

Date of Hearing: July 1, 2024

ASSEMBLY COMMITTEE ON UTILITIES AND ENERGY

Cottie Petrie-Norris, Chair

SB 1413 (Niello) – As Amended May 16, 2024

SENATE VOTE: 33-1

SUBJECT: Year-round standard time: State Energy Resources Conservation and Development Commission: report

SUMMARY: Requires the California Energy Commission (CEC) to, on or before February 1, 2027, and upon appropriation by the Legislature, prepare and submit a report to the Legislature assessing the near-term and long-term impacts of observing year-round standard time on energy demand and supply.

Specifically, **this bill:**

- 1) Requires the CEC to, on or before February 1, 2027, prepare and submit a report to the relevant policy committees of the Legislature assessing the near-term and long-term impacts of observing year-round standard time on energy demand and supply.
- 2) Requires the report to include, but not be limited to, the potential impacts on electricity reliability in the late summer and early fall.
- 3) Makes the operation of its provisions contingent upon an appropriation by the Legislature for its purpose.
- 4) Repeals the section on February 1, 2029.

EXISTING LAW:

- 1) Establishes, under federal law, the standard time of the United States for each of nine zones and advances for the standard time of each zone by one hour during the period commencing at 2:00 a.m. on the second Sunday of March of each year and ending at 2:00 a.m. on the first Sunday of November of each year. Establishes the standard time within California as that of the fifth zone designated by federal law as Pacific Standard Time (PST). Prohibits a state from setting its standard time to year-round daylight saving time (DST) without the approval of the federal government. (15 U.S. Code § 261-263)
- 2) Mandates that standard time within the state shall advance by one hour during the DST period commencing at 2 a.m. on the second Sunday of March of each year and ending at 2 a.m. on the first Sunday of November of each year. Authorizes the Legislature, by a two-thirds vote, to change the dates and times of the DST period, consistent with federal law, and if federal law authorizes the state to provide for the year-round application of DST. (Government Code § 6808)
- 3) Requires the CEC to continuously carry out studies, research projects, data collection, and other activities required to assess the nature, extent, and distribution of energy resources to meet the needs of the state. (Public Resources Code § 25401)

- 4) Requires the CEC and the California Public Utilities Commission (CPUC), on or before December 15, 2022, and quarterly thereafter, to submit to the Legislature a joint Reliability Planning Assessment that, among other things, includes prospective information on existing and expected resources, including updates on the interconnection status for renewable projects and any delays in interconnection, and expected retirements for both system and local resources. Requires the CEC to continue to report on California energy resources that serve load in California in the energy almanac. (Public Resources Code § 25233)
- 5) Requires the CEC, on a biennial basis, to adopt an integrated energy policy report (IEPR) containing an overview of major trends and issues facing the state. Requires the report to include an assessment and forecast of system reliability and the need for resource additions, efficiency, and conservation that considers all aspects of energy industries and markets that are essential for the state economy, general welfare, public health and safety, energy diversity, and protection of the environment. (Public Resources Code § 25302)

FISCAL EFFECT: According to the Senate Committee on Appropriations, this bill would incur unknown one-time costs, likely in the low to mid hundreds of thousands of dollars (General Fund, Energy Resources Program Account, or other special fund), for the CEC to complete the proposed assessment. Senate Appropriations Committee amendments delayed the report deadline, which could reduce costs.

BACKGROUND:

Standard Time vs. Daylight Saving Time – In California, DST is observed during the time of year when clocks “spring forward,” between the second Sunday of March and first Sunday of November, consistent with federal law. PST in California is observed during the time of year when clocks “fall back,” between the first Sunday of November and second Sunday of March. DST is often referred to as “summer time” and PST is often referred to as “winter time.”

History of DST in the U.S. – DST has been used in the United States since World War I (WWI). On April 30, 1916, in an effort to conserve fuel needed to produce electric power, Germany and Austria advanced the hands of the clock one hour until the following October. Many other nations – mostly in Europe – followed suit. Two years later, the U.S. formally established DST in law and created a standard time, including defining standard time zones. The nation observed DST for seven months in 1918 and 1919, but the law proved so unpopular in the U.S. that it was repealed after WWI ended with a Congressional override of President Wilson’s veto. DST became a local option and was continued in only a few states and cities. During World War II, President Franklin Roosevelt re-instituted year-round DST, called “War Time,” from February 9, 1942 to September 30, 1945.

From 1945 to 1966, there was no federal law regarding DST, so states and localities were free to choose whether or not to observe DST and could choose when it began and ended. This understandably caused confusion, especially for the broadcasting industry, as well as for railways, airlines, and bus companies. Because of the different local customs and laws, radio stations, TV stations, and transportation companies had to publish new schedules every time a state or town began or ended DST. In response, Congress passed the Uniform Time Act of 1966 (15 U.S. Code Section 260a), which established DST to begin on the last Sunday of April and end on the last Sunday of October. Any state that wanted to be exempt from DST could do so by

passing a state law – only Arizona and Hawaii have done so. Federal law does not, however, give states the option to observe DST year-round.

Proposition 12 (1949) and Proposition 7 (2018) – California was one of the states that adopted DST at a time when there were no federal laws on the subject. In 1949, voters adopted Proposition 12, known as The Daylight Saving Time Act, which established standard time within California as the time which the federal government describes and designates as U.S. PST. The initiative required that the state advance time one hour during the period from the last Sunday in April until the last Sunday in September. It also prohibited the Legislature from making changes to the initiative measure unless those changes were submitted to the voters for their approval. Later, in 1962, California voters approved an amendment to the act that extended California DST until the last Sunday in October; this change conformed California DST to DSTs as practiced in the rest of the major states.

In an effort to save energy, Congress passed The Energy Policy Act in 2005 (EPAAct 2005) to extend DST in the U.S. by three weeks in the spring and one week in the fall starting in 2007. This change created a conflict between California's DST law and the federal DST law. However, since federal law provides states only two options, which are to either observe standard time year-round or observe DST on federally mandated dates, California has observed the dates consistent with the adjusted federal dates.

More recently, in 2018, voters passed Proposition 7, which repealed Proposition 12 and permitted the Legislature to change DST by a two-thirds vote and establish permanent year-round DST, pending federal authorization.

DST and energy savings – Claims of energy savings underlie observance of DST during the spring and summer. The argument is simple: by springing the clock forward when there is more sunlight we can take advantage of natural light and use less energy or fuel. Yet, there is no clear evidence that DST results in energy savings, and some evidence suggests the contrary. In a 2008 report on the impacts of extended DST as enacted by EPAAct 2005, the U.S. Department of Energy found that the total electricity savings in 2007 were about 0.03% of electricity consumption over the year.¹

In 2007, the CEC released a study in response to the expansion of DST, providing a more detailed view into its impacts in California, specifically.² Using data from the California Independent System Operator (CAISO) to compare daily total electricity use in the early DST weeks of March 2007 to usage in comparable days of preceding years, the study revealed that the “extension of DST to March 2007 had little or no effect on energy consumption in California... The most likely approximation is a 0.2% decrease during these three weeks.” The findings of the study in relation to energy savings of the changes to DST were largely inconclusive, as the 95% confidence interval could result in a range of 1.5% energy savings to 1.4% greater energy consumption.

Another 2008 study by the National Bureau of Economic Research sought to provide empirical estimates of DST effects on electricity consumption in the U.S. by focusing on residential

¹ DOE; *Impact of Extended Daylight Saving Time on National Energy Consumption, Report to Congress*; October 2008.

² CEC; *The Effect of Early Daylight Saving Time on California Electricity Consumption: A Statistical Analysis*; May 2007.

electricity demand from as far back as the mid-1970s.³ The bureau's main finding was that contrary to the intent of the policy, DST increases residential electricity demand by approximately one percent. The study estimated that DST increased the cost of electricity to Indiana households by about \$9 million a year, or \$3.29 per household. The authors hypothesized that DST may have yielded savings to energy consumers decades ago when a larger share of energy consumption went toward lighting homes; however, advances in lighting technology have made lighting costs negligible next to the expense of heating and cooling. The study acknowledges that the impact is likely to vary by region, with regions where demand for heating and cooling is greater experiencing a higher increase in electricity use.

Sounding the alarm – In recent years, California has experienced significant challenges ensuring electricity reliability during extreme weather events when demand peaks and generation has been reduced or constrained. In the August 2020 heat wave, electric generation and transmission capacity strained to keep up with the increased electricity demand – this event set a peak demand record of 162,017 megawatts (MW) in the Western Interconnection on August 18, 2020.⁴ For the first time in nearly 20 years within the CAISO territory, utilities were forced to shed load – via rotating outages – to help balance the electrical grid. The following year, in the midst of a heat wave, a wildfire in Oregon compromised an electric transmission line, dramatically reducing a critical source of energy imports for the state. As a result, the Governor signed an emergency proclamation that suspended certain permitting requirements and allowed for the use of back-up power generation to alleviate demands on the state's energy grid. In 2022, a 10-day heat wave resulted in the CAISO setting an all-time record for electricity demand of over 52,000 MW on September 6.⁵ The combination of an increased demand and variability with a constrained electricity supply resulted in the state issuing its first ever wireless emergency alert calling on Californians to conserve energy.

Taking lessons from these recent heat waves, the CPUC has created new programs and modified existing programs to reduce energy demand and increase energy supply during critical hours of the day and is working alongside the CEC, CAISO, and the California Air Resources Board (CARB) to carefully and cohesively plan for future electricity needs. However, the frequency, intensity, and length of heat waves are expected to increase in the future across the state,⁶ which may continue to challenge the resiliency and reliability of California's electrical grid.

COMMENTS:

- 1) *Author's statement.* According to the author, "SB 1413 is a bipartisan, multistate effort to "ditch the switch" and end Daylight Saving Time (DST). There have been federal efforts to establish permanent DST but those have failed (Congressional action is needed for permanent DST). There is no act of Congress or federal permission needed to be successful in switching, however, to Permanent Standard Time (PST). This measure is a simple study bill to be sure that there are no major energy implications for California before we contemplate the greater policy decision of moving to PST."

³ Grant, Laura and Kotchen, Matthew; "Does Daylight Saving Time Save Energy? A Natural Experiment in Indiana"; *National Bureau of Economic Research*; October 2008.

⁴ Western Electricity Coordinating Council; "August 2020 Heatwave Event Analysis Report"; March 2021.

⁵ CAISO; "California ISO posts analysis of September heat wave"; November 2022.

⁶ Southwest Climate Science Center; "California Heat Waves"; July 2015.

- 2) *Are we talking about energy?* Within the Legislature, many attempts have been made to do away with the biannual changing of the clocks, with some efforts advocating for year-long standard time and others championing for year-long DST. States remain prohibited from establishing year-long DST without federal authorization; as such, year-long PST may be more achievable within the confines of California's authority. The data regarding energy savings potentially granted by either of these measures, however, are more than 10 years old and inconclusive. Contemporary arguments for permanent standard time (and permanent DST) are not related to energy and instead center on health and safety considerations. The main benefits cited by the author and supporters are the avoidance of public health impacts associated with switching the time by an hour twice a year, including increased heart attacks and strokes, traffic accidents, and workplace injuries as residents adjust to the time differences.
- 3) *We might be talking about energy.* Since the 2007 CEC study, California has increased its use of intermittent renewable resources, particularly solar energy which can only be harnessed when the sun is shining. In recent years, the CAISO has experienced challenges maintaining electric grid reliability in the evening hours of the late summer when solar generation plummets. These challenges were worsened by the increasing number of retired resources across the western U.S. and the drop in hydroelectric power generation due to prolonged drought in the state. As a result, the state has invested billions from the general fund and utility ratepayers to help shore up resources. It is unclear whether a move to permanent PST might exacerbate the conditions that have challenged summer reliability since the sun would set earlier on these days as a result of this change. This bill would require the CEC, upon appropriation by the Legislature, to assess the implications of moving to year-long PST on energy reliability. The bill analysis by the Senate Committee on Appropriations recognizes that the CEC may seek contract support to complete the proposed assessment. The author has indicated that their intention is to contract out this assessment to a University of California entity with relevant expertise in energy.
- 4) *Related legislation.*

AB 1776 (Ta) would have repealed DST in the state and the Legislature's authority to amend Proposition 7 by a two-thirds vote and would have required California to observe year-round PST. Status: Held in Assembly Committee on Governmental Organization.

- 5) *Prior legislation.*

AB 2868 (Choi, 2022) would have established year-round DST effective immediately once the federal government authorizes such a change. Status: Failed passage on the Assembly Floor.

AJR 33 (Chu, 2020) would have urged Congress and the President to enact legislation that would allow a state to adopt DST year-round. Status: Never heard. Died at the Assembly Desk.

AB 7 (Chu, 2019) would have established year-round DST effectively immediately once the federal government authorized such a change. Status: Died – held in Senate Committee on Energy, Utilities, and Communications.

Proposition 7 (2018) made numerous changes to the state's statute concerning DST, including: conform the dates of DST observance with those in the federal statute; authorize the state, by a two-thirds vote of the Legislature, to adopt a year-round DST if allowed by the federal government; and repeal numerous sections of the 1949 California DST Act.

AB 807 (Chu) directed the Secretary of State to place an initiative on the ballot to allow voters to decide whether to authorize the Legislature, by a two-thirds vote of the members, to make changes to the state's observance of DST consistent with and to the extent authorized by federal law. Status: Chapter 60, Statutes of 2018.

AB 385 (Chu, 2016) would have repealed the DST Act and authorized the Legislature by majority vote to amend the law for the application of permanent (year-round) DST. Status: Failed passage on the Senate Floor.

AB 2496 (Chu, 2016) would have declared it the intent of the Legislature to enact legislation to establish PST as the standard time within the state during the entire year. Status: Never heard. Died at the Assembly Desk.

AJR 28 (Oberholte) urged Congress and the President to enact legislation that would allow states to adopt permanent (year-round) DST. Status: Chapter 167, Statutes of 2016.

SJRX2 1 (Karnette) memorialized Congress to approve legislation that allows a state to uniformly apply DST year-round. Status: Chapter 1, Statutes of 2001.

REGISTERED SUPPORT / OPPOSITION:

Support

American Academy of Sleep Medicine
California Medical Association
California Sleep Society
Coalition for Permanent Standard Time
National Sleep Foundation
Northwest Noggin Neuroscience
Save Standard Time (501c4 Nonprofit)
Sleep Research Society

Opposition

None on file.

Other

California Alliance for Golf

Analysis Prepared by: Kathleen Chen / U. & E. / (916) 319-2083