SENATE COMMITTEE ON ENERGY, UTILITIES AND COMMUNICATIONS
Senator Steven Bradford, Chair
2023 - 2024 Regular

Bill No:	SB 1298	**Hearing Date:**	4/16/2024
Author:	Cortese		
Version:	2/15/2024 Introduced		
Urgency:	No	**Fiscal:**	Yes
Consultant:	Sarah Smith		

SUBJECT: Certification of thermal powerplants: data centers

DIGEST: This bill authorizes the California Energy Commission (CEC) to exempt a thermal powerplant with generation capacity up to 200 megawatts (MW) from the CEC's powerplant siting review if that powerplant is solely used as emergency backup power for a data center and certain conditions are met.

ANALYSIS:

Existing law:

1) Defines a "thermal powerplant" as any stationary or floating electrical generating facility with a generating capacity of 50 MW or more using any source of thermal energy. Thermal powerplants include facilities related to the powerplant; however, they do not include facilities related to a geothermal development or production facility. Existing law also exempts certain renewable energy generation facilities from the definition of a thermal powerplant, including wind, hydroelectric, and solar photovoltaic facilities. (Public Resources Code §25120)

2) Provides the CEC with exclusive authority to certify all power facilities in the state, regardless of whether a facility is a new power site or an addition to an existing site. A certificate provided by the CEC for a power facility serves in lieu of any permit, certificate, or similar authorization required by any local, regional, state, or federal agency to the extent permitted by federal law. (Public Resources Code §25500)

3) Designates the CEC as the lead review agency under the California Environmental Quality Act (CEQA) for projects subject to the CEC's powerplant siting review authority. Any other public agency making a decision related to the CEQA review of a powerplant that is subject to the CEC's authority must use the CEC's certification review as the environmental impact report for that decision. (Public Resources Code §25519)

4) Allows the CEC to exempt from its certification process certain thermal powerplants with a generating capacity up to 100 MW and modifications to existing facilities that do not add capacity in excess of 100 MW. The CEC may provide an exemption as long as the CEC finds that no substantial adverse impact on the environment or energy resources will result from the construction or operation of the proposed facility or from the modifications. (Public Resources Code §25541)

5) Provides an expedited judicial review of CEC decisions for powerplant and transmission applications for certification. These decisions are subject to judicial review by the California Supreme Court. All other courts within the state are prohibited from hearing or determining any issue regarding CEC powerplant and transmission applications which could have been determined in a CEC proceeding and all other courts may not delay or stop construction of a powerplant except to enforce a CEC decision regarding the construction. (Public Resources Code §25531)

This bill exempts thermal powerplants with a generation capacity up to 200 MW from the CEC's powerplant siting process if the following conditions are met:

1) The powerplant is used solely as an emergency backup generation facility for a data center.

2) The powerplant is not interconnected with the electrical transmission grid for the purposes of exporting electricity.

3) The CEC finds that no substantial adverse impact on the environment or energy resources will result from the construction or operation of the proposed data center.

Background

The CEC's powerplant siting process has certain benefits for CEQA review. The CEC's powerplant siting authority was established to set requirements for certifying the construction and operation of new powerplants in the state. Additionally, the process was intended to provide certainty for project developers and offer a public forum in which stakeholders could submit comments and concerns about proposed powerplants. Existing law provides the CEC with the exclusive authority to certify thermal powerplants with a generating capacity of at least 50 MW and the facilities related to those powerplants (e.g. transmission to and from the facility). Existing law designates this review as a CEQA-equivalent process for the purpose of conducting environmental reviews of large thermal

power generation facilities. Projects benefit from the designation of a clear lead agency, which prevents jurisdictional conflicts between agencies. Existing law also establishes an expedited judicial review process for appealing any CEC powerplant certification decisions; these appeals are made directly to the California Supreme Court. Other projects subject to CEQA do not have a similar judicial review process, and the appeals process can require years of litigation before a project can move forward.

Bill expands exemptions to the CEC's powerplant siting review process. While thermal powerplants with a capacity of at least 50 MW are subject to the CEC's powerplant siting review, existing law provides a limited exemption for small thermal generation between 50 MW and 100 MW. Under existing law, the CEC may exempt these smaller generators from the powerplant certification process if the CEC finds that the construction and operation of the powerplant will not result in any adverse impacts on the environment or energy resources. A facility that receives as small powerplant exemption must obtain local, state and federal permits. Additionally, under these exemptions local and state agencies will consider the CEC's findings of environmental and energy impacts for local and state discretionary decisions under CEQA. This bill would expand the existing small powerplant exemption to allow thermal power generators up to 200 MW to obtain an exemption from the CEC's powerplant certification process if the powerplant is used solely for backup power at a data center, the powerplant is not interconnected to transmission for the purposes of exporting electricity, and the CEC finds that the operation of the data center will not result in substantial adverse impacts on the environment or energy resources. For any project receiving a small powerplant exemption under this bill, the CEC would be responsible for performing any needed environmental analyses to determine whether a data center's backup power would have a negative impact on the environment or energy resources, and other local and state agencies providing construction and operation permits would be responsible for any follow-up and mitigation requirements needed. At a minimum, a city or county and the local air quality management district would be responsible for establishing mitigation requirements for permitting an exempted powerplant.

Conspicuous consumption: data centers are major sources of electrical load. Data centers are facilities comprised of large volumes of information technology systems, including servers, data storage, and internet networking infrastructure. Data centers are essential for maintaining internet-based communications and providing certain services, including virtually all cloud-based computing; however, data centers also support a variety of non-essential functions, such as mining for cryptocurrency. Cryptocurrency mining may not be dominant in California as the economies of cryptocurrency mining rely on very low electricity rates. While

some data centers serve multiple clients, other data centers are used by only one organization. Maintaining continuous power and cooling for these systems requires a substantial amount of electricity, making data centers uniquely large energy consumers within the commercial sector. According to the U.S. Department of Energy (DOE), data centers consume 10 to 50 times more energy than similarly sized typical office buildings. In 2022, data centers comprised four percent of total electricity consumption in the United States, and reports indicate that data center electricity consumption is expected to accelerate over the next five years. Data center load growth has already exacerbated electricity reliability in some other states. As this load grows, energy needs for data centers may increase data centers' demand for on-site backup generation facilities. Data centers' demand for backup power is directly tied to the data centers' computing power. These backup power systems are sized to match computing power on a one-to-one basis. As a result, for every unit of computing power added at a data center, the data center must add an additional unit of backup power to secure the operation of those new computing units in the event of a power outage.

Devious Diesel: data centers overwhelmingly rely on diesel for backup power. Since data centers rely on a continuous consumption of uninterrupted electricity, data centers almost always include large-scale diesel combustion generators for backup power. Fuel costs, fuel availability, and the energy capacity of diesel shape the demand for diesel generators over lower and zero-emitting backup power systems. Since the establishment of the small powerplant exemption process in the 1980s, the CEC has provided a total of 31 small powerplant exemptions, including 12 exemptions provided for data centers' backup power generators. All but one of the 12 data center backup power exemptions were provided for diesel generators. While other critical facilities, including hospitals, military facilities, telecommunications facilities, and certain government offices maintain some diesel generation for backup power, none of these facilities have required the scale of diesel backup used by data centers. Additionally, a number of critical facilities have sought to reduce their reliance on diesel backup power by adding other on-site power resources that have lower emissions profiles, such as solar-storage microgrids and fuel cells.

Bill may disproportionately impact certain communities. This bill provides expands the CEC's small powerplant exemption authority solely for data centers' backup power. As a result, this bill may result in increased thermal generation co-located with large data centers. Large data center construction has not occurred evenly across the state. These centers largely exist in the Silicon Valley; however, even in the Silicon Valley, not all cities are experiencing the same growth in data center construction. The CEC's small powerplant exemption data shows that all the data centers seeking powerplant exemptions are located in the cities of Santa

Clara and San Jose; however, 75 percent of the facilities are located in Santa Clara. Additionally, all but two of the 12 small powerplant exemptions for data centers' backup power generators have occurred in the past five years, resulting in the addition of over 667 MW of diesel generation in the City of Santa Clara and over 190 MW of diesel generation in the City of San Jose since 2019. In addition to accelerating the amount of local thermal generation sited in a small geographic area, the increased rate of small powerplant exemptions has also increased these cities' workload to follow-up on CEQA duties that otherwise would have been conducted by the CEC.

Need for Amendments. This bill would double the allowable diesel generation for data centers' backup power that may be exempted from the CEC's full powerplant siting review process. However, the continuous siting of backup power for data centers under current law does not clearly show that increasing the amount of diesel generation exempt from this certification process is needed to sufficiently provide backup power to data centers. This bill also implies that data centers' thermal power generation can be interconnected to transmission systems despite backup generation being on the customer-side of the meter. *As a result, the author and committee may wish to amend this bill to clarify that the CEC may exempt up to a total of 150 MW of thermal backup power at a single data center facility, subject to the following conditions: the backup power systems are not interconnected to the distribution system, the CEC finds that no lower emission backup power systems are technologically feasible, and the construction and operation of the facility and any modifications would not result in any substantial adverse impacts on the environment and energy resources.*

Prior/Related Legislation

SB 858 (Beall, 2020) would have exempted data centers' emergency backup power generators from CEC siting approvals and shifted CEQA lead agency authority for these generators from the CEC to local land use authorities. The bill died in the Senate.

FISCAL EFFECT: Appropriation: No Fiscal Com.: Yes Local: No

SUPPORT:

Silicon Valley Leadership Group, Sponsor
Bay Area Council
Carlsbad Chamber of Commerce
Data Center Coalition
ECOLAB

Greater Irvine Chamber of Commerce
Microsoft Corporation
Multicultural Business Alliance
Opportunity Stanislaus
San Francisco Filipino American Chamber of Commerce

OPPOSITION:

Bay Area Air Quality Management District, unless amended
California Air Pollution Control Officers Association
Coalition for Clean Air
Union of Concerned Scientists

ARGUMENTS IN SUPPORT: According to the author:

> Recognizing the critical demand for data processing capabilities, Senate Bill (SB) 1298 allows infrastructure development to keep pace with advancements in cloud computing.
>
> The current vacancy rate of data centers in Silicon Valley is a mere 1.6%, underscoring the need to expand capacity to meet the growing demand. By streamlining the approval process for data centers and maintaining clear guidelines for development, SB 1298 will ensure that innovation is thriving and sustainable in Silicon Valley and across California.
>
> Expanding our data center infrastructure is essential for the continued growth and competitiveness of our tech industry, supporting and expanding the economy throughout California in many sectors.

ARGUMENTS IN OPPOSITION: In opposition, the California Air Pollution Control Officers Association (CAPCOA) states:

> CAPCOA is concerned that raising the exemption threshold from the current 100 to 200 megawatts will encourage larger data centers to be installed, resulting in even more negative impacts to nearby communities. Instead of doubling the exemption, we recommend the Legislature conduct a thorough review of the current 100 megawatt exemption and determine if the exemption threshold should be lowered or removed to be more protective of public health.

The Bay Area Air Quality Management District (BAAQMD) opposes this bill unless it is amended to only expand the CEC's small power plant exemption

authority for thermal backup generation if that thermal backup power is not diesel. BAAQMD states:

> The air quality, climate, and public health impacts due to emissions from these diesel engine power plants is of significant concern, and the Bay Area AQMD routinely provides comments during the CEC siting process to request alternatives to the use of diesel generators such as natural gas engines or fuel cells, or to use better pollution control technology on the proposed diesel engines… Increasing the SPPE threshold from 100MW to 200MW would encourage larger diesel generator facilities to be sited in areas already experiencing higher cumulative burdens. With that in mind, the Bay Area AQMD would not oppose SB 1298 if projects utilizing diesel generators were not eligible for small power plant exemptions over the existing 100MW threshold.

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