

## Cluster manoeuvres June-July 2003

| SC | MN | EPOCH      | UTC      | TAN_DEG | ENG/THR | MOD | DUR_SEC | DVE_M/S | RAS_DEG | DEC_DEG |
|----|----|------------|----------|---------|---------|-----|---------|---------|---------|---------|
| 1  | 1  | 05/06/2003 | 00:39:22 | 172     |         | FIX | 0       | 0       | 0       | 0       |
| 1  | 2  | 07/06/2003 | 17:04:26 | 186.152 | RAD     | FIX | 5961.6  | 40.214  | 68.711  | -11.619 |
| 1  | 5  | 14/06/2003 | 12:44:12 | 170.099 | AX-     | FIX | 814.34  | 24.025  | 258.134 | 70.591  |
| 1  | 6  | 18/06/2003 | 05:51:54 | 348.053 | AX-     | FIX | 287.58  | 8.494   | 258.134 | 70.591  |
| 1  | 7  | 21/06/2003 | 06:25:58 | 150     |         | FIX | 0       | 0       | 0       | 0       |
| 1  | 8  | 24/06/2003 | 20:38:42 | 210     |         | FIX | 0       | 0       | 0       | 0       |
| 1  | 9  | 29/06/2003 | 01:35:36 | 180     |         | FIX | 0       | 0       | 0       | 0       |
| 1  | 10 | 02/07/2003 | 15:25:26 | 338.33  | AX+     | FIX | 131.13  | 3.885   | 78.134  | -70.591 |
| 1  | 11 | 07/07/2003 | 10:14:11 | 0       |         | FIX | 0       | 0       | 0       | 0       |
| 1  | 12 | 12/07/2003 | 04:21:17 | 360     |         | FIX | 0       | 0       | 0       | 0       |
| 2  | 1  | 04/06/2003 | 19:36:18 | 162     | RAD     | FIX | 0.18    | 0.001   | 74.786  | -11.586 |
| 2  | 2  | 07/06/2003 | 20:16:24 | 191.43  | RAD     | FIX | 8707.77 | 56.423  | 266.32  | -46.579 |
| 2  | 5  | 14/06/2003 | 22:21:40 | 184.974 | AX-     | FIX | 520.21  | 15.073  | 258.134 | 70.591  |
| 2  | 6  | 18/06/2003 | 09:13:26 | 344.958 | AX+     | FIX | 60.95   | 1.766   | 78.134  | -70.591 |
| 2  | 7  | 21/06/2003 | 09:14:20 | 150     |         | FIX | 0       | 0       | 0       | 0       |
| 2  | 8  | 24/06/2003 | 22:28:18 | 210     |         | FIX | 0       | 0       | 0       | 0       |
| 2  | 9  | 29/06/2003 | 02:29:31 | 180     |         | FIX | 0       | 0       | 0       | 0       |
| 2  | 10 | 02/07/2003 | 15:40:31 | 345.184 | AX+     | FIX | 0.13    | 0.004   | 78.134  | -70.591 |
| 2  | 11 | 07/07/2003 | 10:16:58 | 360     |         | FIX | 0       | 0       | 0       | 0       |
| 2  | 12 | 12/07/2003 | 04:24:03 | 360     |         | FIX | 0       | 0       | 0       | 0       |
| 3  | 1  | 04/06/2003 | 03:25:33 | 69.604  | RAD     | FIX | 2056.72 | 13.655  | 142.552 | -17.622 |
| 3  | 2  | 07/06/2003 | 22:24:03 | 199.162 | RAD     | FIX | 6696.31 | 44.524  | 153.619 | -20.757 |
| 3  | 5  | 14/06/2003 | 18:56:06 | 185.507 | AX+     | FIX | 185.43  | 5.46    | 78.134  | -70.591 |
| 3  | 6  | 18/06/2003 | 06:28:58 | 4.438   |         | FIX | 0       | 0       | 0       | 0       |
| 3  | 7  | 21/06/2003 | 06:31:15 | 150     |         | FIX | 0       | 0       | 0       | 0       |
| 3  | 8  | 24/06/2003 | 20:46:35 | 210     |         | FIX | 0       | 0       | 0       | 0       |
| 3  | 9  | 29/06/2003 | 01:39:00 | 180     |         | FIX | 0       | 0       | 0       | 0       |
| 3  | 10 | 02/07/2003 | 16:18:17 | 7.935   | AX+     | FIX | 133.81  | 3.942   | 78.134  | -70.591 |
| 3  | 11 | 07/07/2003 | 10:15:36 | 360     |         | FIX | 0       | 0       | 0       | 0       |
| 3  | 12 | 12/07/2003 | 04:22:40 | 0       |         | FIX | 0       | 0       | 0       | 0       |

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| SC | MN | EPOCH      | UTC      | TAN_DEG | ENG/THR | MOD | DUR_SEC | DVE_M/S | RAS_DEG | DEC_DEG |
|----|----|------------|----------|---------|---------|-----|---------|---------|---------|---------|
| 4  | 1  | 04/06/2003 | 14:05:29 | 150     | RAD     | FIX | 0.01    | 0       | 220.832 | -40.69  |
| 4  | 2  | 08/06/2003 | 03:32:16 | 204.961 | RAD     | FIX | 1795.38 | 11.544  | 63.793  | -12.877 |
| 4  | 5  | 14/06/2003 | 19:05:54 | 182.797 | AX+     | FIX | 1930.88 | 55.221  | 78.134  | -70.591 |
| 4  | 6  | 18/06/2003 | 08:53:41 | 333.107 | AX+     | FIX | 383.44  | 10.993  | 78.134  | -70.591 |
| 4  | 7  | 21/06/2003 | 09:13:49 | 150     |         | FIX | 0       | 0       | 0       | 0       |
| 4  | 8  | 24/06/2003 | 22:32:01 | 210     |         | FIX | 0       | 0       | 0       | 0       |
| 4  | 9  | 29/06/2003 | 02:31:02 | 180     |         | FIX | 0       | 0       | 0       | 0       |
| 4  | 10 | 02/07/2003 | 15:52:18 | 351.047 |         | FIX | 0       | 0       | 0       | 0       |
| 4  | 11 | 07/07/2003 | 10:18:25 | 360     |         | FIX | 0       | 0       | 0       | 0       |
| 4  | 12 | 12/07/2003 | 04:25:29 | 0       |         | FIX | 0       | 0       | 0       | 0       |

### Attitude manoeuvre windows

|   |   |            |          |  |  |  |       |  |  |  |
|---|---|------------|----------|--|--|--|-------|--|--|--|
| 1 | a | 09/06/2003 | 04:00:00 |  |  |  | 28800 |  |  |  |
| 2 | a | 09/06/2003 | 04:00:00 |  |  |  | 28800 |  |  |  |
| 3 | a | 09/06/2003 | 04:00:00 |  |  |  | 28800 |  |  |  |
| 4 | a | 09/06/2003 | 04:00:00 |  |  |  | 28800 |  |  |  |