INTERNATIONAL AQUATIC FOUNDATION
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January 6, 2006

R Michael Martin
California Energy Commission
1516 Ninth Street, MS 25
Sacramento, CA 95814-5512

Subject: Appliance Efficiency Standard, Section 1604 (3) "Test Method for Residential Pool Pumps" and 1605.3(G) (5) "Residential Pool Pumps".

Dear Mr. Martin:

I am writing on behalf of the Association of Pool and Spa Professional's (APSP) IAF 10 Standard Writing Committee. The IAF 10 draft standard is an effort to directly address pump labeling confusion and to encourage higher pump efficiencies through product labeling. The result of this work will be IAF 10 an American National Standard for Performance Rating of Pumps used on Swimming Pools, Wading Pools, Spas, Hot Tubs, Whirlpool Baths and Water Features.

The IAF 10 standard writing committee unanimously agreed to send this letter in order to seek clarification, correction and cooperation with the California Energy Commission and its recently approved Title 20 Appliance Efficiency Standards. The IAF standard writing committee believes this is readily achievable based on the common goals of the two organizations. To illustrate our common goals, the following information is provided.

In the fall of 2003, the APSP Technical Council, at the time known as the National Spa and Pool Institute or NSPI, formed a new standard writing committee to address the trend towards large filtration pumps with non-standardized labels that are known to confuse pool professionals. From the start, a data table was proposed to allow consumers to see 'apples to apples' performance and power consumption for each pump, much like automobile fuel mileage labels, or nutritional information on food packages. The goal is to use free market forces through on-product labeling to encourage the purchase of energy efficient pumps. This group of pool and spa equipment manufactures has achieved committee consensus on these goals.

In the process of drafting the IAF 10 standard a brief report was provided on the proposed California Title 20 Appliance Efficiency Regulations. Common goals and similarities in reportable data have been noted with the writing committee drawing the following conclusions:

1. Appliance Efficiency Regulations and the IAF 10 standard can and should share common test requirements based on HI 1.6-2000.

2. Appliance Efficiency Regulations and the IAF 10 standard require pump manufactures to publish power consumption based on specific hydraulic conditions.
    a. Appliance Efficiency Regulations require data published to a database.
    b. IAF 10 requires the data to be published on the pump via a permanent label.
3. Appliance Efficiency Regulations and IAF 10 require laboratory certified performance testing.

The IAF-10 standard writing committee also noted a few Appliance Efficiency Regulations that do not achieve our common goals, and perhaps the goals of Title 20 itself. The regulations in question include the following:

1. Appliance Efficiency Regulations require testing each pump under two separate hydraulic conditions referenced as Curve A and Curve B, as defined under Section 1604(3) (C). It is the opinion of the IAF 10 standard writing committee that this approach will not achieve the goal because the only directly comparable data point is "Energy Factor" which is calculated at a different head and flow point for each pump. This is comparable to the current problems associated with pool pump horsepower and service factor labeling. Each pump and motor combination has a potentially different total horsepower making it difficult, if not impossible to accurately compare one model pump to another.

   To achieve the same goal, the IAF 10 standard writing committee proposes requiring each pump manufacturer to publish the same data required in the Appliance Efficiency Regulations; head, flow, power and a variation on the Appliance Efficiency Regulations Energy Factor, a variation that includes head in the calculation. However, instead of using two head versus flow curves, the point on the pump curve where three specific head points cross are used. This requirement allows each pump to be compared based on a common point of reference, total system head. Below is the proposed format to be published on each pump.

HEAD (Feet of Water)	**10** (Low Head)	**40** (Medium Head)	**60** (High Head)	(Manufacture Selects)
FLOW (GPM)				
WATTS				
EFFICIENCY* (Wire to Water)				
ENERGY FACTOR** (GALLONS PER WATT HOUR)				

* Equation: (H*Q/3960)/WATTS = EFFICIENCY

* *Equation: Q*60/WATTS = ENERGY FACTOR

2. Instead of prohibiting specific motor construction methods, the IAF 10 standard writing committee requests a minimum wire to water efficiency standard along with six to nine months to develop, certify and deliver compliant pumps that will achieve the goal without opening a loophole that is likely to be exploited in the cost sensitive marketplace.

   Appliance Efficiency Regulations prohibit the use of split-phase motors. This prohibition creates a catch-22 because current two-speed motors use split-phase motors to run at low speed. Other multi-speed motor technology can be developed, however the most significant energy savings is a result of running the motor at the lower speed, making the construction method insignificant by comparison.

   The IAF 10 standard writing committee requests a correction to the Appliance Efficiency Regulations eliminating this technicality. At the same time, the committee would like the opportunity to research and present other ways of achieving the California energy savings requirements without a blanket prohibition on single speed pumps. Not all pumps turn at 3450 rpm as presumed by this regulation and there is a concern pumps that achieve the energy savings without a second speed, one half the speed of the first, may be eliminated on a technicality. It is in everyone's interest to encourage energy conservation without mandating an expensive control system if it is not needed to achieve the goal. Without changing the energy saving goals, the IAF 10 standard writing committee seeks to keep all technological options open through future communication with the CEC.

3. Appliance Efficiency Regulations prohibit the use of cap-start/induction-run motors on the basis they are inefficient as compared to other construction methods. The IAF 10 standard writing committee does not disagree, however there is concern over unintended consequences. The reason cap-start/induction-run motors are common place is their low cost of construction as compared to the work they are able to achieve and by eliminating this construction method, the industry is concerned other construction methods will be altered significantly to fill this low cost niche. For example: the additional cost of a run capacitor is easily offset by reducing the copper windings in the motor, resulting in another lower cost motor that meets the letter of Title 20 regulation while being less efficient than the cap-start/induction-run motor it is replacing.

4. Appliance Efficiency Regulations do not differentiate between the inground and onground/aboveground swimming pool markets. Onground swimming pool pumps are commonly packaged with the low cost pools and these inexpensive pumps are split-phase motors. There is grave concern the current provisions of the Appliance Efficiency Regulations will prohibit the sale of onground pools during the 2006 swimming pool season because currently available pumps are not Title 20 compliant. This is a relatively small market compared to the number of pumps used for inground swimming pools; however the impact is by far the greatest on low income consumers.

   The IAF 10 standard writing committee suggests separating inground and onground/aboveground pool pump requirements prior to January 1, 2006. By separating these distinctly different pool categories, the inground pool pump regulations can proceed, while the issue of onground/aboveground pool pumps

is addressed in a timely manner that does not disadvantage the low income consumer. Additionally, the IAF standard writing committee request more information on the impact the onground/aboveground filtration pumps have on the California energy supply. Do these pumps merit inclusion in Title 20 Energy Efficiency Standards and if so how can the additional cost be recovered during the limited life expectancy of these low cost pools and associated filtration equipment?

5. Amendments to Appliance Efficiency Regulations published as Express Terms of Proposed Regulations (15-Day Language) dated September 30, 2005 includes confusing discrepancies between what is required by Section 1604 (3) (D) 1. "Head" and what is to be reported to the database; Section 1606 Table V (G). Table V (G) does not include the required "Head" categories. It is also noted that instructions for reporting pool pumps is not yet available, making it difficult for manufacturers to meet the January 1, 2006 deadline.

   Without objecting to the goals and reasoning for the January deadline, the IAF 10 standard writing committee requests official guidance on how manufacturers are to comply with the new regulations as it relates to the discrepancies within the approved Appliance Efficiency Regulations and the lack of instructions for reporting pool pump data.

The International Aquatic Foundation (IAF) is the technical standards and consumer awareness arm of the Association of Pool and Spa Professionals.

The Association of Pool & Spa Professionals (APSP) is the world's largest international trade association representing the swimming pool, spa, hot tub, and recreational water industries with a mission to enhance the business success of members. The over 5,300 member companies of the APSP include manufacturers, distributors, manufacturers' agents, designers, builders, installers, retailers, and service professionals. APSP members adhere to a code of business ethics and share a commitment to public health and safety in the use of pools, spas, and hot tubs.

If there is a need for further clarification, please feel to contact me at:

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Sincerely,

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