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Written Comments Received on Proposed DPPP and RDPPPM Regulations
Title 20, Division 2, Chapter 4, Article 4, Sections 1601-1609, California Code of Regulations
45-Day Public Comment Period
February 21, 2020 – April 6, 2020

Pg.	No.	Commenter Name and Organization	Comments or Suggested Revisions	Response
3	A01	Lauren Urbanek, Natural Resources Defense Council	General letter of support	Comment acknowledged. General comments of support. No response required.
9	B01	Chad Worth, Energy Solutions on behalf of the California Investor Owned Utilities	General letter of support	Comment acknowledged. General comments of support. No response required.

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14	C01	Alex Boesenberg, Pool and Hot Tub Alliance and National Electrical Manufacturers Association	The CEC is deviating from its previous public position in joint petition to the U.S. Department of Energy to request National standards for these products. PHTA and NEMA continue to favor a single National standard and we call on the CEC to maintain its original position in favor of this. As such this proposal should not be adopted.	Comment acknowledged. No change. The CEC agrees that a national standard for these products would be beneficial. However, the U.S. DOE has not moved on the item since it received the petition in August 2018. Public Resources Code Sections 25213, 25218(e) and 25402(a)-(c),(f) mandates and authorizes the CEC to adopt rules and regulations to reduce the inefficient consumption of energy by prescribing efficiency standards. As such, the CEC believes it is in the best interest of the state to move forward with a state regulation at this time. In addition, the proposed state standards provide greater cost-effective and technologically feasible savings to California consumers and statewide energy savings than those found in the petition to U.S. Department of Energy.

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14 19	C02 C10	Alex Boesenberg, Pool and Hot Tub Alliance and National Electrical Manufacturers Association	In its analysis, the CEC has grossly overestimated the number of booster pump motor shipments. This overestimate unfairly tilts the economic analysis to justify a regulation where in fact this may not be true. We believe that the CEC assumption of 25% is grossly overstated as it applies to booster pumps. Our sales data of booster pump motors sales vs complete booster pump sales indicates that only about 0.5% of total shipments of booster pumps are motor shipments. If this assumption is used to calculate the actual annual savings, the estimated energy savings will decrease dramatically. Table 7-2 on page 35 of their report (copied below) shows the CEC's calculated savings in GWh and dollars. Based on the correct assumption of 0.5% of booster pump motor sales, these numbers should be reduced to about 1/50th of their current estimate.	Comment acknowledged. No change. The CEC has responded to previous comments it received from PHTA and NEMA to reduce the number of booster pump motor shipments to the number recommended by PHTA and NEMA. The PHTA and NEMA had recommended that a replacement for a booster pump motor occur 1 out of 50 times, less than staff assumed in its November 2018 staff report. The CEC originally stated in its November 2018 staff report a statewide stock of 88 thousand replacement pressure cleaner booster pump motors. However, based on comments provided to the CEC by PHTA and NEMA during pre-rulemaking, the CEC revised the February 2020 staff report to reflect this data. The approximately 2 thousand motors assumed by CEC in the final staff report are 1/50th of the previous 88 thousand motors in the draft staff report. As shown in Table A-1 of the final staff report, even with the reduction in shipments the proposal yields cost-effective savings to the consumer and significant statewide energy savings.

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14 21	C03 C11	Alex Boesenberg, Pool and Hot Tub Alliance and National Electrical Manufacturers Association	Incremental cost assumptions of the price difference between booster pumps and variable speed pumps are too low as evidenced by 2019 prices, again incorrectly favoring the economic payback cost justification calculations. When the average annual increase of 3% over the last 4 years (12.5% total) are factored in: • The new baseline booster pump cost becomes: $255.40 * 1.125% = $287.33 • The new VS booster pump cost becomes: $611.45 *1.125 = $687.88 • The incremental cost for a variable speed pump in 2019 increases from the CECs estimate to $400.55. This would increase a few dollars more in 2021.This amounts to an additional incremental cost of $44.50 over the CECs initial estimate. As such, the CEC projection of a life-cycle benefit would further decrease from $77 shown in the table below, to approximately $32.50	Comment acknowledged. No change. CEC relied upon information developed during the U.S. DOE Dedicated-Purpose Pool Pump rulemaking. The U.S. DOE developed incremental costs during a consensus-based process between advocates and industry. The CEC also reviewed prices for booster pumps and variable speed pumps and found a similar conclusion. CEC staff documented their assumptions in the Final Staff Report (February 2020) to show that the proposed regulations are cost-effective to consumers. The CEC identified the incremental cost as the difference in price between and efficiency level (EL) 0 and EL 3. Based on comments from PHTA and NEMA, the CEC adjusted the $2015 prices to $2018 by using the consumer price index for all urban consumers. The CEC chose $2018 dollars as the basis since that was the last full year of CPI data available. The adjustment resulted in an increase in the incremental cost from $356 to $398 or an increase of $42. The $42 increase is similar to the increase requested by the commenter. The CEC also identified that the cost of electricity needed to be increased to reflect 2018 rates. The increased cost of electricity increased the value of the savings from $433 to $509. With these adjustments the life-cycle benefit was $77 and is now $110. However, the increase in incremental cost still yielded a cost-effective proposal as the lifetime benefits were greater than the incremental costs. The details of the incremental cost calculation are shown on page A-23 and Table A-28 of the staff report.

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			It should also be pointed out the numbers that the CEC references for life-cycle savings are **pump** cost comparisons. Since this rule seeks to replace the motor, the more appropriate comparison would be to compare incremental **motor** cost. The incremental cost to the consumer of a variable speed motor vs a single speed booster pump motor is significantly higher than the $400.55 amount calculated above and would actually put the consumer at a net life cycle benefit loss.	Comment Acknowledge. No change The CEC relied upon information developed during the U.S. DOE Dedicated-Purpose Pool Pump rulemaking. The U.S. DOE developed incremental costs during a consensus-based process between advocates and industry. The CEC also reviewed prices for booster pumps and variable speed pumps and found a similar conclusion. CEC staff documented their assumptions in the Final Staff Report (February 2020) to show that the proposed regulations are cost-effective to consumers. The DOE developed the incremental costs of more efficient pool pumps. For the DOE analysis, DOE only allowed the motor type to change to create incremental costs for the efficiency levels (EL). EL 0 is a pump with a single speed motor and EL 3 is a pump with a variable speed motor. The DOE identified the incremental cost as the difference in price between and EL 0 and EL 3 pool pump. The only change between EL 0 and EL 3 pool pump is the type of motor within the pump. CEC staff concluded the incremental costs of the pump and the incremental cost of the motor are identical because the change in the motor type is the only cause of incremental cost in each analysis.

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14 23	C04 C15	Alex Boesenberg, Pool and Hot Tub Alliance and National Electrical Manufacturers Association	Another point of concern for our stakeholders is the CEC induced market incentive to move back to single speed pumps due to the misalignment of maximum single speed replacement motor Total Horsepower (THP) at 0.49 THP compared to the DOE DPPP single speed maximum of .710 Hydraulic Horsepower (HHP) which is approximately equivalent to motor THP of 1.15 THP. The consequence of this misalignment is the vast majority of motor failures in the range of 0.50THP to 1.15THP or greater will be replaced with a single speed pump compliant to DOE DPPP EL2 efficiency levels. The CEC does not appear to have included this regulatory induced market trend in the analysis of energy savings. A DOE compliant single speed pump less than .711HHP will likely be lower cost than a replacement variable speed motor in almost all cases, so the market will move to single speed pumps driven by cost-conscious pool owners. This is not a pool pump regulation; it is a replacement pool pump motor regulation. It is the belief of the industry that a requirement for replacement pool pump motors to be variable speed below 1.15 THP will encourage consumers to seek Federally compliant WEF rated options rather than the CEC-desired more efficient variable speed replacement pool pump motor options.	Comment acknowledged. No change. Public Resources Code Sections 25213, 25218(e) and 25402(a)-(c),(f) mandates and authorizes the CEC to adopt rules and regulations to reduce the inefficient consumption of energy by prescribing efficiency standards. When a pool pump motor breaks, a consumer may choose to either replace the broken pool pump motor or to replace the pool pump and motor. Based on information provided by industry stakeholders the CEC estimated that consumers might choose to replace a broken pool pump motor 25 percent of the time. In addition, the U.S. DOE developed estimates through a consensus process between industry and advocates that show consumers chose a similarly more expensive variable speed pool pump over a single speed pool pump at a similar ratio of 76% single speed pool pumps and 24% variable speed pool pumps. The ratio assumed by DOE is like the ratio CEC chose for single speed and variable speed motor replacement rates. See Final Staff Report, pg. A-7, Table A-4 for further details.

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14	C05	Alex Boesenberg, Pool and Hot Tub Alliance and National Electrical Manufacturers Association	The above-mentioned cost justification analyses are now more relevant than ever. In the wake of the Coronavirus and COVID-19 global pandemic, supply and distribution lines are significantly disrupted, manufacturing is closed or operating at reduced capacity, and consumers are in lockdowns and unable to work or make purchases per normal. Regardless of their popularity in California, swimming pool items and other major purchases are among those things deferred while the battle against Coronavirus is waged and consumer economics and market forces wait to be understood and addressed. The social and economic impacts of the Coronavirus have yet to be determined and understood, and as such the analytical assumptions of the CEC for this topic cannot possibly be accurate.	Comment acknowledged. No Change. The CEC understands the world is a more uncertain place due to the COVID-19 pandemic and will monitor the marketplace for any unintended consequences to supply and distribution lines. However, the CEC believes this is the right move right now as it will eliminate the least efficient motor options from the marketplace in a cost-effective manner. Even in a depressed economy the long-term savings will outweigh the initial increased costs. Staff assumptions include the cost of electricity, the design life of the appliance, how often the motor is run, the costs of the motors. These assumptions establish the cost-effectiveness analysis. Staff does not see this COVID-19 event changing the established assumptions used in the analysis. Statewide savings rely on the same assumptions and an estimate of the statewide stock of motors. Since RDPPPM are replacement motors and will be used for an application where a pool already exists where the motor is broken staff feels the stock number and therefore the statewide savings will remain the same. While owners might potentially delay replacement, their pool will not be safe or functional until the replacement motor is installed. Staff does not believe, with the significant investment made by the owners, that the marginal cost increase of the motor would prevent replacement. In addition, consumers are saving money as they move forward.
14	C06		While one may argue that economic forecasts are only ever educated estimates, and as such many rulemakings are concluded with these “best guesses”, it is no longer appropriate to assume that this holds true in a post-pandemic market. These uncertainties make the CEC cost benefit analysis not only inaccurate but no longer representative of the future economic conditions of California. It is our request that the CEC remove this proposal from the April	

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			8th Commission Business Agenda until such time as the economic analysis can be re-evaluated in the wake of the national and State impacts of the Coronavirus/COVID-19 pandemic./	

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	C07	Alex Boesenberg, Pool and Hot Tub Alliance and National Electrical Manufacturers Association	PHTA and NEMA members who participated in the DPPP negotiations voiced concerns that DPPP motors must also be addressed; otherwise, a significant loophole would occur. To address this, over the past two years, we have continued work with stakeholders, which include the CEC, to request a DFR for dedicated purpose pool pump motors.	Comment acknowledged. No change. The CEC agrees with the need to set a test method and standard for RDPPPM. However, the U.S. DOE did not set a test method or standards for RDPPPM when they set test methods and standards for DPPP. Therefore, The CEC has proposed the test method and standards for RDPPPM to close this loophole and to ensure cost and energy savings to the consumer. The CEC agrees that a national standard for these products would be beneficial. However, the U.S. DOE has not moved on the item since it received the petition in August 2018. Public Resources Code Sections 25213, 25218(e) and 25402(a)-(c),(f) mandates and authorizes the CEC to adopt rules and regulations to reduce the inefficient consumption of energy by prescribing efficiency standards. As such, the CEC believes it is in the best interest of the state to move forward with a state regulation at this time. The proposed standards provide cost-effective savings to consumers and are technologically feasible.

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18 19 23 23	C08 C09 C17 C18	Alex Boesenberg, Pool and Hot Tub Alliance and National Electrical Manufacturers Association	PHTA and NEMA met with DOE to encourage action, resulting in a labeling approach that would follow the original August petition through requirements being laid out in an UL standard that a proposed DOE rule would then require labeling to ensure compliance. Therefore, we strongly urge the Commission to consider aligning their July 2019 Revised Staff Analysis and Draft Appliance Energy Regulations for Replacement Pool Pump Motors with the August 14, 2018 petition. As such, we would again submit that if the CEC intends to move forward with this proposed rulemaking, they align their proposal to ensure consistency with the approach agreed upon by all interested stakeholders in and presented to the DOE in 2018 for consideration. Otherwise, having two inconsistent rules will certainly create disruption and market confusion that will have adverse effects on both consumers and industry. Alignment across all 50 States is critical and therefore, we believe the approach provided to the DOE should be seriously considered and adopted by the CEC rather than taking a path which is inconsistent with that agreement. A separate, different California rule would require our members to also prepare for two	Comment acknowledged. No change. The CEC chose to adopt a proposal that included a test method and standard rather than a labeling requirement as it is more consistent with the existing appliance standards and the statutory obligation to adopt cost-effective energy efficiency measures that will save energy. The CEC agrees that a national standard for these products would be beneficial. However, the U.S. DOE has not moved on the item since it received the petition in August 2018. Public Resources Code Sections 25213, 25218(e) and 25402(a)-(c),(f) mandates and authorizes the CEC to adopt rules and regulations to reduce the inefficient consumption of energy by prescribing efficiency standards. As such, the CEC believes it is in the best interest of the state to move forward with a state regulation at this time. The proposed standards provide cost-effective savings to consumers and are technologically feasible.

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			different rules; this will require significant additional financial commitment, in addition to more development and staffing resources. Therefore, if the logical and reasonable end goal is the joint petition submitted to the DOE, we sincerely and humbly again urge the CEC to remain fully aligned with that proposal	

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22	C12	Alex Boesenberg, Pool and Hot Tub Alliance and National Electrical Manufacturers Association	Sales in many of these lesser power categories have considerably lower run/use time compared to >1.15 THP, and therefore energy savings and value to the customer will also be lower. Taken by themselves, in the <1.15 THP category, we believe several pump applications will not pass financial feasibility analysis, and therefore they should be carefully re-evaluated if CEC intends to maintain them in this proposal.	Comment acknowledged. No change. The CEC used the same assumptions as the U.S. DOE used during the DPPP rulemaking for the less than 1.15 total horsepower replacement pool pump motors. The U.S. DOE did not provide separate duty cycles for motors above or below 1.15 THP. The CEC assumptions are consistent with those assumptions negotiated with DOE during the DPPP rulemaking and are cost-effective for consumers. Details of the CEC staff assumptions and calculations showing the cost-effectiveness to consumers with the less than 1.15 total horsepower motor can be found in Appendix A of the staff report dated February 2020. The CEC considered two cases for the less than 1.15 total horsepower shown in the .52 hhp non-self-priming pool filter pump and the .44 hhp self-priming pool filter pump.

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22	C13	Alex Boesenberg, Pool and Hot Tub Alliance and National Electrical Manufacturers Association	The addition of the <1.15 THP category impacts the Technological Feasibility analysis. Many small motors <1.15 THP will move from induction designs to Electronically Commutated Motors (ECM). This creates additional burden and time considerations for manufacturers who have not incorporated these designs already. It is not readily apparent that the CEC has considered this in the feasibility analysis.	Comment acknowledged. No change. Staff reviewed data from the CEC Modernized Appliance Efficiency Database System (MAEDbS) for residential pool pump and motor combinations and replacement residential pool pump motors. Staff found multiple replacement residential pool pump motor models from multiple manufacturers already certified to the CEC appliance efficiency database. The number of models that already comply shows that the proposed standards are technically feasible for the pool pump motor industry. Although no replacement residential pool pump motor models are certified in the range of 0.0 to 0.5 hp, there is no technical issue that would prevent a manufacturer from introducing a replacement pool pump motor in this size, given that many motors in this size are certified pool pump and motor combinations. Please see a more detailed analysis on pages 43 and 44 of the staff report.

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23	C14	Alex Boesenberg, Pool and Hot Tub Alliance and National Electrical Manufacturers Association	The insistence that variable speed products are always the best, a foregone conclusion in California, ignores the realities of both physics and practical application. The best example for this is <1.15 THP booster pumps. These products are often run at a fixed speed in typical applications. The addition of a power converter and its associated losses will use more power than a fixed speed motor operating at full load for the short time usage of a power booster application. The CEC is aware of this mismatch, having scaled up the demanded motor efficiency of small booster pump systems to counter the inevitable losses from the incorporation of a variable speed drive. If a small booster pump will only be run at full speed the most cost-effective design is today's readily available fixed-speed motor commonly used for power booster pumps today. Any other design, such as variable speed and a high-efficiency motor, will fail financial feasibility against the readily available alternative. To insist that small booster pumps must be variable speed will not save energy in any significant amount.	Comment acknowledged. No change. The CEC used the same assumptions as the U.S. DOE used during the DPPP rulemaking for the less than 1.15 total horsepower replacement pool pump motors. The U.S. DOE did not provide separate duty cycles for motors above or below this threshold. The CEC assumptions and calculation methods yield costs and benefits that show the proposed regulation is cost-effective to consumers. Pressure cleaner booster pumps and the replacement motors for this application are oversized to meet the demands of the largest pools. Consumers with smaller pools when purchasing a single speed (fixed speed) pressure cleaner booster pump must adjust bleed valves to release the excess capacity rather than alter the speed of the pump to achieve the most cost-effective and efficient use of the pump. Variable speed will assist most consumers with achieving the most economical and cost-effective use of the pressure cleaner booster pump.

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23	C16	Alex Boesenberg, Pool and Hot Tub Alliance and National Electrical Manufacturers Association	To assist in preventing undercutting of sales, PHTA and NEMA requests CEC develop a detailed import compliance procedure as part of this proposal, to include instructions to Customs and Border Patrol as well as related funding to assure that American suppliers are not negatively affected by unfair competition resulting from an unenforced regulation at the state level.	Comment acknowledged. No change. The CEC enforces the Appliance Standards through its Office of Compliance, Assistance and Enforcement.

Comments on Proposed DDDP and Replacement RDPPPM Regulations
Title 20, Division 2, Chapter 4, Article 4, Sections 1601-1609, California Code of Regulations
Comments Received at the Public Hearing
April 7, 2020

Pg.	No.	Commenter Name and Organization	Comments or Suggested Revisions	Response
43	D01	Mary Andersen, Pacific Gas & Electric on behalf of the California Investor-owned Utilities	General comment of support	Comment acknowledged. General comment of support. No response required.
45	E01	Chad Worth, Energy Solutions on behalf of the California Investor-Owned Utilities	General comment of support	Comment acknowledged. General comment of support. No response required.
50	F01	Joanna Mauer, Appliance Standards Awareness Project	General comment of support	Comment acknowledged. General comment of support. No response required.
51	G01	Noah Horowitz, Natural Resource	General comment of support	Comment acknowledged. General comment of support. No response required.

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		Defense Council		
54	H01	Alex Boesenberg, National Electrical Manufacturers Association	We again caution against a state standard when a national and a federal standard is in progress. We have had multiple ex parte meetings with Department of Energy staff stressing this, and been reassured each time that they are moving the standard along. We all know the DOE doesn't move as fast as we'd like sometimes, but there is no indication that it is not going to happen. And we favor a single standard to have to meet for everything, which helps economies of scale and just generally vents additional burden on industry and misunderstandings in the field.	Comment acknowledged. No change. The CEC agrees that a national standard for these products would be beneficial. However, the U.S. DOE has not moved on the item since it received the petition in August 2018. Public Resources Code Sections 25213, 25218(e) and 25402(a)-(c),(f) mandates and authorizes the CEC to adopt rules and regulations to reduce the inefficient consumption of energy by prescribing efficiency standards. As such, the CEC believes it is in the best interest of the state to move forward with a state regulation at this time. In addition, the proposed state standards provide greater cost-effective and technologically y feasible savings to California consumers and statewide energy savings than those found in the petition to U.S. Department of Energy.
54	H02	Alex Boesenberg, National Electrical Manufacturers Association	We have stated previously and we continue to state we think there has been an over estimation in the number of booster pump motor shipments, that helps add up to tilt the economic analysis toward a positive outcome when that may not be true.	Comment acknowledged. No change. The CEC has responded to previous comments it received from PHTA and NEMA to reduce the number of booster pump motor shipments to the number recommended by PHTA and NEMA. The PHTA and NEMA had recommended that a replacement for a booster pump motor occur 1 out of 50 times, less than staff assumed in its November 2018 staff report. The CEC originally stated in its November 2018 staff report a statewide stock of 88 thousand replacement pressure cleaner booster pump motors. However, based on comments provided to the CEC by PHTA and NEMA during pre-rulemaking, the CEC revised the February 2020 staff report to reflect this data. The about 2 thousand motors

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				assumed by CEC in the final staff report are 1/50th of the previous 88 thousand motors in the draft staff report. As shown in Table A-1 of the final staff report, even with the reduction in shipments the proposal yields cost-effective savings to the consumer and significant statewide energy savings.
54	H03	Alex Boesenberg, National Electrical Manufacturers Association	By changing the scope of the motors impacted, we're concerned that the forecast energy savings won't actually be reached, for reasons much like Mr. Horowitz quoted. If somebody needs a repair right away, they're going to get the most effective option if they are cost conscious. And that will be a DOE pump with a single-speed motor, not a variable-speed alternative.	Comment acknowledged. No change. Public Resources Code Sections 25213, 25218(e) and 25402(a)-(c),(f) mandates and authorizes the CEC to adopt rules and regulations to reduce the inefficient consumption of energy by prescribing efficiency standards. When a pool pump motor breaks a consumer may choose to either replace the broken pool pump motor or to replace the pool pump and motor. Based on information provided by industry stakeholders the CEC estimated that consumers may choose to replace a broken pool pump motor 25 percent of the time. In addition, the U.S. DOE developed estimates through a consensus process between industry and advocates that show consumers chose a similarly more expensive variable speed pool pump over a single speed pool pump at a similar ratio of 76% single speed pool pumps and 24% variable speed pool pumps. The ratio assumed by DOE is similar to the ratio CEC chose for single speed and variable speed motor replacement rates. See Final Staff Report, pg. A-7, Table A-4 for further details.

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54	H04	Alex Boesenberg, National Electrical Manufacturers Association	While we all hope by July 2021 all this will be sorted out, it's very optimistic to say that everything will be normal after the Corona virus. I'm aware that some pool pump manufacturers are already having to let employees go, and we don't know what that's going to do to product availability and future product availability, and so forth. I won't belabor it. But times are changing and the economic analysis heretofore was about things we're all very used to. And this one can look at any headline and say that and see that this is new and what's going to happen is anybody's guess, and we really shouldn't be guessing about millions of dollars.	Comment acknowledged. No Change. The CEC understands the world is a more uncertain place due to the COVID-19 pandemic and will monitor the marketplace for any unintended consequences to supply and distribution lines. However, the CEC believes this is the right move right now as it will eliminate the least efficient motor options from the marketplace in a cost-effective manner. Even in a depressed economy the long-term savings will outweigh the initial increased costs. Staff's assumptions include the cost of electricity, the design life of the appliance, how often the motor is run, the costs of the motors. These assumptions establish the cost-effectiveness analysis. Staff does not see this COVID-19 event changing the established assumptions used in the analysis. Statewide savings rely on the same assumptions and an estimate of the statewide stock of motors. Since RDPPPM are replacement motors and will be used for an application where a pool already exists where the motor is broken staff feels the stock number and therefore the statewide savings will remain the same. While owners might potentially delay replacement, their pool will not be safe or functional until the replacement motor is installed. Staff does not believe, with the significant investment made by the owners, that the marginal cost increase of the motor would prevent replacement. In addition, consumers are saving money as they move forward.
56	J01	Jen Hatfield, Pool and Hot Tub Alliance	We believe the Department of Energy is still working on a federal standard and we do believe a national standard is a better	Comment acknowledged. No change.

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			approach. Our last meeting with them was in early February, and they had given us no indication that they have shelved this plan. It's just unfortunately they are taking longer than any of us would like, but we believe that is going forward.	The CEC agrees that a national standard for these products would be beneficial. However, the U.S. DOE has not moved on the item since it received the petition in August 2018. Public Resources Code Sections 25213, 25218(e) and 25402(a)-(c),(f) mandates and authorizes the CEC to adopt rules and regulations to reduce the inefficient consumption of energy by prescribing efficiency standards. As such, the CEC believes it is in the best interest of the state to move forward with a state regulation at this time. In addition, the proposed state standards provide greater cost-effective and technologically feasible savings to California consumers and statewide energy savings than those found in the petition to U.S. Department of Energy.
56	J02	Jen Hatfield, Pool and Hot Tub Alliance	Incremental cost assumptions of the price difference between booster pumps and variable-speed pumps are too low, as evidenced by 2019 prices. And this is resulting in incorrectly favoring the economic payback cost justification calculations.	Comment acknowledged. No change. CEC relied upon information developed during the U.S. DOE Dedicated-Purpose Pool Pump rulemaking. The U.S. DOE developed incremental costs during a consensus-based process between advocates and industry. The CEC also reviewed prices for booster pumps and variable speed pumps and found a similar conclusion. CEC staff documented their assumptions in the Final Staff Report (February 2020) to show that the proposed regulations are cost-effective to consumers. The CEC identified the incremental cost as the difference in price between efficiency level (EL) 0 and EL 3. Based on comments from PHTA and NEMA, the CEC adjusted the $2015 prices to $2018 by using the consumer price index for all urban consumers. The CEC chose $2018 dollars as the basis since that was the last full year of CPI data available.

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				The adjustment resulted in an increase in the incremental cost from $356 to $398 or an increase of $42. The $42 increase is similar to the increase requested by the commenter. The CEC also identified that the cost of electricity needed to be increased to reflect 2018 rates. The increased cost of electricity increased the value of the savings from $433 to $509. With these adjustments the life-cycle benefit was $77 and is now $110. However, the increase in incremental cost still yielded a cost-effective proposal as the lifetime benefits were greater than the incremental costs. The details of the incremental cost calculation are shown on page A-23 and Table A-28 of the staff report
57	J03	Jen Hatfield, Pool and Hot Tub Alliance	We are concerned on the effect of the Covid-19 global pandemic. We think it provides a lot of uncertainty for our economy. And I think that as, you know, a revised cost-benefit analysis is necessary due to Covid and the effect on supply and distribution lines, manufacturing is either being closed or in reduced capacity in some cases, and its effect on California consumers. You know none of us know what a post Covid world is going to look like, but we strongly believe its effects need to be considered before moving forward.	Comment acknowledged. No Change. The CEC understands the world is a more uncertain place due to the COVID-19 pandemic and will monitor the marketplace for any unintended consequences to supply and distribution lines. However, the CEC believes this is the right move right now as it will eliminate the least efficient motor options from the marketplace in a cost-effective manner. Even in a depressed economy the long-term savings will outweigh the initial increased costs. Staff's assumptions include the cost of electricity, the design life of the appliance, how often the motor is run, the costs of the motors. These assumptions establish the cost-effectiveness analysis. Staff does not see this COVID-19 event changing the established assumptions used in the analysis. Statewide savings rely on the same assumptions and an estimate of the statewide stock of motors. Since

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				RDPPPM are replacement motors and will be used for an application where a pool already exists where the motor is broken staff feels the stock number and therefore the statewide savings will remain the same. While owners might potentially delay replacement, their pool will not be safe or functional until the replacement motor is installed. Staff does not believe, with the significant investment made by the owners, that the marginal cost increase of the motor would prevent replacement. In addition, consumers are saving money as they move forward.
58	K01	Ken Osborne, Regal Beloit Corporation	One specific comment that PHTA and NEMA submitted to the CEC pertains to the effort to expand variable-speed replacement pump motors down to one-half horsepower. Our view is that there may have been a miscalculation and an oversight here in that the definite-purpose pool pump regulation from DOE has a demarcation between standard size and small size pool pumps at .711 hydraulic horsepower. Our all-stakeholder working group that was trying to formulate a replacement pool pump motor standard that would align with the DOE pump standard ended up with 1.15 horsepower. We all agreed that the .711 hydraulic equated to a range of about 1 horsepower up to about 1.3, all dependent on the hydraulic efficiency of the wet end.	Comment acknowledged. No change. The CEC and stakeholders negotiated a conversion between a pump's power output expressed in hydraulic horsepower (hhp) and a motor's power output expressed in total horsepower (thp). Thp and hhp are related through the pump's hydraulic efficiency. Through the negotiation the CEC and other stakeholders agreed that the conversion of .711 hhp for a pump would be 1.15 thp for a motor. The CEC negotiated this agreement in the hopes of achieving a national standard with DOE. For a statewide standard, the CEC reviewed scenarios for replacement pool pump motors and concluded that a variable speed replacement pool pump motor requirement would be cost-effective and technically feasible. Setting the requirement to begin at 0.5 thp would yield significant statewide energy savings due to the significant market share between 0.5 thp and 1.15 thp.

Pg.	No.	Commenter Name and Organization	Comments or Suggested Revisions	Response
58	K02	Ken Osborne, Regal Beloit Corporation	By extending it down to one-half horsepower, I think that the CEC is creating an incentive for contractors and pool owners to revert back to single-speed pumps. And I'll refer to the comments made by Mary and Chad, representing the California IOUs, in that presentation it was noted that a replacement variable-speed motor estimated cost was 481, a replacement single-speed motor or, I'm sorry single-speed pump was $320. That is directional, I think, they are valid numbers, and an indication of the financial incentive for pool owners and contractors to revert back to single-speed pumps instead of variable-speed pumps in the lower horsepower range.	Comment acknowledged. No change. Public Resources Code Sections 25213, 25218(e) and 25402(a)-(c),(f) mandates and authorizes the CEC to adopt rules and regulations to reduce the inefficient consumption of energy by prescribing efficiency standards. When a pool pump motor breaks, a consumer may choose to either replace the broken pool pump motor or to replace the pool pump and motor. Based on information provided by industry stakeholders the CEC estimated that consumers might choose to replace a broken pool pump motor 25 percent of the time. In addition, the U.S. DOE developed estimates through a consensus process between industry and advocates that show consumers chose a similarly more expensive variable speed pool pump over a single speed pool pump at a similar ratio of 76% single speed pool pumps and 24% variable speed pool pumps. The ratio assumed by DOE is similar to the ratio CEC chose for single speed and variable speed motor replacement rates. See Final Staff Report, pg. A-7, Table A-4 for further details.
59	L01	Philip Escobedo, Zodiac Pool Systems	Thank you. My name is Philip Escobedo from Zodiac Pool Systems, a manufacturing of pool equipment and pool and spa equipment. I just wanted to totally agree on the effort to reduce energy use and lower environmental impact, but I also want to urge the council (phonetic) to seriously consider all the written comments submitted by the Pool and Hot Tub Alliance, particularly relating to booster pumps.	Comment acknowledged. No change. The CEC has responded to previous comments it received from PHTA and NEMA to reduce the number of booster pump motor shipments to the number recommended by PHTA and NEMA. The PHTA and NEMA had recommended that a replacement for a booster pump motor occur 1 out of 50 times, less than staff assumed in its November 2018 staff report. The CEC originally stated in its November 2018 staff report a statewide stock of 88 thousand replacement pressure cleaner booster pump motors. However, based on

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			What's happening worldwide, they said, is unprecedented and I really feel we're creating an unnecessary burden to the California consumer and families at the worst possible time, with very little if any gains on energy efficiency or long-term fiscal savings. Please reconsider our comments and rationale to remove the booster pumps from the scope of the ruling or wait for the federal DOE rule.	comments provided to the CEC by PHTA and NEMA during pre-rulemaking, the CEC revised the February 2020 staff report to reflect this data. The about 2 thousand motors assumed by CEC in the final staff report are 1/50th of the previous 88 thousand motors in the draft staff report. As shown in Table A-1 of the final staff report, even with the reduction in shipments the proposal yields cost-effective savings to the consumer and significant statewide energy savings. Staff's assumptions include the cost of electricity, the design life of the appliance, how often the motor is run, the costs of the motors. These assumptions establish the cost-effectiveness analysis. Staff does not see this COVID-19 event changing the established assumptions used in the analysis. Statewide savings rely on the same assumptions and an estimate of the statewide stock of motors. Since RDPPPM are replacement motors and will be used for an application where a pool already exists where the motor is broken staff feels the stock number and therefore the statewide savings will remain the same. While owners might potentially delay replacement, their pool will not be safe or functional until the replacement motor is installed. Staff does not believe, with the significant investment made by the owners, that the marginal cost increase of the motor would prevent replacement. In addition, consumers are saving money as they move forward.
61	E02	Chad Worth, Energy Solutions on behalf of the	General comment of support	Comment acknowledged. General comment of support. No response required.

Pg.	No.	Commenter Name and Organization	Comments or Suggested Revisions	Response
		California Investor-Owned Utilities		
63	M01	Rob Boteler, Nidec Motor Corporation	I think with this regulation where it's going to be enforced at state borders, you have a unique issue because you're going to have internet suppliers from other states that are going to provide single-speed motors that are noncompliant motors. And I have no idea how you're going to enforce that, but I'd like to see that in your regulation, that you list the documentation on how it's going to be enforced and some idea of what the funding is going to be to enforcement, to enforce the program.	Comment acknowledged. No change. The CEC enforces the Appliance Standards through its Office of Compliance, Assistance and Enforcement.
64	M02	Rob Boteler, Nidec Motor Corporation	Why we have efficiency as a metric on variable-speed motors. I mean we all have gone through the affinity laws and we know what's happening with the affinity laws. And adding the efficiency as a metric on the variable speeds doesn't really make sense to me.	Comment acknowledged. No change. Public Resources Code Sections 25213, 25218(e) and 25402(a)-(c),(f) mandates and authorizes the CEC to adopt rules and regulations to reduce the inefficient consumption of energy by prescribing efficiency standards. Motor efficiency provides a means to achieve energy efficiency by converting more of the electrical power input into the motor into more mechanical energy output. Establishing minimum motor efficiency will increase energy savings and reduce consumer electricity bills in a manner cost-effective to consumers.

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64	M03	Rob Boteler, Nidec Motor Corporation	Is that an efficiency level a motor-only efficiency level or is that a system level? Is that the motor and the control? And the question I would have is that an efficiency level a motor-only efficiency level or is that a system level? Is that the motor and the control? I'm not clear on that. And that I assume in the regulation there will be references to the test standard and, you know, an improved ANSI standard that we would then be held to and what adds would be to the lengths that we should use to verify performance.	Comment acknowledged. No change. CEC staff proposed an efficiency level that includes the motor and the motor controller if sold with the motor. The proposed language in Title 20 Section 1604 (g)(3)(C) provides the requirement for the motor controller (drive) to be tested with the motor to determine the motor efficiency. Proposed language 1604 (g)(3)(C) "If a drive is sold or offered for sale with the replacement dedicated-purpose pool pump motor, the input power of the drive while the drive is connected to the motor shall be used to determine nominal efficiency and power factor per the test procedure."
66	L02	Philip Escobedo, Zodiac Pool Systems	A variable-speed pump that comes with a variable-speed motor from the factory cannot be replaced with a single-speed motor without voiding UL and NSF certification of that one. We have not seen this behavior obtained for a variable-speed pump, only to downgrade to a single speed.	Comment acknowledged. No change. A manufacturer may choose to certify a replacement dedicated-purpose pool pump motor for the various applications the manufacturer intends as an application for the motor. The UL and NSF certification process is not a barrier to the technical feasibility of the staff proposal.
66	L03	Philip Escobedo, Zodiac Pool Systems	I would strongly urge the council to delay the ruling or push back the effective implementation date. What Covid-19 has done and will continue to do to our economy is not known, but the outlook is very bad. Many companies have already had to lay off engineering resources for both short-term and long-term financial viability. Now is just not the time to force this on the industry.	Comment acknowledged. No Change. The CEC understands the world is a more uncertain place due to the COVID-19 pandemic and will monitor the marketplace for any unintended consequences to supply and distribution lines. However, the CEC believes this is the right move right now as it will eliminate the least efficient motor options from the marketplace in a cost-effective manner. Even in a depressed economy the long-term savings will outweigh the initial increased costs.

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				Staff assumptions include the cost of electricity, the design life of the appliance, how often the motor is run, the costs of the motors. These assumptions establish the cost-effectiveness analysis. Staff does not see this COVID-19 event changing the established assumptions used in the analysis. Statewide savings rely on the same assumptions and an estimate of the statewide stock of motors. Since RDPPPM are replacement motors and will be used for an application where a pool already exists where the motor is broken staff feels the stock number and therefore the statewide savings will remain the same. While owners might potentially delay replacement, their pool will not be safe or functional until the replacement motor is installed. Staff does not believe, with the significant investment made by the owners, that the marginal cost increase of the motor would prevent replacement. In addition, consumers are saving money as they move forward.