

Clocks may go a little cuckoo with power grid change

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This Tuesday, June 30, 2015 file photo shows a wall clock in New York. Plugged-in clocks may be losing or gaining as much as seven and a half minutes between May and November 2018 because of U.S. government energy deregulation to save utilities millions of dollars, scientists say. (AP Photo/Patrick Sison)

Running late for work or just miss that bus? You could have a good excuse: Your electric clock might be running a bit cuckoo.

Because of a change in federal energy regulations, some scientists say your trusty, older plug-in [clock](#) may be losing or gaining a few ticks over [time](#).

Electric clocks keep time based on the usually stable and precise pulses of the electric current that powers them. In the U.S., that's 60 hertz (cycles per second). In the past, regulators required [power](#) companies to immediately correct the rate if it slipped off the mark. But that precision is expensive to maintain, so last year, the correction part was quietly eliminated by the Federal Energy Regulatory Commission.

Energy officials insist other standards will keep the time in check, and so far the problem has not amounted to more than a few seconds here and there. But some scientists looked at what could happen without the time correction rule and concluded clocks could gradually go off-kilter if the grid's power was delivered consistently at higher or lower rates than 60 hertz. That can happen when power demand surges or slows because of weather and the grid can't adjust right away.

This would affect clocks that get their power from a wall socket, such as alarm clocks and those on microwaves and coffeemakers. Cellphones, newer clocks with GPS, those connected to cable TV and modern ones that don't rely on the grid to keep time aren't affected, experts said.

The changes could be just matters of seconds and all but unnoticeable, but the time could drift by as much as seven and a half minutes between time changes in March and November, when people reset their clocks, according to a study conducted by researchers at the National Institute of Standards and Technology and the U.S. Naval Observatory.

In some extreme cases, Americans might miss their bus, parts of television shows and even be slightly late or, shudder, early for work, said Demetrios Matsakis, co-author of the study and chief time scientist

at the Naval Observatory.

"They'll think something is wrong with their clock but they won't know what," said Matsakis, co-author of the study.

The request to retire the long-standing time correction rule came from the North American Electric Reliability Corporation (NERC), which coordinates the grid. NERC standards director Howard Gugel says newer standards prevent veering from 60 hertz so the rule isn't needed. NERC has guidelines for what to do if time corrections are necessary, he said in an email.

Without the rule, the fixes will still be made but maybe not right away, said Terry Bilke, who works on time coordination for the Indiana-based Midcontinent Independent System Operator, which provides power to 15 states and Manitoba.

Earlier this year, in the eastern half of the country, a time error of 10 seconds too fast went uncorrected for a week or more. It was during a bitter cold snap and utilities didn't think it was wise to tinker with power levels, said Bill Leonard of the system operator for New England. Generally, time errors are fixed every three to five days in the eastern U.S., he said.

An advocate for the rule change said worries about time slips are unwarranted. Don Badley, a recently retired systems operations manager for the Northwest Power Pool Corporation, said any lingering errors will be corrected when people reset their clocks twice a year.

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