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**Pacific Gas and Electric Company's
Response to Comments Made During the May 15, 2008 CEC Public
Workshop Regarding Residential Pool Pumps**

California Energy Commission's Docket number 07-AAER-3-B for the 2008
Rulemaking Proceeding on Appliance Efficiency Regulations.

The following are PG&E's summary of comments raised by various stakeholders at the May 15, 2008 CEC Public Workshop on Residential Pool Pumps and respective responses.

1. Comment: There seems to be a disagreement between the Association of Pool and Spa Professionals (APSP) and the Independent Pool & Spa Service Association, Inc. (IPSSA) regarding the validity of proposed standards clarification.

1. Response: APSP represents builders and dealers, and according to APSP representatives at the hearing they are generally supportive. IPSSA represents pool service technicians and according to IPSSA representatives at the hearing, they are generally not supportive. However, "not supportive" has not been substantiated.

2. Comment: Pumps do not have a "service factor" so including service factor in a pump's total horsepower rating isn't valid.

2. Response: Technically, this is correct as pump-heads are sized in HP without service factors, but "swimming pool pumps", defined as a product consisting of a pump and a motor for swimming pool pumping applications, do have a service factor that affects both the motor and pump. For example, the Hayward Northstar SP4010, 1 HP pump, has a service factor of 1.85, resulting on a specified total HP of 1.85. This pump has a 1.85 HP motor combined with a pump head that has a larger than 1 HP impeller. The pump head of this product is influenced by the service factor, just as is the motor. On January 1, 2006 regulations were put into place that require the actual pump size be labeled on the pump, rather than just the motor horsepower labeled independent of the potential pump horsepower. Furthermore, the total horsepower of the pump must also be shown. This total horsepower is the product of the nameplate plus the service factor.

3. Comment: The proposed regulation that timer controls must be able to control a minimum of two functions is not a good policy. There is no need to increase the installation cost to the consumer if a multi-function timer mechanism is not required to operate a pump that is not regulated. Please consider new language or consider removing this requirement. Variable speed pumps normally require more than a two-function timer control.

3. Response: It's true that a time switch capable of two or more speeds is not needed in applications where one speed pumping is permissible. Consideration is being given to clarification of this regulation. Ideally the regulation should read "two speed time clocks are required where two speed pumps and/or motors are required" in the final regulation.

4. Comment: Many swimming pool owners have older pools that will not perform on two-speed pumps.

4. Response: This regulation was never intended to be successful in every application without some fine-tuning of pool operating practices. An example of this would be filtering primarily at low speed, but operating at high speed for a couple of hours per day to satisfy certain automatic pool cleaner and skimmer requirements. Many of these pools have smaller pumps and would allow for a <1 HP pump that does not need to be two speed. This is one of the instances in which this regulation isn't *perfect* for everything, but is *good* for everything. To help with the aforementioned fine-tuning, we recommend that IPSSA provides examples of applications where two-speed will not work, and indicate how prevalent those situations are in the marketplace.

5. Comment: Cost of installation of variable speed pump system is out of reach for many pool owners.

5. Response: This is primarily an issue of cost right now versus lifetime cost. Variable speed is more expensive in the short term, but two-speed is also accepted within the standard and has been proven to be immediately highly cost effective.

6. Comment: The cost of installing a new pump motor may be below the \$500 contractor license requirements.

6. Response: Contractor license regulations are outside the scope of the energy efficiency proceeding and regulations.

7. Comment: If standards are going to be amended, consider applicability only to pumps >one HP.

7. Response: This would result in the loss of many energy saving opportunities. For example, motors below one total HP may be replaced in-kind with products that meet the pool pump motor efficiency standard which became effective on January 1, 2006 (no split-phase, or cap-start, induction-run). Allowing motors of one HP (nameplate), without regard to service factor, will result in pumps as large as 1-3/4 HP being replaced with no improvement in efficiency.

8. Comment: Consider allowing only "energy efficient" replacement motors to be sold in California. In California there are two types of replacement motors available from distribution; one is defined as "energy efficient" while the other is not. Proper labeling of regulated pumps and motors, integral or not, should be a requirement that would alert consumers.

8. Response: "Energy efficient" pool pump motors for residential swimming pool filtration and labeling of the pump head and pump motor are currently required by California's Appliance Efficiency Regulations. Efficient pool pump motors are required as split phase and cap-start, induction-run motors are prohibited.

9. Comment: If swimming pool pumps/motors are to be considered an appliance, then a labeling of the efficiency rating should be included so that the consumer can be made aware of the performance of the individual products at their disposal.

9. Response: While not a labeling requirement, the energy efficiency performance of residential swimming filtration pumps is reported to and listed by the California Energy Commission. This information is available on the CEC's website under "Appliance Efficiency Database", <http://www.energy.ca.gov/appliances/appliance/>

10. Comment: For clarification, please consider language changes indicating new construction requirements, retrofit requirements and service/repair requirements. Within Title 20 all three of these areas have various areas of compliance and it would be beneficial for the understanding of regulations.

10. Response: Title 20 covers appliances offered for sale in the State of California. Title 24 covers new construction efficiency within the State, such as swimming pools.

11. Comment: Enforcement of Title 20 is non-existent beyond new construction permit inspection, unless a permit is required to upgrade electrical service to existing pools. The lack of regulatory enforcement in reality makes the title voluntary to the do it yourself consumer or unscrupulous individuals that may prey on the community. Enforcement

needs to be addressed to make the requirements successful. Labeling plays a part in enforcement.

11. Response: Compliance with Title 20 is the responsibility of those offering products for sale in the State of California. With most products covered by Title 20, the industries involved with the manufacturers and sales work to assure compliance. Contractors not complying with Title 20 requirements are taking a great risk, as technically their sales are illegal and subject to prosecution under the law as well as future liability associated with an illegal sale. If compliance becomes a problem, the CEC will take appropriate action. The trade should encourage self policing and promote the value of the standard, from both compliance and energy savings viewpoints.

12. Comment: Proper public notification regarding the new standards needs to be forthcoming.

12. Response: Agreed. These are not new standards. They were adopted January 1, 2006 to go into effect January 1, 2008, and have only been derailed due to an error in the written standard. Adequate notification has already been given to all affected parties.

13. Comment: SoCal Edison and PG&E have withdrawn their installed rebate requirement that the installer be a California Contractor thereby rewarding unlicensed contractors. At this point the cost of installing a new pump motor is usually below the \$500 contractor requirement. If you do not consider allowing the trade to install <one HP motors as a direct replacement repair there will be thousands of small business operators either operating illegally or going out of business.

13. Response: You note that the utilities are providing rebates to non-licensed contractors. It is the responsibility of the State Contractor's Licensing Board to assure compliance with contractor licensing laws. The utilities are simply trying to achieve as much energy-efficiency improvement as possible.

14. Comment: Proposed regulations would work well for new construction and remodels where underground plumbing can be changed. Proposed regulations would not work well for direct replacement of motors. Most existing pools are not plumbed for multi-speed pumps. Multiple skimmers, pool cleaners, and some filters will not work effectively at low speeds.

14. Response: With both two-speed and variable speed motors it is possible to increase the pump speed for skimming. Skimmers aren't especially effective to start with, so occasional use of skimmers is most likely just as effective as continuous use.

15. Comment: In the beginning, rulemaking for Title 20 was based on the design of hydraulics for new construction. For greater energy savings, it then broadened to include the replacement of pumps on existing pools, and then to the replacement of pump motors on existing pools. For the most part, energy conservation has been the responsibility of the swimming pool service and repair industry, with little help from the Utility works that now want to regulate an entire industry with little regard for the consumer. Public notification of the impending regulations has not been forthcoming to the extent that the community affected by Title 20 has been made fully aware of the regulations impact. This is not a good practice if the Utility works want the full cooperation of their customers.

15. Response: This characterization of the history of energy efficiency regulation of swimming pool filtration pumps is incorrect. Swimming pool pumps and motors were first regulated under Title 20, on January 1, 2006, with two or multi-speed requirements for pumps of one HP and over to take effect January 1, 2008. Title 24 Regulations for new residential swimming pool construction have recently been approved and will take effect next year. As for consumer regard, these standards are being put into effect to help the consumer long term in energy efficiency and cost, and in creating a healthier planet for future generations. It could be argued that if the swimming pool service and repair industry had been effective in implementing energy efficient products these standards would not need to be put into effect.

16. Comment: Proposed regulations could lead to rebuilding of non-efficient old motors rather than installation of a new controller and multi-speed motor.

16. Response: Because this is not economically practical for smaller motors this is unlikely to happen.

17. Comment: Variable speed pumps work well in some, but not all, applications.

17. Response: In fact the reverse is true. Variable speed motors can be adjusted to fit any pool, whereas other motors are set at certain speeds. It may not be the best choice, but only due to initial short-term cost.

18. Comment: "... it is possible to take a relatively safe pool and turn it into a suction entrapment accident waiting to happen."

18. Response: All variable speed motors come with a maximum power setting that can limit the amount of power. This can be set to limit the suction according to safety recommendations.