



Eastern Interconnection Average Frequency Error

| | ON-PEAK | | 2011 | OFF-PEAK | | Notes |
|-----------|---------|---------------|------|----------|---------------|---------|
| | Hours | Avg. Error-Hz | | Hours | Avg. Error-Hz | |
| January | | | | | | |
| February | | | | | | |
| March | | | | | | |
| April | | | | | | |
| May | | | | | | |
| June | | | | | | |
| July | | | | | | |
| August | | | | | | |
| September | | | | | | |
| October | | | | | | |
| November | | | | | | |
| December | | | | | | |
| | Hours | Avg. Error-Hz | 2010 | Hours | Avg. Error-Hz | Notes |
| January | 416 | 0.001198 | | 328 | 0.001491 | |
| January | 400 | 0.001278 | | 344 | 0.001384 | REVISED |
| February | 384 | 0.002946 | | 288 | 0.002603 | |
| February | 384 | 0.002634 | | 288 | 0.001631 | REVISED |
| March | 432 | 0.002454 | | 328 | 0.002807 | |
| March | 432 | 0.002454 | | 311 | 0.002816 | REVISED |
| April | 416 | 0.005447 | | 304 | 0.005186 | |
| May | 400 | 0.004969 | | 344 | 0.004424 | |
| June | 416 | -0.000460 | | 304 | 0.003626 | |
| July | 432 | -0.000643 | | 312 | 0.002380 | |
| August | 400 | 0.000087 | | 344 | 0.001819 | |
| September | 400 | 0.000233 | | 320 | 0.000020 | |
| October | 416 | 0.001036 | | 328 | -0.001030 | |
| November | 400 | -0.001094 | | 321 | -0.000675 | |
| December | 416 | 0.001878 | | 328 | 0.001410 | |
| | Hours | Avg. Error-Hz | 2009 | Hours | Avg. Error-Hz | Notes |
| January | 416 | 0.000682 | | 328 | -0.000582 | |
| February | 384 | 0.000266 | | 288 | -0.000315 | |
| March | 416 | -0.000574 | | 327 | 0.000925 | |
| April | 416 | -0.001637 | | 304 | 0.002550 | |
| May | 416 | 0.000194 | | 328 | 0.001891 | |
| June | 416 | 0.000569 | | 304 | 0.005146 | |
| July | 416 | 0.001750 | | 328 | 0.003492 | |
| August | 416 | 0.001143 | | 328 | 0.002735 | |
| September | 400 | 0.000963 | | 320 | 0.001431 | |
| October | 432 | 0.004127 | | 312 | 0.002585 | |
| November | 384 | 0.001808 | | 336 | 0.003825 | |
| December | 416 | 0.000803 | | 328 | 0.003429 | |
| | Hours | Avg. Error-Hz | 2008 | Hours | Avg. Error-Hz | Notes |
| January | 416 | 0.000558 | | 328 | -0.000717 | |
| February | 400 | 0.001125 | | 296 | 0.000700 | |
| March | 416 | 0.001537 | | 327 | 0.000677 | |
| April | 416 | 0.002070 | | 304 | 0.002072 | |
| May | 416 | 0.002778 | | 328 | 0.004617 | |
| June | 400 | 0.002085 | | 320 | 0.004736 | |
| June | 400 | 0.002635 | | 320 | 0.004830 | REVISED |
| July | 416 | 0.003308 | | 328 | 0.003147 | |
| August | 416 | 0.003851 | | 328 | 0.003902 | |
| September | 400 | 0.002754 | | 320 | 0.002665 | |
| October | 432 | 0.004583 | | 312 | 0.002626 | |
| November | 384 | 0.001381 | | 336 | 0.001733 | |
| December | 416 | 0.002188 | | 328 | 0.001953 | |

| | Hours | Avg. Error-Hz | 2007 | Hours | Avg. Error-Hz | Notes |
|-----------|-------|---------------|------|-------|---------------|-------|
| January | 416 | 0.005133 | | 328 | 0.003991 | |
| February | 384 | 0.001337 | | 288 | 0.003929 | |
| March | 432 | 0.000427 | | 311 | 0.004305 | |
| April | 400 | 0.002295 | | 320 | 0.004330 | |
| May | 416 | 0.003046 | | 328 | 0.007652 | |
| June | 416 | 0.002702 | | 304 | 0.007767 | |
| July | 400 | 0.000611 | | 344 | 0.004576 | |
| August | 432 | 0.002682 | | 312 | 0.004505 | |
| September | 400 | 0.001781 | | 344 | 0.002868 | |
| October | 432 | 0.005066 | | 312 | 0.004648 | |
| November | 416 | 0.005029 | | 329 | 0.005398 | |
| December | 400 | 0.002311 | | 344 | 0.004161 | |
| | Hours | Avg. Error-Hz | 2006 | Hours | Avg. Error-Hz | Notes |
| January | 400 | 0.002602 | | 344 | 0.003763 | |
| February | 384 | -0.000474 | | 288 | -0.000657 | |
| March | 432 | 0.000042 | | 312 | 0.001010 | |
| April | 400 | 0.000748 | | 319 | 0.001959 | |
| May | 416 | 0.002026 | | 328 | 0.004326 | |
| June | 416 | 0.001952 | | 304 | 0.006418 | |
| July | 400 | -0.000540 | | 344 | 0.004024 | |
| August | 432 | 0.000853 | | 312 | 0.003450 | |
| September | 400 | 0.001294 | | 320 | 0.002107 | |
| October | 416 | 0.002652 | | 329 | 0.002200 | |
| November | 400 | 0.002935 | | 320 | 0.003047 | |
| December | 400 | 0.003588 | | 344 | 0.004353 | |
| | Hours | Avg. Error-Hz | 2005 | Hours | Avg. Error-Hz | Notes |
| January | 400 | 0.005638 | | 344 | 0.003228 | |
| February | 384 | 0.002448 | | 288 | 0.006667 | |
| March | 432 | 0.002484 | | 312 | 0.004331 | |
| April | 416 | 0.003715 | | 304 | 0.006149 | |
| May | 400 | 0.000724 | | 344 | 0.004462 | |
| June | 416 | 0.003355 | | 304 | 0.008484 | |
| July | 400 | 0.000464 | | 344 | 0.004980 | |
| August | 432 | 0.000995 | | 312 | 0.002358 | |
| September | 400 | 0.001495 | | 320 | 0.002596 | |
| October | 416 | 0.003346 | | 329 | 0.002971 | |
| November | 400 | 0.003644 | | 320 | 0.004678 | |
| December | 416 | 0.002516 | | 328 | 0.002322 | |

| | Hours | Avg. Error-Hz | 2004 | Hours | Avg. Error-Hz | Notes |
|-----------|-------|---------------|------|-------|---------------|-------|
| January | 416 | 0.010452 | | 328 | 0.005956 | |
| February | 384 | 0.009834 | | 312 | 0.004780 | |
| March | 432 | 0.008677 | | 312 | 0.007026 | |
| April | 416 | 0.004079 | | 303 | 0.005229 | |
| May | 400 | 0.000271 | | 344 | 0.005656 | |
| June | 416 | 0.002400 | | 304 | 0.007985 | |
| July | 416 | -0.000286 | | 328 | 0.004737 | |
| August | 416 | -0.000270 | | 328 | 0.002403 | |
| September | 400 | 0.000000 | | 320 | 0.001784 | |
| October | 416 | 0.000698 | | 329 | -0.000949 | |
| November | 400 | 0.003958 | | 320 | 0.001453 | |
| December | 416 | 0.003296 | | 328 | 0.002121 | |
| | Hours | Avg. Error-Hz | 2003 | Hours | Avg. Error-Hz | Notes |
| January | 416 | 0.006497 | | 328 | 0.003706 | |
| February | 384 | 0.003698 | | 288 | 0.009097 | |
| March | 416 | 0.007534 | | 328 | 0.005629 | |
| April | 416 | 0.006428 | | 303 | 0.006296 | |
| May | 416 | 0.007611 | | 328 | 0.009096 | |
| June | 400 | 0.005190 | | 320 | 0.009054 | |
| July | 416 | 0.005021 | | 328 | 0.007512 | |
| August | 416 | 0.007563 | | 328 | 0.012110 | |
| September | 400 | 0.006534 | | 320 | 0.007173 | |
| October | 432 | 0.005470 | | 313 | 0.004384 | |
| November | 384 | 0.007073 | | 336 | 0.004356 | |
| December | 416 | 0.009555 | | 328 | 0.005456 | |
| | Hours | Avg. Error-Hz | 2002 | Hours | Avg. Error-Hz | Notes |
| January | 416 | 0.004052 | | 328 | 0.001503 | |
| February | 384 | 0.006389 | | 288 | 0.003604 | |
| March | 416 | 0.002852 | | 328 | 0.003027 | |
| April | 416 | 0.001209 | | 303 | 0.003565 | |
| May | 416 | 0.003509 | | 328 | 0.008286 | |
| June | 400 | 0.002632 | | 320 | 0.009185 | |
| July | 416 | 0.001503 | | 328 | 0.005645 | |
| August | 432 | 0.004262 | | 312 | 0.007774 | |
| September | 384 | 0.005320 | | 336 | 0.007419 | |
| October | 432 | 0.005519 | | 313 | 0.004813 | |
| November | 400 | 0.006198 | | 320 | 0.005667 | |
| December | 400 | 0.004556 | | 344 | 0.005169 | |

| | Hours | Avg. Error-Hz | 2001 | Hours | Avg. Error-Hz | Notes |
|-----------|-------|---------------|------|-------|---------------|-------|
| January | 416 | 0.009791 | | 328 | 0.004785 | |
| February | 384 | 0.005966 | | 288 | 0.003418 | |
| March | 432 | 0.005331 | | 312 | 0.002265 | |
| April | 400 | 0.001309 | | 319 | 0.003377 | |
| May | 416 | -0.001127 | | 328 | 0.003150 | |
| June | 416 | -0.000529 | | 304 | 0.004391 | |
| July | 400 | 0.000370 | | 344 | 0.004561 | |
| August | 432 | 0.000637 | | 312 | 0.003328 | |
| September | 384 | 0.000948 | | 336 | 0.000911 | |
| October | 432 | 0.000345 | | 313 | 0.000846 | |
| November | 400 | 0.002816 | | 320 | 0.002282 | |
| December | 400 | 0.003225 | | 344 | 0.001594 | |
| | Hours | Avg. Error-Hz | 2000 | Hours | Avg. Error-Hz | Notes |
| January | 400 | 0.002827 | | 344 | -0.001188 | |
| February | 400 | 0.002308 | | 296 | -0.002252 | |
| March | 432 | 0.003782 | | 312 | 0.000788 | |
| April | 400 | 0.003642 | | 319 | 0.002993 | |
| May | 416 | 0.004149 | | 328 | 0.005790 | |
| June | 416 | 0.001789 | | 304 | 0.006633 | |
| July | 400 | 0.000448 | | 344 | 0.004105 | |
| August | 432 | -0.000748 | | 312 | 0.001620 | |
| September | 400 | 0.003370 | | 320 | 0.003365 | |
| October | 416 | 0.003477 | | 329 | 0.001444 | |
| November | 400 | 0.006798 | | 320 | 0.001674 | |
| December | 400 | 0.005740 | | 344 | 0.003816 | |
| | Hours | Avg. Error-Hz | 1999 | Hours | Avg. Error-Hz | Notes |
| January | 400 | 0.001474 | | 344 | -0.001967 | |
| February | 384 | 0.001428 | | 288 | -0.002108 | |
| March | 432 | 0.001864 | | 312 | -0.001878 | |
| April | 416 | -0.000145 | | 303 | -0.000295 | |
| May | 400 | -0.000808 | | 344 | 0.001844 | |
| June | 416 | -0.001457 | | 304 | 0.003184 | |
| July | 416 | -0.004063 | | 328 | 0.003374 | |
| August | 416 | -0.002556 | | 328 | 0.004404 | |
| September | 400 | -0.000548 | | 320 | -0.000803 | |
| October | 416 | 0.000686 | | 329 | -0.001880 | |
| November | 400 | 0.002045 | | 320 | 0.000563 | |
| December | 416 | 0.002972 | | 328 | 0.001763 | |

| | Hours | Avg. Error-Hz | 1998 | Hours | Avg. Error-Hz | Notes |
|-----------|-------|---------------|------|-------|---------------|-------|
| January | 416 | 0.000690 | | 328 | -0.000582 | |
| February | 384 | 0.002181 | | 288 | 0.000388 | |
| March | 416 | 0.001992 | | 328 | 0.000375 | |
| April | 416 | 0.001431 | | 303 | 0.000672 | |
| May | 400 | -0.000816 | | 344 | 0.001800 | |
| June | 416 | -0.000565 | | 304 | 0.003970 | |
| July | 416 | -0.000336 | | 328 | 0.002843 | |
| August | 416 | 0.000462 | | 328 | -0.001579 | |
| September | 400 | 0.000262 | | 320 | -0.000983 | |
| October | 432 | 0.001671 | | 313 | -0.003006 | |
| November | 384 | 0.002164 | | 336 | -0.005066 | |
| December | 416 | 0.002682 | | 328 | -0.003064 | |
| | Hours | Avg. Error-Hz | 1997 | Hours | Avg. Error-Hz | Notes |
| January | 416 | 0.002810 | | 328 | -0.001935 | |
| February | 384 | 0.002597 | | 288 | -0.001380 | |
| March | 416 | 0.002776 | | 328 | -0.000183 | |
| April | 416 | 0.001536 | | 303 | 0.000786 | |
| May | 416 | 0.000134 | | 328 | 0.001214 | |
| June | 400 | 0.000700 | | 320 | 0.004980 | |
| July | 416 | -0.000967 | | 328 | 0.002439 | |
| August | 416 | 0.000272 | | 328 | 0.001956 | |
| September | 400 | -0.000587 | | 320 | 0.000774 | |
| October | 432 | 0.001355 | | 313 | -0.001122 | |
| November | 384 | 0.001977 | | 336 | -0.001099 | |
| December | 416 | 0.001526 | | 328 | -0.001588 | |
| | Hours | Avg. Error-Hz | 1996 | Hours | Avg. Error-Hz | Notes |
| January | 416 | 0.001147 | | 328 | 0.000610 | |
| February | 400 | 0.002357 | | 296 | 0.002440 | |
| March | 416 | 0.001782 | | 328 | -0.000060 | |
| April | 416 | 0.001213 | | 303 | 0.000244 | |
| May | 416 | -0.000510 | | 328 | 0.002900 | |
| June | 400 | -0.001420 | | 320 | 0.003005 | |
| July | 416 | -0.000738 | | 328 | 0.003409 | |
| August | 432 | -0.000264 | | 312 | 0.001601 | |
| September | 384 | 0.001381 | | 336 | -0.001825 | |
| October | 432 | 0.001932 | | 313 | -0.002755 | |
| November | 400 | 0.003141 | | 320 | -0.003279 | |
| December | 400 | 0.001871 | | 344 | -0.000538 | |

| | Hours | Avg. Error-Hz | 1995 | Hours | Avg. Error-Hz | Notes |
|-----------|-------|---------------|------|-------|---------------|---------|
| January | 400 | 0.000769 | | 344 | 0.001192 | |
| February | 384 | 0.001626 | | 288 | 0.002563 | |
| March | 432 | 0.001511 | | 312 | 0.001896 | |
| April | 400 | -0.000034 | | 319 | 0.000446 | |
| May | 416 | -0.000782 | | 328 | 0.000228 | |
| June | 416 | -0.000448 | | 304 | 0.003348 | |
| July | 400 | -0.001050 | | 344 | 0.004829 | |
| August | 432 | -0.000407 | | 312 | 0.004480 | |
| September | 400 | -0.000770 | | 320 | 0.001137 | |
| October | 416 | -0.000917 | | 329 | 0.001292 | |
| November | 400 | 0.000458 | | 320 | 0.000482 | |
| December | 400 | 0.000505 | | 344 | 0.000233 | |
| | Hours | Avg. Error-Hz | 1994 | Hours | Avg. Error-Hz | Notes |
| January | 400 | 0.000638 | | 344 | -0.000530 | |
| February | 384 | 0.000895 | | 288 | -0.000660 | |
| March | 432 | 0.000863 | | 312 | -0.000116 | |
| April | 416 | 0.000714 | | 303 | -0.001130 | |
| May | 400 | -0.000380 | | 344 | 0.000927 | |
| June | 416 | -0.000170 | | 304 | 0.001813 | |
| July | 400 | -0.000660 | | 344 | 0.000157 | |
| August | 432 | 0.000334 | | 312 | 0.000993 | |
| September | 400 | 0.000488 | | 320 | -0.000480 | |
| October | 416 | 0.000736 | | 329 | -0.000715 | |
| November | 400 | 0.000425 | | 320 | -0.000960 | |
| December | 400 | 0.000802 | | 344 | 0.001196 | REVISED |

1/24/2011

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