

Table H-6-1 OTC Vertical Layer Definition for MM5 Simulations and Approach For Reducing CMAQ Layers By Collapsing Multiple MM5 Layers

| MM5 | | | | | CMAQ | | | | |
|-------|--------|----------|-----------|----------|-------|--------|----------|-----------|----------|
| Layer | Sigma | Pres(mb) | Height(m) | Depth(m) | Layer | Sigma | Pres(mb) | Height(m) | Depth(m) |
| 29 | 0.000 | 50 | 18600 | 2145 | 23 | 0.000 | 50 | 18600 | 4290 |
| 28 | 0.040 | 88.5 | 16450 | 2145 | | | | | |
| 27 | 0.080 | 127.1 | 14300 | 1460 | 21 | 0.080 | 127.1 | 14300 | 2920 |
| 26 | 0.123 | 168.5 | 12800 | 1460 | | | | | |
| 25 | 0.168 | 211.8 | 11400 | 1200 | 20 | 0.168 | 211.8 | 11400 | 2390 |
| 24 | 0.218 | 260.0 | 10200 | 1200 | | | | | |
| 23 | 0.268 | 308.1 | 8990 | 934 | 19 | 0.268 | 308.1 | 8990 | 1870 |
| 22 | 0.318 | 356.3 | 8060 | 934 | | | | | |
| 21 | 0.368 | 404.5 | 7120 | 772 | 18 | 0.368 | 404.5 | 7120 | 1540 |
| 20 | 0.418 | 452.6 | 6350 | 772 | | | | | |
| 19 | 0.468 | 500.8 | 5580 | 662 | 17 | 0.468 | 500.8 | 5580 | 1320 |
| 18 | 0.518 | 549.0 | 4920 | 662 | | | | | |
| 17 | 0.568 | 597.1 | 4250 | 581 | 16 | 0.568 | 597.1 | 4250 | 1160 |
| 16 | 0.618 | 645.3 | 3670 | 581 | | | | | |
| 15 | 0.668 | 693.4 | 3090 | 532 | 15 | 0.668 | 693.4 | 3090 | 532 |
| 14 | 0.718 | 741.6 | 2560 | 455 | 14 | 0.718 | 741.6 | 2560 | 455 |
| 13 | 0.763 | 785.0 | 2110 | 388 | 13 | 0.763 | 785.0 | 2110 | 388 |
| 12 | 0.803 | 823.5 | 1720 | 337 | 12 | 0.803 | 823.5 | 1720 | 337 |
| 11 | 0.839 | 858.2 | 1380 | 290 | 11 | 0.839 | 858.2 | 1380 | 290 |
| 10 | 0.871 | 889.0 | 1090 | 247 | 10 | 0.871 | 889.0 | 1090 | 247 |
| 9 | 0.899 | 916.0 | 844 | 207 | 9 | 0.899 | 916.0 | 844 | 207 |
| 8 | 0.923 | 939.1 | 637 | 169 | 8 | 0.923 | 939.1 | 637 | 169 |
| 7 | 0.943 | 958.3 | 468 | 133 | 7 | 0.943 | 958.3 | 468 | 133 |
| 6 | 0.959 | 973.7 | 334 | 107 | 6 | 0.959 | 973.7 | 334 | 107 |
| 5 | 0.972 | 986.3 | 227 | 82 | 5 | 0.972 | 986.3 | 227 | 82 |
| 4 | 0.982 | 995.9 | 145 | 57 | 4 | 0.982 | 995.9 | 145 | 57 |
| 3 | 0.989 | 1002.6 | 89 | 40 | 3 | 0.989 | 1002.6 | 89 | 40 |
| 2 | 0.994 | 1007.5 | 48 | 27 | 2 | 0.994 | 1007.5 | 48 | 27 |
| 1 | 0.9974 | 1010.7 | 21 | 21 | 1 | 0.9974 | 1010.7 | 21 | 21 |
| 0 | 1.000 | 1013.24 | 0 | 0 | 0 | 1.000 | 1013.24 | 0 | 0 |

Note: Layer-top pressures assume a surface pressure of 1013.24 hPa. Layer-top heights are determined by averaging MM5 (CMAQ)-calculated layer-top heights over time (August 2002) and space (the entire 172x172 domain).