SPEC
Protecting Pool Owners and Professionals Since 1973

October 26, 2005

Mr. Joe Desmond
Executive Director
California Energy Commission
1516 Ninth Street. MS:29
Sacramento, California 95814-5512

Dear Mr. Desmond:

The California Spa and Pool Industry Education Council hereby petitions the California Energy Commission for Rule Making with regard to the Amendments to Appliance Efficiency Regulations to the California Code of Regulations, Title 20, (Dockets 05-AAER-1 and 04-AAER-1). We strongly believe that if the regulations go into effect on January 1, 2006, without further consideration, and clarification, they will have a significantly negative impact on the quality and safety of swimming pools and spas installed in the state.

We agree that raising new issues which have not been previously addressed at this late date is regrettable. However, I assure you that there have been extenuating circumstances which prevented our participation in the process prior to now.

The concerns raised by industry representatives are summarized below:

- Regarding the Portable Electric Spa Regulation – Testing Methods
  - The regulations do not specify any operating environmental specifications for testing of spas. As such, spa operating conditions, and hence the parameters directly affecting efficiency as apparently intended by the CEC, are greatly affected. The tests are only as good as the controls placed on the environment during the test. In order to maintain accurate, fair and honest reporting, specific conditions for the tests must be agreed upon and included. Some important considerations are temperature, wind velocity, elevation (atmospheric pressure), water purity (evaporation loss), and water level maintenance.
  - How will the new testing methods be monitored and enforced. Most manufacturers are already under product audit & surveillance programs through Nationally Recognized Testing Laboratories (NRTL) such as UL and ETL. Further, there are no testing facilities in existence that can perform the required tests on the larger manufactured portable electric spas. Will the new test specifications become part of the surveillance programs of the NRTL?

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- Regarding the single-speed filtration pump specifications:

  - The pump flow rate (in GPM) is an equally critical factor for both efficiency/cost-savings, as well as playing a role in entrapment protection.

  - National standards such as the **American National Standard for Residential Inground Swimming Pools** (ANSI/NSPI-5) have specific requirements for flow, which affects the suction at the pool's drain. Additionally the diameter of the plumbing at any particular installation will also affect flow/suction. It is important to consider these factors when replacing an installed motor or pump. How does the proposed CEC regulation address these concerns?

  - The Service Factor of a motor is also a variable which should be of concern. It is not clear whether the regulations are intended to include replacement motors as well when discussing pool pump motors. The service factor of a motor affects the overall total horsepower rating of the pool/spa pump. Therefore, it is important that replacement motors are capable of operating satisfactorily on existing pumps. The regulations do not appear to consider this important issue.

- Regarding two-speed filtration pump requirements:

  - Pool and spa run times are directly related to the pool design. As such the pool equipment run time cannot be arbitrarily reduced to conserve energy. Effective filtration, sanitation, and several pool features require specific operating parameters such as frequency and length of operation. The regulations imply reduced running hours and operation during off-peak times. If operated under the conditions being implied by the regulations, the health and safety aspects of the pool(s) may be adversely affected. Has the Commission considered this?

  - The regulations seem to indicate that simply turning down the speed of a pump motor will automatically yield effective filtration at a reduced cost. This is not necessarily an accurate conclusion. For example, if a two-speed motor is operated at half (1/2) its higher speed, the pump flow may drop to a level that is one-quarter (1/4) the flow obtained at the higher speed. If a pool is equipped with a sand filter and the water flow at the motor's higher speed is normally 15 gpm per square foot, the flow at the lower speed would drop to 3.5 gpm per square foot. Despite the fact that

- the cost of running the motor may be reduced, the filtration capability of the system would be significantly hindered. The pump impeller is carefully designed to be efficient at its maximum speed to allow the motor to be as powerful and efficient as possible. At its lower speed the pump would be operating at a condition which could depart significantly from its most efficient design parameters.

- As previously stated, it appears as though the basic premise of the regulations is that running fractional horsepower two speed pumps for circulation over a longer period of time would yield substantial savings in energy consumption. Unfortunately, this premise discounts the issue of overcoming head pressure concerns which vary based on equipment plumbing and elevation differences. Water turnover is one of the most important keys to maintaining good and safe water quality. Two speed pumps would need to operate longer because the flow would be reduced at the lower speed. Variations in pool equipment placement and variations in elevations create head pressure challenges that would only be further exacerbated by multiple-speed motors. Once again this would lead to compromised health and safety of the pool/spa and its users.

- Two-speed motors will also require the user/site-owner to incur extra unnecessary costs because the controls required to operate the multi-speed pumps at variable times would need to be more complicated than the site-owner would normally need to acquire. Standard timers to which many pumps are connected would not be able to be used to control the two-speed motors.

- A major issue is that with above ground systems, there is no motor manufacturer presently who can supply a PSC or cap start, cap run 48 frame motor.

- In looking for grater efficiency, the regulation is defining technology that may very well limit that efficiency. The low speed filtration concept is true only in certain cases. Turnover rates are determined by codes that cannot be met with lower flow rates.

- Swimming pools with solar heating cannot operate during "non-peak" hours" and heat a pool. The CEC regulation would render solar pool heating obsolete, thus producing energy savings in one place, filtering at "off-peak" times, and increasing energy consumption in another: replacing solar with high cost natural gas. Another issue here is the simple fact that a pool motor working at one-half speed may not produce a sufficient flow rate to force water through the roof panels where most solar units are located.

As one can see, from the above that the existing regulation directly affects the health and safety of California's pool owners, as well as the swimming pool and spa industry. Simply focusing on a reduction in energy consumption in this case without giving due consideration to the many issues that were not raised in the Commission's hearing, could yield other undesirable by-products and concerns. We will take responsibility for failing to participate at the appropriate times. However, a seriously flawed regulation, which can yet be fixed, is too high a price for this industry's failure to be heard during previous hearings, no matter what the reasons for such a failure may be.

Because actions taken by the State of California often expand to national scope, this regulation is of great concern to the nation's spa and swimming pool industry. We respectfully urge that the Energy Commission grant this petition and at the earliest possible time so that these and other major issues can be carefully considered. Thank you very much for your consideration.

Sincerely,

Donald C. Burns, J.D.
President and CEO