Date of Hearing: June 29, 2026

ASSEMBLY COMMITTEE ON NATURAL RESOURCES
Isaac G. Bryan, Chair
SB 925 (McNerney) – As Amended June 15, 2026

SENATE VOTE: 37-0

SUBJECT: Fusion energy: State Energy Resources Conservation and Development Commission: strategic plan: certification and environmental review

SUMMARY: Requires the California Energy Commission (CEC) to develop a strategic plan for fusion energy and makes fusion energy manufacturing projects eligible for expedited California Environmental Quality Act (CEQA) review by the CEC.

EXISTING LAW:

1) Requires the CEC to evaluate various fusion technologies and to analyze the feasibility of using nuclear fusion in the state as part of its 2027 integrated energy policy report (IEPR). (Public Resources Code (PRC) 25302.4)

2) Establishes the Fusion Research and Development Innovation Initiative at the CEC to accelerate the development and growth of fusion energy by advancing fusion science and technology. (PRC 25997 *et seq.*)

3) Authorizes specified energy projects not subject to the CEC's thermal powerplant licensing process to opt-in to a CEC process for expedited CEQA review, in lieu of review by the appropriate local lead agency. Eligible projects include manufacture, production, or assembly of an energy storage, wind, or photovoltaic system or component, or specialized products, components, or systems that are integral to renewable energy or energy storage technologies, for which the applicant has certified that a capital investment of at least $250 million will be made over a period of five years. (PRC 25545 *et seq.*)

THIS BILL:

1) Requires the CEC, in coordination with specified agencies, to develop a strategic plan for the development of fusion energy in California and submit the plan to the Legislature on or before December 31, 2028.

2) Requires the CEC, in coordination with relevant agencies and the fusion energy industry, to develop and include the following in the strategic plan report:

    a) A strategy for the expansion and development of fusion research and development in California.

    b) A strategy for supporting the commercialization of fusion energy in California.

    c) A regulatory framework for fusion energy and roadmap for licensing and permitting for new fusion energy research and fusion energy facilities.

d) An assessment of the level at which fusion energy at scale would best support California's long-term renewable energy and greenhouse gas emission reduction goals.

3) Adds fusion energy manufacturing as an eligible project for the CEC's opt-in permitting process.

FISCAL EFFECT: According to the Senate Appropriations Committee:

- The CEC estimates one-time costs of $3.3 million spread over two years and ongoing costs of $2.2 million annually (Energy Facility Licensing and Compliance Fund [EFLCF] and either Energy Resources Programs Account [ERPA] or General Fund) to implement the provisions of this bill. Of this amount, up to $1.8 million may be offset by fee revenue from Opt-In program applicant deposits.

- The Governor's Office of Land Use and Climate Innovation (LCI) estimates one-time costs of about $101,000 spread over two years (General Fund) to support updates to guidelines, facilitate development of communications materials, and support coordination and engagement.

- Unknown but likely very significant ongoing cost pressure, perhaps over $10 million annually (various funds), to fund elements of the strategic plan once it is developed pursuant to this bill.

COMMENTS:

1) **Background**. There are two fundamental ways to release energy from nuclear reactions: fission and fusion of atomic nuclei. Nuclear fission is a nuclear reaction or a radioactive decay process in which the atomic nucleus splits into lighter nuclei, releasing some combination of particles and energy. Nuclear fusion is a reaction in which multiple atomic nuclei combine to form a combination of new atomic nuclei and subatomic particles with the resulting mass difference manifesting as either an absorption or release of energy. Electricity generating technologies based on fission are commercially available, whereas fusion is still in the stages of research and development.

   A fusion reaction occurs when atomic nuclei, such as hydrogen and its isotopes (deuterium and tritium), are forced together (using some combination of extremely high temperature, pressure, or velocity to overcome the electrostatic force) until they fuse into a nuclei of a heavier element. The fusion process releases a combination of particles and kinetic energy proportional to the difference in mass. There are multiple fusion methods that are currently being pursued for use in a commercial reactor system.

   To generate commercial energy from fusion, the released energy would be converted to heat, which in turn is converted to electricity via a conventional generator cycle. Although the fusion reaction does not produce significant or long-lived radioactive byproducts, the high-energy particles irradiate the surrounding reactor vessel and associated components. The irradiated material could pose potential disposal problems similar to those for the irradiated fission reactor vessel. The reasons fusion continues to be actively pursued is that unlike nuclear fission, there are less waste products, no risk of a nuclear melt down, and fusion

power provides more energy for a given weight of fuel than any fuel-consuming energy source currently in use.

The aim of the controlled fusion research program is to achieve "ignition," which occurs when enough fusion reactions take place for the process to become self-sustaining, with fresh fuel then being added to continue it. Once ignition is achieved, there is net energy yield – about four times as much as with nuclear fission. According to the Massachusetts Institute of Technology, the amount of power produced increases with the square of the pressure, so doubling the pressure leads to a fourfold increase in energy production.

The world's most powerful laser fusion facility, the National Ignition Facility (NIF) at Lawrence Livermore National Laboratory, was completed in March 2009. Using its 192 laser beams, NIF is able to deliver more than 60 times the energy of any previous laser system to its target. In December 2022, a team at NIF conducted the first controlled fusion experiment in history to reach the ignition milestone, meaning it produced more energy from fusion than the laser energy used to drive it.

2) **Author's statement**:

> For decades, fusion energy was viewed as a distant promise of unlimited clean energy that might never be realized. But not anymore. Successful fusion ignition has already been achieved multiple times at the Lawrence Livermore National Laboratory in my Senate district — the only place in the world to do so. California now needs to build out its regulatory framework to keep fusion jobs and investment here in the state. SB 925 will require the CEC to create a strategic roadmap to advance fusion energy. This includes assisting research and development, locating sites for future power plants, and creating a licensing and permitting framework.

3) **Double referral**. This bill was heard and passed by the Utilities and Energy Committee on June 10 by a vote of 18-0.

REGISTERED SUPPORT / OPPOSITION:

Support

B3K Prosperity Board
Blue Laser Fusion
City of Bakersfield
City of Livermore
Clean Air Task Force
East County Economic Development Council
Ex-Fusion America
Focused Energy
Fuse
General Atomics
Helicity Space
High Temperature Superconductors
Inertia Enterprises
Innovation for Green Advanced Transportation Excellence Development Corporation (I-GATE)
Innovation Tri-Valley Leadership Group

Kyoto Fusioneering America
Longview Fusion Energy Systems
Marathon Fusion
MIFTI Fusion
Openstar Technologies
Pacific Fusion
San Diego Regional Chamber of Commerce
San Diego Regional Economic Development Corporation
San Diego State University
TAE Technologies

Opposition

None on file

Analysis Prepared by: Lawrence Lingbloom / NAT. RES. /