



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

July 30, 1980

ERRATA

Regulatory Guide 1.59, Revision 2, August 1977

"Design Basis Floods for Nuclear Power Plants"

New information that affects the Probable Maximum Flood (PMF) isolines for the Upper Ohio River for drainage areas of 10,000 and 20,000 square miles has been identified. The changes to the isolines affect only a small area in the Upper Ohio River Basin and do not have any significant impact on the Design Basis Flood for existing plants.

As a result of the new information, revised Figures B.6 and B.7 transmitted herewith should be used in future PMF discharge determinations when the simplified methods presented in Appendix B to the Regulatory Guide are being used. In addition, appropriate changes have been made to the PMF data on pages 28 and 30 of Table B.1, which are also transmitted herewith.

1.59-19

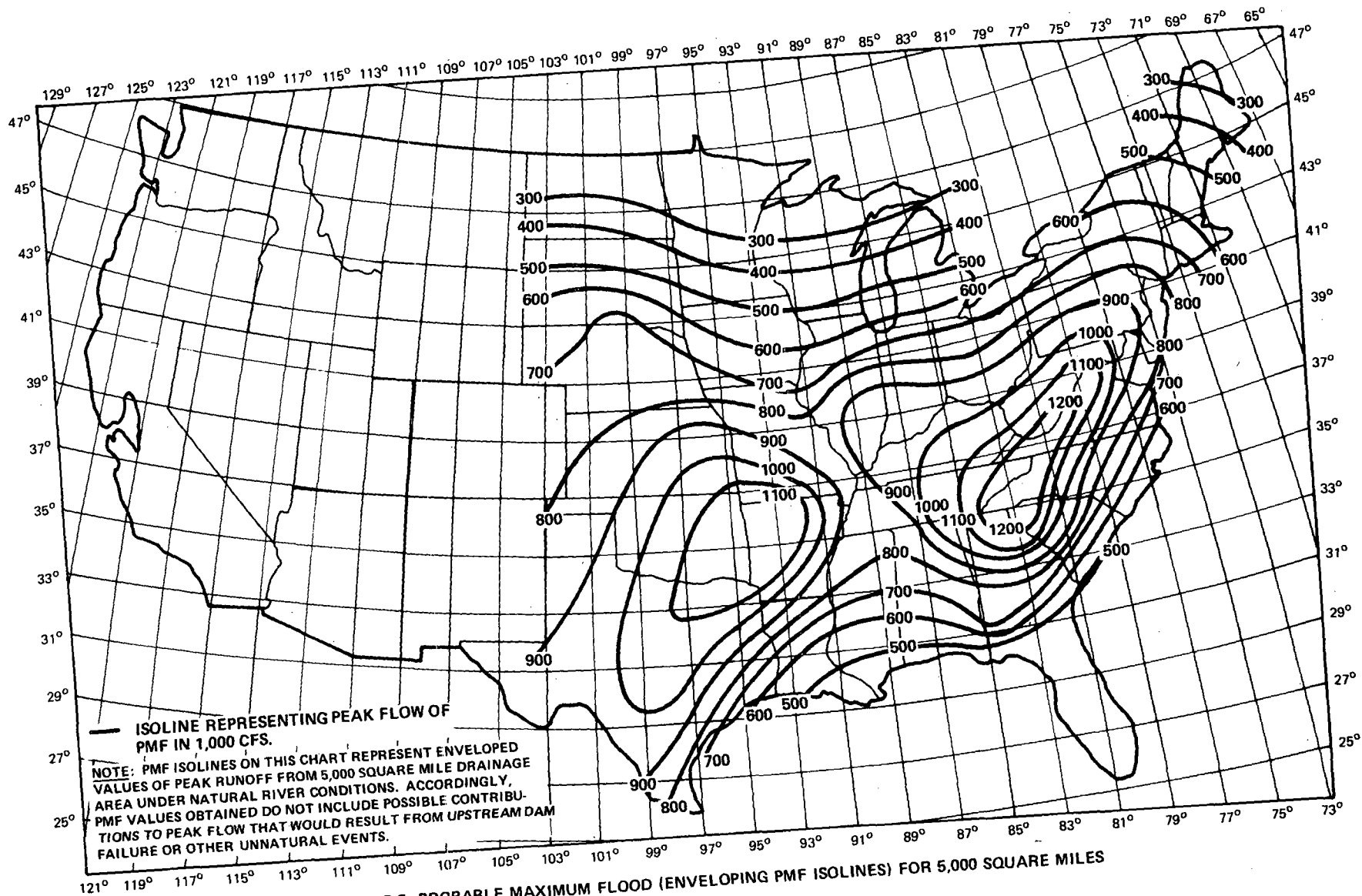


FIGURE B.5 PROBABLE MAXIMUM FLOOD (ENVELOPING PMF ISOLINES) FOR 5,000 SQUARE MILES

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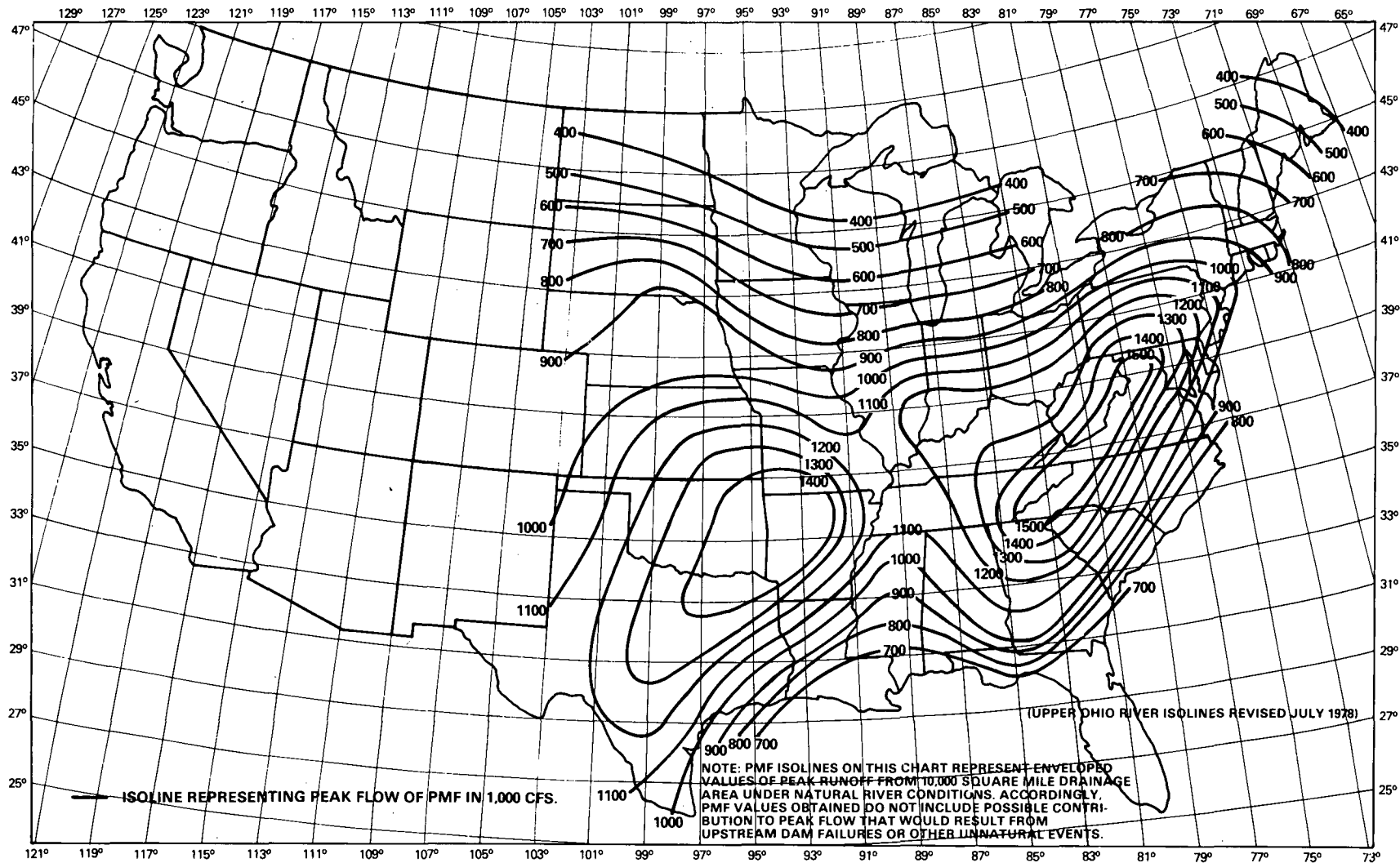


FIGURE B.6 PROBABLE MAXIMUM FLOOD (ENVELOPING PMF ISOLINES) FOR 10,000 SQUARE MILES

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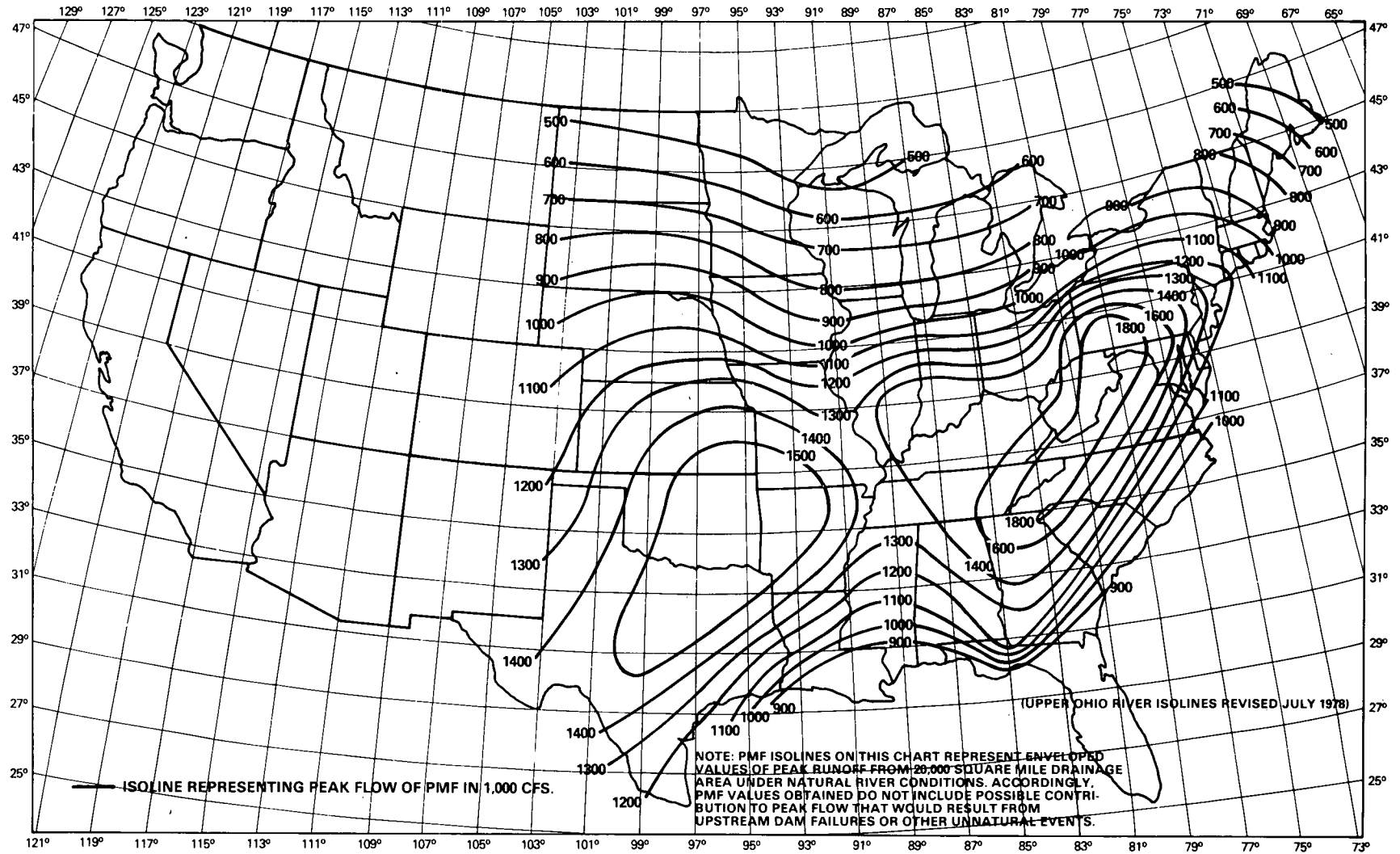


FIGURE B.7 PROBABLE MAXIMUM FLOOD (ENVELOPING PMF ISOLINES) FOR 20,000 SQUARE MILES

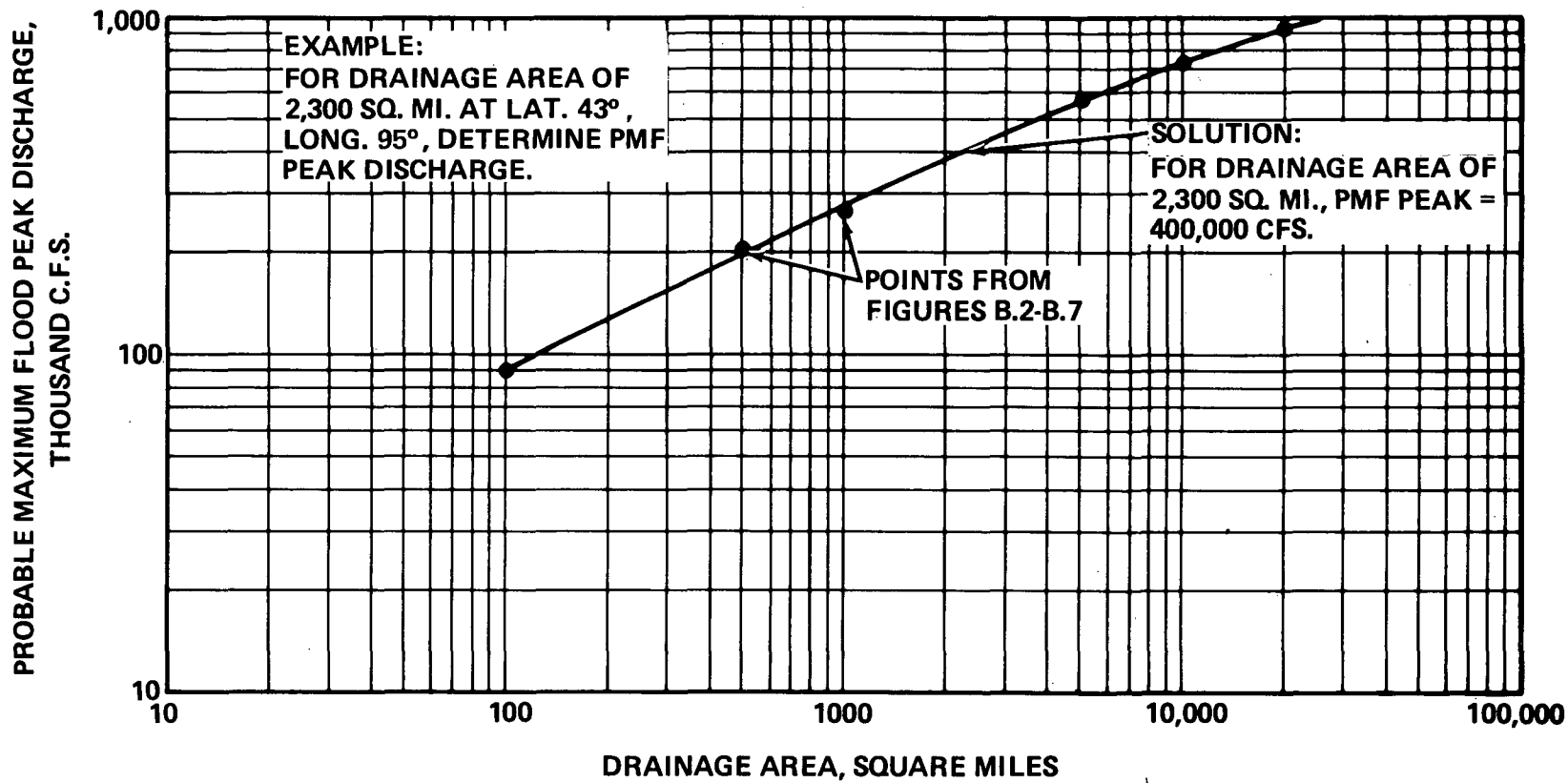


FIGURE B.8 EXAMPLE OF USE OF ENVELOPING ISOLINES

TABLE B.1 (Page 5 of 17)

| Project            | State | River Basin  | Stream                 | Drainage Area<br>(sq.mi.) | Basin Average<br>(in inches) |        | PMF Peak<br>Discharge<br>(cfs) |
|--------------------|-------|--------------|------------------------|---------------------------|------------------------------|--------|--------------------------------|
|                    |       |              |                        |                           | Prec.                        | Runoff |                                |
| Gainsville         | Ala.  | Tombigbee    | Tombigbee River        | 7,142                     | 19.6                         | 16.8   | 702,400                        |
| Hartwell           | Ga.   | Savannah     | Savannah River         | 2,088                     | 24.8                         | 18.8   | 875,000                        |
| Holt               | Ala.  | Warrior      | Warrior River          | 4,232                     | 22.1                         | 19.2   | 650,000                        |
| Howards Mill       | N. C. | Cape Fear    | Deep River             | 626                       | 26.8                         | 24.2   | 305,000                        |
| Jim Woodruff       | Fla.  | Apalachicola | Apalachicola River     | 17,150                    | 17.6                         | 12.3   | 1,133,800                      |
| John H. Bankhead   | Ala.  | Tombigbee    | Black Warrior River    | 3,900                     | 22.3                         | 19.4   | 670,300                        |
| Jones Bluff        | Ala.  | Alabama      | Alabama River          | 16,300                    | 14.2                         | 11.6   | 664,000                        |
| Lazer Creek        | Ga.   | Apalachicola | Lazer Creek            | 1,410                     | 24.6                         | 20.7   | 303,600                        |
| Lookout Shoals     | N. C. | Santee       | Catawba River          | 1,450                     |                              |        | 492,000                        |
| Lower Auchumpkee   | Ga.   | Apalachicola | Flint River            | 1,970                     | 23.7                         | 19.8   | 355,600                        |
| McGuire            | N. C. | Santee       | Catawba River          | 1,770                     |                              |        | 750,000                        |
| Millers Ferry      | Ala.  | Alabama      | Alabama River          | 20,700                    | 14.7                         | 12.1   | 844,000                        |
| Mountain Island    | N. C. | Santee       | Catawba River          | 1,860                     |                              |        | 362,000                        |
| New Hope           | N. C. | Cape Fear    | New Hope River         | 1,690                     | 22.0                         | 19.4   | 511,000                        |
| Oconee             | S. C. | Savannah     | Keowee River           | 439                       | 26.5                         | 23.5   | 450,000                        |
| Oconee             | S. C. | Savannah     | Little River           | 148                       |                              | 26.6   | 245,000                        |
| Okatibbee          | Miss. | Pascagoula   | Okatibbee Creek        | 154                       | 33.0                         | 28.4   | 87,700                         |
| Oxford             | N. C. | Santee       | Catawba River          | 1,310                     |                              |        | 479,000                        |
| Perkins            | N. C. | Pee Dee      | Yadkin River           | 2,473                     |                              |        | 440,600                        |
| Randleman          | N. C. | Cape Fear    | Deep River             | 169                       | 28.6                         | 26.0   | 126,000                        |
| Reddies            | N. C. | Pee Dee      | Reddies River          | 94                        | 28.0                         | 24.8   | 174,200                        |
| Rhodhiss           | N. C. | Santee       | Catawba River          | 1,090                     |                              |        | 379,000                        |
| Shearon Harris     | N. C. | Cape Fear    | White Oak Creek        | 79                        |                              |        | 163,500                        |
| Sprewell Bluff     | Ga.   | Apalachicola | Flint River            | 1,210                     | 25.8                         | 21.3   | 318,000                        |
| Trotters Shoals    | Ga.   | Savannah     | Savannah River         | 2,900                     | 24.0                         | 19.1   | 800,000                        |
| Walter F. George   | Ga.   | Apalachicola | Chattahoochee River    | 7,460                     | 16.6                         | 15.2   | 843,000                        |
| Warrior            | Ala.  | Tombigbee    | Black Warrior River    | 5,828                     | 19.5                         | 16.6   | 554,000                        |
| West Point         | Ga.   | Apalachicola | Chattahoochee River    | 3,440                     | 21.9                         | 17.4   | 440,000                        |
| W. Kerr Scott      | N. C. | Pee Dee      | Yadkin River           | 348                       | 25.6                         | 21.5   | 318,000                        |
| Great Lakes Region |       |              |                        |                           |                              |        |                                |
| Bedford            | Ohio  | Cuyahoga     | Tinkers Creek          | 91                        | 28.6                         | 25.9   | 79,000                         |
| Bristol            | N. Y. | Oswego       | Mud Creek              | 29                        | 29.9                         | 28.1   | 64,900                         |
| Fall Creek         | N. Y. | Oswego       | Fall Creek             | 123                       | 17.1                         | 16.1   | 63,400                         |
| Ithaca             | N. Y. | Oswego       | Six Mile Creek         | 43                        | 26.9                         | 25.1   | 77,900                         |
| Jamesville         | N. Y. | Oswego       | Butternut Creek        | 37                        | 26.0                         | 24.1   | 35,200                         |
| Linden             | N. Y. | Niagara      | Little Tonawanda Creek | 22                        | 30.8                         | 29.0   | 64,400                         |

TABLE B.1 (Page 6 of 17)

| Project           | State  | River Basin   | Stream                 | Drainage Area<br>(sq.mi.) | Basin Average<br>(in inches) |        | PMF Peak<br>Discharge<br>(cfs) |
|-------------------|--------|---------------|------------------------|---------------------------|------------------------------|--------|--------------------------------|
|                   |        |               |                        |                           | Prec.                        | Runoff |                                |
| Mount Morris      | N. Y.  | Genesee River | Genesee River          | 1,077                     | 17.0                         | 14.6   | 385,000                        |
| Onondago          | N. Y.  | Lake Ontario  | Onondago Creek         | 68                        | 24.2                         | 23.3   | 61,800                         |
| Oran              | N. Y.  | Oswego        | Limestone Creek        | 47                        | 25.1                         | 23.4   | 80,790                         |
| Portageville      | N. Y.  | Genesee       | Genesee River          | 983                       | 17.8                         | 15.8   | 359,000                        |
| Quanicassee       | Mich.  | Saginaw Bay   | Saginaw River          | 6,260                     |                              |        | 440,000                        |
| Quanicassee       | Mich.  | Saginaw Bay   | Tittabawassee River    | 2,400                     |                              |        | 270,000                        |
| Quanicassee       | Mich.  | Saginaw Bay   | Quanicassee River      | 70                        |                              |        | 46,000                         |
| Standard Corners  | N. Y.  | Genesee       | Genesee River          | 265                       | 22.3                         | 20.3   | 189,900                        |
| Ohio Region       |        |               |                        |                           |                              |        |                                |
| Alum Creek        | Ohio   | Ohio          | Alum Creek             | 123                       | 24.6                         | 21.8   | 110,000                        |
| Barkley           | Ky.    | Ohio          | Cumberland River       | 17,598                    | 22.6                         | 21.5   | 1,000,000  *                   |
| Barren            | Ky.    | Ohio          | Barren River           | 940                       | 17.6                         | 16.9   | 531,000                        |
| Beaver Valley     | Pa.    | Ohio          | Ohio River             | 23,000                    |                              |        | 1,890,000                      |
| Beech Fork        | W. Va. | Ohio          | Twelve Pole Creek      | 78                        | 26.4                         | 23.5   | 84,000                         |
| Big Blue          | Ind.   | Ohio          | Big Blue River         | 269                       | 23.5                         | 21.2   | 161,000                        |
| Big Darby         | Ohio   | Ohio          | Big Darby Creek        | 441                       | 24.1                         | 21.3   | 294,000                        |
| Big Pine          | Ind.   | Ohio          | Big Pine Creek         | 326                       | 22.4                         | 20.4   | 174,000                        |
| Big Walnut        | Ind.   | Ohio          | Big Walnut Creek       | 197                       | 24.0                         | 22.0   | 144,000                        |
| Birch             | W. Va. | Ohio          | Birch River            | 142                       | 28.4                         | 25.2   | 102,000                        |
| Bluestone         | W. Va. | Ohio          | New River              | 4,565                     |                              | 13.8   | 410,000                        |
| Booneville        | Ky.    | Ohio          | So. Fk. Kentucky River | 665                       | 23.2                         | 21.0   | 425,000                        |
| Brookville        | Ind.   | Ohio          | Whitewater River       | 379                       | 24.2                         | 22.1   | 272,000                        |
| Buckhorn          | Ky.    | Ohio          | M. Fk. Kentucky River  | 408                       | 23.8                         | 21.5   | 239,000                        |
| Burnsville        | W. Va. | Ohio          | Little Kanawha River   | 165                       | 24.8                         | 22.3   | 138,800                        |
| Caesar Creek      | Ohio   | Ohio          | Caesar Creek           | 237                       | 24.1                         | 21.9   | 230,200                        |
| Cagles Mill       | Ind.   | Ohio          | Mill Creek             | 295                       | 24.6                         | 22.7   | 159,000                        |
| Carr Fork         | Ky.    | Ohio          | No. Fk. Kentucky River | 58                        | 27.4                         | 25.0   | 132,500                        |
| Cave Run          | Ky.    | Ohio          | Licking River          | 826                       | 22.8                         | 20.6   | 510,000                        |
| Center Hill       | Tenn.  | Ohio          | Caney Fork             | 2,174                     | 22.3                         | 21.8   | 696,000                        |
| Clarence J. Brown | Ohio   | Ohio          | Buck Creek             | 82                        | 29.0                         | 26.7   | 121,000                        |
| Claytor           | Va.    | Ohio          | New River              | 2,382                     | 22.3                         | 18.0   | 1,109,000                      |
| Clifty Creek      | Ind.   | Ohio          | Clifty Creek           | 145                       | 24.9                         | 23.0   | 112,900                        |
| Dale Hollow       | Tenn.  | Ohio          | Obey River             | 935                       | 23.8                         | 23.3   | 435,000                        |
| Deer Creek        | Ohio   | Ohio          | Deer Creek             | 278                       | 22.9                         | 20.1   | 160,000                        |
| Delaware          | Ohio   | Ohio          | Olentangy River        | 381                       | 22.7                         | 20.4   | 296,000                        |
| Dewey             | Ky.    | Ohio          | Big Sandy River        | 207                       | 25.0                         | 22.6   | 75,500                         |

\* Lines indicate changes issued in an errata to Revision 2 to this guide.

TABLE B.1 (Page 7 of 17)

| Project            | State  | River Basin | Stream                    | Drainage<br>Area<br>(sq.mi.) | Basin Average<br>(in inches) |        | PMF Peak<br>Discharge<br>(cfs) |
|--------------------|--------|-------------|---------------------------|------------------------------|------------------------------|--------|--------------------------------|
|                    |        |             |                           |                              | Prec.                        | Runoff |                                |
| Dillon             | Ohio   | Ohio        | Licking River             | 748                          | 19.8                         | 16.3   | 246,000                        |
| Dyes               | Ohio   | Ohio        | Dyes Fork                 | 44                           | 30.7                         | 27.8   | 49,500                         |
| Eagle Creek        | Ky.    | Ohio        | Eagle Creek               | 292                          | 24.7                         | 22.1   | 172,800                        |
| E. Br. Clarion     | Pa.    | Ohio        | E. Br. Clarion River      | 72                           | 22.7                         | 18.9   | 41,500                         |
| East Fork          | Ohio   | Ohio        | E. Fk. Little Miami River | 342                          | 23.8                         | 21.2   | 313,200                        |
| East Lynn          | W. Va. | Ohio        | Twelve Pole Creek         | 133                          | 29.4                         | 26.5   | 72,000                         |
| Fishtrap           | Ky.    | Ohio        | Levisa Fk. Sandy River    | 395                          | 26.1                         | 23.2   | 320,000                        |
| Grayson            | Ky.    | Ohio        | Little Sandy River        | 196                          | 27.5                         | 24.7   | 83,300                         |
| Green River        | Ky.    | Ohio        | Green River               | 682                          | 26.5                         | 23.9   | 409,000                        |
| Helm               | Ill.   | Ohio        | Skillet Fk. Wabash River  | 210                          | 24.8                         | 22.6   | 152,800                        |
| John W. Flannagan  | Va.    | Ohio        | Pound River               | 222                          | 27.6                         | 24.9   | 235,800                        |
| J. Percy Priest    | Tenn.  | Ohio        | Stones River              | 892                          | 25.9                         | 18.8   | 430,000                        |
| Kehoe              | Ky.    | Ohio        | Tygart's Creek            | 127                          | 26.0                         | 23.4   | 105,900                        |
| Kinzua             | Pa.    | Ohio        | Allegheny River           | 2,180                        | 16.4                         | 12.8   | 115,000                        |
| Lafayette          | Ind.   | Ohio        | Wildcat Creek             | 791                          | 20.6                         | 18.5   | 182,000                        |
| Laurel             | Ky.    | Ohio        | Laurel River              | 282                          | 25.9                         | 20.7   | 120,000                        |
| Leading Creek      | W. Va. | Ohio        | Leading Creek             | 146                          | 25.0                         | 22.5   | 131,000                        |
| Lincoln            | Ill.   | Ohio        | Embarras River            | 915                          | 21.2                         | 19.0   | 502,000                        |
| Logan              | Ohio   | Ohio        | Clear Creek               | 84                           | 29.5                         | 27.0   | 78,000                         |
| Louisville         | Ill.   | Ohio        | Little Wabash River       | 661                          | 22.1                         | 19.9   | 310,000                        |
| Mansfield          | Ind.   | Ohio        | Raccoon Creek             | 216                          | 25.9                         | 23.0   | 175,800                        |
| Martins Fork       | Ky.    | Ohio        | Cumberland River          | 56                           | 27.9                         | 22.7   | 61,800                         |
| Meigs              | Ohio   | Ohio        | Meigs Creek               | 72                           | 29.5                         | 26.6   | 72,100                         |
| Meigs              | Ohio   | Ohio        | Meigs Creek               | 27                           | 32.2                         | 29.3   | 45,500                         |
| Mill Creek         | Ohio   | Ohio        | Mill Creek                | 181                          | 24.0                         | 21.4   | 92,000                         |
| Mississinewa       | Ind.   | Ohio        | Mississinewa River        | 809                          | 20.6                         | 18.4   | 196,000                        |
| Michael J. Kirwin  | Ohio   | Ohio        | Mahoning River            | 80                           | 26.0                         | 20.1   | 51,800                         |
| Monroe             | Ind.   | Ohio        | Salt Creek                | 441                          | 25.9                         | 25.4   | 366,000                        |
| Muddy Creek        | Pa.    | Ohio        | Muddy Creek               | 61                           | 22.8                         | 19.6   | 59,300                         |
| Nolin              | Ky.    | Ohio        | Nolin River               | 703                          | 14.2                         | 13.2   | 158,000                        |
| N. Br. Kokosing    | Ohio   | Ohio        | N. Br. Kokosing River     | 44                           | 25.4                         | 22.6   | 50,000                         |
| N. Fk. Pound River | Va.    | Ohio        | N. Fk. Pound River        | 18                           | 35.3                         | 32.2   | 51,200                         |
| Paint Creek        | Ohio   | Ohio        | Paint Creek               | 573                          | 21.8                         | 18.8   | 305,000                        |
| Paintsville        | Ky.    | Ohio        | Paint Creek               | 92                           | 26.3                         | 23.8   | 77,500                         |
| Panthers Creek     | W. Va. | Ohio        | Panther Creek             | 24                           | 36.7                         | 33.9   | 59,800                         |
| Patoka             | Ind.   | Ohio        | Patoka River              | 168                          | 25.6                         | 23.5   | 292,000                        |
| R. D. Bailey       | W. Va. | Ohio        | Guyandotte River          | 540                          | 23.1                         | 20.3   | 349,000                        |
| Rough River        | Ky.    | Ohio        | Rough River               | 454                          | 27.6                         | 25.1   | 358,000                        |

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TABLE B.1 (Page 8 of 17)

| Project                  | State  | River Basin | Stream                | Drainage Area<br>(sq.mi.) | Basin Average<br>(in inches) |        | PMF Peak<br>Discharge<br>(cfs) |
|--------------------------|--------|-------------|-----------------------|---------------------------|------------------------------|--------|--------------------------------|
|                          |        |             |                       |                           | Prec.                        | Runoff |                                |
| Rowlesburg               | W. Va. | Ohio        | Cheat River           | 936                       | 21.2                         | 18.4   | 331,000                        |
| Salamonia                | Ind.   | Ohio        | Salamonia River       | 553                       | 21.3                         | 19.0   | 201,000                        |
| Stonewall Jackson        | W. Va. | Ohio        | West Fork River       | 102                       | 24.2                         | 22.2   | 85,500                         |
| Summersville             | W. Va. | Ohio        | Gauley River          | 803                       | 23.8                         | 21.1   | 412,000                        |
| Sutton                   | W. Va. | Ohio        | Elk River             | 537                       | 20.4                         | 20.4   | 222,400                        |
| Taylorville              | Ky.    | Ohio        | Salt River            | 353                       | 24.8                         | 22.2   | 426,000                        |
| Tom Jenkins              | Ohio   | Ohio        | Hocking River         | 33                        | 26.7                         | 25.8   | 43,000                         |
| Union City               | Pa.    | Ohio        | French Creek          | 222                       | 20.3                         | 17.8   | 87,500                         |
| Utica                    | Ohio   | Ohio        | N. Fk. Licking River  | 112                       | 24.7                         | 22.1   | 73,700                         |
| West Fork                | W. Va. | Ohio        | W. Fk. Little Kanawha | 238                       | 24.4                         | 21.8   | 156,400                        |
| West Fk. Mill Ck.        | Ohio   | Ohio        | Mill Creek            | 30                        | 31.9                         | 30.0   | 81,600                         |
| Whiteoak                 | Ohio   | Ohio        | Whiteoak Creek        | 214                       | 24.5                         | 21.6   | 134,000                        |
| Wolf Creek               | Ky.    | Ohio        | Cumberland River      | 5,789                     | 20.6                         | 20.0   | 996,000                        |
| Woodcock                 | Pa.    | Ohio        | Woodcock Creek        | 46                        | 23.5                         | 20.9   | 37,700                         |
| Yatesville               | Ky.    | Ohio        | Blaine Creek          | 208                       | 25.2                         | 22.6   | 118,000                        |
| Youghiogheny             | Pa.    | Ohio        | Youghiogheny River    | 434                       |                              | 25.4   | 151,000                        |
| Maysville                | Ohio   | Ohio        | Ohio River            | 70,130                    | 9.8                          | 8.4    | 2,590,000 *                    |
| Tennessee Region         |        |             |                       |                           |                              |        |                                |
| Bellefonte               | Ala.   | Ohio        | Tennessee River       | 23,340                    |                              |        | 1,160,000                      |
| Browns Ferry             | Tenn.  | Ohio        | Tennessee River       | 27,130                    |                              |        | 1,200,000                      |
| Sequoyah                 | Tenn.  | Ohio        | Tennessee River       | 20,650                    |                              |        | 1,205,000                      |
| Upper Mississippi Region |        |             |                       |                           |                              |        |                                |
| Ames                     | Iowa   | Upper Miss. | Skunk River           | 314                       | 21.3                         | 18.4   | 87,200                         |
| Byron                    | Ill.   | Upper Miss. | Rock River            | 8,000                     |                              |        | 308,000                        |
| Bear Creek               | Mo.    | Upper Miss. | Bear Creek            | 28                        | 29.0                         | 26.2   | 38,000                         |
| Blue Earth               | Minn.  | Upper Miss. | Minnesota River       | 11,250                    | 14.2                         | 10.9   | 283,000                        |
| Blue Earth               | Minn.  | Upper Miss. | Blue Earth River      | 3,550                     | 18.4                         | 14.8   | 206,000                        |
| Carlyle                  | Ill.   | Upper Miss. | Kaskaskia River       | 2,680                     | 19.2                         | 15.8   | 246,000                        |
| Clarence Cannon          | Mo.    | Upper Miss. | Salt River            | 2,318                     | 21.8                         | 15.7   | 476,200                        |
| Clinton                  | Ill.   | Upper Miss. | Salt Creek            | 296                       |                              |        | 99,500                         |
| Coralville               | Iowa   | Upper Miss. | Iowa River            | 3,084                     | 20.8                         | 14.4   | 326,000                        |
| Duane Arnold             | Iowa   | Upper Miss. | Cedar River           | 6,250                     |                              |        | 316,000                        |
| Farmdale                 | Ill.   | Upper Miss. | Farm Creek            | 26                        | 24.0                         | 22.1   | 67,300                         |
| Fondulac                 | Ill.   | Upper Miss. | Fondulac Creek        | 5.4                       | 21.4                         | 19.9   | 21,200                         |
| Friends Creek            | Ill.   | Upper Miss. | Friends Creek         | 133                       | 27.8                         | 21.6   | 83,160                         |

\* Lines indicate changes issued in an errata to Revision 2 to this guide.

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WASHINGTON, D. C. 20555

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