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Dear Stephen,

Enclosed is a proposal from the veteran PoolResponse™ team for an automated Pool Pump Pilot in Orange County to be included in the SCE proposed application filing with the *commission for a Living Pilot utilizing the feedback from the November 6, 2013 CPUC symposium*. The PoolResponse team including Pentair; EGIA, Electric & Gas Industries Association; Payan Pool Services, Inc., a California DBE; and KAIROIC would like to attend the symposium and present a PoolResponse Orange County Pilot Proposal for Living Pilot Consideration by the SCE and the CPUC. Please consider this message both our RSVP and the 3-page proposal for your submission consideration.

The PoolResponse team is a proven consortium of 'best of breed' companies working as a coordinated team to capture the untapped Demand Response capability associated with outdoor devices such as pool pumps. The POOLRESPONSE TEAM has been working for several years now to enable automated Demand Response for pool pumps and outdoors residential devices that are responsive and economically practical. We believe the key to achieving these Demand Response savings in Los Angeles and Orange County and throughout California involves creating a scaled, 3<sup>rd</sup> party service for the consumer and utility's mutual benefit that delivers scaled Demand Response – Energy Efficiency programs that can be relied upon and dispatched rapidly. Our solution to this Demand Response and Energy Efficiency dilemma is PoolResponse.

**Our team believes that a scaled PoolResponse implementation based upon a successful Pilot can be an effective addition to the resource portfolio that will be able to successfully manage load growth to meet reliability needs at Johanna and Santiago substations for the purpose of reducing/eliminating the need for gas fired generation at these locations.**

The PoolResponse team includes:

- **PENTAIR**, the worldwide leader in aquatic systems and Energy Star certified supplier of pool pumps and market share leader in aquatic systems in the state of California.
- **KARIOIC** ([www.PoolResponse.com](http://www.PoolResponse.com)), the leader in pool pump controllers and automated cloud services for pool pump automation and pool services supply chain efficiency.
- **PAYAN POOL SERVICE**, a registered Diversified Business Entity (DBE) and a leading pool services business in Southern California for 25 years is a Better Business Bureau thought leader.
- **EGIA (Electric & Gas Industry Association)** is a contractor training and professional development association, which specializes in helping home improvement contractors boost their bottom line while increasing sales volume and profits. EGIA is delivering a national PoolResponse DR-EE Financing Program with PENTAIR and KAIROIC.
- **OLIVINE** is a wholesale market participant and a listed Scheduling Coordinator for the CAISO. Olivine has a proven track record of Demand Response program design and operations among California utilities.

An overall profile of Demand Response Capabilities that will be supported by the

POOLRESPONSE TEAM offer is highlighted below:

- Reliable Capacity with overbuild to accommodate coincidence and device failures to assure capacity commitments are met
- Dispatching optimized for the method whether AMI, DRAS or other methods. Demand Response dispatching options include: on-demand (“big red button”), 30 minute, 3 hours, and Day Ahead scheduling
- Conformance to relevant industry standards including: OpenADR and SEP and others
- Provision of event and other data in SCE-compatible formats where requested
- Information security conformance

In planning for 3rd Party PoolResponse for SCE customers, members of the PoolResponse team have been working with SCE, the CPUC, and the CAISO for several years on the technologies, processes, and business models for delivering automated pool pump control while preserving consumer convenience. The PoolResponse team delivered the El Cajon Pilot with SDG&E which continues to provide core technical and business data at the state of the art in pool pump automation and consumer acceptance.

### PoolResponse Pilot Proposal

Our proposal describes the key aspects of a seven-month Pool Pump Pilot to be undertaken by SCE under contract with Payan Pool Services (PAYAN) and KAIROIC.

The purpose of this pilot is to evaluate the feasibility to control variable speed pumps using OpenADR 1.0 for load shed. Payan Pool Services, a leading Southern California Pentair dealer, will directly install and support the pilot pool systems to assure demand response performance and customer satisfaction during this pilot period. After the pool pump controller is installed, the embedded OpenADR Smart Client logs on to the Demand Response Automation Server (DRAS) once a minute to receive price and event information. A pre-programmed demand response algorithm defines the pump reactions to the price or event signals.

Under this proposal, SCE, PAYAN and KAIROIC LLC, will work together to pilot the application of this DRAS Client embedded in the OpenADR Controller DLC to control a Pentair variable speed pool pump in 100 residential and light commercial sites in the Johanna and Santiago substation territories as mutually agreed.

In addition, the Pilot is being designed to validate the solution’s conformance to SCE program requirements and achieve program certification as a valid solution in early summer. During the scaling assessment phase, single speed to variable speed consumer and dealer re- bate options will be evaluated and a scaled program budget will be developed for SCE and CPUC consideration for 2015 and beyond deployment.

Despite the Energy Efficiency advantages of consumers upgrading from Single Speed pool pump to Variable Speed pool pumps, the penetration of upgraded pumps remains under 10% nationally after seven years of product availability.

Below are realistic estimates when comparing IntelliFlo pumps to a traditional pump running 12 hours per day at various utility rates (in dollars per kilowatt hour [kWh]) in a 20,000 gallon pool.

- At \$0.16/kWh estimated energy efficiency savings of up to \$1,300\* per year.
- At \$0.20/kWh estimated energy efficiency savings of up to \$1,600\* per year.
- \$0.30/kWh estimated energy efficiency savings of up to \$2,500\* per year.

*Depending on the geography, the load congestion, and the energy marketplace, utilities will be able to offer consumers with incremental economic savings via Variable Speed Pool Pumps under rapid Demand Response Control.*

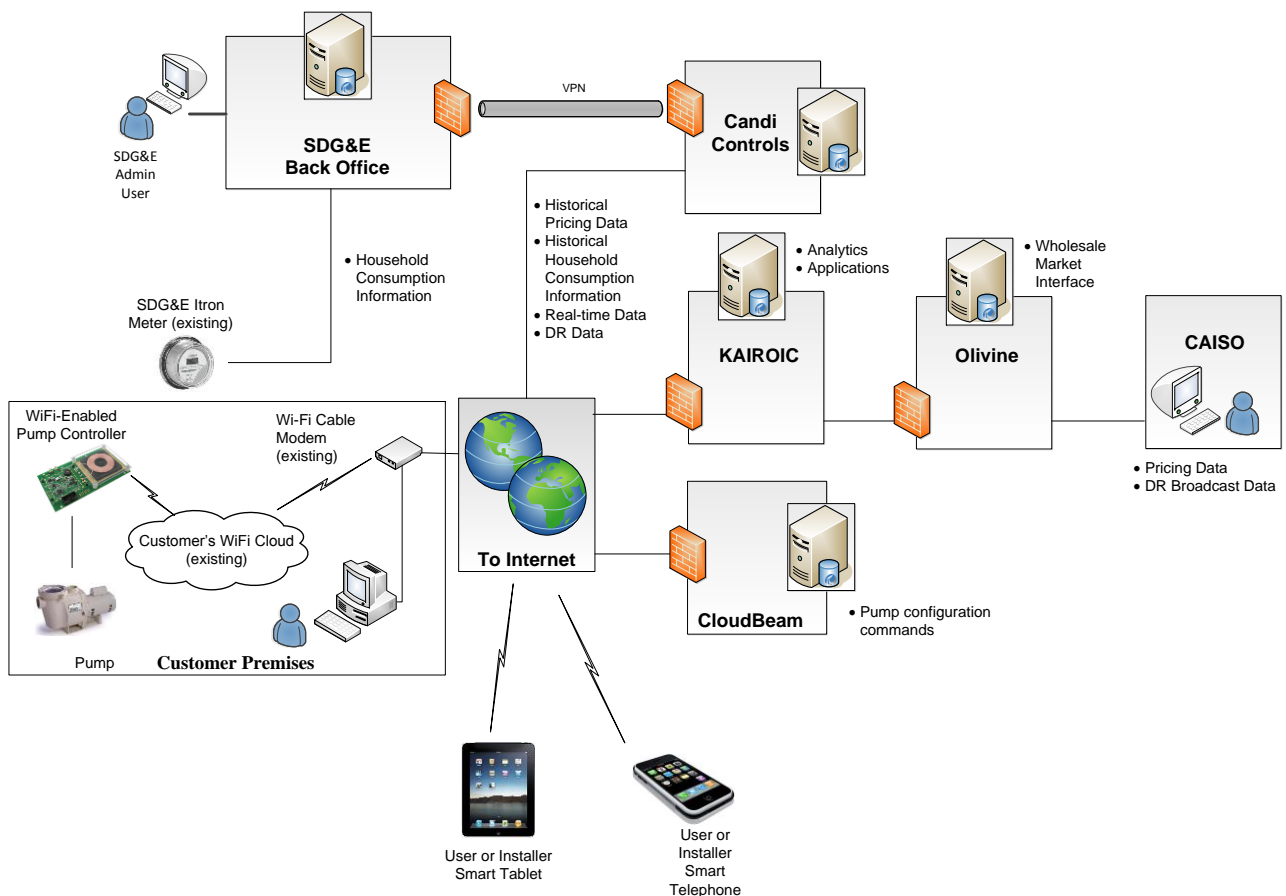
## Wholesale Market Participation

PoolResponse intends to provide flexible resources enabled to bid into wholesale markets with requirements varying substantially depending upon the specific market requirements, which are currently in flux. Expectations are that all capacity enrolled by April 2014 would at minimum be enabled for registration as a PDR (Proxy Demand Resource) in the Day-Ahead market at the CAISO.

## Rapid Demand Response – Energy Efficiency Programs

Recently, with the potential large-scale Internet control of Variable Speed Pool Pumps, leading utilities have been specifying hybrid DR-EE programs with combined benefits and significant capacity curtailment and increased consumer benefits from combined Demand Response and Energy Efficiency capacity reductions.

### Pool Pump Demand Response Architecture



Thank you for your consideration.

Regards,

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