonia | $\checkmark$         | √                   | √                        | $\checkmark$           | $\checkmark$          |
| Togo   | √                    | √                   | √                        | √                      | $\checkmark$          |
| Tonga  | $\checkmark$         | $\checkmark$        | √                        | $\checkmark$           | $\checkmark$          |
| Trinidad and Tobago                          | $\checkmark$         | $\checkmark$        | √                        | √                      | $\checkmark$          |
| Tunisia                                      | $\checkmark$         | $\checkmark$        | √                        | $\checkmark$           |                       |
| Turkey                                       | $\checkmark$         | $\checkmark$        | √                        | $\checkmark$           | $\checkmark$          |
| Turkmenistan                                 | $\checkmark$         | $\checkmark$        |                          |                        |                       |
| Tuvalu                                       | √                    | √                   | √                        | √                      | √                     |
| Uganda                                       | $\checkmark$         | $\checkmark$        | √                        | $\checkmark$           |                       |
| Ukraine                                      | $\checkmark$         | $\checkmark$        | √                        |                        |                       |
| United Arab Emirates                         | √                    | √                   | √                        | √                      | $\checkmark$          |
| United Kingdom                               | $\checkmark$         | $\checkmark$        | √                        | $\checkmark$           | $\checkmark$          |
| United States                                | √                    | √                   | √                        | √                      | √                     |
| Uruguay                                      | $\checkmark$         | $\checkmark$        | $\checkmark$             | $\checkmark$           | $\checkmark$          |

| COUNTRY    | MONTREAL<br>PROTOCOL | London<br>Amendment | COPENHAGEN<br>Amendments | MONTREAL<br>Amendments | <b>B</b> ELJING<br>AMENDMENTS |
|------------|----------------------|---------------------|--------------------------|------------------------|-------------------------------|
| Uzbekistan | √                    | $\checkmark$        | √                        |                        |                               |
| Vanuatu    | √                    | $\checkmark$        | $\checkmark$             |                        |                               |
| Venezuela  | $\checkmark$         | $\checkmark$        | $\checkmark$             | $\checkmark$           |                               |
| Viet Nam   | $\checkmark$         | $\checkmark$        | $\checkmark$             | $\checkmark$           |                               |
| Yemen      | √                    | $\checkmark$        | $\checkmark$             | $\checkmark$           |                               |
| Zambia     | √                    | $\checkmark$        |                          |                        |                               |
| Zimbabwe   | $\checkmark$         | $\checkmark$        | $\checkmark$             |                        |                               |

<sup>1</sup> Equatorial Guinea ratified the Vienna Convention but has not signed or ratified the Montreal Protocol.

Updated lists of Parties to the Protocol and the Amendments can be located at the website for UNEP's Ozone Secretariat. To check for updated versions of this list, visit: <u>http://www.unep.org/ozone/ratif.shtml</u>

## **APPENDIX B**

# LIST OF CONTROLLED SUBSTANCES AND THEIR ODPs

|           | CLASS I CONTROLLED SUBSTANCES  |         |  |  |  |
|-----------|--|---------|--|--|--|
| Group     | Chemical Name  | ODP     |  |  |  |
|           | - CFC-11 (CFCl <sub>3</sub> )  | 1.0     |  |  |  |
|           | - CFC-12 (CF <sub>2</sub> Cl <sub>2</sub> )  | 1.0     |  |  |  |
| Group I   | - CFC-113 (C <sub>2</sub> F <sub>3</sub> Cl <sub>3</sub> )                                   | 0.8     |  |  |  |
| Group I   | - CFC-114 (C <sub>2</sub> F <sub>4</sub> Cl <sub>2</sub> )                                   | 1.0     |  |  |  |
|           | - CFC-115 (C <sub>2</sub> F <sub>5</sub> Cl)   | 0.6     |  |  |  |
|           | - All isomers of the above chemicals.  |         |  |  |  |
|           | - Halon 1211 (CF <sub>2</sub> BrCl)  | 3.0     |  |  |  |
| Group II  | - Halon 1301 (CF <sub>3</sub> Br)  | 10.0    |  |  |  |
|           | - Halon 2402 ( $C_2F_4Br_2$ )  | 6.0     |  |  |  |
|           | - All isomers of the above chemicals.  |         |  |  |  |
|           | - CFC-13 Chlorotrifluoromethane (CF <sub>3</sub> Cl)   | 1.0     |  |  |  |
|           | - CFC-111 (C <sub>2</sub> FCl <sub>5</sub> )   | 1.0     |  |  |  |
|           | - CFC-112 ( $C_2F_2Cl_4$ )   | 1.0     |  |  |  |
|           | - CFC-211 (C <sub>3</sub> FCl <sub>7</sub> )   | 1.0     |  |  |  |
| Group III | - CFC-212 ( $C_3F_2Cl_6$ )   | 1.0     |  |  |  |
| Group III | - CFC-213 (C <sub>3</sub> F <sub>3</sub> Cl <sub>5</sub> )                                   | 1.0     |  |  |  |
|           | - CFC-214 ( $C_3F_4Cl_4$ )   |         |  |  |  |
|           | - CFC-215 (C <sub>3</sub> F <sub>5</sub> Cl <sub>3</sub> )                                   | 1.0     |  |  |  |
|           | - CFC-216 ( $C_3F_6Cl_2$ )   | 1.0     |  |  |  |
|           | - CFC-217 (C <sub>3</sub> F <sub>7</sub> Cl)   | 1.0     |  |  |  |
|           | - All isomers of the above chemicals.  |         |  |  |  |
| Group IV  | - Carbon Tetrachloride (CCl <sub>4</sub> )   | 1.1     |  |  |  |
| Group V   | - 1,1,1-Trichloroethane (Methyl Chloroform) (C <sub>2</sub> H <sub>3</sub> Cl <sub>3</sub> ) | 0.1     |  |  |  |
| Group v   | - All isomers of the above chemical, except 1,1,2-trichloroethane.                           |         |  |  |  |
| Group VI  | - Methyl Bromide (CH <sub>3</sub> BR)  | 0.7     |  |  |  |
| Group VII | - CHFBr <sub>2</sub>   | 1.0     |  |  |  |
|           | - HBFC-22B1 (CHF <sub>2</sub> Br)  | 0.74    |  |  |  |
|           | - CH <sub>2</sub> FBr  | 0.73    |  |  |  |
|           | - C <sub>2</sub> HFBr <sub>4</sub>   | 0.3-0.8 |  |  |  |
|           | - C <sub>2</sub> HF <sub>2</sub> Br <sub>3</sub>   | 0.5-1.8 |  |  |  |
|           | - $C_2HF_3Br_2$  | 0.4-1.6 |  |  |  |
|           | - C <sub>2</sub> HF <sub>4</sub> Br  | 0.7-1.2 |  |  |  |
|           | - C <sub>2</sub> H <sub>2</sub> FBr <sub>3</sub>   | 0.1-1.1 |  |  |  |
|           | - $C_2H_2F_2Br_2$  | 0.2-1.5 |  |  |  |

|            | CLASS I CONTROLLED SUBSTANCES                     |          |
|------------|---|----------|
|            | - C <sub>2</sub> H <sub>2</sub> F <sub>3</sub> Br | 0.7-1.6  |
|            | - $C_2H_3FBr_2$                                   | 0.1-1.7  |
|            | - $C_2H_3F_2Br$                                   | 0.2-1.1  |
|            | - C <sub>2</sub> H <sub>4</sub> FBr               | 0.07-0.1 |
|            | - C <sub>3</sub> HFBr <sub>6</sub>                | 0.3-1.5  |
|            | - $C_3HF_2Br_5$                                   | 0.2-1.9  |
|            | - C <sub>3</sub> HF <sub>3</sub> Br <sub>4</sub>  | 0.3-1.8  |
|            | - $C_3HF_4Br_3$                                   | 0.5-2.2  |
|            | - $C_3HF_5Br_2$                                   | 0.9-2.0  |
|            | - C <sub>3</sub> HF <sub>6</sub> Br               | 0.7-3.3  |
|            | - $C_3H_2FBr_5$                                   | 0.1-1.9  |
|            | - $C_3H_2F_2Br_4$                                 | 0.2-2.1  |
|            | - $C_3H_2F_3Br_3$                                 | 0.2-5.6  |
|            | - $C_3H_2F_4Br_2$                                 | 0.3-7.5  |
|            | - $C_3H_2F_5Br$                                   | 0.9-1.4  |
|            | - C <sub>3</sub> H <sub>3</sub> FBr <sub>4</sub>  | 0.08-1.9 |
|            | - $C_3H_3F_2Br_3$                                 | 0.1-3.1  |
|            | - $C_3H_3F_3Br_2$                                 | 0.1-2.5  |
|            | - $C_3H_3F_4Br$                                   | 0.3-4.4  |
|            | - C <sub>3</sub> H <sub>4</sub> FBr <sub>3</sub>  | 0.03-0.3 |
|            | - $C_3H_4F_2Br_2$                                 | 0.1-1.0  |
|            | - $C_3H_4F_3Br$                                   | 0.07-0.8 |
|            | - $C_3H_5FBr_2$                                   | 0.04-0.4 |
|            | - $C_3H_5F_2Br$                                   | 0.07-0.8 |
|            | - C <sub>3</sub> H <sub>6</sub> FB                | 0.02-0.7 |
|            | - All isomers of the above chemicals              |          |
| Group VIII | - Chlorobromomethane (CH <sub>2</sub> BrCl)       | 0.12     |

| CLASS II CONTROLLED SUBSTANCES   |             |  |            |  |  |
|--|-------------|--|------------|--|--|
| Chemical Name  | ODP         | Chemical Name  | ODP        |  |  |
| HCFC-21 (CHFCl <sub>2</sub> )  | 0.04        | HCFC-225 (C <sub>3</sub> HF <sub>5</sub> Cl <sub>2</sub> )               | 0.02-0.07  |  |  |
| HCFC-22 (CHF <sub>2</sub> Cl)  | 0.055       | HCFC-225ca (CF <sub>3</sub> CF <sub>2</sub> CHCl <sub>2</sub> )          | 0.025      |  |  |
| HCFC-31 (CH <sub>2</sub> FCl)  | 0.02        | HCFC-225cb (CF <sub>2</sub> ClCF <sub>2</sub> CHClF)                     | 0.033      |  |  |
| HCFC-121 (C <sub>2</sub> HFCl <sub>4</sub> )                             | 0.01-0.04   | HCFC-226 (C <sub>3</sub> HF <sub>6</sub> Cl)                             | 0.02-0.10  |  |  |
| HCFC-122 ( $C_2HF_2Cl_3$ )   | 0.02-0.08   | HCFC-231 (C <sub>3</sub> H <sub>2</sub> FCl <sub>5</sub> )               | 0.05-0.09  |  |  |
| HCFC-123 (C <sub>2</sub> HF <sub>3</sub> Cl <sub>2</sub> )               | 0.02-0.06   | HCFC-232 (C <sub>3</sub> H <sub>2</sub> F <sub>2</sub> Cl <sub>4</sub> ) | 0.008-0.10 |  |  |
| HCFC-124 ( $C_2HF_4Cl$ )   | 0.02-0.04   | HCFC-233 (C <sub>3</sub> H <sub>2</sub> F <sub>3</sub> Cl <sub>3</sub> ) | 0.007-0.23 |  |  |
| HCFC-131 (C <sub>2</sub> H <sub>2</sub> FCl <sub>3</sub> )               | 0.007-0.05  | HCFC-234 $(C_3H_2F_4Cl_2)$   | 0.01-0.28  |  |  |
| HCFC-132 (C <sub>2</sub> H <sub>2</sub> F <sub>2</sub> Cl <sub>2</sub> ) | 0.008-0.05  | HCFC-235 $(C_3H_2F_5Cl)$   | 0.03-0.52  |  |  |
| HCFC-133 (C <sub>2</sub> H <sub>2</sub> F <sub>3</sub> Cl)               | 0.02-0.06   | HCFC-241 (C <sub>3</sub> H <sub>3</sub> FCl <sub>4</sub> )               | 0.004-0.09 |  |  |
| HCFC-141 (C <sub>2</sub> H <sub>3</sub> FCl <sub>2</sub> )               | 0.005-0.07  | HCFC-242 $(C_{3}H_{3}F_{2}Cl_{3})$                                       | 0.005-0.13 |  |  |
| HCFC-141b (CH <sub>3</sub> CFCl <sub>2</sub> )                           | 0.11        | HCFC-243 (C <sub>3</sub> H <sub>3</sub> F <sub>3</sub> Cl <sub>2</sub> ) | 0.007-0.12 |  |  |
| HCFC-142 (C <sub>2</sub> H <sub>3</sub> F <sub>2</sub> Cl)               | 0.008-0.07  | HCFC-244 ( $C_3H_3F_4Cl$ )   | 0.009-0.14 |  |  |
| HCFC-142b (CH <sub>3</sub> CF <sub>2</sub> Cl)                           | 0.065       | HCFC-251 (C <sub>3</sub> H <sub>4</sub> FCl <sub>3</sub> )               | 0.001-0.01 |  |  |
| HCFC-151 ( $C_2H_4FCl$ )   | 0.003-0.005 | HCFC-252 $(C_{3}H_{4}F_{2}Cl_{2})$                                       | 0.005-0.04 |  |  |
| HCFC-221 (C <sub>3</sub> HFCl <sub>6</sub> )                             | 0.015-0.07  | HCFC-253 (C <sub>3</sub> H <sub>4</sub> F <sub>3</sub> Cl)               | 0.003-0.03 |  |  |
| HCFC-222 (C <sub>3</sub> HF <sub>2</sub> Cl <sub>5</sub> )               | 0.01-0.09   | HCFC-261 (C <sub>3</sub> H <sub>5</sub> FCl <sub>2</sub> )               | 0.002-0.02 |  |  |
| HCFC-223 (C <sub>3</sub> HF <sub>3</sub> Cl <sub>4</sub> )               | 0.01-0.08   | HCFC-262 ( $C_3H_5F_2Cl$ )   | 0.002-0.02 |  |  |
| HCFC-224 (C <sub>3</sub> HF <sub>4</sub> Cl <sub>3</sub> )               | 0.01-0.09   | HCFC-271 (C <sub>3</sub> H <sub>6</sub> FCl)                             | 0.001-0.03 |  |  |
| All isomers of the above chemicals                                       |             |  |            |  |  |

#### **APPENDIX C**

#### PARTIES CATEGORIZED AS OPERATING UNDER ARTICLE 5 PARAGRAPH 1 OF THE MONTREAL PROTOCOL (AS OF MARCH 29, 2005)

- Albania
- Algeria
- Angola
- · Antigua and Barbuda
- Argentina
- Armenia
- Bahamas
- Bahrain
- Bangladesh
- Barbados
- Belize
- Benin
- Bhutan
- Bolivia
- Bosnia and Herzegovina
- Botswana
- Brazil
- Brunei Darussalam
- Burkina Faso
- Burundi
- Cambodia
- Cape Verde
- Cameroon
- Central African Republic
- Chad
- Chile
- China
- Colombia
- Comoros
- Congo
- Congo, Democratic Republic of
- Cook Islands
- Costa Rica
- Côte d'Ivoire
- Croatia
- Cuba
- Cyprus
- Djibouti
- Dominica
- Dominican Republic

Appendix C

- Ecuador
- Egypt
- El Salvador Ethiopia
- Ethi
- Fiji
- Gabon
- GambiaGeorgia

- Ghana
- GrenadaGuatemala
- GuatemaraGuinea
- Guinea Bissau
- Gumea I
  Guyana
- GuyaHaiti
- Honduras
- India
- Indonesia
- Iran, Islamic Republic of
- Jamaica
- Jordan
- Kenva
- Kiribati
- Korea, People's Democratic Republic of
- Korea, Republic of
- Kuwait
- Kyrgyzstan
- Lao People's Democratic Republic
- Lebanon
- Lesotho
- Liberia
- Libyan Arab Jamahiriya
- Madagascar
- Malawi
- Malaysia
- Maldives
- Mali
- Marshall Islands
- Mauritania
- Mauritius
- Mexico
- Micronesia, Federal States of

Afghanistan, and Eritrea are temporarily categorized as operating under Article 5 paragraph 1 of the Montreal Protocol.

Guidance Document After January 1, 2005

- Moldova
- Mongolia
- Morocco
- Mozambique
- Myanmar
- Namibia
- Nauru
- Nepal
- Nicaragua
- Niger
- Nigeria
- Niue
- Oman

To view updated versions of this list, visit: http://www.unep.org/ozone/ratif.shtml

• Pakistan

- Palau
- Panama
- Papua New Guinea

Saint Kitts and Nevis

Sao Tome and Principe

Serbia and Montenegro

Saint Vincent & the Grenadines

Paraguay Peru

Qatar

Romania

Rwanda

Samoa

Senegal

Saint Lucia

• Saudi Arabia

Seychelles

Singapore

Somalia

Sri Lanka

Sudan

Suriname

• Swaziland

Thailand

Togo Tonga

Tunisia

Turkey

• Tuvalu

• Uganda

Uruguay

Vanuatu

• Venezuela

Yemen

• Zimbabwe

• Zambia

Viet Nam

• Turkmenistan

Sierra Leone

South Africa

Solomon Islands

Syrian Arab Republic

Trinidad & Tobago

United Arab Emirates

Tanzania, United Republic of

The Former Yugoslov Republic of Macedonia

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Philippines

## **APPENDIX D**

#### **CONTROL PERIOD CALENDAR**

#### January 1: Beginning of 1<sup>st</sup> Quarter of Control Period

## **Report Due Dates for the 4<sup>th</sup> Quarter from previous Control Period:**

|              | Class I Substances (including Me   | Class II Substances   |  |
|--------------|--|---|--|
| January 30:  | <ul> <li>MeBr Critical Use Distributor/Third Party Applicator Report (Annual Report)</li> <li>Distributor Annual Report (attached as Section 5 to the Essential Use Holder and Laboratory Supplier Report)</li> <li>Essential Use and Laboratory Supplier</li> </ul> |   | <ul><li>Exporter</li><li>Importer</li><li>Producer</li></ul> |
| February 14: | Second Party Transformation & Second<br>Party Destruction (Annual Report)  | MeBr Exporter<br>MeBr Importer<br>MeBr Producer<br>MeBr QPS Distributor |  |

## March 31: End 1<sup>st</sup> Quarter of Control Period

## **Report Due Dates for the 1<sup>st</sup> Quarter:**

|           | Class I Substances (including Methyl Bromide)                     |  | Class II Substances  |  |
|-----------|---|--|--|--|
| April 30: | • Essential Use and Laboratory Supplier                           |  | <ul><li>Exporter</li><li>Importer</li><li>Producer</li></ul> |  |
| May 15:   | <ul><li>Importer</li><li>Producer</li><li>MeBr Exporter</li></ul> | <ul> <li>MeBr Importer</li> <li>MeBr Producer</li> <li>MeBr QPS Distributor</li> </ul> | • Flouter  |  |

# June 30: End 2<sup>nd</sup> Quarter of Control Period

## **Report Due Dates for the 2<sup>nd</sup> Quarter:**

|            | Class I Substances (including Methyl Bromide) |                      | С | Class II Substances |  |
|------------|---|----------------------|---|---------------------|--|
| July 30:   | Essential Use and Laboratory Supplier         |                      | • | Exporter            |  |
|            |   |                      | • | Importer            |  |
|            |   |                      | • | Producer            |  |
| August 14: | <ul> <li>Importer</li> </ul>                  | MeBr Importer        |   |                     |  |
|            | Producer                                      | MeBr Producer        |   |                     |  |
|            | <ul> <li>MeBr Exporter</li> </ul>             | MeBr QPS Distributor |   |                     |  |

### September 30: End 3<sup>rd</sup> Quarter of Control Period

# **Report Due Dates for the 3<sup>rd</sup> Quarter:**

|              | Class I Substances (including Methyl Bromide) |                      | С | Class II Substances |  |
|--------------|---|----------------------|---|---------------------|--|
| October 30:  | Essential Use and Laboratory Supplier         |                      | • | Exporter            |  |
|              |   |                      | • | Importer            |  |
|              |   |                      | • | Producer            |  |
| November 14: | • Importer                                    | MeBr Importer        |   |                     |  |
|              | Producer                                      | MeBr Producer        |   |                     |  |
|              | <ul> <li>MeBr Exporter</li> </ul>             | MeBr QPS Distributor |   |                     |  |

## December 31: End 4<sup>th</sup> Quarter, End Control Period

#### **APPENDIX E**

#### **DEFINITIONS**

All definitions are provided in 40 CFR 82 §82.3. A partial list of definitions of definitions of terms commonly found in the guidance document is provided below.

**Article 5 Allowances** - the privileges for persons that are apportioned baseline production allowances to produce a certain percentage (see §82.9(a) and §82.18(a)) of their baseline production allowances for export to Article 5 countries.

**Consumption Allowances** - the privileges granted to produce and import controlled substances. Consumption allowances may be used to produce controlled substances only in conjunction with production allowances. A person's consumption allowances for class I substances are the total of the allowances obtained under §§82.6 and 82.7 and 82.10, as may be modified under §82.12 (transfer of allowances). A person's consumption allowances for class II controlled substances are the total of the allowances obtained under §§82.19 and 82.20, as may be modified under §82.23.

**Critical Stock Allowance (CSA)** - the right granted to sell one (1) kilogram of class I, Group VI controlled substances from inventory produced or imported prior to the January 1, 2005 phaseout date for an approved critical use during the specified control period. A person's critical stock allowances are the total of the allowances obtained under § 82.8(c) as may be modified under § 82.12 (transfer of allowances).

**Critical Use Methyl Bromide for Pre-plant Uses** - the privilege to produce or import one (1) kilogram of methyl bromide solely for an approved critical use in pre-plant categories specified in Appendix L to Subpart A of 40 CFR 82 during the specified control period. A person's critical use allowances for pre-plant uses are the total of the allowances obtained under § 82.8(c) as may be modified under § 82.12 (transfer of allowances).

**Critical Use Methyl Bromide for Post-harvest Uses** - the privilege to produce or import one (1) kilogram of methyl bromide solely for an approved critical use in post-harvest categories specified in Appendix L to Subpart A of 40 CFR 82 during the specified control period. A person's critical use allowances for post-harvest uses are the total of the allowances obtained under § 82.8(c) as may be modified under § 82.12 (transfer of allowances).

**Destruction** - the expiration of a controlled substance to the destruction efficiency actually achieved, unless considered completely destroyed. Such destruction does not result in a commercially useful end product and uses one of the following controlled processes approved by the Parties to the Protocol:

- (1) Liquid injection incineration;
- (2) Reactor cracking;
- (3) Gaseous/fume oxidation;
- (4) Rotary kiln incineration;
- (5) Cement kiln;
- (6) Radio frequency plasma; or
- (7) Municipal waste incinerators only for the destruction of foams.

**Emergency Use** - a privilege granted after the phaseout for quantities not exceeding 20 metric tons of methyl bromide demand necessary and allowed for use in response to an emergency event. The Secretariat and the Technology and Economic Assessment Panel will evaluate the use according to the

"Critical Methyl Bromide Use" criteria and present this information to the next meeting of the Parties for review and appropriate guidance on future such emergencies.

**Essential-Use Allowances** - those privileges granted by §82.4(t) to produce class I substances, as determined by allocation decisions made by the Parties to the Montreal Protocol and in accordance with the restrictions delineated in the Clean Air Act Amendments of 1990.

**Export Production Allowances -** the privileges granted by §82.18(b) to produce HCFC-141b for export following the phaseout of HCFC-141b on January 1, 2003.

**Exporter** - the person who contracts to sell controlled substances for export or transfers controlled substances to his affiliate in another country.

**Heel** - the amount of a controlled substance that remains in a container after it is discharged or off-loaded (that is no more than ten percent of the volume of the container) and that the person owning or operating the container certifies the residual amount will remain in the container and be included in a future shipment, or be recovered for transformation, destruction or a non-emissive purpose.

**Importer** - the importer of record listed on U.S. Customs Service forms for imported controlled substances, used controlled substances, or controlled products.

**Preshipment Applications** – with respect to class I, Group VI controlled substances (methyl bromide), are those non-quarantine applications applied within 21 days prior to export to meet the official requirements of the importing country or existing official requirements of the exporting country. Official requirements are those which are performed by, or authorized by, a national plant, animal, environmental, health or stored product authority.

**Production** - the manufacture of a controlled substance from any raw material or feedstock chemical, but does not include:

- (1) The manufacture of a controlled substance that is subsequently transformed;
- (2) The reuse or recycling of a controlled substance;
- (3) Amounts that are destroyed by the approved technologies; or
- (4) Amounts that are spilled or vented unintentionally.

**Production Allowances** - the privileges granted to produce controlled substances. Production allowances may be used to produce controlled substances only in conjunction with consumption allowances. A person's production allowances for class I substances are the total of the allowances obtained under §§82.5, 82.7 and 82.9, and may be modified under §82.12 (transfer of allowances). A person's production allowances for class II controlled substances are the total of the allowances obtained under §82.17 and as may be modified under §§82.18 and 82.23.

**Quarantine Applications**– with respect to class I, Group VI controlled substances (methyl bromide) are treatments to prevent the introduction, establishment and/or spread of quarantine pests (including diseases), or to ensure their official control, where: (1) Official control is that performed by, or authorized by, a national (including state, tribal or local) plant, animal or environmental protection or health authority; (2) quarantine pests are pests of potential importance to the areas endangered thereby and not yet present there, or present but not widely distributed and being officially controlled. This definition excludes treatments of commodities not entering or leaving the United States or any State (or political subdivision thereof).

**Transform** - to use and entirely consume (except for trace quantities) a controlled substance in the manufacture of other chemicals for commercial purposes.

**Transhipment** - the continuous shipment of a controlled substance, from a foreign state of origin through the United States or its territories, to a second foreign state of final destination, as long as the shipment does not enter into United States jurisdiction. A transhipment, as it moves through the United States or its territories, cannot be re-packaged, sorted or otherwise changed in condition.

**Used Controlled Substances** - controlled substances that have been recovered from their intended use systems (may include controlled substances that have been, or may be subsequently, recycled or reclaimed).