Attachment A

AEOLUS3 Input File for Normal Effluent Run

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EPR 2001-2007 MET NORMAL EFFL X/Q STK 62M BLDG WAKE 242458cfm REVISED SB
RCF'S
    1    1    1    2    1    1    1    0    0    0   12    1    0    0   84
1
 0.224     0.75      1.0       1.5       2.0       3.0       4.0       5.0
 6.0       8.0       10.0      50.0
 62.0      60.0      2940.0    3.8      242458.    0.0
 900.0     900.0     0.0       0.0       0.0       0.0
       0.3
       1.0
(F2.0,1X,F2.0,1X,F2.0,3X,F2.0,4X,F6.1,8x,F6.1,8x,F6.1,8x,F6.1,1x,F6.2)
    3    1    2    4    6    5    8    7    9   0    0
 360.0     90.0      15.0      9.0       9.0
 0.447     0.5556    1.0       25.4      0.112     10.0      50.00     888.0
RECEPTOR DATA
*0.25 MILE
N   0    0 403.0    82.3    1.05
NNE 0    0 403.0    82.3    1.37
NE  0    0 403.0    82.3    1.44
ENE 0    0 403.0    45.7    1.47
E   0    0 403.0     9.8    1.55
ESE 0    0 403.0     9.8    1.43
SE  0    0 403.0     4.9    1.09
SSE 0    0 403.0    15.2    1.32
S   0    0 403.0    33.5    1.00
SSW 0    0 403.0    39.6    1.33
SW  0    0 403.0    39.6    1.00
WSW 0    0 403.0    21.3    1.00
W   0    0 403.0    39.6    1.01
WNW 0    0 403.0    39.6    1.19
NW  0    0 403.0    82.3    1.00
NNW 0    0 403.0    82.3    1.00
*SB
N   0    0 320.0    82.3    1.05
NNE 0    0 752.6    82.3    1.37
NE  0    0 928.5    125.    1.44
ENE 0    0 935.5    76.2    1.47
E   0    0 1020.     9.8    1.55
ESE 0    0 633.0     9.8    1.43
SE  0    0 513.5     4.9    1.09
SSE 0    0 492.4    15.2    1.32
S   0    0 492.4    33.5    1.00
SSW 0    0 453.7    39.6    1.33
SW  0    0 386.9    39.6    1.00
WSW 0    0 334.1    21.3    1.00
W   0    0 334.1    39.6    1.01
WNW 0    0 334.1    39.6    1.19
NW  0    0 334.1    82.3    1.00
NNW 0    0 320.0    82.3    1.00
* RES1
NNE 0    0 1683.    131.1   1.32
NE  0    0 2082.    125.0   1.31
ENE 0    0 3854.    137.2   1.06
E   0    0 2118.    9.8     1.21
ESE 0    0 1931.    51.8    1.37
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SE  0    0 1063.    4.9     1.09
SW  0    0 456.0    39.6    1.00
WSW 0    0 445.7    21.3    1.00
NNW 0    0 789.0    82.3    1.00
* RES2
NNE 0    0 1835.    131.1   1.32
NE  0    0 2962.    125.0   1.17
ENE 0    0 4985.    192.0   1.03
E   0    0 2220.    9.8     1.21
* RES3
NE  0    0 3155.    125.0   1.17
E   0    0 2304.    9.8     1.21
* RES4
NE  0    0 3317.    125.0   1.17
* GARDEN1
N   0    0 2858.    143.3   1.32
NNE 0    0 6203.    246.9   1.18
NE  0    0 5140.    222.5   1.06
ENE 0    0 3854.    137.2   1.06
E   0    0 2132.    9.8     1.21
SE  0    0 1833.    57.9    1.00
SSE 0    0 1378.    15.2    1.32
SSW 0    0 1742.    51.8    1.21
WSW 0    0 445.7    21.3    1.00
NNW 0    0 789.0    82.3    1.00
* GARDEN2
N   0    0 6985.    265.2   1.08
NE  0    0 5721.    222.5   1.13
ENE 0    0 5510.    192.0   1.03
E   0    0 5455.    192.0   1.05
SE  0    0 4662.    106.7   1.00
NNW 0    0 1709.    143.3   1.00
* MILK1
E   0    0 8723.    321.9   1.01
ESE 0    0 7643.    356.6   1.18
S   0    0 4062.    100.6   1.00
SSW 0    0 19619.   381.9   1.00
SW  0    0 1043.    39.6    1.00
WNW 0    0 6602.    301.8   1.00
* MILK2
S   0    0 4601.    100.6   1.00
* MEAT
NE  0    0 5140.    222.5   1.06
ENE 0    0 5510.    192.0   1.03
S   0    0 4601.    100.6   1.00
SW  0    0 1043.    39.6    1.00
* 0.5 MILE
N   0    0 805.0    82.3    1.05
NNE 0    0 805.0    82.3    1.37
NE  0    0 805.0    82.3    1.44
ENE 0    0 805.0    45.7    1.47
E   0    0 805.0     9.8    1.55
ESE 0    0 805.0     9.8    1.43
SE  0    0 805.0     4.9    1.09
SSE 0    0 805.0    15.2    1.32
S   0    0 805.0    33.5    1.00
SSW 0    0 805.0    39.6    1.33
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SW  0    0 805.0    39.6    1.00
WSW 0    0 805.0    21.3    1.00
W   0    0 805.0    39.6    1.01
WNW 0    0 805.0    39.6    1.19
NW  0    0 805.0    82.3    1.00
NNW 0    0 805.0    82.3    1.00
* 0.75 MILE
N   0    0 1208.0   131.1   1.05
NNE 0    0 1208.0   131.1   1.37
NE  0    0 1208.0   125.0   1.44
ENE 0    0 1208.0   76.2    1.47
E   0    0 1208.0    9.8    1.55
ESE 0    0 1208.0    9.8    1.43
SE  0    0 1208.0    4.9    1.09
SSE 0    0 1208.0   15.2    1.32
S   0    0 1208.0   33.5    1.00
SSW 0    0 1208.0   39.6    1.33
SW  0    0 1208.0   39.6    1.00
WSW 0    0 1208.0   33.5    1.00
W   0    0 1208.0   137.2   1.01
WNW 0    0 1208.0   137.2   1.19
NW  0    0 1208.0   137.2   1.00
NNW 0    0 1208.0   118.9   1.00
* 1500 m
N   0    0 1500.0   131.1   1.12
NNE 0    0 1500.0   131.1   1.32
NE  0    0 1500.0   125.0   1.31
ENE 0    0 1500.0   76.2    1.07
E   0    0 1500.0    9.8    1.21
ESE 0    0 1500.0    9.8    1.37
SE  0    0 1500.0    4.9    1.00
SSE 0    0 1500.0   15.2    1.32
S   0    0 1500.0   33.5    1.00
SSW 0    0 1500.0   39.6    1.21
SW  0    0 1500.0   39.6    1.00
WSW 0    0 1500.0   33.5    1.00
W   0    0 1500.0   137.2   1.07
WNW 0    0 1500.0   137.2   1.24
NW  0    0 1500.0   137.2   1.00
NNW 0    0 1500.0   118.9   1.00
* 1.0 MILE
N   0    0 1609.0   131.1   1.12
NNE 0    0 1609.0   131.1   1.32
NE  0    0 1609.0   125.0   1.31
ENE 0    0 1609.0   76.2    1.07
E   0    0 1609.0    9.8    1.21
ESE 0    0 1609.0    9.8    1.37
SE  0    0 1609.0    4.9    1.00
SSE 0    0 1609.0   15.2    1.32
S   0    0 1609.0   33.5    1.00
SSW 0    0 1609.0   39.6    1.21
SW  0    0 1609.0   39.6    1.00
WSW 0    0 1609.0   33.5    1.00
W   0    0 1609.0   137.2   1.07
WNW 0    0 1609.0   137.2   1.24
NW  0    0 1609.0   137.2   1.00
NNW 0    0 1609.0   118.9   1.00
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* 2000 m
N   0    0 2000.0   143.3   1.12
NNE 0    0 2000.0   131.1   1.32
NE  0    0 2000.0   125.0   1.31
ENE 0    0 2000.0   76.2    1.07
E   0    0 2000.0    9.8    1.21
ESE 0    0 2000.0   51.8    1.37
SE  0    0 2000.0   57.9    1.00
SSE 0    0 2000.0   57.9    1.32
S   0    0 2000.0   33.5    1.00
SSW 0    0 2000.0   51.8    1.21
SW  0    0 2000.0   39.6    1.00
WSW 0    0 2000.0   94.5    1.00
W   0    0 2000.0   143.3   1.07
WNW 0    0 2000.0   155.4   1.24
NW  0    0 2000.0   155.4   1.00
NNW 0    0 2000.0   143.3   1.00
* 1.5 MILES
N   0    0 2414.0   143.3   1.12
NNE 0    0 2414.0   131.1   1.32
NE  0    0 2414.0   125.0   1.31
ENE 0    0 2414.0   76.2    1.07
E   0    0 2414.0    9.8    1.21
ESE 0    0 2414.0   51.8    1.37
SE  0    0 2414.0   57.9    1.00
SSE 0    0 2414.0   57.9    1.32
S   0    0 2414.0   33.5    1.00
SSW 0    0 2414.0   51.8    1.21
SW  0    0 2414.0   39.6    1.00
WSW 0    0 2414.0   94.5    1.00
W   0    0 2414.0   143.3   1.07
WNW 0    0 2414.0   155.4   1.24
NW  0    0 2414.0   155.4   1.00
NNW 0    0 2414.0   143.3   1.00
* 2.0 MILES
N   0    0 3218.0   143.3   1.32
NNE 0    0 3218.0   131.1   1.21
NE  0    0 3218.0   125.0   1.17
ENE 0    0 3218.0   76.2    1.06
E   0    0 3218.0    9.8    1.08
ESE 0    0 3218.0   51.8    1.17
SE  0    0 3218.0   57.9    1.00
SSE 0    0 3218.0   57.9    1.12
S   0    0 3218.0   33.5    1.00
SSW 0    0 3218.0   51.8    1.12
SW  0    0 3218.0   39.6    1.00
WSW 0    0 3218.0   94.5    1.00
W   0    0 3218.0   143.3   1.00
WNW 0    0 3218.0   155.4   1.00
NW  0    0 3218.0   155.4   1.00
NNW 0    0 3218.0   143.3   1.00
* 2.5 MILES
N   0    0 4023.0   246.9   1.32
NNE 0    0 4023.0   246.9   1.21
NE  0    0 4023.0   125.0   1.17
ENE 0    0 4023.0   137.2   1.06
E   0    0 4023.0   167.6   1.08
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```
ESE 0    0 4023.0   167.6   1.17
SE  0    0 4023.0   106.7   1.00
SSE 0    0 4023.0   106.7   1.12
S   0    0 4023.0   100.6   1.00
SSW 0    0 4023.0   94.5    1.12
SW  0    0 4023.0   94.5    1.00
WSW 0    0 4023.0   179.8   1.00
W   0    0 4023.0   179.8   1.00
WNW 0    0 4023.0   155.4   1.00
NW  0    0 4023.0   259.1   1.00
NNW 0    0 4023.0   265.2   1.00
* 3.0 MILES
N   0    0 4827.0   246.9   1.20
NNE 0    0 4827.0   246.9   1.27
NE  0    0 4827.0   125.0   1.06
ENE 0    0 4827.0   137.2   1.03
E   0    0 4827.0   167.6   1.05
ESE 0    0 4827.0   167.6   1.11
SE  0    0 4827.0   106.7   1.00
SSE 0    0 4827.0   106.7   1.19
S   0    0 4827.0   100.6   1.00
SSW 0    0 4827.0   94.5    1.09
SW  0    0 4827.0   94.5    1.00
WSW 0    0 4827.0   179.8   1.00
W   0    0 4827.0   179.8   1.00
WNW 0    0 4827.0   155.4   1.00
NW  0    0 4827.0   259.1   1.01
NNW 0    0 4827.0   265.2   1.00
* 3.5 MILES
N   0    0 5632.0   246.9   1.20
NNE 0    0 5632.0   246.9   1.27
NE  0    0 5632.0   222.5   1.06
ENE 0    0 5632.0   192.0   1.03
E   0    0 5632.0   192.0   1.05
ESE 0    0 5632.0   167.6   1.11
SE  0    0 5632.0   118.9   1.00
SSE 0    0 5632.0   118.9   1.19
S   0    0 5632.0   112.8   1.00
SSW 0    0 5632.0   94.5    1.09
SW  0    0 5632.0   94.5    1.00
WSW 0    0 5632.0   179.8   1.00
W   0    0 5632.0   179.8   1.00
WNW 0    0 5632.0   271.3   1.00
NW  0    0 5632.0   271.3   1.01
NNW 0    0 5632.0   265.2   1.00
* 4.0 MILES
N   0    0 6436.0   246.9   1.08
NNE 0    0 6436.0   246.9   1.18
NE  0    0 6436.0   222.5   1.13
ENE 0    0 6436.0   192.0   1.05
E   0    0 6436.0   192.0   1.11
ESE 0    0 6436.0   167.6   1.33
SE  0    0 6436.0   118.9   1.00
SSE 0    0 6436.0   118.9   1.02
S   0    0 6436.0   112.8   1.00
SSW 0    0 6436.0   94.5    1.10
SW  0    0 6436.0   94.5    1.00
```

```
WSW 0    0 6436.0   179.8   1.00
W   0    0 6436.0   179.8   1.00
WNW 0    0 6436.0   271.3   1.00
NW  0    0 6436.0   271.3   1.00
NNW 0    0 6436.0   265.2   1.00
* 4.5 MILES
N   0    0 7241.0   265.2   1.08
NNE 0    0 7241.0   246.9   1.18
NE  0    0 7241.0   253.0   1.13
ENE 0    0 7241.0   192.0   1.05
E   0    0 7241.0   192.0   1.11
ESE 0    0 7241.0   356.6   1.33
SE  0    0 7241.0   356.6   1.00
SSE 0    0 7241.0   313.9   1.02
S   0    0 7241.0   313.9   1.00
SSW 0    0 7241.0   167.6   1.10
SW  0    0 7241.0   94.5    1.00
WSW 0    0 7241.0   179.8   1.00
W   0    0 7241.0   277.4   1.00
WNW 0    0 7241.0   301.8   1.00
NW  0    0 7241.0   301.8   1.00
NNW 0    0 7241.0   301.8   1.00
* 5.0 MILES
N   0    0 8045.0   265.2   1.00
NNE 0    0 8045.0   246.9   1.08
NE  0    0 8045.0   253.0   1.00
ENE 0    0 8045.0   192.0   1.00
E   0    0 8045.0   192.0   1.01
ESE 0    0 8045.0   356.6   1.18
SE  0    0 8045.0   356.6   1.00
SSE 0    0 8045.0   313.9   1.06
S   0    0 8045.0   313.9   1.00
SSW 0    0 8045.0   167.6   1.00
SW  0    0 8045.0   94.5    1.00
WSW 0    0 8045.0   179.8   1.00
W   0    0 8045.0   277.4   1.00
WNW 0    0 8045.0   301.8   1.00
NW  0    0 8045.0   301.8   1.00
NNW 0    0 8045.0   301.8   1.00
* 7.5 MILES
N   0    0 12068.   265.2   1.00
NNE 0    0 12068.   246.9   1.08
NE  0    0 12068.   253.0   1.00
ENE 0    0 12068.   241.9   1.00
E   0    0 12068.   321.9   1.01
ESE 0    0 12068.   356.6   1.18
SE  0    0 12068.   356.6   1.00
SSE 0    0 12068.   381.9   1.06
S   0    0 12068.   381.9   1.00
SSW 0    0 12068.   381.9   1.00
SW  0    0 12068.   381.9   1.00
WSW 0    0 12068.   261.9   1.00
W   0    0 12068.   321.9   1.00
WNW 0    0 12068.   321.9   1.00
NW  0    0 12068.   301.8   1.00
NNW 0    0 12068.   301.8   1.00
* 10.0 MILES
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```
N   0    0 16090.   265.2   1.00
NNE 0    0 16090.   246.9   1.00
NE  0    0 16090.   253.0   1.00
ENE 0    0 16090.   241.9   1.00
E   0    0 16090.   321.9   1.00
ESE 0    0 16090.   356.6   1.02
SE  0    0 16090.   356.6   1.00
SSE 0    0 16090.   381.9   1.00
S   0    0 16090.   381.9   1.00
SSW 0    0 16090.   381.9   1.00
SW  0    0 16090.   381.9   1.00
WSW 0    0 16090.   261.9   1.00
W   0    0 16090.   321.9   1.00
WNW 0    0 16090.   321.9   1.00
NW  0    0 16090.   301.8   1.00
NNW 0    0 16090.   301.8   1.00
* 15 MILES
N   0    0 24135.   541.9   1.00
NNE 0    0 24135.   481.9   1.00
NE  0    0 24135.   461.9   1.00
ENE 0    0 24135.   421.9   1.00
E   0    0 24135.   421.9   1.00
ESE 0    0 24135.   379.9   1.02
SE  0    0 24135.   356.6   1.00
SSE 0    0 24135.   401.9   1.00
S   0    0 24135.   401.9   1.00
SSW 0    0 24135.   381.9   1.00
SW  0    0 24135.   381.9   1.00
WSW 0    0 24135.   281.9   1.00
W   0    0 24135.   321.9   1.00
WNW 0    0 24135.   321.9   1.00
NW  0    0 24135.   501.9   1.00
NNW 0    0 24135.   541.9   1.00
* 20 MILES
N   0    0 32180.   541.9   1.00
NNE 0    0 32180.   481.9   1.00
NE  0    0 32180.   461.9   1.00
ENE 0    0 32180.   421.9   1.00
E   0    0 32180.   421.9   1.00
ESE 0    0 32180.   379.9   1.00
SE  0    0 32180.   356.6   1.00
SSE 0    0 32180.   401.9   1.00
S   0    0 32180.   401.9   1.00
SSW 0    0 32180.   381.9   1.00
SW  0    0 32180.   381.9   1.00
WSW 0    0 32180.   281.9   1.00
W   0    0 32180.   321.9   1.00
WNW 0    0 32180.   321.9   1.00
NW  0    0 32180.   501.9   1.00
NNW 0    0 32180.   541.9   1.00
* 25 MILES
N   0    0 40225.   541.9   1.00
NNE 0    0 40225.   528.9   1.00
NE  0    0 40225.   461.9   1.00
ENE 0    0 40225.   461.9   1.00
E   0    0 40225.   421.9   1.00
ESE 0    0 40225.   401.9   1.00
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```
SE  0    0 40225.   356.6   1.00
SSE 0    0 40225.   401.9   1.00
S   0    0 40225.   401.9   1.00
SSW 0    0 40225.   381.9   1.00
SW  0    0 40225.   381.9   1.00
WSW 0    0 40225.   281.9   1.00
W   0    0 40225.   321.9   1.00
WNW 0    0 40225.   381.9   1.00
NW  0    0 40225.   560.9   1.00
NNW 0    0 40225.   541.9   1.00
* 30 MILES
N   0    0 48270.   541.9   1.00
NNE 0    0 48270.   528.9   1.00
NE  0    0 48270.   461.9   1.00
ENE 0    0 48270.   461.9   1.00
E   0    0 48270.   421.9   1.00
ESE 0    0 48270.   401.9   1.00
SE  0    0 48270.   356.6   1.00
SSE 0    0 48270.   401.9   1.00
S   0    0 48270.   401.9   1.00
SSW 0    0 48270.   381.9   1.00
SW  0    0 48270.   381.9   1.00
WSW 0    0 48270.   281.9   1.00
W   0    0 48270.   321.9   1.00
WNW 0    0 48270.   381.9   1.00
NW  0    0 48270.   560.9   1.00
NNW 0    0 48270.   541.9   1.00
* 35 MILES
N   0    0 56315.   541.9   1.00
NNE 0    0 56315.   528.9   1.00
NE  0    0 56315.   461.9   1.00
ENE 0    0 56315.   461.9   1.00
E   0    0 56315.   423.9   1.00
ESE 0    0 56315.   421.9   1.00
SE  0    0 56315.   356.6   1.00
SSE 0    0 56315.   401.9   1.00
S   0    0 56315.   401.9   1.00
SSW 0    0 56315.   381.9   1.00
SW  0    0 56315.   381.9   1.00
WSW 0    0 56315.   281.9   1.00
W   0    0 56315.   361.9   1.00
WNW 0    0 56315.   381.9   1.00
NW  0    0 56315.   560.9   1.00
NNW 0    0 56315.   541.9   1.00
* 40 MILES
N   0    0 64360.   541.9   1.00
NNE 0    0 64360.   528.9   1.00
NE  0    0 64360.   461.9   1.00
ENE 0    0 64360.   461.9   1.00
E   0    0 64360.   423.9   1.00
ESE 0    0 64360.   421.9   1.00
SE  0    0 64360.   356.6   1.00
SSE 0    0 64360.   401.9   1.00
S   0    0 64360.   401.9   1.00
SSW 0    0 64360.   381.9   1.00
SW  0    0 64360.   381.9   1.00
WSW 0    0 64360.   281.9   1.00
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```
W   0    0 64360.   361.9   1.00
WNW 0    0 64360.   381.9   1.00
NW  0    0 64360.   560.9   1.00
NNW 0    0 64360.   541.9   1.00
* 45 MILES
N   0    0 72405.   541.9   1.00
NNE 0    0 72405.   528.9   1.00
NE  0    0 72405.   481.9   1.00
ENE 0    0 72405.   481.9   1.00
E   0    0 72405.   441.9   1.00
ESE 0    0 72405.   441.9   1.00
SE  0    0 72405.   356.6   1.00
SSE 0    0 72405.   401.9   1.00
S   0    0 72405.   401.9   1.00
SSW 0    0 72405.   381.9   1.00
SW  0    0 72405.   381.9   1.00
WSW 0    0 72405.   361.9   1.00
W   0    0 72405.   401.9   1.00
WNW 0    0 72405.   521.9   1.00
NW  0    0 72405.   560.9   1.00
NNW 0    0 72405.   541.9   1.00
* 50 MILES
N   0    0 80450.   541.9   1.00
NNE 0    0 80450.   528.9   1.00
NE  0    0 80450.   481.9   1.00
ENE 0    0 80450.   481.9   1.00
E   0    0 80450.   441.9   1.00
ESE 0    0 80450.   441.9   1.00
SE  0    0 80450.   356.6   1.00
SSE 0    0 80450.   401.9   1.00
S   0    0 80450.   401.9   1.00
SSW 0    0 80450.   381.9   1.00
SW  0    0 80450.   381.9   1.00
WSW 0    0 80450.   361.9   1.00
W   0    0 80450.   401.9   1.00
WNW 0    0 80450.   521.9   1.00
NW  0    0 80450.   560.9   1.00
NNW 0    0 80450.   541.9   1.00
```

Attachment B

AEOLUS3 Input File for Accident Run

```
EPR BELL BEND 2001-2007 MET ACCIDENT X/Q GROUND-LVL REL NO BUILDING WAKE
    3    1    1    0    0    0    1    0    0    0   12    0    0    0   84
 0.224     0.75      1.0       1.5       2.0       3.0       4.0       5.0
 6.0       8.0       10.0      50.0
 0.0       0.0       0.0       0.0       0.0       0.0
 900.0     900.0     0.0       0.0       0.0       0.0
(F2.0,1X,F2.0,1X,F2.0,3X,F2.0,4X,F6.1,8x,F6.1,8x,F6.1,8x,F6.1,1x,F6.2)
    3    1    2    4    6    5    8    7    9   0    0
 360.0     90.0      15.0      9.0       9.0
 0.447     0.5556    1.0       25.4      0.112     10.0      50.00     888.0
    5      2.0       6.0       16.0      72.0      624.0
RECEPTOR DATA
*0.25 MILE
N   0    0 402.0     0.0
NNE 0    0 402.0     0.0
NE  0    0 402.0     0.0
ENE 0    0 402.0     0.0
E   0    0 402.0     0.0
ESE 0    0 402.0     0.0
SE  0    0 402.0     0.0
SSE 0    0 402.0     0.0
S   0    0 402.0     0.0
SSW 0    0 402.0     0.0
SW  0    0 402.0     0.0
WSW 0    0 402.0     0.0
W   0    0 402.0     0.0
WNW 0    0 402.0     0.0
NW  0    0 402.0     0.0
NNW 0    0 402.0     0.0
*0.379 MILE
N   0    0 610.2     0.0
NNE 0    0 610.2     0.0
NE  0    0 610.2     0.0
ENE 0    0 610.2     0.0
E   0    0 610.2     0.0
ESE 0    0 610.2     0.0
SE  0    0 610.2     0.0
SSE 0    0 610.2     0.0
S   0    0 610.2     0.0
SSW 0    0 610.2     0.0
SW  0    0 610.2     0.0
WSW 0    0 610.2     0.0
W   0    0 610.2     0.0
WNW 0    0 610.2     0.0
NW  0    0 610.2     0.0
NNW 0    0 610.2     0.0
*EAB0.40MI
N   0    0 644.0     0.0
NNE 0    0 644.0     0.0
NE  0    0 644.0     0.0
ENE 0    0 644.0     0.0
E   0    0 644.0     0.0
ESE 0    0 644.0     0.0
SE  0    0 644.0     0.0
SSE 0    0 644.0     0.0
```

```
S   0    0 644.0     0.0
SSW 0    0 644.0     0.0
SW  0    0 644.0     0.0
WSW 0    0 644.0     0.0
W   0    0 644.0     0.0
WNW 0    0 644.0     0.0
NW  0    0 644.0     0.0
NNW 0    0 644.0     0.0
*EAB0.43MI
N   0    0 692.0     0.0
NNE 0    0 692.0     0.0
NE  0    0 692.0     0.0
ENE 0    0 692.0     0.0
E   0    0 692.0     0.0
ESE 0    0 692.0     0.0
SE  0    0 692.0     0.0
SSE 0    0 692.0     0.0
S   0    0 692.0     0.0
SSW 0    0 692.0     0.0
SW  0    0 692.0     0.0
WSW 0    0 692.0     0.0
W   0    0 692.0     0.0
WNW 0    0 692.0     0.0
NW  0    0 692.0     0.0
NNW 0    0 692.0     0.0
*0.5 MILE
N   0    0 805.0     0.0
NNE 0    0 805.0     0.0
NE  0    0 805.0     0.0
ENE 0    0 805.0     0.0
E   0    0 805.0     0.0
ESE 0    0 805.0     0.0
SE  0    0 805.0     0.0
SSE 0    0 805.0     0.0
S   0    0 805.0     0.0
SSW 0    0 805.0     0.0
SW  0    0 805.0     0.0
WSW 0    0 805.0     0.0
W   0    0 805.0     0.0
WNW 0    0 805.0     0.0
NW  0    0 805.0     0.0
NNW 0    0 805.0     0.0
*EAB0.53MI
N   0    0 853.0     0.0
NNE 0    0 853.0     0.0
NE  0    0 853.0     0.0
ENE 0    0 853.0     0.0
E   0    0 853.0     0.0
ESE 0    0 853.0     0.0
SE  0    0 853.0     0.0
SSE 0    0 853.0     0.0
S   0    0 853.0     0.0
SSW 0    0 853.0     0.0
SW  0    0 853.0     0.0
WSW 0    0 853.0     0.0
W   0    0 853.0     0.0
WNW 0    0 853.0     0.0
```

```
NW  0    0 853.0     0.0
NNW 0    0 853.0     0.0
*0.75 MILE
N   0    0 1207.0    0.0
NNE 0    0 1207.0    0.0
NE  0    0 1207.0    0.0
ENE 0    0 1207.0    0.0
E   0    0 1207.0    0.0
ESE 0    0 1207.0    0.0
SE  0    0 1207.0    0.0
SSE 0    0 1207.0    0.0
S   0    0 1207.0    0.0
SSW 0    0 1207.0    0.0
SW  0    0 1207.0    0.0
WSW 0    0 1207.0    0.0
W   0    0 1207.0    0.0
WNW 0    0 1207.0    0.0
NW  0    0 1207.0    0.0
NNW 0    0 1207.0    0.0
*BBtoSSES
N   0    0 1560.0    0.0
NNE 0    0 1560.0    0.0
NE  0    0 1560.0    0.0
ENE 0    0 1560.0    0.0
E   0    0 1560.0    0.0
ESE 0    0 1560.0    0.0
SE  0    0 1560.0    0.0
SSE 0    0 1560.0    0.0
S   0    0 1560.0    0.0
SSW 0    0 1560.0    0.0
SW  0    0 1560.0    0.0
WSW 0    0 1560.0    0.0
W   0    0 1560.0    0.0
WNW 0    0 1560.0    0.0
NW  0    0 1560.0    0.0
NNW 0    0 1560.0    0.0
*1.0 MILE
N   0    0 1609.0    0.0
NNE 0    0 1609.0    0.0
NE  0    0 1609.0    0.0
ENE 0    0 1609.0    0.0
E   0    0 1609.0    0.0
ESE 0    0 1609.0    0.0
SE  0    0 1609.0    0.0
SSE 0    0 1609.0    0.0
S   0    0 1609.0    0.0
SSW 0    0 1609.0    0.0
SW  0    0 1609.0    0.0
WSW 0    0 1609.0    0.0
W   0    0 1609.0    0.0
WNW 0    0 1609.0    0.0
NW  0    0 1609.0    0.0
NNW 0    0 1609.0    0.0
*LPZ1.5MI
N   0    0 2414.0    0.0
NNE 0    0 2414.0    0.0
NE  0    0 2414.0    0.0
```

```
ENE 0    0 2414.0    0.0
E   0    0 2414.0    0.0
ESE 0    0 2414.0    0.0
SE  0    0 2414.0    0.0
SSE 0    0 2414.0    0.0
S   0    0 2414.0    0.0
SSW 0    0 2414.0    0.0
SW  0    0 2414.0    0.0
WSW 0    0 2414.0    0.0
W   0    0 2414.0    0.0
WNW 0    0 2414.0    0.0
NW  0    0 2414.0    0.0
NNW 0    0 2414.0    0.0
*2.0 MILES
N   0    0 3219.0    0.0
NNE 0    0 3219.0    0.0
NE  0    0 3219.0    0.0
ENE 0    0 3219.0    0.0
E   0    0 3219.0    0.0
ESE 0    0 3219.0    0.0
SE  0    0 3219.0    0.0
SSE 0    0 3219.0    0.0
S   0    0 3219.0    0.0
SSW 0    0 3219.0    0.0
SW  0    0 3219.0    0.0
WSW 0    0 3219.0    0.0
W   0    0 3219.0    0.0
WNW 0    0 3219.0    0.0
NW  0    0 3219.0    0.0
NNW 0    0 3219.0    0.0
*2.5 MILES
N   0    0 4023.0    0.0
NNE 0    0 4023.0    0.0
NE  0    0 4023.0    0.0
ENE 0    0 4023.0    0.0
E   0    0 4023.0    0.0
ESE 0    0 4023.0    0.0
SE  0    0 4023.0    0.0
SSE 0    0 4023.0    0.0
S   0    0 4023.0    0.0
SSW 0    0 4023.0    0.0
SW  0    0 4023.0    0.0
WSW 0    0 4023.0    0.0
W   0    0 4023.0    0.0
WNW 0    0 4023.0    0.0
NW  0    0 4023.0    0.0
NNW 0    0 4023.0    0.0
*3.0 MILES
N   0    0 4828.0    0.0
NNE 0    0 4828.0    0.0
NE  0    0 4828.0    0.0
ENE 0    0 4828.0    0.0
E   0    0 4828.0    0.0
ESE 0    0 4828.0    0.0
SE  0    0 4828.0    0.0
SSE 0    0 4828.0    0.0
S   0    0 4828.0    0.0
```

```
SSW 0    0 4828.0    0.0
SW  0    0 4828.0    0.0
WSW 0    0 4828.0    0.0
W   0    0 4828.0    0.0
WNW 0    0 4828.0    0.0
NW  0    0 4828.0    0.0
NNW 0    0 4828.0    0.0
*4.0 MILES
N   0    0 6437.0    0.0
NNE 0    0 6437.0    0.0
NE  0    0 6437.0    0.0
ENE 0    0 6437.0    0.0
E   0    0 6437.0    0.0
ESE 0    0 6437.0    0.0
SE  0    0 6437.0    0.0
SSE 0    0 6437.0    0.0
S   0    0 6437.0    0.0
SSW 0    0 6437.0    0.0
SW  0    0 6437.0    0.0
WSW 0    0 6437.0    0.0
W   0    0 6437.0    0.0
WNW 0    0 6437.0    0.0
NW  0    0 6437.0    0.0
NNW 0    0 6437.0    0.0
*5.0 MILES
N   0    0 8047.0    0.0
NNE 0    0 8047.0    0.0
NE  0    0 8047.0    0.0
ENE 0    0 8047.0    0.0
E   0    0 8047.0    0.0
ESE 0    0 8047.0    0.0
SE  0    0 8047.0    0.0
SSE 0    0 8047.0    0.0
S   0    0 8047.0    0.0
SSW 0    0 8047.0    0.0
SW  0    0 8047.0    0.0
WSW 0    0 8047.0    0.0
W   0    0 8047.0    0.0
WNW 0    0 8047.0    0.0
NW  0    0 8047.0    0.0
NNW 0    0 8047.0    0.0
```

Attachment C

AEOLUS3 Input Requirements

Input Line 1 (20A4)

Col. 1-80	TITLE	Any alphanumeric characters for problem identification.

Input Line 2 (16I5) Program control options

Col. 5 KOPT Application option, as follows:

(a) 1 = Continuous, routine releases
(b) 2 = Intermittent releases
(c) 3 = Accidental releases

Col. 10 KPRINT Printout control option, as follows:

(a) 0 = Short printout (which includes the input data and final summaries)

(b) 1 = Full printout along with intermediate results

See also KPRMET in Input Line 12 and KPRT in Input Line 24B.

Col. 14-15 KMN Plume meander control option, as follows:

(a) -1 = Activate the Murphy and Campe building wake correction model (see parameter CONDIA in Input Line 5)

(b) 0 = Exclude plume meander consideration in the plume centerline concentration X/Q

(c) 1 = Include plume meander consideration in the plume centerline concentration X/Q

Col. 20 KCF Control option for recirculation correction, as follows:

(a) 0 = No correction

(b) 1 = Open terrain recirculation correction factors in Reg. Guide 1.111 (Ref. 2, Rev. 0), as built in AEOLUS-3

(c) 2 = User-supplied correction factors via Input Line Set 24

Defaults to 2 for valleys (i.e., if KVORS<0 in Col. 39-40)

Col. 25	KWEXP	Wind-speed extrapolation control option, as follows:
		(a) 0 = No extrapolation of wind speed with height (i.e. input wind speeds will be assumed to apply also at the point of release)
		(b) 1 = The following built in extrapolation: Stabilities A, B, C, D : 0.25 Stabilities E, F, G : 0.50
		(c) 2 = User-supplied coefficients, as described in Input Line 4
Col. 30	KGX	Gamma (X/Q) control option, as follows:
		(a) 0 = Bypass this calculation (b) 1 = Include this calculation
Col. 35	KSIG	Model-selection control option for the dispersion coefficients σ_y and σ_z, as follows:
		(a) 0 = ENTECH's model with parabolic interpolation
		(b) 1 = Eimutis/Konicek model in XOQDOQ
Col. 39-40	KVORS	Sea breeze/Valley model option selection, as follows:
		(a) -1 = Valley analysis (b) 0 = Open terrain analysis (c) 1 = Sea breeze analysis
Col. 44-45	KDEPL	Depletion model control option:
		(a) -1 = Single deposition-velocity value for all stabilities and wind speeds (see Input Line 10A)
		(b) 0 = Reg. Guide 1.111 (Ref. 2, Rev. 1) depletion and deposition curves
		(c) >0 = Model in Meteorology & Atomic Energy, with KDELP = number of wind speeds in the

		WSDEP and VUDEP arrays in Input Lines 10B through 10X (max=12)
Col. 50	KRAIN	Wet deposition control option, as follows: (a) 0 = Do not evaluate wet deposition effects (b) 1 = Evaluate wet deposition effects
Col. 55	NWSIN	Number of wind speed groups (max 12) (see Line Set 3)
Col. 60	NEG	Number of gamma energy groups in the user- specified spectrum, if any (max 16). Set NEG = 0 if Input Line Set 9 is provided, or if KGX = 0.
Col. 61-65	INTERM	Duration of intermittent releases (hours). Leave blank for the analysis of continuous or accidental releases. Set INTERM = total number of hours (not necessarily consecutive) during which intermittent releases took place, during the entire time interval represented by the joint-frequency distribution; for multi-year runs enter the annual worst-year total.
Col. 66-70	IPCT	Hourly value exceedance probability for intermittent releases (percent). Leave blank for continuous or accidental releases. Set equal to 1, 3, 5, 10, 15, 20, 25, 30, 35, 40, 45 or 50 for intermittent releases. Defaults to 15 if not provided, or if the selected value is greater than 50. IPCT = 2 defaults to IPCT = 1, and any value greater than 3 defaults to the nearest entry in the above list.
Col. 74-75	NMONTH	Number of monthly records in the met data base which will be analyzed (maximum 240, for 20 years)
Col. 80	KTP7	Control option for transferring information to tape7 (YODA inputs) as follows (Note: Tape7 is generated only if KOPT2): (a) 1 = Sector, distance, description/pathway, sector-average undepleted and undecayed concentration X/Q, sector-average depleted and decayed concentration X/Q, sector-average D/Q, and sector-average undecayed and undepleted gamma X/Q (b) 2 = Sector, distance, description/pathway, plume centerline undepleted and undecayed

concentration X/Q, plume centerline depleted and decayed concentration X/Q, plume centerline D/Q, and plume centerline undecayed and undepleted gamma X/Q

If not supplied, default value is KTP7=1.

Input Line Set 3 — Wind speed group definition (See notes under WSLIM(2) and WSLIM(NWSIN+1))

Input Line 3A (8E103)

Col. 1-10	WSLIM(2)	Upper wind speed (m/sec) in the first wind speed group. Enter here the minimum wind speed acceptable as a valid observation (m/sec), corresponding to the anemometer or wind vane starting speed, whichever is larger. Hourly observations with wind speed less than WSLIM(2) will be classified as calms with a wind speed defined by parameter WSCALM in Input Line 14) (Note: WSLIM(1) is internally defined as 0.0)
Col. 11-20	WSLIM(3)	Upper wind speed (m/sec) in the second wind speed group (Note: All hourly wind speeds WS in the range WSLIM(2) < WS ≤ WSLIM(3) will be assigned to this group)
.		
.		
Col. 71-80	WSLIM(9)	Upper wind speed for the eighth wind speed group (may be left blank)

Input Line 3B (8E10.3) — Omit this Input Line if NWSIN in Input Line 2 is less than 9.

Col. 1-10	WSLIM(10)	Upper wind-speed of the ninth wind speed group
.		
.		
	WSLIM(NWSIN + 1)	Upper wind-speed of the last wind-speed group (Note: this entry should correspond to the maximum wind-speed acceptable as a valid observation, i.e., to parameter WSMAX defined in Input Line 13, after conversion to the same units)

Input Line 4 (8E10.3) — Wind-speed extrapolation data. Include this Input Line only if KWEXP = 2 (in Input Line 2). Default values for KWEXP = 1, are shown in parentheses.

Col. 1-10	WSEXP(1)	Wind-speed extrapolation coefficient for atmospheric stability A, in the form: $u(new) = u(old)*[h(new)/h(old)]^{WSEXP}$ h(new) is internally set equal to 10 m for the ground-level wind speed, and to HREL (in Input Line 5) for the wind speed at the release point. WSEXP(1) defaults to 0.25 if KWEXP=1.
Col. 11-20	WSEXP(2)	Coef. for stability B (0.25)
Col. 21-30	WSEXP(3)	Coef. for stability C (0.25)
Col. 31-40	WSEXP(4)	Coef. for stability D (0.25)
Col. 41-50	WSEXP(5)	Coef. for stability E (0.50)
Col. 51-60	WSEXP(6)	Coef. for stability F (0.50)
Col. 61-70	WSEXP(7)	Coef. for stability G (0.50)

Input Line 5 (8E10.3) — Release-point data

Col. 1-10	HREL	Height of release (m above release point grade)
Col. 11-20	HBLD	Height of building adjacent to the release point (m above release-point grade)
Col. 21-30	BAREA	Cross-sectional area of building adjacent to the release point causing building wake effects (m^2)
Col. 31-40	DIAMTR	Effluent vent effective internal diameter (m). Set DIAMTR = 0 for ground-level releases (HREL = 0), or for bypassing plume rise effects in elevated releases.
Col. 41-50	VFLOW	Effluent vent flow (scfm). Set VFLOW = 0 for ground-level releases, or for bypassing plume rise effects in elevated releases. Vent flow and exit velocity (EXITV) are related as follows: $VFLOW(scfm) = 1664.18*EXITV(m/sec)*DIAMTR(m)^2$

Col. 51-60	QH	Stack effluent heat content (cal/sec) (if >0 only buoyant plume rise will be calculated)
Col. 61-70	CONDIA	Equivalent diameter (m) of building causing wake effects (for use in conjunction with the Murphy and Campe building wake model, as described in Sec. 4.1.10 of the technical manual) (Defaults to 0.0 if KMN $\geq$ 0 in Input Line 2)
Col. 71-80	RVUSER	Value of Rv (vent exit velocity to wind speed ratio) for the definition of plume entrainment, in lieu of the built-in Reg. Guide 1.111 model. A plume will be totally elevated (E_t = 0) if Rv $\geq$ RVUSER, and at ground level (E_t = 1) otherwise. Set RVUSER = 0 for the Reg. Guide model with partial entrainment.

Input Line 6 (8E10.3) — General site data

Col. 1-10	HINV	Annual average height of inversion layer at the selected site (m above receptor grade); defaults to 1000 m if not provided.
Col. 11-20	HFMX	Maximum allowable plume centerline height (m above receptor grade) (defaults to HINV if not provided)
Col. 21-30	THLFNG	Noble gas half-life for decay-in-transit analysis (days). Typically set equal to 2.26 days for Xe133m. Enter 0 for no decay.
Col. 31-40	THLFIO	Iodine half-life for decay-in-transit analysis (days). Typically set equal to 8 days for I131. Enter 0 for no decay.
Col. 41-50	SCAVCF(1)	User-specified coefficient for scavenging rate due to rainfall, based on the equation: $$\text{Scavenging rate (1/sec)} = \text{SCAVCF(1)} * (\text{Rainfall rate (mm/hr)})^{\text{SCAVCF(2)}}$$ Leave blank if KRAIN=0 in Input Line 2.
Col. 51-60	SCAVCF(2)	Second coefficient for the scavenging rate equation, as defined above.

Input Line Set 7 — Gamma energy spectra for the gamma X/Q's. Omit this input line set if KGX = 0, or if NEG = 0, in Input Line 2

Input Line 7A (8E10.3)

Col. 1-10	ENGIN(1)	Midpoint energy of the first group in the gamma spectrum associated with the released radioactivity (MeV)
.		
.		
Col. 71-80	ENGIN(8)	Midpoint energy of the 8th group in the spectrum (if any)

Input Line 7B (8E10.3) Omit this input line if NEG<9

Col. 1-10	ENGIN(9)	Midpoint energy of the 9th group in the gamma spectrum associated with the released radioactivity (MeV)
.		
.		
Col. ---	ENGIN(NEG)	Midpoint energy of the last group in the spectrum

Input Line Set 8 Gamma energy spectra for the gamma X/Q's. Omit this input line set if KGX = 0, or if NEG = 0 in Input Line 2. Note: ABUND(i), where i=1 to NEG, will be ignored if it is less than (1/10,000)th of the ABUND sum.

Input Line 8A (8E10.3)

Col. 1-10	ABUND(1)	Relative intensity of first group in the gamma spectrum corresponding to ENGIN (1) (in terms of MeV/sec).
.		
.		
Col. 71-80	ABUND(8)	Relative intensity of 8th group in the spectrum

Input Line 8B (8E10.3) Omit this input line if NEG<9

Col. 1-10	ABUND(9)	Relative intensity of 9th group in the gamma spectrum corresponding to ENGIN (9)
.		
.		
Col. ---	ABUND(NEG)	Relative intensity of last group in the spectrum

Input Line Set 9 Release isotopics for the gamma X/Q's. Omit this input line set if KGX = 0, or if NEG > 0 (in Input Line 2)

Input Line 9A (8E10.3)

Col. 1-10	CONC(1)	Br-83 relative concentration in the effluent vent, or relative release rate
Col. 11-20	CONC(2)	Br-84 relative concentration
Col. 21-30	CONC(3)	Br-85 relative concentration
Col. 31-40	CONC(4)	Br-88 relative concentration
Col. 41-50	CONC(5)	Kr-83m relative concentration
Col. 51-60	CONC(6)	Kr-85m relative concentration
Col. 61-70	CONC(7)	Kr-85 relative concentration
Col. 71-80	CONC(8)	Kr-87 relative concentration

Input Line 9B (8E10.3)

Col. 1-10	CONC(9)	Kr-88 relative concentration
Col. 11-20	CONC(10)	Kr-89 relative concentration
Col. 21-30	CONC(11)	Kr-90 relative concentration
Col. 31-40	CONC(12)	I-129 relative concentration
Col. 41-50	CONC(13)	I-130 relative concentration
Col. 51-60	CONC(14)	I-131 relative concentration
Col. 61-70	CONC(15)	I-132 relative concentration
Col. 71-80	CONC(16)	I-133 relative concentration

Input Line 9C (8E10.3)

Col. 1-10	CONC(17)	I-134 relative concentration
Col. 11-20	CONC(18)	I-135 relative concentration
Col. 21-30	CONC(19)	I-136 relative concentration
Col. 31-40	CONC(20)	Xe-131m relative concentration

Col. 41-50	CONC(21)	XE-133m relative concentration
Col. 51-60	CONC(22)	Xe-133 relative concentration
Col. 61-70	CONC(23)	Xe-135m relative concentration
Col. 71-80	CONC(24)	Xe-135 relative concentration

Input Line 9D

Col. 1-10	CONC(25)	Xe-137 relative concentration
Col. 11-20	CONC(26)	Xe-138 relative concentration
Col. 21-30	CONC(27)	Ar-41 relative concentration
Col. 31-40	CONC(28)	N-13 relative concentration

Input Line Set 10 Deposition velocity/atmospheric stability correlations. Omit this input line if KDEPL=0 in Input Line 2; enter Input Line 10A if KDEPL<0; otherwise enter n input lines, where n = KDEPL, using Input Lines 10B through 10X.

Input Line 10A (8E10.3) Omit this input line if KDEPL $\geq$ 0

Col. 1-10	DEPV	Single deposition-velocity value, for use in conjunction with all wind speeds and all atmospheric stabilities (m/sec)

Input Lines 10B - 10X Omit these input lines if KDEPL $\leq$ 0. For KDEPL>2, AEOLUS3 applies parabolic interpolation to the WSDEP and VUDEP data provided in Input Lines 10B - 10X to compute stability and wind-speed dependent deposition velocities corresponding to the average wind speed calculated for each stability and wind speed group combination. If KDEPL = 2, the interpolation applied reduces to linear. If the (deposition velocity/wind speed) ratios are stability dependent but independent of wind speed, set KDEPL = 1, along with any value for WSDEP(1).

Input Line 10B (8E10.3) First wind speed of interest

Col. 1-10	WSDEP(1)	Wind speed (m/sec)
Col. 11-20	VUDEP(1,1)	(Deposition velocity/wind speed) ratio for Pasquill stability A
Col. 21-30	VUDEP(1,2)	Ratio for stability B

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Col. 71-80	VUDEP(1,7)	Ratio for stability G

Input Line 10C (8E10.3) — Second wind speed of interest (if any) (See Input Line 10B for details)

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Input Line 10X (8E10.3) — Last wind speed of interest, where X stands for the (KDEPL+1)'th sequential letter in the alphabet

Input Line 11 (A80) — Meteorological data input format for the 9 parameters defined in Input Line 12 below

Col. 1-80	IMT	Met. data input format for the 9 parameters. Example: (5X,9F5.0)

Note:

(a) Use only one set of parentheses

(b) Use only F formats; e.g., use F2.0 to read a 2-digit integer

(c) You must specify the formats for 9 parameters, even though the data base may contain less or more; read blank fields for parameters not available

(d) If the meteorological data files do not contain any decimals, then the F fields must be specified correctly. For instance, if the number 123 is the wind speed entry and corresponds to a measured wind speed of 12.3 mph., read it using the format F3.1, where the 3 is equal to the total number of digits and 1 is equal to the number of digits to the right of the decimal point; if the measured wind speed is 1.23 mph., then use the format F3.2.

Input Line 12 (11I5) — Meteorological data sequence numbers in IMT (enter 0 or blank for any parameter that is not available)

Col. 5	ID(1)	Sequence number of "year" in IMT
Col. 10	ID(2)	Sequence number of "month"

Col. 15	ID(3)	Sequence number of "day"
Col. 20	ID(4)	Sequence number of "hour"
Col. 25	ID(5)	Sequence number of "wind direction"
Col. 30	ID(6)	Sequence number of "wind speed"
Col. 35	ID(7)	Sequence number of "temperature difference"
Col. 40	ID(8)	Sequence number of "solar radiation". Defaults to 0 if KVORS $\leq$ 0 in Input Line 2
Col. 45	ID(9)	Sequence number of "precipitation". Defaults to 0 if KRAIN=0 in Input Line 2
Col. 49-50	KPRMET	Printout control option for the hourly met data, as follows:

(a) 0 = Do not include the hourly met data in the printout

(b) 1 = Include all hourly met data in the printout

(c) 2-24 = Print the first KPRMET entries in each month

(d) >24 = Print only every KPRMET'th entry in each month

KPRMET is not affected by the value selected for KPRINT in Input Line 2. (Recommended value is 2 or 3. Caution: Colossal output may result with KPRMET=1)

Col. 55	KPRJFD	Printout control option for the joint frequency distributions, as follows:

(a) 0 = Do not include the joint frequency distributions in the printout

(b) 1 = Include the joint frequency distributions in the printout

Input Line 13 (8E10.3) Valid entries in the meteorological data base (same units as in the data base)

Col. 1-10	WDMAX	Maximum wind direction acceptable as a valid observation

Col. 11-20	WSMAX	Maximum wind speed acceptable as a valid observation; WSMAX defaults to [WSLIM(NWSIN)/WSCONV] if it is less than that ratio, where WSCONV in defined in Input Line 14; i.e., preference is given to the wind-speed group definitions, and all hourly observations with wind speeds in excess of WSLIM(NWSIN) (m/sec) will be excluded from the analysis.
Col. 21-30	DTMAX	Maximum temperature difference acceptable as a valid observation
Col. 31-40	SUNMAX	Maximum solar radiation acceptable as a valid observation
Col. 41-50	RAINMX	Maximum precipitation acceptable as a valid observation
Input Line 14 (8E10.3)		Met data conversion factors
Col. 1-10	WSCONV	Factor to convert input wind speed to m/sec
Col. 11-20	DTCONV	Factor to convert input temperature difference to °C.
Col. 21-30	SUNCON	Factor to convert solar radiation to cal/min-cm^2
Col. 31-40	RAINCV	Factor to convert precipitation data to mm of water
Col. 41-50	WSCALM	Wind speed (m/sec) to be assigned to calms (i.e., to all hourly wind speed observations which are less than WSLIM(2), the minimum wind speed acceptable as a valid observation, as defined in Input Line 3A). As specified in Reg. Guide 1.111, for instruments conforming with the intent of Reg. Guide 1.23, WSCALM should be set equal to 0.5*WSLIM(2); for non-conforming instruments, WSCALM should be assigned the value of 0.1 (m/sec).
Col. 51-60	WSHITE	Height of wind speed measurement (m above release-point grade), as needed for extrapolation of the wind speeds in the data base to different heights (see parameter h(old) in Input Line 4). Set WSHITE=10 m if wind speed is measured at ground level; it defaults to 10 m if the user-specified value is <10 m.
Col. 61-70	DH	Temperature sensor separation (m)
Col. 71-80	WDVAR	Number assigned to variable wind directions (all variable wind directions will be assigned to calms)

Input Line 15 (16I5)		Sea breeze data. Omit this input line if KVORS≤0.
Col. 1- 5	ISEAM1	First calendar month number in sea breeze season (e.g.: enter 5 for May)
Col. 6-10	ISEAM2	Last calendar month number in sea breeze season
Col. 14-15	ISEAH1	Sea breeze earliest daytime limit (hours) (≥0)
Col. 19-20	ISEAH2	Sea breeze latest daytime limit (hours) (≤23)
Col. 24-25	ISEASC(1)	First sea breeze downwind sector (1 for N, 2 for NNE, etc.; see input line 20 for sequence)
Col. 29-30	ISEASC(2)	Second sea breeze downwind sector (may be 0)
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Col. 79-80	ISEASC(12)	12th sea breeze downwind sector
Input Line 16 (16I5)		Sea breeze data. Omit this input line if KVORS≤0
Col. 5	ICSBM	Highest stability index (and default value) in the sea breeze joint frequency distribution that would be acceptable as a valid condition underneath the TIBL for sea breeze analysis (e.g.: if ICSBM = 4, identified sea breeze conditions with stabilities E, F and G in the sea breeze joint-frequency distribution will automatically default to stability D). Note that AEOLUS3 does not employ the stability index in the identification of sea breeze conditions. If ICSBM ≤ 0, or if ICSBM > 7, ICSBM defaults to 4.
Col. 10	ICSBD	Default stability index below the TIBL when the TIBL elevation is below the upper delta-T sensor on the meteorological tower. If ICSBD ≤ 0, or if ICSBD > 7, ICSBD defaults to 4.
Input Line 17 (8E10.3)		Sea breeze data. Omit this input line if KVORS ≤ 0
Col. 1-10	FWSMIN	Min. wind speed for sea breeze (m/sec)
Col. 11-20	FWSMAX	Maximum wind speed for sea breeze
Col. 21-30	SUNMIN	Min. solar radiation for sea breeze (may be 0.0) (cal/min-cm^2)

Col. 31-40	HINSB	Depth of inversion layer during sea breeze conditions (m above receptor grade) (Defaults to HINV in Input Line 6 if not provided, or if it is greater than HINV)
Col. 41-50	DTHITE	Height of upper level delta-T sensor (m above release-point grade)
Col. 51-60	TBLCOF(1)	User-specified coefficient for TIBL height calculation during sea breezes, based on the equation: $\text{TIBL HT} = \text{TBLCOF(1)}*(\text{Dist}*\text{Solar Rad})^{0.5} + \text{TBLCOF(2)}$ (Max. value = HINSB)
Col. 61-70	TBLCOF(2)	Second coefficient for the TIBL-height equation given above

Input Line Set 18 — Sea breeze data. Omit these input lines if KVORS $\leq$ 0

Input Line 18A (8E10.3)

Col. 1-10	DSHRP(1)	Distance (m) from release point to the shoreline - N sector
Col. 11-20	DSHRP(2)	Dist. from rel. pt to shoreline - NNE
Col. 21-30	DSHRP(3)	Dist. from rel. pt to shoreline - NE
Col. 31-40	DSHRP(4)	Dist. from rel. pt to shoreline - ENE
Col. 41-50	DSHRP(5)	Dist. from rel. pt to shoreline - E
Col. 51-60	DSHRP(6)	Dist. from rel. pt to shoreline - ESE
Col. 61-70	DSHRP(7)	Dist. from rel. pt to shoreline - SE
Col. 71-80	DSHRP(8)	Dist. from rel. pt to shoreline - SSE

Input Line 18B (8E10.3)

Col. 1-10	DSHRP(9)	Distance (m) from release point to shoreline - S sector
Col. 11-20	DSHRP(10)	Dist. from rel. pt to shoreline - SSW sector
Col. 21-30	DSHRP(11)	Dist. from rel. pt to shoreline - SW

Col. 31-40	DSHRP(12)	Dist. from rel. pt to shoreline - WSW
Col. 41-50	DSHRP(13)	Dist. from rel. pt to shoreline - W
Col. 51-60	DSHRP(14)	Dist. from rel. pt to shoreline - WNW
Col. 61-70	DSHRP(15)	Dist. from rel. pt to shoreline - NW
Col. 71-80	DSHRP(16)	Dist. from rel. pt to shoreline - NNW

Input Line Set 19 — Sea breeze data. Omit these input lines if KVORS $\leq$ 0

Input Line 19A (8E10.3)

Col. 1-10	DSHMT(1)	Distance (m) from met-tower to shoreline - N sector
Col. 11-20	DSHMT(2)	Dist. from met-tower to shore. - NNE sector
Col. 21-30	DSHMT(3)	Dist. from met-tower to shore. - NE
Col. 31-40	DSHMT(4)	Dist. from met-tower to shore. - ENE
Col. 41-50	DSHMT(5)	Dist. from met-tower to shore. - E
Col. 51-60	DSHMT(6)	Dist. from met-tower to shore. - ESE
Col. 61-70	DSHMT(7)	Dist. from met-tower to shore. - SE
Col. 71-80	DSHMT(8)	Dist. from met-tower to shore. - SSE

Input Line 19B (8E10.3)

Col. 1-10	DSHMT(9)	Distance (m) from release point to shoreline - S sector
Col. 11-20	DSHMT(10)	Dist. from met-tower to shore. - SSW sector
Col. 21-30	DSHMT(11)	Dist. from met-tower to shore. - SW
Col. 31-40	DSHMT(12)	Dist. from met-tower to shore. - WSW
Col. 41-50	DSHMT(13)	Dist. from met-tower to shore. - W
Col. 51-60	DSHMT(14)	Dist. from met-tower to shore. - WNW
Col. 61-70	DSHMT(15)	Dist. from met-tower to shore. - NW

Col. 71-80	DSHMT(16)	Dist. from met-tower to shore. - NNW
Input Line 20 (I5,5X,7E10.3)		Valley data. Omit this input line if KVORS ≥ 0
Col. 5	IDTVAL	Lowest delta-T stability for in-valley flows (e.g: set IDTVAL = 4 if in-valley flows occur only with stabilities D, E, F and G)
Col. 11-20	WSVAL	Highest hourly wind speed beyond which in-valley flows cannot be sustained (m/sec). Defaults to the highest wind speed defined in Input Line Set 3 if not defined.
Input Line 21 (16I5)		Valley data. Omit this input line if KVORS ≥ 0
Col. 5	IVALSC(1)	Valley orientation identification for the N sector. Set IVALSC(1) = 1 if the N sector is up-valley, IVALSC(1) = 2 if it is down-valley, or IVALSC(1) = 3 if it is in a cross-valley location. Entries not equal to 1 or 2 default to 3.
Col. 10	IVALSC(2)	Valley orientation ident. - NNE sector
Col. 15	IVALSC(3)	Valley orientation ident. - NE sector
Col. 20	IVALSC(4)	Valley orientation ident. - ENE sector
Col. 25	IVALSC(5)	Valley orientation ident. - E sector
Col. 30	IVALSC(6)	Valley orientation ident. - ESE sector
Col. 35	IVALSC(7)	Valley orientation ident. - SE sector
Col. 40	IVALSC(8)	Valley orientation ident. - SSE sector
Col. 45	IVALSC(9)	Valley orientation ident. - S sector
Col. 50	IVALSC(10)	Valley orientation ident. - SSW sector
Col. 55	IVALSC(11)	Valley orientation ident. - SW sector
Col. 60	IVALSC(12)	Valley orientation ident. - WSW sector
Col. 65	IVALSC(13)	Valley orientation ident. - W sector
Col. 70	IVALSC(14)	Valley orientation ident. - WNW sector

Col. 75	IVALSC(15)	Valley orientation ident. - NW sector
Col. 80	IVALSC(16)	Valley orientation ident. - NNW sector

Input Line 22 (I5,5X,7E10.3) Time intervals for accidental releases. Omit this input line if KOPT=1 or 2 in Input Line 2. Typical time intervals of interest are 1, 2, 8, 16, 72 and 624 hrs.

Col. 5	NACCT	Number of time values at which accident X/Q's and D/Q's will be calculated (maximum 6)
Col. 11-20	ACCTIM(1)	First time value of interest (hours)
Col. 21-30	ACCTIM(2)	Second time value of interest (hours)
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Col. ---	ACCTIM(NACCT)	Last time value of interest (hours)

Input Line 23 (20A4) Start of Receptor Data

Col. 1-80	TITL	Any alphanumeric characters to indicate the start of receptor data. The information on this input line does not appear in the printout. This input line is required whether or not there is receptor data in the input. (Note: you may omit the receptor data sets if you are only interested in the joint frequency distributions, for instance)

Input Line Set 24 Data for the first set of receptors of interest (if any). Note that each receptor set can have as many as 16 receptors, each at its own distance from the release point. However, for accidental releases, the overall site analyses will be carried out only if there is a receptor in each sector.

Input Line 24A (A1,A10)

Col. 1	ISTART	Enter a '*' in this column; it identifies the start of a new set of receptors.
Col. 2-11	RIDENT	Receptor identification, as would apply to all the receptors in this set; e.g.: 'SITE BNDRY', 'NEARST COW', '2.0 MILES'. Note that you can use only 10 characters, and that this information will appear as a heading in the summary tables; hence, RIDENT must be unique to each

receptor set. See Cols. 61-80 of Input Line 24B for receptor-specific information.

Input Line 24B (A3,1X,I1,I5,F10.3,5F8.3,2A10)

Data for first receptor in this set

Col. 1- 3	ISCT	Downwind sector in which the receptor is located, left-justified; e.g.: N, WSW, SE
Col. 5	KPRT	Printout control option for this receptor, as follows: (a) 0 = Do not provide intermediate results for this receptor in the printout (b) 1 = Provide intermediate results for this receptor in the printout (such as the X/Q values for each entry in the joint frequency distribution) Defaults to 0 if KPRINT = 0 in Input Line 2.
Col. 10	IVALOC	Receptor location in the valley, as follows: (a) 0 = Open terrain analyses and off-valley receptors (b) 1 = Receptors in up-valley locations (c) 2 = Receptors in down-valley locations Note that there is no relationship between this parameter and parameter IVALSC in Input Line 21. For instance, sector E may be identified as a cross-valley sector (at the release point), but the valley may meander into this sector at some distance from the release point, in which case a receptor in the E sector may indeed be within the valley.
Col. 11-20	DIST	Straight-line distance (m) from the release point to the receptor in the specified sector (Note: For the Murphy and Campe building make model at close-in receptors, enter the distance from the surface of the building causing the wake to the receptor).
Col. 21-28	HTERN	Terrain height at the receptor of interest (meters above the release point grade) Note:

(a) In line with regulatory guidance, (Reg. Guide 1.111) select the maximum terrain height between the release point and the receptor

(b) Negative terrain heights automatically exclude the receptor from the analysis; to exclude a receptor, simply do not include it in the set of receptors of interest

Col. 29-36	RCF	Recirculation correction factor for this receptor; this information will be used only if KCF=2 in Input Line 2. Defaults to unity if not provided.
Col. 37-44	VWIDTH	Valley width at the receptor of interest (m); defaults to 0 for off-valley receptors.
Col. 45-52	VSLOPE	Valley slope (0.1 to 90 degrees) at the receptor of interest; defaults to 0 for off-valley receptors. Note: A zero slope is equivalent to a flat terrain.
Col. 53-60	VDIST	Receptor distance (m) along the valley; leave blank only for non-valley cases. Set DIST-5% $\leq$ VDIST $\leq$ DIST+5% in Input Line 24A for receptors exposed only to valley flows at all times; the X/Q's and D/Q's will be based entirely on the valley models. For other distances, the open-terrain models will be used for non-valley flows. Defaults to DIST if not provided.
Col. 61-80	DESCR	Receptor description (for general information, such as pathway). Note: to produce a tape7 file in the proper format for input to YODA, the data should consist of 3 variables, PTH(1) through PTH(3), entered as 2X,2A6,F6.4 within columns 61-80 where:

PTH(1) = pathway code 1, a description used by ATMODOS to determine the active environmental pathways

PTH(2) = pathway code 2 (same as above)

PTH(3) = occupancy correction factor for use in ATMODOS

Input Lines 24C-24X These input lines are similar to Input Line 24B for the other receptors of interest located in different sectors. There is no need to

include sectors of no interest. If a sector is entered twice, the latest entry will be used. You will run into problems if you misspell the sector name in Cols. 1-3.

Input Line Sets 25-Last Data for the remaining sets of receptors, as described for the first receptor set in Input Line Set 24. There is no limit to the number of receptors in the accident mode. For continuous and intermittent releases, the software can currently handle up to a maximum of 99 receptor sets (i.e., a maximum of 99x16 individual receptors, one at each of 99 distances in each sector).