

OCT 14 '98 03:40PM COMSEARCH

P.1/8

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COMSEARCH

October 14, 1998

Mr. Claude Wells  
Lockheed MartinRe: Interference Analysis  
Norristown, Pa.  
2.4 Meter C-band T/R Earth Station

Dear Mr. Wells:

We have completed our analysis of your proposed 2.4 Meter C-band Transmit/Receive earth station in Norristown, Pennsylvania. The following report summarizes the potential interference conflicts that were identified in this analysis.

The analysis identified 64 potential interference conflicts with 6 GHz terrestrial microwave receivers within the coordination contours of the proposed earth station location. Terrain path profiles were conducted and sufficient pathloss was identified to resolve 60 of these cases. Table 1 provides a summary of all the cases identified in this analysis. The remaining interference conflicts are as follows:

| Path Name                 | Azimuth<br>(Degrees) | Predicted Line of Sight<br>Margin (dB) | Remaining Margin<br>(dB) |
|---------------------------|----------------------|----------------------------------------|--------------------------|
| Boyertown -<br>Roxborough | 313.5                | 13.0                                   | 6.2                      |
| Honey Brook -<br>Ivy Hill | 270.8                | 8.5                                    | 0.3                      |
| Roxborough -<br>Boyertown | 116.7                | 8.1                                    | 8.1                      |
| Ivy Hill -<br>Honey Brook | 103.6                | 0.8                                    | 0.8                      |

Table 2 provides a summary of the coordinated frequencies for each of these microwave receivers.

Since the proposed earth stations transmissions will be limited to a single uplink carrier centered at a frequency of 6192.3 MHz on the GE 2 satellite, the cases with the receivers at Honey Brook and Roxborough can be eliminated through frequency offset.

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The case with the MCI receiver at Boyertown can be cleared on their growth frequency of 6197.24, since MCI indicates that this frequency has not been activated.

The case with the Ivy Hill receivers is less than 1 dB and routine Coordination would not report this as a potential conflict.

Based on this analysis the uplink frequency of 6192.3 MHz should be clear of interference with all terrestrial microwave receivers within the coordination contours of the proposed earth stations.

Sincerely,

COMSEARCH

Gary K. Edwards  
Manager Satellite Services

Enclosures

Table 1

INTERFERENCE CASE SUMMARY  
NORRISTOWN, PENNSYLVANIA

|     | PATH ID     | BAND          | DIST<br>(KM) | AZ<br>(DEG) | ES<br>DISC<br>(DEG) | ES<br>GAIN<br>(DBI) | LOS LOSS<br>REQ'D<br>(DB) | OH<br>20%<br>(DB) | LOSS<br>0.0025%<br>(DB) | REVISED<br>20%<br>(DB) | MARGIN<br>0.0025%<br>(DB) |
|-----|-------------|---------------|--------------|-------------|---------------------|---------------------|---------------------------|-------------------|-------------------------|------------------------|---------------------------|
| 1.  | MILMAY      |               | 89.4         | 148.6       | 59.1                | -10.0               | 29.1                      | 51.1              | 18.9                    | CLEAR                  | CLEAR                     |
| 2.  | MILMAY      |               | 89.4         | 148.6       | 59.1                | -10.0               | 26.1                      | 51.0              | 18.8                    | CLEAR                  | CLEAR                     |
| 3.  | MILMAY      |               | 89.4         | 148.6       | 59.1                | -10.0               | 26.1                      | 51.0              | 18.8                    | CLEAR                  | CLEAR                     |
| 4.  | HAMMONTON   |               | 76.8         | 136.1       | 67.4                | -10.0               | 25.3                      | 38.8              | 18.9                    | CLEAR                  | CLEAR                     |
| 5.  | NEWARK      | *             | 125.3        | 56.9        | 123.0               | -10.0               | 23.7                      | 49.3              | 14.8                    | CLEAR                  | CLEAR                     |
| 6.  | NEWARK      | *             | 125.3        | 56.9        | 123.0               | -10.0               | 23.7                      | 49.4              | 14.9                    | CLEAR                  | CLEAR                     |
| 7.  | NEWARK      | *             | 125.3        | 56.9        | 123.0               | -10.0               | 23.7                      | 49.3              | 14.8                    | CLEAR                  | CLEAR                     |
| 8.  | NEWARK      | *             | 125.3        | 56.9        | 123.0               | -10.0               | 23.7                      | 49.4              | 14.9                    | CLEAR                  | CLEAR                     |
| 9.  | HUNTERSTOWN |               | 154.4        | 260.4       | 72.4                | -10.0               | 22.0                      | 50.5              | 16.9                    | CLEAR                  | CLEAR                     |
| 10. | LITTLE MT   | *HERSHEY TWR* | 132.9        | 279.7       | 86.3                | -10.0               | 22.0                      | 50.0              | 15.7                    | CLEAR                  | CLEAR                     |
| 11. | LITTLE MT   | *HERSHEY TWR* | 132.9        | 279.7       | 86.3                | -10.0               | 22.0                      | 50.0              | 15.7                    | CLEAR                  | CLEAR                     |
| 12. | HUNTERSTOWN |               | 154.4        | 260.4       | 72.4                | -10.0               | 20.2                      | 50.6              | 17.1                    | CLEAR                  | CLEAR                     |
| 13. | NESCOPECK   | *BEARS HEAD * | 119.1        | 325.4       | 119.0               | -10.0               | 17.8                      | 90.8              | 56.5                    | CLEAR                  | CLEAR                     |
| 14. | NESCOPECK   | *BEARS HEAD * | 119.1        | 325.4       | 119.0               | -10.0               | 17.8                      | 90.8              | 56.5                    | CLEAR                  | CLEAR                     |
| 15. | MANADA GAP  |               | 112.7        | 286.4       | 91.3                | -10.0               | 14.3                      | 52.1              | 21.1                    | CLEAR                  | CLEAR                     |
| 16. | BLUE BALL   |               | 39.0         | 197.8       | 42.3                | -8.7                | 13.5                      | 26.5              | 18.1                    | CLEAR                  | CLEAR                     |
| 17. | BLUE BALL   |               | 39.0         | 197.8       | 42.3                | -8.7                | 13.5                      | 26.5              | 18.1                    | CLEAR                  | CLEAR                     |
| 18. | BOYERTOWN   |               | 33.3         | 313.5       | 110.9               | -10.0               | 13.0                      | 6.8               | -0.3                    | 6.2                    | CLEAR                     |
| 19. | BOYERTOWN   |               | 33.3         | 313.5       | 110.9               | -10.0               | 13.0                      | 8.9               | 1.8                     | 4.1                    | CLEAR                     |
| 20. | SALEM       | CHESTER #2    | 61.4         | 185.2       | 42.9                | -8.8                | 10.9                      | 55.2              | 35.9                    | CLEAR                  | CLEAR                     |
| 21. | UPPER TWP   | MILMAY        | 117.1        | 147.8       | 59.5                | -10.0               | 10.2                      | 52.8              | 18.3                    | CLEAR                  | CLEAR                     |
| 22. | UPPER TWP   | MILMAY        | 117.1        | 147.8       | 59.5                | -10.0               | 10.2                      | 52.8              | 18.3                    | CLEAR                  | CLEAR                     |
| 23. | UPPER TWP   | MILMAY        | 117.1        | 147.8       | 59.5                | -10.0               | 10.2                      | 52.8              | 18.3                    | CLEAR                  | CLEAR                     |
| 24. | HARRISBURG  | *DEODATE      | 126.0        | 277.3       | 84.6                | -10.0               | 9.8                       | 53.4              | 18.9                    | CLEAR                  | CLEAR                     |
| 25. | HARRISBURG  | *DEODATE      | 126.0        | 277.3       | 84.6                | -10.0               | 9.8                       | 53.9              | 19.4                    | CLEAR                  | CLEAR                     |
| 26. | MECHANICSBR | *MTSO         | 136.0        | 276.9       | 84.3                | -10.0               | 8.6                       | 51.7              | 19.5                    | CLEAR                  | CLEAR                     |
| 27. | HONEY BROOK | *IVY HILL     | 40.0         | 270.8       | 79.8                | -10.0               | 8.5                       | 8.2               | -0.5                    | 0.3                    | CLEAR                     |
| 28. | HONEY BROOK | *IVY HILL     | 40.0         | 270.8       | 79.8                | -10.0               | 8.5                       | 11.0              | 2.3                     | CLEAR                  | CLEAR                     |
| 29. | HONEY BROOK | *IVY HILL     | 40.0         | 270.8       | 79.8                | -10.0               | 8.5                       | 8.2               | -0.5                    | 0.3                    | CLEAR                     |
| 30. | HONEY BROOK | *IVY HILL     | 40.0         | 270.8       | 79.8                | -10.0               | 8.5                       | 11.0              | 2.3                     | CLEAR                  | CLEAR                     |
| 31. | ROXBOROUGH  | BOYERTOWN     | 16.3         | 116.7       | 81.2                | -10.0               | 8.1                       | 0.0               | 0.0                     | 8.1                    | CLEAR                     |

ANTENNA TYPE: FCC Reference 32-25LOG(THETA)  
UPLINK POWER: -4.0 dBW/ 4kHz

SATELLITE ARC: 85.0 W - 85.0 W DEGREES  
OBJECTIVES: -154.0 dBW -131.0 dBW

Table 1  
INTERFERENCE CASE SUMMARY  
NORRISTOWN, PENNSYLVANIA

| PATH ID                      | BAND | DIST<br>(KM) | AZ<br>(DEG) | ES<br>DISC<br>(DEG) | ES<br>GAIN<br>(DBI) | LOS<br>REQ'D<br>(DB) | OH<br>20%<br>(DB) | LOSS<br>0.0025%<br>(DB) | REVISED<br>20%<br>(DB) | MARGIN<br>0.0025%<br>(DB) |
|------------------------------|------|--------------|-------------|---------------------|---------------------|----------------------|-------------------|-------------------------|------------------------|---------------------------|
| 32. ROXBOROUGH BOYERTOWN     | 6    | 16.3         | 116.7       | 81.2                | -10.0               | 8.1                  | 0.0               | 0.0                     | 8.1                    | CLEAR                     |
| 33. HARRISBURG *DEODATE *    | 6    | 126.1        | 277.4       | 84.6                | -10.0               | 8.0                  | 52.7              | 18.3                    | CLEAR                  | CLEAR                     |
| 34. N YORK CENTERVILLE       | 6    | 110.6        | 263.1       | 74.3                | -10.0               | 6.4                  | 49.8              | 20.1                    | CLEAR                  | CLEAR                     |
| 35. YORK *LANCASTER *        | 6    | 110.5        | 263.1       | 74.3                | -10.0               | 4.4                  | 49.2              | 17.5                    | CLEAR                  | CLEAR                     |
| 36. OXFORD *W CHESTER *      | 6    | 59.8         | 233.3       | 54.3                | -10.0               | 4.3                  | 26.9              | 15.7                    | CLEAR                  | CLEAR                     |
| 37. OXFORD *W CHESTER *      | 6    | 59.8         | 233.3       | 54.3                | -10.0               | 4.3                  | 34.4              | 23.2                    | CLEAR                  | CLEAR                     |
| 38. LAUREL SPRG PHIL 3       | 6    | 48.4         | 133.4       | 69.2                | -10.0               | 4.3                  | 28.1              | 17.4                    | CLEAR                  | CLEAR                     |
| 39. LITTLE MTN *KEFFERS *    | 6    | 135.9        | 302.3       | 102.9               | -10.0               | 3.8                  | 52.6              | 18.1                    | CLEAR                  | CLEAR                     |
| 40. GLASSBORO MICKLETON      | 6    | 53.3         | 152.5       | 56.6                | -10.0               | 3.5                  | 35.5              | 24.4                    | CLEAR                  | CLEAR                     |
| 41. YORK *LANCASTER *        | 6    | 110.5        | 263.1       | 74.3                | -10.0               | 3.2                  | 49.0              | 17.8                    | CLEAR                  | CLEAR                     |
| 42. PEACH BTM P*FAGGS        | 6    | 84.2         | 241.8       | 59.8                | -10.0               | 2.9                  | 54.5              | 27.6                    | CLEAR                  | CLEAR                     |
| 43. CLAYTON PHILADELPHI      | 6    | 61.7         | 148.5       | 59.1                | -10.0               | 2.6                  | 42.8              | 31.6                    | CLEAR                  | CLEAR                     |
| 44. HONEY BROOK*IVY HILL *   | 6    | 40.0         | 270.8       | 79.8                | -10.0               | 2.5                  | 8.2               | -0.5                    | CLEAR                  | CLEAR                     |
| 45. HONEY BROOK*IVY HILL *   | 6    | 40.0         | 270.8       | 79.8                | -10.0               | 2.5                  | 11.0              | 2.3                     | CLEAR                  | CLEAR                     |
| 46. CLAYTON SPECTRUM         | 6    | 61.7         | 148.5       | 59.1                | -10.0               | 2.3                  | 42.8              | 31.6                    | CLEAR                  | CLEAR                     |
| 47. WHITE HAVEN PENN FORRES  | 6    | 107.6        | 342.6       | 129.3               | -10.0               | 1.3                  | 58.2              | 26.4                    | CLEAR                  | CLEAR                     |
| 48. WHITE HAVEN PENN FOREST  | 6    | 107.6        | 342.6       | 129.3               | -10.0               | 1.3                  | 58.2              | 26.4                    | CLEAR                  | CLEAR                     |
| 49. WHITE HAVEN PENN FOREST  | 6    | 107.6        | 342.6       | 129.3               | -10.0               | 1.3                  | 58.2              | 26.4                    | CLEAR                  | CLEAR                     |
| 50. W ROCKHILL *ROXBOROUGH * | 6    | 29.1         | 9.9         | 138.1               | -10.0               | 1.1                  | 33.4              | 27.2                    | CLEAR                  | CLEAR                     |
| 51. W ROCKHILL *ROXBOROUGH * | 6    | 29.1         | 9.9         | 138.1               | -10.0               | 1.1                  | 33.4              | 27.2                    | CLEAR                  | CLEAR                     |
| 52. EAST WINDSO BORDENTOWN   | 6    | 79.2         | 78.8        | 108.7               | -10.0               | 1.0                  | 44.6              | 15.2                    | CLEAR                  | CLEAR                     |
| 53. IVY HILL *HONEY BROOK*   | 6    | 20.0         | 103.6       | 90.8                | -10.0               | 0.8                  | 0.0               | 0.0                     | 0.8                    | CLEAR                     |
| 54. IVY HILL *HONEY BROOK*   | 6    | 20.0         | 103.6       | 90.8                | -10.0               | 0.8                  | 0.0               | 0.0                     | 0.8                    | CLEAR                     |
| 55. IVY HILL *HONEY BROOK*   | 6    | 20.0         | 103.6       | 90.8                | -10.0               | 0.8                  | 0.0               | 0.0                     | 0.8                    | CLEAR                     |
| 56. IVY HILL *HONEY BROOK*   | 6    | 20.0         | 103.6       | 90.8                | -10.0               | 0.8                  | 0.0               | 0.0                     | 0.8                    | CLEAR                     |
| 57. IVY HILL *HONEY BROOK*   | 6    | 20.0         | 103.6       | 90.8                | -10.0               | 0.8                  | 0.0               | 0.0                     | 0.8                    | CLEAR                     |
| 58. IVY HILL *HONEY BROOK*   | 6    | 20.0         | 103.6       | 90.8                | -10.0               | 0.8                  | 0.0               | 0.0                     | 0.8                    | CLEAR                     |
| 59. SWAINTON MILMAY          | 6    | 122.7        | 154.1       | 55.7                | -10.0               | 0.8                  | 52.3              | 19.2                    | CLEAR                  | CLEAR                     |
| 60. SWAINTON MILMAY          | 6    | 122.7        | 154.1       | 55.7                | -10.0               | 0.8                  | 52.3              | 19.2                    | CLEAR                  | CLEAR                     |
| 61. COATESVILLE*BERWYN *     | 6    | 35.3         | 248.2       | 64.0                | -10.0               | 0.2                  | 17.0              | 10.4                    | CLEAR                  | CLEAR                     |
| 62. BALTIMORE ABERDEEN       | 6    | 139.0        | 228.4       | 51.8                | -10.0               | 0.2                  | 53.9              | 20.8                    | CLEAR                  | CLEAR                     |

ANTENNA TYPE: FCC Reference 32-25LOG (THETA)

UPLINK POWER: -4.0 dBW/ 4KHz

SATELLITE ARC: 85.0 W - 85.0 W DEGREES

OBJECTIVES: -154.0 dBW -131.0 dBW

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Table 1  
INTERFERENCE CASE SUMMARY  
NORRISTOWN, PENNSYLVANIA

| PATH ID                         | BAND | DIST<br>(KM) | AZ<br>(DEG) | ES<br>DISC<br>(DEG) | ES<br>GAIN<br>(DBI) | LOS<br>REQ'D<br>(DB) | OH<br>20%<br>(DB) | LOSS<br>0.0025%<br>(DB) | REVISED<br>20%<br>(DB) | MARGIN<br>0.0025%<br>(DB) |
|---------------------------------|------|--------------|-------------|---------------------|---------------------|----------------------|-------------------|-------------------------|------------------------|---------------------------|
| 63. BALTIMORE                   | 6    | 139.0        | 228.4       | 51.8                | -10.0               | 0.2                  | 54.0              | 20.9                    | CLEAR                  | CLEAR                     |
| 64. CARNIES PT                  | 6    | 43.1         | 185.2       | 42.9                | -8.8                | 0.1                  | 62.4              | 53.6                    | CLEAR                  | CLEAR                     |
| 65. RADNOR                      | 6    | 10.6         | 161.8       | 51.4                | -10.0               | -0.2                 | 0.0               | 0.0                     | CLEAR                  | CLEAR                     |
| 66. WHITE HAVEN PENN FORRES     | 6    | 107.6        | 342.6       | 129.3               | -10.0               | -0.2                 | 0.0               | 0.0                     | CLEAR                  | CLEAR                     |
| 67. WHITE HAVEN PENN FOREST     | 6    | 107.6        | 342.6       | 129.3               | -10.0               | -0.2                 | 0.0               | 0.0                     | CLEAR                  | CLEAR                     |
| 68. WHITE HAVEN PENN FOREST     | 6    | 107.6        | 342.6       | 129.3               | -10.0               | -0.2                 | 0.0               | 0.0                     | CLEAR                  | CLEAR                     |
| 69. CINNAMINSON CLAYTON         | 6    | 39.3         | 109.0       | 86.8                | -10.0               | -0.6                 | 0.0               | 0.0                     | CLEAR                  | CLEAR                     |
| 70. LANCASTER *BARON HILLS*     | 6    | 77.1         | 263.1       | 74.3                | -10.0               | -0.8                 | 0.0               | 0.0                     | CLEAR                  | CLEAR                     |
| 71. LANCASTER *BARON HILLS*     | 6    | 77.1         | 263.1       | 74.3                | -10.0               | -0.8                 | 0.0               | 0.0                     | CLEAR                  | CLEAR                     |
| 72. NEWTOWN CHATSWORTH *        | 6    | 40.7         | 69.3        | 115.3               | -10.0               | -0.9                 | 0.0               | 0.0                     | CLEAR                  | CLEAR                     |
| 73. HARRISBURG *WOMELSDORF *    | 6    | 128.0        | 281.2       | 87.4                | -10.0               | -1.1                 | 0.0               | 0.0                     | CLEAR                  | CLEAR                     |
| 74. HARRISBURG *WOMELSDORF *    | 6    | 128.0        | 281.2       | 87.4                | -10.0               | -1.1                 | 0.0               | 0.0                     | CLEAR                  | CLEAR                     |
| 75. SPRAY BEACH CHATSWORTH      | 6    | 117.9        | 120.6       | 78.3                | -10.0               | -1.2                 | 0.0               | 0.0                     | CLEAR                  | CLEAR                     |
| 76. YARDS CREEK SCOTT'S MTN *   | 6    | 102.8        | 17.4        | 138.3               | -10.0               | -1.2                 | 0.0               | 0.0                     | CLEAR                  | CLEAR                     |
| 77. HICKORY *DUBLIN             | 6    | 100.7        | 233.0       | 54.2                | -10.0               | -1.2                 | 0.0               | 0.0                     | CLEAR                  | CLEAR                     |
| 78. VINELAND CLAYTON            | 6    | 79.3         | 157.6       | 53.7                | -10.0               | -1.4                 | 0.0               | 0.0                     | CLEAR                  | CLEAR                     |
| 79. NEWARK PR *BOUND BROOK*     | 6    | 123.8        | 56.8        | 123.1               | -10.0               | -1.7                 | 0.0               | 0.0                     | CLEAR                  | CLEAR                     |
| 80. CORNWALL CONESTOGA *        | 6    | 82.8         | 279.2       | 86.0                | -10.0               | -1.7                 | 0.0               | 0.0                     | CLEAR                  | CLEAR                     |
| 81. LITITZ *EPHRATA             | 6    | 83.2         | 279.2       | 85.9                | -10.0               | -1.8                 | 0.0               | 0.0                     | CLEAR                  | CLEAR                     |
| 82. MALVERN BRANDYWINE          | 6    | 13.0         | 220.0       | 48.2                | -10.0               | -2.0                 | 0.0               | 0.0                     | CLEAR                  | CLEAR                     |
| 83. MALVERN BRANDYWINE          | 6    | 13.0         | 220.0       | 48.2                | -10.0               | -2.0                 | 0.0               | 0.0                     | CLEAR                  | CLEAR                     |
| 84. SWEDESBORO BRANDYWINE       | 6    | 43.3         | 168.7       | 48.1                | -9.9                | -2.0                 | 0.0               | 0.0                     | CLEAR                  | CLEAR                     |
| 85. KENNETT SQ BRANDYWINE       | 6    | 43.8         | 223.0       | 49.4                | -10.0               | -2.2                 | 0.0               | 0.0                     | CLEAR                  | CLEAR                     |
| 86. MAYS LNDG HAMMONTON         | 6    | 97.7         | 140.5       | 64.3                | -10.0               | -2.2                 | 0.0               | 0.0                     | CLEAR                  | CLEAR                     |
| 87. MONTGOMERY RDG*BOYERS KNOB* | 6    | 144.2        | 310.4       | 108.6               | -10.0               | -2.4                 | 0.0               | 0.0                     | CLEAR                  | CLEAR                     |
| 88. WILMINGTON CLAYTON          | 6    | 48.3         | 211.9       | 45.3                | -9.4                | -3.0                 | 0.0               | 0.0                     | CLEAR                  | CLEAR                     |
| 89. BIRDSBORO *FRDRICKSVLE*     | 6    | 45.1         | 293.7       | 96.6                | -10.0               | -3.0                 | 0.0               | 0.0                     | CLEAR                  | CLEAR                     |
| 90. EPHRATA 2 *WOMELSDORF *     | 6    | 64.5         | 275.0       | 82.9                | -10.0               | -3.1                 | 0.0               | 0.0                     | CLEAR                  | CLEAR                     |
| 91. EPHRATA 2 *WOMELSDORF *     | 6    | 64.5         | 275.0       | 82.9                | -10.0               | -3.1                 | 0.0               | 0.0                     | CLEAR                  | CLEAR                     |
| 92. BORDENTOWN WILLINGBORO      | 6    | 58.4         | 89.2        | 101.4               | -10.0               | -3.3                 | 0.0               | 0.0                     | CLEAR                  | CLEAR                     |
| 93. BORDENTOWN WILLINGBORO      | 6    | 58.4         | 89.2        | 101.4               | -10.0               | -3.3                 | 0.0               | 0.0                     | CLEAR                  | CLEAR                     |

ANTENNA TYPE: FCC Reference 32-25LOG(THETA)  
UPLINK POWER: -4.0 dBW/ 4KHz

SATELLITE ARC: 85.0 W - 85.0 W DEGREES  
OBJECTIVES: -154.0 dBW -131.0 dBW

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Table 2  
(Continued)

31 ROXBOROUGH PABOYERTOWN PA 412 81.2-10.0 132.53 16.3-145.9 29 LT  
40 3 33 75 14 20 WOG70 181. 348.8 4.6 A74121 116.7 8.1 4  
P5192 : MCI TELECOMMUNICATIONS CORPORATION 2016CH DIG RCN: 89011921  
5945.2000U 5974.8500H 6004.5000U 6034.1500H 6063.8000U 6093.4500H  
6123.1000U 6152.7500H  
Status: L Equipment: 2Y2L01 Emission: 30M0F7W  
OH LOSS 20% / 0.0025%: 0.00/ 0.00

32 ROXBOROUGH PABOYERTOWN PA 412 81.2-10.0 132.53 16.3-145.9 29 LT  
40 3 33 75 14 20 WOG70 126. 348.8 4.6 A74121 116.7 8.1 4  
P5192 : MCI TELECOMMUNICATIONS CORPORATION 2016CH DIG RCN: 89011921  
5945.2000U 5974.8500H 6004.5000U 6034.1500H 6063.8000U 6093.4500H  
6123.1000U 6152.7500H  
Status: L DIVERSITY Equipment: 2Y2L01 Emission: 30M0F7W  
OH LOSS 20% / 0.0025%: 0.00/ 0.00

53 IVY HILL \*PAHONEY BROOK\*PA 412 90.8-10.0 134.30 20.0-153.2 40 HT  
40 4 58 75 10 54 WAU263 290. 8.6 -1.9 A79516 103.6 0.8 3  
P2820 : INTERMEDIA COMMUNICATIONS, INC. 1 CH FMV RCN: 90082014  
6197.2400H 6226.8900V 6256.5400H 6315.8400H 6345.4900V 6375.1400H  
Status: L Equipment: 2KU501 Emission: 30M0F8W  
OH LOSS 20% / 0.0025%: 0.00/ 0.00

54 IVY HILL \*PAHONEY BROOK\*PA 412 90.8-10.0 134.30 20.0-153.2 40 HT  
40 4 58 75 10 54 WAU263 240. 8.6 -1.9 A79516 103.6 0.8 3  
P2820 : INTERMEDIA COMMUNICATIONS, INC. 1 CH FMV RCN: 90082014  
6197.2400H 6226.8900V 6256.5400H 6315.8400H 6345.4900V 6375.1400H  
Status: L DIVERSITY Equipment: 2KU501 Emission: 30M0F8W  
OH LOSS 20% / 0.0025%: 0.00/ 0.00

55 IVY HILL \*PAHONEY BROOK\*PA 412 90.8-10.0 134.30 20.0-153.2 40 HT  
40 4 58 75 10 54 WAU263 290. 8.6 -1.9 A79516 103.6 0.8 3  
P2820 : INTERMEDIA COMMUNICATIONS, INC. 2400CH MSG RCN: 88091617  
6197.2400H 6226.8900U 6286.1900U 6315.8400G 6345.4900U 6375.1400H  
6404.7900U  
Status: L Equipment: 2KU501 Emission: 30M0F8W  
OH LOSS 20% / 0.0025%: 0.00/ 0.00

56 IVY HILL \*PAHONEY BROOK\*PA 412 90.8-10.0 134.30 20.0-153.2 40 HT  
40 4 58 75 10 54 WAU263 248. 8.6 -1.9 A79516 103.6 0.8 3  
P2820 : INTERMEDIA COMMUNICATIONS, INC. 2400CH MSG RCN: 88091617  
6197.2400H 6226.8900U 6286.1900U 6315.8400G 6345.4900U 6375.1400H  
6404.7900U  
Status: L DIVERSITY Equipment: 2KU501 Emission: 30M0F8W  
OH LOSS 20% / 0.0025%: 0.00/ 0.00

57 IVY HILL \*PAHONEY BROOK\*PA 412 90.8-10.0 134.30 20.0-153.2 30 HT  
40 4 58 75 10 54 WAU263 290. 8.6 -1.9 A79516 103.6 0.8 3  
P2820 : INTERMEDIA COMMUNICATIONS, INC. 2016CH DIG RCN: 88101025  
6197.2400G 6226.8900U 6256.5400G 6286.1900V 6315.8400G 6345.4900U  
6375.1400G 6404.7900V  
Status: L Equipment: 2Y6201 Emission: 30M0D7W

Table 3

SATELLITE EARTH STATION  
FREQUENCY COORDINATION DATA  
10/14/98

|                                                |                 |                       |
|------------------------------------------------|-----------------|-----------------------|
| Company                                        | LOCKHEED MARTIN |                       |
| Earth Station Name, State                      | NORRISTOWN, PA  |                       |
| Latitude (DMS)                                 | 40 7 31.3 N     |                       |
| Longitude (DMS)                                | 75 24 34.4 W    |                       |
| Ground Elevation AMSL (Ft/m)                   | 225.0 / 68.6    |                       |
| Antenna Centerline AGL (Ft/m)                  | 37.0 / 11.3     |                       |
| Receive Antenna Type:                          | FCC32           | FCC Reference         |
|                                                |                 | 32-25LOG(THETA)       |
| 4 GHz Gain (dBi) / Diameter (m)                |                 | 38.0 / 2.4            |
| 3 dB / 15 dB Half Beamwidth                    |                 | 0.50 / 1.20           |
| Transmit Antenna Type:                         | FCC32           | FCC Reference         |
|                                                |                 | 32-25LOG(THETA)       |
| 6 GHz Gain (dBi) / Diameter (m)                |                 | 41.9 / 2.4            |
| 3 dB / 15 dB Half Beamwidth                    |                 | 0.60 / 1.40           |
| Operating Mode                                 |                 | TRANSMIT AND RECEIVE  |
| Modulation                                     |                 | DIGITAL               |
| Emission / Receive Band (MHz)                  |                 | 200KG7D / 3700 - 4200 |
| Emission / Transmit Band (MHz)                 |                 | 200KG7D / 6192.3      |
| Max. Available RF Power (dBW)/4 kHz)           |                 | -3.96                 |
| (dBW)/MHz)                                     |                 | 20.04                 |
| Max. EIRP (dBW)/4 kHz)                         |                 | 37.94                 |
| (dBW)/MHz)                                     |                 | 61.94                 |
| Max permissible Interference Power             |                 |                       |
| 4 GHz, 20% (dBW/1 MHz)                         |                 | -156.0                |
| 4 GHz, 0.0100% (dBW/1 MHz)                     |                 | -146.0                |
| 6 GHz, 20% (dBW/4 kHz)                         |                 | -154.0                |
| 6 GHz, 0.0025% (dBW/4 kHz)                     |                 | -131.0                |
| Range of Satellite Arc (Geostationary)         |                 |                       |
| Degrees Longitude                              |                 | 85.0 W / 93.0 W       |
| Azimuth Range (Min/Max)                        |                 | 194.7 / 194.7         |
| Corresponding Elevation Angles                 |                 | 42.5 / 42.5           |
| Radio Climate                                  |                 | A                     |
| Rain Zone                                      |                 | 2                     |
| Max Great Circle Coordination Distance (Mi/Km) |                 |                       |
| 4 GHz                                          |                 | 181.4 / 291.9         |
| 6 GHz                                          |                 | 105.5 / 169.8         |
| Precipitation Scatter contour radius (Mi/Km)   |                 |                       |
| 4 GHz                                          |                 | 62.1 / 100.0          |
| 6 GHz                                          |                 | 62.1 / 100.0          |