



# Replacement Pool Pump Motor Standard

Efficiency Division  
Sean Steffensen, P.E.

Business Meeting  
April 8, 2020



# Proposed for Adoption

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- Staff is proposing the adoption of a resolution regarding efficiency standards and test methods for:
  - Replacement dedicated-purpose pool pump motors (RDPPPM)
  - Dedicated-purpose pool pumps (DPPP)
- The resolution has two items:
  - Item 1, the proposed negative declaration under the California Environmental Quality Act or CEQA.
  - Item 2, the proposed regulatory language for the efficiency standard



# California Environmental Quality Act

- Staff finding that proposed efficiency standards will not have any significant adverse effect on environment
- No written comments received as of March 30, 2020
- Request approval on the proposed negative declaration





# Staff Proposal

- Expand scope to include residential and commercial RDPPPM
- Update RDPPPM motor test method
- Set minimum RDPPPM motor efficiency and remove prescriptive motor type prohibition
- Set RDPPPM prescriptive variable speed motor control
- Incorporate U.S. DOE DPPP test methods and standards
- Final staff report contains proposal details

**Builds upon previous proposals and negotiations**



# Standard is Technically Feasible

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- Models certified to the CEC Modernized Appliance Efficiency Database (MAEDbS) meet the proposed RDPPPM standard
- U.S. DOE found the DPPP standard technically feasible for a national standard



# Standard is Cost-Effective

## *Residential* Replacement Pool Pump Motor

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SAVINGS	\$89
COST	-\$19

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BENEFIT	\$70
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## *Commercial* Replacement Pool Pump Motor

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SAVINGS	\$6,294
COST	-\$ 424

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BENEFIT	\$5,870
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Staff examined 8 applications and found all cost-effective



# Thank You

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Efficiency Division

Docket 19-AAER-02

<b>DOCKETED</b>	
<b>Docket Number:</b>	19-AAER-02
<b>Project Title:</b>	Replacement Pool Pump Motors
<b>TN #:</b>	232153
<b>Document Title:</b>	Proposed Regulatory Language As related to Dedicated-Purpose Pool Pumps and Replacement Dedicated-Purpose Pool Pump Motors
<b>Description:</b>	N/A
<b>Filer:</b>	Sean Steffensen
<b>Organization:</b>	California Energy Commission
<b>Submitter Role:</b>	Commission Staff
<b>Submission Date:</b>	2/20/2020 1:06:41 PM
<b>Docketed Date:</b>	2/20/2020

# Proposed Regulatory Language

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California Code of Regulations  
Title 20. Public Utilities and Energy  
Division 2. State Energy Resources Conservation and Development Commission  
Chapter 4. Energy Conservation  
Article 4. Appliance Efficiency Regulations  
Sections 1601 - 1609

As related to Dedicated-Purpose Pool Pumps and Replacement Dedicated-Purpose Pool Pump  
Motors

February 21, 2020

The proposed changes to the Title 20 regulations are provided below. Changes to the regulations are marked with underlining (new language) and ~~striketroughs~~ (deletions). Three dots or “...” represents the substance of the existing regulations that will remain unchanged between the sections containing proposed language changes.

## Section 1601. Scope.

...[skipping first paragraph through (f)]

(g) Pool heaters; portable electric spas; residential pool pump and motor combinations, and replacement residential pool pump motors; and pumps, dedicated-purpose pool pumps, and replacement dedicated-purpose pool pump motors ~~portable electric spas, and pumps.~~

...[skipping the rest of section 1601]

Note: Authority cited: Sections 25213, 25218(e), 25401.9, 25402(a)-25402(c) and 25960, Public Resources Code; and sections 16, 26, and 30, Governor’s Exec. Order No. B-29-15 (April 1, 2015).

Reference: Sections 25216.5(d), 25401.9, 25402(a)-25402(c), 25402.5.4, and 25960, Public Resources Code; and section 16, Governor’s Exec. Order No. B-29-15 (April 1, 2015).

## Section 1602. Definitions.

...[skipping (a) through (f)]

(g) ~~Pool Heaters; Portable Electric Spas; Pumps, Residential Pool Pump and Motor Combinations, and Replacement Residential Pool Pump Motors; and Pumps, Dedicated-Purpose Pool Pumps, and Replacement Dedicated-Purpose Pool Pump Motors.~~

...[skipping (g)(1) through (g)(2)]

**(3) Residential Pool Pump and Motor Combinations and Replacement Residential Pool Pump Motors Definitions. The following definitions apply to products manufactured before July 19, 2021.**

1 ...[skipping “Capacitor start-capacitor run” through “Pool pump motor capacity”]

2 “Replacement residential pool pump motor” means a replacement motor marketed by a  
3 manufacturer intended to be coupled to an existing residential pool pump that is used to  
4 circulate and filter pool water in order to maintain clarity and sanitation.

5 ...[skipping “Residential pool pump” through rest of (g)(3)]

6 **(4) Pumps, Dedicated-Purpose Pool Pumps, and Replacement Dedicated-Purpose Pool Pump**  
7 **Motors Definitions.**

8 ...[skipping ‘Bare pump”]

9 “Basket strainer” means a perforated or otherwise porous receptacle, mounted within a housing  
10 on the suction side of a pump that prevents solid debris from entering a pump. The basket  
11 strainer receptacle is capable of passing spherical solids of 1 millimeter (mm) in diameter and  
12 can be removed by hand or using only simple tools such as a screwdriver, pliers, or an open-  
13 ended wrench.

14 ...[skipping “Basic model” through “Control”]

15 “Dedicated-purpose pool pump” comprises self-priming pool filter pumps, non-self-priming  
16 pool filter pumps, waterfall pumps, pressure cleaner booster pumps, integral sand-filter pool  
17 pumps, integral-cartridge filter pool pumps, storable electric spa pumps, and rigid electric spa  
18 pumps.

19 “Dedicated-purpose pool pump motor total horsepower” means the product of the dedicated-  
20 purpose pool pump nominal motor horsepower and the dedicated-purpose pool pump service  
21 factor of a motor used on a dedicated-purpose pool pump based on the maximum continuous  
22 duty motor power output rating allowable for the motor’s nameplate ambient rating and  
23 insulation class.

24 “Dedicated-purpose pool pump service factor” means a multiplier applied to the rated  
25 horsepower of a pump motor to indicate the percent above nameplate horsepower at which the  
26 motor can operate continuously without exceeding its allowable insulation class temperature  
27 limit.

28 “Designed and marketed” means that the equipment is designed to fulfill the indicated  
29 application and, when distributed in commerce, is designated and marketed for that  
30 application, with the designation on the packaging or any publicly available documents such as  
31 product literature, catalogs, and packaging labels.

32 ...[skipping “Driver” through “Fire pump”]

33 “Freeze protection control” means a pool pump or replacement motor control that, at a certain  
34 ambient temperature, turns on the dedicated-purpose pool pump or replacement motor to  
35 circulate water for a period of time to prevent the pool and water in plumbing from freezing.

36 ...[skipping “Full impellor diameter” through “In-line (IL) pump”]

1 “Integral” means a part of the device that cannot be removed without compromising the  
2 device’s function or destroying the physical integrity of the unit.

3 “Integral cartridge-filter pool pump” means a pump that requires a removable cartridge filter,  
4 installed on the suction side of the pump, for operation, and the cartridge filter cannot be  
5 bypassed.

6 “Integral sand-filter pool pump” means a pump distributed in commerce with a sand filter that  
7 cannot be bypassed.

8 ...[skipping Magnet-driven pump”]

9 “Maximum operating speed” means the rated full-load speed of a motor powered by a 60 Hertz  
10 (Hz) alternating current (AC) source. Speed is expressed in revolutions per minute (RPM).

11 ...[skipping Mechanical equipment through “Mechanically-coupled pump”]

12 “Multi-speed dedicated-purpose pool pump” means a dedicated-purpose pool pump that is  
13 capable of operating at more than two discrete, pre-determined operating speeds separated by  
14 speed increments greater than 100 revolutions per minute (RPM), where the lowest speed is less  
15 than or equal to half of the maximum operating speed and greater than zero, and must be  
16 distributed in commerce with an on-board pool pump control (i.e., variable speed drive and  
17 user interface or programmable switch) that changes the speed in response to pre-programmed  
18 user preferences and allows the user to select the duration of each speed or the operational  
19 times or both.

20 ...[skipping “Non-continuous control]

21 “Non-self-priming pool filter pump” means a pool filter pump that is not certified under  
22 NSF/ANSI 50-2015, “Equipment for Swimming Pools, Spas, Hot Tubs and Other Recreational  
23 Water Facilities”, to be self-priming and is not capable of re-priming to a vertical lift of at least  
24 5.0 feet with a true priming time less than or equal to 10.0 minutes, when tested in accordance  
25 with section 1604(g)(4)(B) of this Article, and is not a waterfall pump.

26 ...[skipping “PEI<sub>cl</sub>” through “PEI<sub>vl</sub>”]

27 “Pool filter pump” means an end suction pump that:

28 (A) either:

- 29 1. includes an integrated basket strainer; or
- 30 2. does not include an integrated basket strainer, but requires a basket strainer for  
31 operation, as stated in manufacturer literature provided with the pump; and

32 (B) may be distributed in commerce connected to, or packaged with, a sand filter, removable  
33 cartridge filter, or other filtration accessory, provided that the filtration accessory is  
34 connected with consumer-removable connections that allow the filtration accessory to be  
35 bypassed.

1 “Pool pump timer” means a pool pump control that automatically turns off a dedicated-purpose  
2 pool pump after a run-time of no longer than 10 hours.

3 “Pressure cleaner booster pump” means an end suction dry rotor pump designed and marketed  
4 for pressure-side pool cleaner applications, and which may be UL listed under UL 1081-2016,

5 ...[skipping Prime-assist pump” through “Radially split, multi-stage, vertical, in-line diffuser  
6 casing (RSV) pump”]

7 “Removable cartridge filter” means a filter component with fixed dimensions that captures and  
8 removes suspended particles from water flowing through the unit. The removable cartridge  
9 filter is not capable of passing spherical solids of 1 mm in diameter or greater, and can be  
10 removed from the filter housing by hand or using only a simple tool such as a screwdriver,  
11 plier, or open-ended wrench.

12 “Replacement dedicated-purpose pool pump motor” means an electric motor that:

13 (A) is single-phase or polyphase;

14 (B) has a dedicated purpose pool pump motor total horsepower of less than or equal to 5  
15 horsepower;

16 (C) is marketed for use as a replacement motor in self-priming pool filter pump, non-self-  
17 priming pool filter pump, or pressure cleaner booster pump applications; and

18 (D) excludes polyphase replacement dedicated-purpose pool pump motors capable of  
19 operating without a drive, and is sold or offered for sale without a drive that converts  
20 single-phase power to polyphase power.

21 “Rigid electric spa pump” means an end suction pump that does not contain an integrated  
22 basket strainer or require a basket strainer for operation as stated in manufacturer literature  
23 provided with the pump and that meets the following three criteria:

24 (A) is assembled with four through bolts that hold the motor rear endplate, rear bearing,  
25 rotor, front bearing, front endplate, and the bare pump together as an integral unit;

26 (B) is constructed with buttress threads at the inlet and discharge of the bare pump; and

27 (C) uses a casing or volute and connections constructed of a non-metallic material.

28 ...[skipping “Rotodynamic pump”]

29 “Sand filter” means a device designed to filter water through sand or an alternate sand-type  
30 media.

31 “Self-priming pool filter pump” means a pool filter pump that is certified under NSF/ANSI 50-  
32 2015, to be self-priming or is capable of re-priming to a vertical lift of at least 5.0 feet with a  
33 true priming time less than or equal to 10.0 minutes, when tested with section 1604(g)(4)(B) of  
34 this Article, and is not a waterfall pump.

35 ...[skipping “Self-priming pump” through “Single axis flow pump”]

1 "Single-speed dedicated-purpose pool pump" means a dedicated-purpose pool pump that is  
2 capable of operating at only one speed.

3 "Storable electric spa pump" means a pump that is distributed in commerce with the following:

4 (A) an integral heater; and

5 (B) an integral air pump.

6 "Submersible pump" means a pump that is designed to be operated with the motor and bare  
7 pump fully submerged in the pumped liquid.

8 ...[skipping "Submersible turbine (ST) pump through "Twin head pump"]

9 "Two-speed dedicated-purpose pool pump" means a dedicated-purpose pool pump that is  
10 capable of operating at only two different pre-determined operating speeds, where the low  
11 operating speed is less than or equal to half of the maximum operating speed and greater than  
12 zero, and is distributed in commerce either:

13 (A) with a pool pump control (e.g., variable speed drive and user interface or switch) that is  
14 capable of changing the speed in response to user preferences; or

15 (B) without a pool pump control that has the capability to change speed in response to user  
16 preferences, but is unable to operate without the presence of such a pool pump control.

17 "Variable-speed dedicated-purpose pool pump" means a dedicated-purpose pool pump that is  
18 capable of operating at a variety of user-determined speeds, where all the speeds are separated  
19 by at most 100 revolutions per minute (RPM) increments over the operating range and the  
20 lowest operating speed is less than or equal to one-third of the maximum operating speed and  
21 is greater than zero. Such a pump must include a variable speed drive and be distributed in  
22 commerce either:

23 (A) with a user interface that changes the speed in response to pre-programmed user  
24 preferences and allows the user to select the duration of each speed and/or the on and off  
25 times; or

26 (B) without a user interface that changes the speed in response to pre-programmed user  
27 preferences and allows the user to select the duration of each speed and/or the on and off  
28 times, but is unable to operate without the presence of a user interface.

29 "Variable speed drive" means equipment capable of varying the speed of the motor.

30 "Variable-speed replacement dedicated-purpose pool pump motor" means a replacement  
31 dedicated-purpose pool pump motor that is capable of operating at a variety of user-  
32 determined speeds, where all the speeds are separated by at most 100 revolutions per minute  
33 (RPM) increments over the operating range and the lowest operating speed is less than or equal  
34 to one-third of the maximum operating speed and is greater than zero. Such a motor must  
35 include a variable-speed drive and be sold or offered for sale either:

1 (A) with a user interface that changes the speed in response to preprogrammed user  
2 preferences and allows the user to select the duration of each speed, the operational times,  
3 or both; or

4 (B) without a user interface that changes the speed in response to preprogrammed user  
5 preferences and allows the user to select the duration of each speed, the operational times,  
6 or both, but is unable to operate without the presence of such a user interface.

7 “Waterfall pump” means a pool filter pump with a certified maximum head less than or equal  
8 to 30.0 feet, and a maximum speed less than or equal to 1,800 revolutions per minute (RPM).

9 ...[skipping (h) through (x)]

10 The following documents are incorporated by reference in section 1602.

11 ...[skipping FEDERAL STATUTES AND REGULATIONS through NATIONAL ELECTRIC  
12 MANUFACTURERS ASSOCIATION (NEMA)]

13 NSF INTERNATIONAL

14 NSF/ANSI 50-2015 Equipment for Swimming Pools, Spas, Hot Tubs  
15 and Other Recreational Water Facilities

16 ...[skipping NSF/ANSI 51-2007 through SOCIETY OF MOTION PICTURE AND TELEVISION  
17 ENGINEERS (SMPTE)]

18 UNDERWRITERS LABS (UL)

19 ...[skipping ANSI/UL 448-2013 through UL 588]

20 UL 1081-2016 (October 21, 2016) Standard for Swimming Pool Pumps, Filters, and  
21 Chlorinators.

22 ...[skipping the rest of section 1602]

23 Note: Authority cited: Sections 25213, 25218(e), 25401.9, 25402(a)-25402(c) and 25960, Public  
24 Resources Code; and Sections 16, 26 and 30, Governor's Exec. Order No. B-29-15 (April 1, 2015).

25 Reference: Sections 25216.5(d), 25401.9, 25402(a)-25402(c), 25402.5.4, and 25960, Public  
26 Resources Code; and Section 16, Governor's Exec. Order No. B-29-15 (April 1, 2015).

27 **Section 1602.1. Rule of Construction.**  
28 **(No Change)**

29 ...[skipping the rest of section 1602.1]

30  
31 **Section 1603. Testing: All Appliances.**  
32 **(No Change)**

1 ...[skipping the rest of section 1603]

## 2 **Section 1604. Test Methods for Specific Appliances.**

3 ...[skipping (a) through (f)]

### 4 **(g) Pool Heaters; Portable Electric Spas; Pumps; Residential Pool Pump and Motor** 5 **Combinations, and Replacement Residential Pool Pump Motors; and Pumps, Dedicated-** 6 **Purpose Pool Pumps, and Replacement Dedicated-Purpose Pool Pump Motors.**

7 ...[skipping (g)(1) through (g)(2)]

#### 8 ~~(3) Test Method for Residential Pool Pumps~~

9 The test method for residential pool pumps is as follows:

10 ~~(A) Reported motor efficiency shall be verifiable by test method IEEE 114-2001.~~

11 ~~(B) ANSI/HI 1.6-2000 shall be used for the measurement of pump efficiency.~~

12 ~~(C) Three curves shall be calculated:~~

13 ~~Curve A:  $H = 0.0167 \times F^2$~~

14 ~~Curve B:  $H = 0.050 \times F^2$~~

15 ~~Curve C:  $H = 0.0082 \times F^2$~~

16 ~~Where:~~

17 ~~H is the total system head in feet of water.~~

18 ~~F is the flow rate in gallons per minute (gpm).~~

19 ~~(D) For each curve (A, B, or C), the pump head shall be adjusted until the flow and head lie~~  
20 ~~on the curve. The following shall be tested and reported (i) for each curve for single-~~  
21 ~~speed pumps or (ii) for each curve at both highest and lowest speeds for two-, multi-, or~~  
22 ~~variable speed pumps:~~

23 ~~1. Motor nominal speed (RPM)~~

24 ~~2. Flow (gallons per minute)~~

25 ~~3. Power (watts and volt amps)~~

26 ~~4. Energy Factor (gallons per watt hour)~~

27 ~~Where the Energy Factor (EF) is calculated as:~~

28  ~~$EF = \text{Flow (gpm)} \times 60 / \text{Power (watts)}$~~

#### 29 **(4) Test Methods for Pumps, Dedicated-Purpose Pool Pumps, and Replacement Dedicated-** 30 **Purpose Pool Pump Motors.**

1 (A) The test method for pumps, except for dedicated-purpose pool pumps, is 10 C.F.R.  
2 section 431.464(a) (Appendix A to subpart Y of part 431).

3 (B) The test method for dedicated-purpose pool pumps manufactured on or after July 19,  
4 2021 and served by single-phase or polyphase input power, is 10 C.F.R. 431.464(b)  
5 (Appendix C to subpart Y of part 431).

6 (C) A replacement dedicated-purpose pool pump motor manufactured on or after July 19,  
7 2021, shall be tested in accordance with CSA-C747-09 (Reaffirmed 2014), “Energy  
8 Efficiency Test Methods for Small Motors” at full load and maximum operating speed. If  
9 a drive is sold or offered for sale with the replacement dedicated-purpose pool pump  
10 motor, the input power of the drive while the drive is connected to the motor shall be  
11 used to determine nominal efficiency and power factor per the test procedure.

12 1. Motor torque shall be recorded in lb-ft, motor speed in rotations per minute, and  
13 input power shall be recorded in watts.

14 2. Power factor shall be calculated as:

15 Single phase motors:

16 Power Factor (%) = 100 x Input Power (W)/(Voltage(V) x Amps (A))

17 Three phase motors:

18 Power Factor (%) = 100 x Input Power (W)/(Voltage(V) x Amps(A) x 1.73)

19 where Voltage and Amps are the measured root mean square (rms) voltage and current.

20 ...[skipping (h) through (x)]

21 The following documents are incorporated by reference in section 1604.

22 ...[skipping CALIFORNIA ENERGY COMMISSION TEST METHODS]

23 FEDERAL TEST METHODS

24 ...[skipping C.F.R., Title 10, section 429.56, 429.63, and 429.70 through C.F.R., Title 10, sections  
25 431.443, 431.444, and 431.445]

26 C.F.R., Title 10, section 431.464(a) Appendix A to Subpart Y of 10 C.F.R., § 431

27 C.F.R., Title 10, section 431.464(b), Appendix C to Subpart Y of 10 C.F.R., § 431

28 ...[skipping C.F.R., Title 10, section 431 subpart G through THE ASSOCIATION OF POOL AND  
29 SPA PROFESSIONALS (APSP)]

30 CANADIAN STANDARDS ASSOCIATION (CSA)

31 ...[skipping CSA B45.1-2013]

32 CSA C747-2009(reaffirmed 2014) Energy efficiency test methods for small motors

33 ...[skipping rest of 1604]

34 Note: Authority cited: Sections 25213, 25218(e), 25401.9, 25402(a)-25402(c) and 25960, Public  
35 Resources Code; and Sections 16, 26 and 30, Governor’s Exec. Order No. B-29-15 (April 1, 2015).

1 Reference: Sections 25216.5(d), 25401.9, 25402(a)-25402(c) and 25960, Public Resources Code;  
2 and Section 16, Governor’s Exec. Order No. B-29-15 (April 1, 2015).

3 **Section 1605. Energy Performance, Energy Design, Water**  
4 **Performance, and Water Design Standards: In General.**  
5 **(No Change)**

6 **Section 1605.1. Federal and State Standards for Federally**  
7 **Regulated Appliances.**

8 ...[skipping (a) through (f)]

9 **(g) Pool Heaters; Portable Electric Spas; ~~Pumps~~; Residential Pool Pump and Motor**  
10 **Combinations, and Replacement Residential Pool Pump Motors; and Pumps, Dedicated-**  
11 **Purpose Pool Pumps, and Replacement Dedicated-Purpose Pool Pump Motors.**

12 ...[skipping (g)(1) through (g)(5)]

13 **(6) Energy Efficiency Standards for Pumps.**

14 (A) For the purposes of section 1605.1(g)(6)(B) of this Article, “PEI<sub>cl</sub>” means the constant  
15 load pump energy index and “PEI<sub>vl</sub>” means the variable load pump energy index,  
16 both as determined in accordance with the test procedure in section 1604(g)(~~4~~3)(A)  
17 of this Article. For the purposes of section 1605.1(g)(6)(~~D~~) of this Article, “BEP”  
18 means the best efficiency point as determined in accordance with the test procedure  
19 in section 1604(g)(~~4~~3)(A) of this Article.

20 ...[skipping (g)(6)(B)]

21 **(7) Energy Efficiency Standards for Dedicated-Purpose Pool Pumps.**

22 (A) For the purposes of 1605.1(g)(7)(B) of this article, “WEF” means the weighted energy  
23 factor and “hhp” means the rated hydraulic horsepower, as determined in  
24 accordance with the test procedure in section 1604(g)(4)(B) of this Article and  
25 applicable sampling plans in 10 C.F.R. section 429.59.

26 (B) Each dedicated-purpose pool pump that is not a submersible pump and is  
27 manufactured on or after July 19, 2021, shall have a WEF rating that is not less than  
28 the value calculated from Table G-3 in section 1605.1(g)(7)(B) of this Article:

**Table G-3: Standards for Dedicated-Purpose Pool Pumps Manufactured on or After July 19, 2021**

<u>Equipment class</u>			<u>Minimum allowable WEF score</u> <u>[kgal/kWh]</u>
<u>Dedicated-purpose pool pump variety</u>	<u>hhp Applicability</u>	<u>Motor phase</u>	
<u>Self-priming pool filter pumps</u>	<u>0.711 hp ≤ hhp &lt; 2.5 hp</u>	<u>Single</u>	<u>WEF = -2.30 * ln (hhp) + 6.59.</u>
<u>Self-priming pool filter pumps</u>	<u>hhp &lt; 0.711 hp</u>	<u>Single</u>	<u>WEF = 5.55, for hhp ≤ 0.13 hp</u> <u>-1.30 * ln (hhp) + 2.90, for hhp &gt; 0.13 hp.</u>
<u>Non-self-priming pool filter pumps</u>	<u>hhp &lt; 2.5 hp</u>	<u>Any</u>	<u>WEF = 4.60, for hhp ≤ 0.13 hp</u> <u>-0.85 * ln (hhp) + 2.87, for hhp &gt; 0.13 hp.</u>
<u>Pressure cleaner booster pumps</u>	<u>Any</u>	<u>Any</u>	<u>WEF = 0.42.</u>

(C) Each integral cartridge-filter pool pump and integral sand-filter pool pump that is manufactured on or after July 19, 2021, shall be distributed in commerce with a pool pump timer that is either integral to the pump or a separate component that is shipped with the pump.

(D) For all dedicated-purpose pool pumps manufactured on or after July 19, 2021, with freeze protection controls, the pump shall be shipped with freeze protection disabled or with all of the following default, user-adjustable settings:

1. the default dry-bulb air temperature setting shall be no greater than 40 °F;
2. the default run time setting shall be no greater than 1 hour (before the temperature is rechecked); and
3. the default motor speed shall not be more than one half of the maximum available speed.

(E) Waterfall pumps. There is no energy efficiency standard for waterfall pumps. See 1605.1(g)(7)(D) of this Article for energy design standards for waterfall pumps with freeze protection controls.

**(78) Energy Efficiency Standards and Energy Design Standards for Residential Pool Pump and Motor Combinations, Replacement Dedicated-Purpose Pool Pump Motors, and Replacement Residential Pool Pump Motors.** See section 1605.3(g) of this Article for

1 energy efficiency standards and energy design standards for residential pool pump and  
2 motor combinations, replacement dedicated-purpose pool pump motors, and  
3 replacement residential pool pump motors.

4 ...[skipping the rest of section 1605.1]

5 Note: Authority cited: Sections 25213, 25218(e), 25401.9, 25402(a)-25402(c) and 25960, Public  
6 Resources Code; and sections 16, 26, and 30, Governor's Exec. Order No. B-29-15 (April 1, 2015).

7 Reference: Sections 25216.5(d), 25401.9, 25402(a)-25402(c) and 25960, Public Resources Code;  
8 and section 16, Governor's Exec. Order No. B-29-15 (April 1, 2015).

## 9 **Section 1605.2. State Standards for Federally Regulated** 10 **Appliances.**

11 ...[skipping (a) through (f)]

12 **(g) Pool Heaters; Portable Electric Spas; ~~Pumps~~; Residential Pool Pump and Motor**  
13 **Combinations, and Replacement Residential Pool Pump Motors; and Pumps, Dedicated-**  
14 **Purpose Pool Pumps, and Replacement Dedicated-Purpose Pool Pump Motors.**

15 ...[skipping (g)(1)]

16 **(2) Portable Electric Spas, Residential Pool Pump and Motor Combinations, Replacement**  
17 **Dedicated-Purpose Pool Pump Motors, and Replacement Residential Pool Pump Motors.** See  
18 section 1605.3(g) of this Article for energy efficiency standards and energy design standards for  
19 portable electric spas, residential pool pump and motor combinations, replacement dedicated-  
20 purpose pool pump motors, and replacement residential pool pump motors.

21 ...[skipping (g)(3)]

22 **(4) Dedicated-Purpose Pool Pumps.** See section 1605.1(g)(7) of this Article for energy efficiency  
23 standards for federally regulated dedicated-purpose pool pumps that are manufactured on or  
24 after July 19, 2021.

25 ...[skipping the rest of section 1605.2]

26 Note: Authority cited: Sections 25213, 25218(e), 25401.9, 25402(a)-25402(c) and 25960, Public  
27 Resources Code; and sections 16, 26, and 30, Governor's Exec. Order No. B-29-15 (April 1, 2015).

28 Reference: Sections 25216.5(d), 25401.9, 25402(a)-25402(c) and 25960, Public Resources Code;  
29 and section 16, Governor's Exec. Order No. B-29-15 (April 1, 2015).

## 30 **Section 1605.3. State Standards for Non-Federally Regulated** 31 **Appliances.**

32 ...[skipping (a) through (f)]

33 **(g) Pool Heaters; Portable Electric Spas; ~~Pumps~~, Residential Pool Pump and Motor**  
34 **Combinations, and Replacement Residential Pool Pump Motors; and Pumps, Dedicated-**  
35 **Purpose Pool Pumps, and Replacement Dedicated-Purpose Pool Pump Motors.**

1 ...[skipping (g)(1) through (g)(5)(B)]

2 **(6) Replacement Dedicated-Purpose Pool Pump Motors.**

3 (A) All replacement dedicated-purpose pool pump motors manufactured on or after July  
4 19, 2021, shall meet a nominal efficiency at full-load and maximum operating speed  
5 of no less than the value shown in Table G-4.

6 Table G-4: Standards for Replacement Dedicated-Purpose Pool Pump Motors Manufactured on  
7 or After July 19, 2021

<u>Dedicated-purpose pool pump motor total horsepower</u>	<u>Motor Phase</u>	<u>Nominal Efficiency at Full-Load and Maximum Operating Speed</u>
<u>Motor hp &lt; 0.5 hp</u>	<u>Any</u>	<u>66%</u>
<u>0.5 hp ≤ Motor hp &lt; 1.0 hp</u>	<u>Any</u>	<u>72%</u>
<u>1.0 hp ≤ Motor hp ≤ 5.0 hp</u>	<u>Any</u>	<u>80%</u>

8  
9 (B) Replacement dedicated-purpose pool pump motors with a dedicated-purpose pool  
10 pump motor total horsepower greater than or equal to 0.5 hp manufactured on or  
11 after July 19, 2021, shall be variable-speed replacement dedicated-purpose pool  
12 pump motors.

13 (C) Freeze Protection. All replacement dedicated-purpose pool pump motors  
14 manufactured on or after July 19, 2021 with freeze protection controls, shall be  
15 shipped with freeze protection disabled or with all of the following default, user-  
16 adjustable settings:

- 17 1. the default dry-bulb air temperature setting shall not be greater than 40°  
18 Fahrenheit (F);
- 19 2. the default run time setting shall be no greater than 1 hour (before the  
20 temperature is rechecked); and
- 21 3. the default motor speed shall not be more than one half of the maximum  
22 operating speed of the motor.

23 (D) Replacement Dedicated-Purpose Pool Pump Motor Drive. A pool pump motor drive  
24 manufactured on or after July 19, 2021, that is sold with a variable-speed  
25 replacement dedicated-purpose pool pump motor shall have the default speed  
26 setting of the control set at no more than 55 percent of the maximum operating  
27 speed of the motor. Any high-speed override capability shall be for a temporary  
28 period not to exceed one 24-hour cycle before automatically resetting to default  
29 settings.

30 **(6Z) Portable Electric Spas.**

1 ...[skipping (g)(7)(A)]

2 (B) The normalized standby power, as defined in Table G-35, of portable electric spas  
3 manufactured on or after June 1, 2019, shall be no greater than the applicable values  
4 shown in Table G-35.

5 **Table G-35 Standards for Portable Electric Spas**

6 ...[skipping Table G-5]

7 (8) Dedicated-Purpose Pool Pumps. See section 1605.1(g)(7) of this Article for standards for  
8 dedicated-purpose pool pumps that are federally regulated

9 ...[skipping the rest of section 1605.3]

10 Note: Authority cited: Sections 25213, 25218(e), 25401.9, 25402(a)-25402(c) and 25960, Public  
11 Resources Code; and Sections 16, 26 and 30, Governor’s Exec. Order No. B-29-15 (April 1, 2015).

12 Reference: Sections 25216.5(d), 25401.9, 25402(a)-25402(c) and 25960, Public Resources Code;  
13 and Section 16, Governor’s Exec. Order No. B-29-15 (April 1, 2015).

14 **Section 1606. Filing by Manufacturers; Listing of Appliances**  
15 **in Database.**

16 (a) Filing of Statements.

17 ...[skipping first paragraph through (a)(2)]

18 (3) Testing and Performance Information.

19 (A) A statement that the appliance has been tested in accordance with all applicable  
20 requirements of sections 1603 and 1604 of this Article. If section 1604 of this Article provides  
21 more than one test method that may be used, the manufacturer shall identify which method  
22 was used.

23 ...[skipping Exception 1]

24 EXCEPTION 2. to Section 1606(a)(3)(A) of this Article:

25 For integral cartridge-filter pool pumps and integral sand-filter pool pumps manufactured on  
26 or after July 19, 2021, in lieu of the statement required in section 1606(a)(3)(A) of this Article, a  
27 statement that the appliance meets the energy design requirements of sections 1605.1(g)(7)(C)  
28 and 1605.1(g)(7)(D) of this Article.

29 EXCEPTION 3 to section 1606(a)(3)(A) of this Article:

30 For residential pool pump and motor combinations and residential replacement pool pump  
31 motors, in lieu of the statement required in section 1606(a)(3)(A) of this Article, a statement  
32 that the appliance meets the design requirements of section 1605.3(g)(5)(A) and 1605.3(g)(5)(B)  
33 of this Article.

34 ...[skipping (a)(3)(B) through Table X, Section G “Other Pool Heaters”]

1  
2  
3

Table X  
Data Submittal Requirements

...

	Appliance	Required Information	Permissible Answers
G	Residential Pool Pump and Motor Combinations	<del>Motor Construction</del>	<del>PSC, Capacitor Start-Capacitor Run, ECM, Capacitor Start-induction run, split-phase Permanent Magnet Synchronous</del>
	and Replacement Residential Pool Pump Motors <u>manufactured before July 19, 2021</u>	<u>Motor Construction is Split-Phase</u>	<u>True, False</u>
		<u>Motor Construction is Capacitor Start-Induction Run</u>	<u>True, False</u>
		Motor Design	Single-speed, dual-speed, multi-speed, variable-speed
		Frame	
		Speed (in RPM)	
		Motor has Capability of Operating at Two or More Speeds with the Low Speed having a Rotation Rate that is No More than One-Half of the Motor's Maximum Rotation Rate	True, False
		Unit Type	Residential Pool Pump and Motor Combination, Replacement Residential Pool Pump Motor
		Pool Pump Motor Capacity	
		Motor Service Factor	
		Motor Efficiency (%)	
		Nameplate Horsepower	
		Pump Control Speed (compliance with section 1605.3(g)(5)(B)2. of this Article)	True, False
	Flow for Curve 'A' (in gpm)		

	Appliance	Required Information	Permissible Answers
		Power for Curve 'A' (in watts)	
		Energy Factor for Curve 'A' (in gallons per watt-hour)	
		Flow for Curve 'B' (in gpm)	
		Power for Curve 'B' (in watts)	
		Energy Factor for Curve 'B' (in gallons per watt-hour)	
		Flow for Curve 'C' (in gpm)	
		Power for Curve 'C' (in watts)	
		Energy Factor for Curve 'C' (in gallons per watt-hour)	
	<u>Dedicated-Purpose Pool Pumps manufactured on or after July 19, 2021</u>	<u>Dedicated-purpose pool pump product group</u>	<u>Self-priming pool filter pumps with rated hydraulic horsepower of 0.711 hp &lt;= hhp &lt; 2.5 hp, Self-priming pool filter pumps with rated hydraulic horsepower of hhp &lt; 0.711 hp, Non-self-priming pool filter pumps, Pressure cleaner booster pumps, Integral cartridge-filter pool pumps, Integral sand-filter pool pumps, Waterfall pumps</u>
		<u>Freeze Protection Controls when Shipped</u>	<u>Enabled, Disabled, Not applicable</u>
		<u>Default Dry-Bulb Air Temperature Setting (in degrees F) (when "Freeze Protection Controls when Shipped" = Enabled)</u>	
		<u>Default Run-Time Setting (in minutes) (when "Freeze Protection Controls when Shipped" = Enabled)</u>	
		<u>Default Motor Speed (in rpm) (when "Freeze Protection Controls when Shipped" = Enabled)</u>	
		<u>Default Motor Speed is More than 1/2 of the Maximum Available Speed (when "Freeze Protection Controls when Shipped" = Enabled)</u>	<u>True, False</u>



	Appliance	Required Information	Permissible Answers
		<u>Vertical Lift (in feet) (when “Pump Certified with NSF/ANSI 50-2015” = False)</u>	
		<u>True Priming Time (in minutes) (when “Pump Certified with NSF/ANSI 50-2015” = False)</u>	
		<u>Input Power at the Low Flow Load Point (watts)</u>	
		<u>Flow Rate at the Low Flow Load Point (gpm)</u>	
		<u>Speed at the Low Flow Load Point (rpm)</u>	
	<u>Self-priming pool filter pumps, Non-self-priming pool filter pumps, or Waterfall Pumps</u>	<u>Maximum Head (in feet)</u>	
	<u>Integral cartridge-filter pool pumps or Integral sand-filter pool pumps</u>	<u>Pool pump control is either integral to the pump or a separate component that is sold or offered for sale with the pump</u>	<u>True, False</u>
		<u>Maximum Run-Time (in hours) of the Pool Pump Control</u>	
	<u>Replacement Dedicated-Purpose Pool Pump Motors manufactured on or after July 19, 2021</u>	<u>Replacement Dedicated-Purpose Pool Pump Motor is a Variable-speed replacement dedicated-purpose pool pump motor</u>	<u>True, False</u>
		<u>Dedicated-purpose pool pump motor total horsepower (hp)</u>	
		<u>Nominal efficiency at full-load and maximum operating speed (%)</u>	
		<u>Motor speed at full-load and maximum operating speed (rpm)</u>	
		<u>Motor torque at full-load and maximum operating speed (lb-ft)</u>	

	Appliance	Required Information	Permissible Answers
		<u>Input power at full-load and maximum operating speed (watts)</u>	
		<u>Power factor at full-load and maximum operating speed (%)</u>	
		<u>Motor phase</u>	<u>Single-phase, polyphase</u>
		<u>Sold with motor drive</u>	<u>True, False</u>
		<u>Meets requirements of 1605.3(g)(6)(D) (when “Sold with motor drive” = True)</u>	<u>True, False</u>
		<u>Freeze protection controls is shipped enabled</u>	<u>Enabled, Disabled, Not applicable</u>
		<u>Default dry bulb air temperature setting (°F) (when “Freeze protection controls are shipped enabled”)</u>	
		<u>Default motor speed (rpm) (when “Freeze protection controls are shipped enabled”)</u>	
		<u>Default run time (minutes) (when “Freeze protection controls are shipped enabled”)</u>	
		<u>Is the default motor speed more than 1/2 of the maximum available speed? (when “Freeze protection controls are shipped enabled”)</u>	<u>True, False</u>

1 [skipping remainder of Table X]

2 (4) Declaration.

3 (A) Each statement shall include a declaration, executed under penalty of perjury of the laws of  
4 California, that

5 ...[skipping (a)(4)(A)1. through (a)(4)(A)4.]

6 5. All units of the appliance are marked as required by section 1607 of this Article, and, for the  
7 following appliances, are marked as follows:

8 ...[skipping (a)(4)(A)5.a. through (a)(4)(A)5.f.]

9 g. for residential pool pumps, each pool pump is marked permanently and legibly on an  
10 accessible and conspicuous place on the unit, in characters no less than 1/4 inch, ~~with the~~  
11 ~~nameplate HP of the pump and~~, if manufactured on or after January 1, 2010, with the

1 statement, “This pump must be installed with a two-, multi-, or variable-speed pump motor  
2 controller”;

3 ...[skipping (a)(4)(A)5.h.]

4 i. each replacement dedicated-purpose pool pump motor is marked in accordance with  
5 subdivision 1607(d)(16) of this Article.

6 ...[skipping the rest of section 1606]

7 Note: Authority cited: Sections 25213, 25218(e), 25401.9, 25402(a)-25402(c) and 25960, Public  
8 Resources Code; and Sections 16, 26 and 30, Governor's Exec. Order No. B-29-15 (April 1, 2015).

9 Reference: Sections 25216.5(d), 25401.9, 25402(a)-25402(c), 25402.5.4 and 25960, Public  
10 Resources Code; and Section 16, Governor's Exec. Order No. B-29-15 (April 1, 2015).

## 11 **Section 1607 Marking of Appliances.**

12 ...[skipping (a) through (c)]

13 (d) Energy Performance Information.

14 ...[skipping (d)(1)]

15 (2) Federally Regulated Commercial and Industrial Equipment.

16 ...[skipping paragraph]

Table Y

Requirements for Marking of Federally-Regulated Commercial and Industrial Equipment

Class	Energy Performance Information
Split system central air conditioners (on printed material only)	Cooling capacity, SEER, EER
Single package central air conditioners	Cooling capacity, SEER, EER
Split system heat pumps (on printed material only)	Cooling capacity, heating capacity, SEER, EER, HSPF, COP
Single package heat pumps	Cooling capacity, heating capacity, SEER, EER, HSPF, COP
Package terminal air conditioners	Cooling capacity, EER
Package terminal heat pumps	Cooling capacity, heating capacity, EER, COP
Warm air furnaces	Input rating, thermal efficiency
Packaged boilers	Input rating, thermal efficiency, combustion efficiency (combustion efficiency marking requirement applies only to boilers with input ratings greater than 2,500,000 Btu/h.)
Water heaters	Input rating, rated storage volume, measured storage volume, thermal efficiency, standby loss (%/hr), standby loss (Btu/hr)
Hot water supply boilers	Rated input, rated storage volume, measured storage volume, thermal efficiency, standby loss
<u>Self-priming pool filter pumps, non-self-priming pool filter pumps, pressure cleaner booster pumps, and waterfall pumps</u>	<u>WEF, dedicated-purpose pool pump motor total horsepower</u>

...[skipping (d)(3) through (d)(8)]

(9) Residential Pool Pumps- and Motor Combinations and Replacement Residential Pool Pump Motors.

(A) ~~Each residential pool pump shall be marked, permanently and legibly on an accessible and conspicuous place on the unit, in characters no less than 1/4 inch, the nameplate HP of the pump:~~

1 (BA) Each residential pool pump motor shall be marked, permanently and legibly on an  
2 accessible and conspicuous place on the unit, in characters no less than 1/4 inch, the pool  
3 pump motor capacity of the motor.

4 (CB) Two-, multi-, or variable-speed residential pool pumps and motor combinations  
5 certified to Section 1606 of this Article on or after January 1, 2010, shall be marked,  
6 permanently and legibly on an accessible and conspicuous place on the unit, in characters  
7 no less than 1/4 inch, "This pump must be installed with a two-, multi-, or variable-speed  
8 pump motor controller."

9 ...[skipping (d)(10) through (d)(13)]

10 (14) Portable Electric Spas.

11 ...[skipping (d)(14)(A)]

12  
13  
14 (B) The label for all portable electric spas shall conform to the design specifications listed in  
15 subdivisions (d)(14)(B)1. through (d)(14)(B)4. in this section (inclusive). If the spa has been  
16 tested with multiple spa covers, the label shall display the most recent performance data,  
17 the model number, and the manufacturer, as listed in MAEDbs, of the tested spa cover of  
18 the spa unit-cover combination that yielded the maximum normalized standby power test  
19 result obtained in accordance with section 1605.3(g)(6Z)(B) of this Article. The label may  
20 display the most recent spa cover model number(s) and corresponding spa cover  
21 manufacturer(s) for other covers tested with the unit. If the label lists multiple spa covers,  
22 the label shall display the spa cover model number(s) and corresponding spa cover  
23 manufacturer(s) of the spa covers tested with the unit as listed in MAEDbS.

24  
25 ...[skipping (d)(14)(B)1.]

26  
27 2. Letter Codes for Figure 1 Label Design. Letter codes for Figure 1 above:

28 ...[skipping (d)(14)(B)2.a. through (d)(14)(B)2.o.]

- 29  
30 p. Font: Arial; character height shall not be less than 8 point type, and may be  
31 horizontally scaled to no less than 85 percent. The text shall state the following:  
32 Maximum standby power allowed for this size spa under California Code of  
33 Regulations (CCR) Title 20, section 1605.3(g)(6Z)(B) of this Article and  
34 ANSI/APSP/ICC-14 2014: [insert the allowed maximum normalized standby  
35 power value based on fill volume, rounded to a whole number] Watts.  
36  
37

38 ...[skipping the rest of (d)(14) through (d)(15)]

39  
40  
41 (16) Replacement Dedicated-Purpose Pool Pump Motors.

42 (A) Each replacement dedicated-purpose pool pump motor manufactured on or after July  
43 19, 2021, shall be marked, permanently and legibly with the following:

44 1. dedicated-purpose pool pump motor total horsepower, and



<b>DOCKETED</b>	
<b>Docket Number:</b>	19-AAER-02
<b>Project Title:</b>	Replacement Pool Pump Motors
<b>TN #:</b>	232328
<b>Document Title:</b>	PROPOSED NEGATIVE DECLARATION AND INITIAL STUDY FOR DEDICATED-PURPOSE POOL PUMPS AND REPLACEMENT POOL PUMP MOTORS
<b>Description:</b>	PROPOSED NEGATIVE DECLARATION AND INITIAL STUDY FOR DEDICATED-PURPOSE POOL PUMPS AND REPLACEMENT DEDICATED-PURPOSE POOL PUMP MOTORS RULEMAKING
<b>Filer:</b>	Sean Steffensen
<b>Organization:</b>	California Energy Commission
<b>Submitter Role:</b>	Commission Staff
<b>Submission Date:</b>	3/6/2020 8:52:27 AM
<b>Docketed Date:</b>	3/6/2020

**CALIFORNIA ENERGY COMMISSION**

1516 Ninth Street  
Sacramento, California 95814

Main website: [www.energy.ca.gov](http://www.energy.ca.gov)  
CEC-57 (Revised 1/19)

**PROPOSED NEGATIVE DECLARATION AND INITIAL STUDY FOR DEDICATED-PURPOSE POOL PUMPS AND REPLACEMENT DEDICATED-PURPOSE POOL PUMP MOTORS RULEMAKING**

Docket No. 19-AAER-02

**PROPOSED NEGATIVE DECLARATION****PROJECT NAME AND LOCATION**

This project is a statewide rulemaking proceeding titled Dedicated-Purpose Pool Pumps (DPPP) and Replacement Dedicated-Purpose Pool Pump Motors (RDPPPM) Rulemaking, CEC Docket # 19-AAER-02.

**PROJECT PROPONENT**

California Energy Commission

**PROJECT DESCRIPTION**

The project proposes statewide regulations to create energy efficiency standards for RDPPPM. These products are not covered by federal appliance efficiency standards. The required new efficiency standards apply to newly manufactured products sold or offered for sale in California. CEC is also proposing to incorporate existing Federal Appliance Efficiency regulations into California regulation for DPPP.

The proposed regulations apply to RDPPPM and DPPP, manufactured on or after July 19, 2021. These requirements are motor capability standards for RDPPPM and pump capability standard for DPPP and do not mandate any particular technology or component. The variable speed motor and motor efficiency requirements are a capabilities of the motor and may be implemented by various motor technologies. Manufacturers will need to meet minimum motor efficiency standards and prescriptive motor speed control requirements.

The proposed regulations relevant to this initial study are contained in:

*Proposed Amendments to Appliance Efficiency Regulations, California Code of Regulations, Title 20, sections 1601 Through 1609, 2019 Appliance Efficiency Rulemaking, Replacement Pool Pump Motors, Docket Number 19-AAER-02.*

All the documents listed above are available on the CEC's [website](http://www.energy.ca.gov) <https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=19-AAER-02>, or by phone at (916) 651-2908, or by electronic mail from the CEC's Appliances Office, by submitting a request to [Sean Steffensen](mailto:sean.steffensen@energy.ca.gov) at [sean.steffensen@energy.ca.gov](mailto:sean.steffensen@energy.ca.gov). The documents may also be viewed in person at the CEC at 1516 Ninth Street, Sacramento, California, 95814.

## **BACKGROUND**

The CEC was established in 1974 by the Warren-Alquist Act to develop and implement energy policy for the State of California. One of the CEC's mandates is to promote water and energy efficiency through a variety of means, including efficiency standards for appliances. (Public Resources Code § 25402(c)(1)). The CEC adopted its first appliance efficiency standards in 1976 and has periodically revised those standards, as well as adopted new regulations. The current regulations include provisions on testing of appliances to determine efficiency, reporting of data by manufacturers to the CEC, mandatory minimum efficiency levels, and compliance and enforcement procedures, as well as general provisions on the scope of the regulations and definitions.

The California Environmental Quality Act (CEQA) requires public agencies to identify and consider the potential environmental effects of actions that meet the definition of "project" under the statute, and, when feasible, to reduce any related adverse environmental consequences to less than significant. Adoption of the proposed regulations is a discretionary decision undertaken by a public agency and has the potential to result in direct or indirect physical changes in the environment. Thus, it constitutes a project under CEQA. (See Pub. Resources Code § 21065.) Therefore, the CEC has prepared this initial study to assess the potential significant effects of the proposed regulations on the environment.

The proposed regulations establish energy efficiency standards for RDPPPM and DPPP. The proposed regulations would save about 61 gigawatt-hours the first year the standard is in effect. By the year that stock turns over in 2028, the proposed standards would have an annual savings of about 451 gigawatt-hours. This equates to roughly \$82 million in annual savings to California businesses and individuals. The proposal will have a significant positive impact on the environment by reducing the energy required to pump pool water, with an associated reduction in criteria and greenhouse gas emissions.

Based on the initial study, staff concludes that the regulations will not have a significant impact on the environment, and, in fact, will benefit the environment by resulting in reductions in air pollution. Therefore, a negative declaration is the appropriate environmental document.

All the documents relevant to the propose regulations are available on the [CEC's website](https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=19-AAER-02) <https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=19-AAER-02>, or by phone at (916) 651-2908, or by [electronic mail](mailto:sean.steffensen@energy.ca.gov) from the CEC's Appliances Office, by submitting a request to [sean.steffensen@energy.ca.gov](mailto:sean.steffensen@energy.ca.gov).

## **ENERGY AND ENVIRONMENTAL IMPACTS OF THE PROPOSED PROJECT**

### **ENERGY IMPACTS**

The energy efficiency standards being proposed for RDPPPM will reduce future demand for electricity in the state. The proposed standards would take effect July 19, 2021. The estimated energy savings after complete stock turnover in 2028 are 451 gigawatt-hours (GWh) per year, equivalent to \$82 million in annual cost savings.

This reduction will lead to a reduced need for new power plants, reduced use of fossil fuels for those plants, and fewer new transmission lines.

## **ENVIRONMENTAL IMPACTS**

The proposed energy efficiency standards will reduce energy consumption with no significant change in the energy or the process of manufacturing this appliance type. The proposed standards are a performance motor efficiency standard and a prescriptive variable speed capability standard and do not require the use of any specific material to improve the efficiency of the product.

*Motor efficiency* is the ratio of rotational power at the motor shaft to the electrical power input into the motor. The motor efficiency will always be less than 100 percent due to losses within the motor. Energy losses within electric motors are classified as conduction losses and speed losses. Manufacturers have used a variety of approaches to achieve more efficient motor performance.

*Conduction losses* are due to the resistance the electric current encounters when it flows through a conductor – in this case, the winding wire inside the motor. The power is dissipated as heat rather than converted into rotational energy. The power dissipated by electrical resistance is proportional to the square of the applied current. Manufacturers have lowered the resistance within the motor by modifying the stator and rotor geometry to add more area for the wire conductors. Electrical losses predominate at low speed. Other sources of motor losses at low speed, such as friction, are small compared to the conduction losses.

*Speed losses* include hysteresis and eddy currents within the stator and rotor, frictional losses within bearings, and motor windage (the loss the motor rotor encounters as a drag force as it rotates through air). Hysteresis and eddy currents are due to the interaction between alternating electrical currents and magnetic materials within both alternating current induction and electronically commutated motor stators and rotors. Losses can be reduced by minimizing stator and rotor steel laminations to reduce eddy currents and using ferromagnetic materials with properties that present less hysteresis. Bearing friction can be reduced by appropriate selection of bearings for the motor load and speed. Motor windage can be reduced by streamlining airflow within the motor.

*Stray losses* are miscellaneous losses from leakage flux, nonuniform current distribution, and mechanical imperfection in the air gaps between the rotor and windings stator. Careful design and improved manufacturing processes can minimize stray losses and improve overall motor efficiency.

*Variable speed capability* is achieved by pairing a motor with a motor drive to vary the speed of the motor through modification of the input motor current, voltage or frequency. The drive makes use of electronic components to perform this function.

Since these improvements are already common practice, updating the energy efficiency of RDPPPM is not likely to change industry practice, the RDPPPM design, or the material composition of these RDPPPM. In addition, the non-hazardous materials found

in the final product do not pose any harm to the user and would not cause a significant environmental impact.

The proposed regulations will lead to improved environmental quality in California. Saved energy from less pool water pumped translates to fewer power plants built and less pressure on the limited energy resources, land, and water use associated with them. In addition, lower electricity consumption results in reduced greenhouse gas and criteria pollutant emissions, primarily from lower generation in hydrocarbon-burning power plants, such as natural gas power plants.

### **CALIFORNIA NATIVE AMERICAN TRIBAL CONSULTATIONS**

Pursuant to Public Resources Code, section 21080.3.1, 18 California Native American tribes have requested formal notice of and information about the CEC's proposed projects in their traditional and culturally affiliated territories. On August 2, 2019, the CEC mailed notification letters to these 18 tribes, informing them of the proposed rulemaking and inviting tribal consultation. In addition, because the proposed rulemaking would be statewide, the CEC mailed notification letters and consultation invitations to all other California Native American tribes (164 tribes in all). To date, the CEC has not received any responses from tribes concerning the proposed rulemaking.

### **FINDING OF NO SIGNIFICANT ENVIRONMENTAL EFFECT**

The CEC finds that the DPPP and RDPPM Appliance Efficiency Rulemaking will not have any significant adverse effect on the environment. The attached initial study supports this finding. This finding and analysis reflects the CEC's independent judgment.

### **WHERE DOCUMENTS LISTED IN THE NEGATIVE DECLARATION MAY BE VIEWED**

The Proposed Negative Declaration, Initial Study, and all documents referenced therein, are available from the [CEC's website](#) at <https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=19-AAER-02>. The documents may also be viewed in person at the CEC at 1516 Ninth Street, Sacramento, California, 95814. The custodian of these documents, and all documents that constitute the record of this proceeding, is Sean Steffensen, who can be reached at (916) 651-2908 or via [email](mailto:sean.steffensen@energy.ca.gov) at [sean.steffensen@energy.ca.gov](mailto:sean.steffensen@energy.ca.gov).

## INITIAL STUDY

The following is the CEC's analysis of the potential impacts of the proposed project using the initial study environmental checklist.

**Table 1: Lead and Responsible Agencies**

<b>Name</b>	<b>Description</b>
<b>Project Title</b>	Dedicated-Purpose Pool Pumps and Replacement Dedicated-Purpose Pool Pump Motors Rulemaking, Docket # 19-AAER-02
<b>Lead Agency Name and Address</b>	California Energy Commission, 1516 Ninth Street–MS 25, Sacramento, California, 95814
<b>Contact Person and Phone Number</b>	Sean Steffensen, Appliances Office, Efficiency Division, <a href="mailto:sean.steffensen@energy.ca.gov">sean.steffensen@energy.ca.gov</a> , (916) 651-2908
<b>Project Location and Environmental Setting</b>	The regulations would be applicable statewide
<b>Project Description</b>	The project is a proposal for statewide regulations to establish the levels of efficiency required for RDPPPM, which are not covered by federal appliance efficiency standards. The required new efficiency standards apply to newly manufactured products and are attainable through normal and existing manufacturing processes.
<b>Responsible Agencies</b>	None
<b>Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement)</b>	None

Name	Description
<p><b>Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?</b></p>	<p>No. Pursuant to Public Resources Code, section 21080.3.1, 18 California Native American tribes have requested formal notice of and information about the CEC's proposed projects in their traditional and culturally affiliated territories. On August 2, 2019, the CEC mailed notification letters to these 18 tribes, informing them of the proposed rulemaking and inviting tribal consultation. In addition, because the proposed rulemaking would be statewide, the CEC mailed notification letters and consultation invitations to all other California Native American tribes (164 tribes in all). To date, the CEC has not received any responses from tribes concerning the proposed rulemaking.</p>
<p><b>Names of persons who prepared or participated in the initial study</b></p>	<p>Sean Steffensen, Mechanical Engineer</p>

Source: 2018 CEQA Appendix G and CEC

**ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED**

For each of the environmental factors checked below, there is likely to be no potentially significant environmental impact due to the decrease in electricity generation associated with reduced electrical demand by the use of more efficient appliances. The CEC's analysis reveals no significant adverse impacts.

**Table 2: Potentially Affected Areas**

Potentially Significant Impact Determined	Environmental Factor
No	I. Aesthetics
No	II. Agriculture and Forestry Resources
No	III. Air Quality
No	IV. Biological Resources
No	V. Cultural Resources

<b>Potentially Significant Impact Determined</b>	<b>Environmental Factor</b>
No	VI. Energy
No	VII, Geology/Soils
No	VIII. Greenhouse Gas Emissions
No	IX. Hazards & Hazardous Materials
No	X. Hydrology/Water Quality
No	XI. Land Use/Planning
No	XII. Mineral Resources
No	XIII. Noise
No	XIV. Population/Housing
No	XV. Public Services
No	XVI. Recreation
No	XVII. Transportation
No	XVIII. Tribal Cultural Resources
No	XIX. Utilities/Service Systems
No	XX. Wildfire
No	XXI. Mandatory Findings of Significance

Source: 2018 CEQA Appendix G and CEC

**Evaluation of Environmental Impacts**

**Table I through Table XXI** list specific potential issues for each of the factors presented in **Table 2**.

**I. AESTHETICS.**

Except as provided in Public Resources Code section 21099 would the project:

Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	No	No	No	Yes
b) Substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	No	No	No	Yes
c) In non-urbanized area, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	No	No	No	Yes
d) Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?	No	No	No	Yes

COMMENT: The proposed regulations will have no impact to aesthetics and no impact on any of the specific concerns listed above.

## II. AGRICULTURE AND FORESTRY RESOURCES.

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Convert prime farmland, unique farmland, or farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	No	No	No	Yes
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	No	No	No	Yes
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned timberland production (as defined by Government Code section 51104(g))?	No	No	No	Yes
d) Result in the loss of forest land or conversion of forest land to non-forest use?	No	No	No	Yes

<b>Issues</b>	<b>Potentially Significant Impact</b>	<b>Less Than Significant With Mitigation Incorporated</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of farmland, to non-agricultural use or conversion of forest land to non-forest use?	No	No	No	Yes

COMMENT: The proposed regulations will have no impact to agricultural and forestry resources and no impact on any of the specific concerns listed above. These regulations do not require land, including forest or agriculture land, to convert to other uses.

### III. AIR QUALITY.

Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:

<b>Issues</b>	<b>Potentially Significant Impact</b>	<b>Less Than Significant With Mitigation Incorporated</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
a) Conflict with or obstruct implementation of the applicable air quality plan?	No	No	No	Yes
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard?	No	No	No	Yes
c) Expose sensitive receptors to substantial pollutant concentrations?	No	No	No	Yes
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	No	No	No	Yes

COMMENT: The proposed regulations will have no adverse impact to the air quality concerns listed above. The proposed efficiency standards will result in reduced power plant operation and related facility emissions in California as compared to no standards.

**IV. BIOLOGICAL RESOURCES.**

Would the project:

<b>Issues</b>	<b>Potentially Significant Impact</b>	<b>Less Than Significant With Mitigation Incorporated</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	No	No	No	Yes
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	No	No	No	Yes
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	No	No	No	Yes
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	No	No	No	Yes

<b>Issues</b>	<b>Potentially Significant Impact</b>	<b>Less Than Significant With Mitigation Incorporated</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	No	No	No	Yes
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	No	No	No	Yes

COMMENT: The proposed regulations will have no impact on biological resources and no impact on the specific concerns listed above. The proposed regulations do not require land, including wetlands or habitat, to convert to other uses.

#### **V. CULTURAL RESOURCES.**

Would the project:

<b>Issues</b>	<b>Potentially Significant Impact</b>	<b>Less Than Significant With Mitigation Incorporated</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
a) Cause a substantial adverse change in the significance of a historical resource pursuant to in section 15064.5?	No	No	No	Yes
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to section 15064.5?	No	No	No	Yes
c) Disturb any human remains, including those interred outside formal cemeteries?	No	No	No	Yes

COMMENT: The proposed regulations will have no impact on any cultural resources and no impact on any of the specific concerns listed above. The proposed regulations do not require land, including burial grounds or archaeological/paleontological sites, to convert to other uses.

**VI. ENERGY.**

Would the project:

<b>Issues</b>	<b>Potentially Significant Impact</b>	<b>Less than Significant with Mitigation Incorporated</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	No	No	No	Yes
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	No	No	No	Yes

COMMENT: The proposed regulations are part of state policy to reduce energy consumption through more efficient use of energy through appliance efficiency standards. The proposed regulations would reduce energy consumption by reducing energy consumption associated with the RDPPPM, resulting in a corresponding decrease in the electricity production.

**VII. GEOLOGY AND SOILS.**

Would the project:

<b>Issues</b>	<b>Potentially Significant Impact</b>	<b>Less Than Significant With Mitigation Incorporated</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:	No	No	No	Yes
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	No	No	No	Yes

<b>Issues</b>	<b>Potentially Significant Impact</b>	<b>Less Than Significant With Mitigation Incorporated</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
ii) Strong seismic ground shaking?	No	No	No	Yes
iii) Seismic-related ground failure, including liquefaction?	No	No	No	Yes
iv) Landslides?	No	No	No	Yes
b) Result in substantial soil erosion or the loss of topsoil?	No	No	No	Yes
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on-or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	No	No	No	Yes
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	No	No	No	Yes
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	No	No	No	Yes
f) Directly or indirectly destroy a unique paleontological resource or site or unique geological feature?	No	No	No	Yes

COMMENT: The proposed regulations will have no impact to geology and soils and no impact on the specific concerns listed above. The proposed regulations do not require changes to land use that might affect its seismic or stability characteristics.

**VIII. GREENHOUSE GAS EMISSIONS.**

Would the project:

<b>Issues</b>	<b>Potentially Significant Impact</b>	<b>Less Than Significant With Mitigation Incorporated</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	No	No	No	Yes
b) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	No	No	No	Yes

COMMENT: The proposed regulations will have no adverse greenhouse gas emissions and will not generate greenhouse gas emissions, either directly or indirectly. The proposed regulations are part of state policy to reduce greenhouse gas emissions and would reduce greenhouse gas emissions by reducing energy consumption associated with RDPPPM, resulting in a corresponding decrease in electricity production, and the greenhouse gases associated with that production, especially natural gas-fired power plants.

**IX. HAZARDS AND HAZARDOUS MATERIALS.**

Would the project:

<b>Issues</b>	<b>Potentially Significant Impact</b>	<b>Less Than Significant With Mitigation Incorporated</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	No	No	No	Yes

<b>Issues</b>	<b>Potentially Significant Impact</b>	<b>Less Than Significant With Mitigation Incorporated</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	No	No	No	Yes
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	No	No	No	Yes
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	No	No	No	Yes
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	No	No	No	Yes
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	No	No	No	Yes

<b>Issues</b>	<b>Potentially Significant Impact</b>	<b>Less Than Significant With Mitigation Incorporated</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	No	No	No	Yes

COMMENT: The proposed regulations will have no impact on hazards and hazardous material. While the proposed regulations may yield additional materials to improve the energy efficiency of RDPPPM, the regulations do not prescribe their use or require these materials to be used. The additional material may include various types of metal or plastic. These materials are not new to the manufacturing process of RDPPPM. To meet the minimum motor efficiency requirements, manufacturers may use more copper to lower the electrical resistance in the motor. Manufacturers may add electronic circuits to achieve variable-speed capability. Both changes may require more materials to be used. The proposed regulations also do not alter the way in which these materials are disposed.

#### **X. HYDROLOGY AND WATER QUALITY.**

Would the project:

<b>Issues</b>	<b>Potentially Significant Impact</b>	<b>Less Than Significant With Mitigation Incorporated</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	No	No	No	Yes
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	No	No	No	Yes

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:	No	No	No	Yes
(i) result in substantial erosion or siltation on- or off-site;	No	No	No	Yes
(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	No	No	No	Yes
(iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	No	No	No	Yes
(iv) impede or redirect flood flows?	No	No	No	Yes
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	No	No	No	Yes
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	No	No	No	Yes

COMMENT: The proposed regulations will not impact hydrology and water quality. The proposed regulations do not require land, including flood zones and drainage, to be altered.

**XI. LAND USE AND PLANNING.**

Would the project:

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Physically divide an established community?	No	No	No	Yes
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	No	No	No	Yes

COMMENT: The proposed regulations will have no impact to land use and planning and no impact on any of the specific concerns listed above. The proposed regulations do not require land, including habitat and community development sites, to convert to other uses.

**XII. MINERAL RESOURCES.**

Would the project:

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	No	No	No	Yes
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	No	No	No	Yes

COMMENT: The proposed regulations will have no adverse impact to mineral resources and no impact on any of the concerns listed above. The proposed regulations do not require land, including mineral-rich land, to convert to other uses.

**XIII. NOISE.**

Would the project result in:

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	No	No	No	Yes
b) Generation of excessive groundborne vibration or groundborne noise levels?	No	No	No	Yes
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	No	No	No	Yes

COMMENT: The proposed regulations will have no noise impact and no impact on the specific concerns listed above.

**XIV. POPULATION AND HOUSING.**

Would the project:

<b>Issues</b>	<b>Potentially Significant Impact</b>	<b>Less Than Significant With Mitigation Incorporated</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	No	No	No	Yes
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	No	No	No	Yes
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	No	No	No	Yes

COMMENT: The proposed regulations will have no impact on population and housing and no impact on any of the concerns listed above.

**XV. PUBLIC SERVICES.**

Would the project:

<b>Issues</b>	<b>Potentially Significant Impact</b>	<b>Less Than Significant With Mitigation Incorporated</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:	No	No	No	Yes
Fire protection?	No	No	No	Yes
Police protection?	No	No	No	Yes
Schools?	No	No	No	Yes
Parks?	No	No	No	Yes
Other public facilities?	No	No	No	Yes

COMMENT: The proposed regulations will not require the construction or alteration of governmental buildings in a way that will cause significant negative environmental impact. The reduction in energy consumption resulting from these regulations will lead to environmental benefits by reducing greenhouse gas emissions, criteria pollutants, and the need to site and construct new sources of electricity generation.

**XVI. RECREATION.**

<b>Issues</b>	<b>Potentially Significant Impact</b>	<b>Less Than Significant With Mitigation Incorporated</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	No	No	No	Yes
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	No	No	No	Yes

COMMENT: The proposed regulations will have no impact on recreation and no impact on any of the specific concerns listed above. The proposed regulations do not require park or recreational land to convert to other uses.

**XVII. TRANSPORTATION.**

Would the project:

<b>Issues</b>	<b>Potentially Significant Impact</b>	<b>Less Than Significant With Mitigation Incorporated</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadways, bicycle and pedestrian facilities?	No	No	No	Yes
b) Would the project conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?	No	No	No	Yes
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	No	No	No	No

<b>Issues</b>	<b>Potentially Significant Impact</b>	<b>Less Than Significant With Mitigation Incorporated</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
d) Result in inadequate emergency access?	No	No	No	Yes

COMMENT: The proposed regulations will have no impact on transportation and no impact on any of the specific concerns listed above.

**XVIII. TRIBAL CULTURAL RESOURCES.**

<b>Issues</b>	<b>Potentially Significant Impact</b>	<b>Less Than Significant With Mitigation Incorporated</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:	No	No	No	Yes
i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	No	No	No	Yes

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	No	No	No	Yes

COMMENT: The effects of the proposed regulations would be restricted to pool pump motors that are typically installed in swimming pools. The proposed regulations would not cause ground disturbance or other impacts that could affect tribal cultural resources.

**XIX. UTILITIES AND SERVICE SYSTEMS.**

Would the project:

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	No	No	No	Yes

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	No	No	No	Yes
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the providers' existing commitments?	No	No	No	Yes
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	No	No	No	Yes
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	No	No	No	Yes

COMMENT: The proposed regulations will have no adverse impact on any of the concerns listed above. By reducing electricity use, the proposed regulations will have beneficial effects on energy utilities by reducing the need to procure additional electricity generation, and increased reliability.

**XX. WILDFIRE.**

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:

<b>Issues</b>	<b>Potentially Significant Impact</b>	<b>Less than Significant with Mitigation Incorporated</b>	<b>Less than Significant Impact</b>	<b>No Impact</b>
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	No	No	No	Yes
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	No	No	No	Yes
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	No	No	No	Yes
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	No	No	No	Yes

COMMENT: The proposed regulations will have no adverse impact on any of the concerns listed above.

**XXI. MANDATORY FINDINGS OF SIGNIFICANCE.**

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	No	No	No	Yes
b) Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	No	No	No	Yes
c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	No	No	No	Yes

COMMENT: The proposed regulations will have no adverse impact on any of the concerns listed in the above checklist. No potential exists for any adverse impacts on any animal or human populations, and none of the impacts are cumulatively considerable. Improvements in the energy efficiency of RDPPPM resulting from the proposed standards are likely to result in beneficial impacts including reduced electricity consumption, reduced power plant operation, and reduced need for new sources of electricity generation and power lines in the future.

**SUMMARY OF PROPOSED CHANGES TO APPLIANCE EFFICIENCY STANDARDS AND RESULTING ENERGY AND ENVIRONMENTAL EFFECTS**

**Table 3** summarizes the proposed changes and the resulting energy and environmental effects for RDPPPM.

**Table 3: Summary of Proposed Changes**

<b>No.</b>	<b>Existing Standard</b>	<b>Proposed Standard</b>	<b>Water and Energy Effects</b>	<b>Potential Environmental Issues</b>
1	There are no existing standards for RDPPPM.	The proposed standards set minimum performance standards for RDPPPM.	The proposed standard for RDPPPM would result in annual savings of 451 GWh per year in 2028.	Lower electricity consumption results in reduced greenhouse gas and other air pollutants.

Source: CEC

## REFERENCES

- California Energy Commission. (2012, March 14). Order Instituting Rulemaking. *Order# 12-0314-16, Docket #12-AAER-02*. Retrieved from [http://www.energy.ca.gov/appliances/2012rulemaking/notices/prerulemaking/2012-03-14\\_Appliance\\_Efficiency\\_OIR.pdf](http://www.energy.ca.gov/appliances/2012rulemaking/notices/prerulemaking/2012-03-14_Appliance_Efficiency_OIR.pdf)
- California Energy Commission. (2020, February 20). Initial Statement of Reasons (ISOR) for Replacement Pool Pump Motors. *Docket # 19-AAER-02, TN#232154* Retrieved from <https://efiling.energy.ca.gov/GetDocument.aspx?tn=232154&DocumentContentId=64056>
- California Energy Commission. (2020, February 20). Notice of Proposed Action (NOPA) for Replacement Pool Pump Motors. *Docket # 19-AAER-02, TN#232150* Retrieved from <https://efiling.energy.ca.gov/GetDocument.aspx?tn=232150&DocumentContentId=64055>
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- Steffensen, S. (2020, February 20). Final Staff Report - Final Analysis of Efficiency Standards Replacement Dedicated-Purpose Pool Pump Motors. *CEC-400-2020-001*. California Energy Commission. TN232151 Retrieved from <https://efiling.energy.ca.gov/GetDocument.aspx?tn=232151&DocumentContentId=64054>

## ACRONYMS AND GLOSSARY

Term	Description	Definition
CEQA	California Environmental Quality Act	A statute that requires state and local agencies to identify the significant environmental impacts of their actions and to avoid or mitigate those impacts, if feasible.
GWh	Gigawatt-hour	One thousand megawatt-hours, or one million kilowatt-hours, or one billion watt-hours of electrical energy.
PRC	Public Resources Code	Legal code enacted by the California State Legislature pertaining to the public resources of the State of California.
RDPPPM	Replacement Dedicated-Purpose Pool Pump Motor	An appliance type proposed by staff to have minimum energy efficiency standards.
DPPP	Dedicated-Purpose Pool Pump	An appliance type defined by U.S. Department of Energy Appliance Standards to have minimum energy efficiency standards.
CEC	California Energy Commission	The California Energy Commission is the state's primary energy policy and planning agency.

STATE OF CALIFORNIA

STATE ENERGY RESOURCES  
CONSERVATION AND DEVELOPMENT COMMISSION

IN THE MATTER OF:

***DEDICATED-PURPOSE POOL PUMPS  
AND REPLACEMENT DEDICATED-  
PURPOSE POOL PUMP MOTORS  
APPLIANCE EFFICIENCY  
RULEMAKING***

Docket No. 19-AAER-02

**[PROPOSED] RESOLUTION  
ADOPTING REGULATIONS**

**WHEREAS**, on February 20, 2020, the Commission published a Notice of Proposed Action (NOPA) formally notifying the public of the Energy Commission's intent to adopt proposed regulations for dedicated-purpose pool pump and replacement dedicated-purpose pool pump motors, the Express Terms of the proposed regulations, an Initial Statement of Reasons (ISOR) describing the rationale for the proposal, and Final Staff Report; and

**WHEREAS**, on February 21, 2020, the NOPA was published in the California Regulatory Notice Register; and

**WHEREAS**, on March 6, 2020, the Commission published a Proposed Negative Declaration and Initial Study for Dedicated-Purpose Pool Pumps and Replacement Dedicated-Purpose Pool Pump Motors Rulemaking, concluding that the proposed regulations would result in energy savings and reductions in air pollution, and there would be no significant adverse impacts to the environment as a result; and

**WHEREAS**, on April 7, 2020, the Commission held a Public Hearing to hear comments on the proposed regulations; and

**WHEREAS**, each of these documents and notices was provided to every person on the Energy Commission's Appliances list server and to every person who had requested notice of such matters, and was posted to the Commission's website; and

**WHEREAS**, on March 27, 2020, the Commission provided notice designating April 8, 2020, as the date for the hearing to consider adoption of the proposed regulations and on this date the Commission considered and adopted the regulations; and

**THEREFORE, THE CALIFORNIA ENERGY COMMISSION FINDS:**

With regard to the California Environmental Quality Act:

- The California Energy Commission has considered the application of the California Environmental Quality Act (CEQA) to the proposed regulations and concluded that the proposed energy efficiency regulations for Dedicated-Purpose Pool Pumps and Replacement Dedicated-Purpose Pool Pump Motors will not have any direct, indirect, or cumulatively considerable significant adverse effect on the environment; and

With regard to the Warren-Alquist Act:

- The proposed regulations will reduce the wasteful, uneconomic, inefficient, and unnecessary consumption of energy for appliances that require a significant amount of energy on a statewide basis; and
- The proposed regulations are technologically feasible and attainable; and
- The proposed regulations do not result in any added total costs to the consumer over the designed life of the appliances concerned; and

With regard to the Administrative Procedure Act:

- The proposed regulations will not create new businesses, eliminate existing businesses, or have an effect on the expansion of businesses in California and will not result in a significant statewide adverse impact directly affecting business, including the ability of California businesses to compete with businesses in other states; and
- The proposed regulations will not create or eliminate a significant number of jobs within California; and
- The proposed regulations will impose no direct costs, or direct or indirect requirements or mandates, on state agencies, local agencies, or school districts, including but not limited to costs that are required to be reimbursed under Part 7 (commencing with Section 17500) of Division 4 of the Government Code, when savings accruing over the lifetime of the appliance is considered; and
- The proposed regulations will result in no costs or savings in federal funding to the State of California; and

- The proposed regulations will not result in cost or savings to any state agency in reasonable compliance with these regulations; and
- The proposed regulations will result in no nondiscretionary costs or savings to local agencies or school districts when savings accruing over the lifetime of the appliance is considered; and
- The proposed regulations will have no impact on housing costs; and
- The proposed regulations will have no significant, statewide adverse effect on businesses in general or small businesses in particular; and
- The proposed regulations will impose no net costs on private persons when savings from reduced energy use are taken into account; and
- The proposed regulations will result in some costs that a representative business would necessarily incur in reasonable compliance with the regulations, but any costs will be passed on to consumers and outweighed by savings resulting from reduced energy use; and
- The proposed regulations will result in non-economic benefits, on a statewide level, such as reduction in air pollution, greenhouse gas emissions, energy use and demand, and energy generation demand; and
- The proposed regulations have no alternatives that would be more effective in carrying out the purposes of the Warren-Alquist Act, that would be as effective and less burdensome to affected private persons in carrying out those purposes, or that would be more cost effective to affected private persons and equally effective in implementing those purposes; and
- The proposed regulations require completion of certain reports regarding the efficiency and performance of the regulated appliances; this information is necessary for consumers and the Energy Commission to confirm that the standards are met and that the appliances consume no more energy than allowed, so that the anticipated energy savings, and energy, environmental, and cost benefits will actually be achieved. Accordingly, it is necessary that these reporting requirements apply to businesses in order to protect the health, safety and welfare of the people of California, as required by Government Code section 11346.3, subdivision (d); and
- None of the comments received during the comment period or at the adoption hearing, and nothing else in the record, justified any changes to the proposed regulations as published on February 20, 2020.

**THEREFORE BE IT RESOLVED**, after considering the Initial Study, and all related materials in the record, the Energy Commission finds that (1) there is no substantial evidence that the adoption of the proposed amendments to the Appliance Efficiency Regulations will have a significant effect on the environment, and (2) the Negative Declaration reflects the Commission's independent judgment and analysis. The Commission hereby adopts the Negative Declaration and Initial Study published March 6, 2020. Documents and other materials that constitute the record of proceedings upon which the decision to adopt the negative declaration is based can be found at the California Energy Commission, 1516 9<sup>th</sup> Street, Sacramento, California, 95814 in the custody of the Docket Unit.

**RESOLVED**, additionally, after considering all comments received , and based on the entire record of this proceeding, the California Energy Commission hereby adopts the amendments to its appliance efficiency regulations, as set forth in the express terms that were published on February 20, 2020 (Cal. Code of Regs., tit. 20, §§ 1601-1607). We take this action under the authority of, and to implement, interpret, and make specific, sections 25213, 25218(e),

**FURTHER BE IT RESOLVED**, the Energy Commission delegates the authority and directs Commission staff to take, on behalf of the Commission, all actions reasonably necessary to have the adopted regulations go into effect, including but not limited to making any appropriate non-substantive changes to the regulations; preparing all appropriate documents, such as the Final Statement of Reasons; compiling and submitting the rulemaking file to the Office of Administrative Law (OAL); making any changes to the rulemaking file required by OAL; and preparing and filing the Notice of Determination with the State Clearinghouse.

### **CERTIFICATION**

The undersigned Secretariat to the Commission does hereby certify that the foregoing is a full, true, and correct copy of a Resolution duly and regularly adopted at a meeting of the CEC held on April 8, 2019.

AYE:

NAY:

ABSENT:

ABSTAIN:

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Cody Goldthrite  
Secretariat