

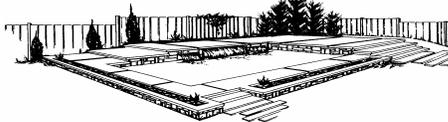
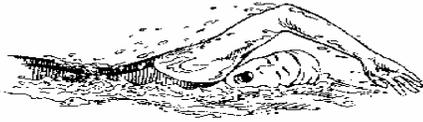


Water Digest

San Diego Chapter

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December 2000



Calendar of Events

Dec 12-14, 2000	NSPI Canada	Toronto, Canada
Jan 9, 2001	11th Annual IPPSA Region 5 HOTT Show	Anaheim
Jan 23-25, 2001	Region I Show	Atlantic City
Jan 23, 2001	4th Annual IPPSA Region 6 Table Top Show	University of Redlands
Feb 2-3, 2001	Region X Show	Nashville, TN
Feb 8-10, 2001	Western Pool & Spa Show: 23rd Annual	Long Beach, CA
Feb 11-13, 2001	SPATEX	Brighton, UK
Feb 14-16, 2001	Region V/VI Mid-America	Chicago
Feb 15-18, 2001	Region II Conference & Exhibition	
Feb 17, 2001	Advanced Water Chemistry Seminar	Holiday Inn - Kearny Mesa
Feb 23-24, 2001	Region VII Show	Orlando, FL
Mar 3, 2001	San Diego IPPSA Table Top Show	Scottish Rite Center
Mar 22-24, 2001	Board of Directors	Austin, TX
Mar 25, 2001	Retailers Council	
Jul 26-28, 2001	Board of Directors	Sun Valley, ID
Nov 28-30, 2001	NSPI International Expo	Phoenix, AZ
Dec 9-10, 2001	NSPI Canada	Toronto, Ontario

PRESIDENTS LETTER

Happy Holidays

I thought that winter was supposed to be the slow time of year!

Everyone that I talk to is busier than ever. To top it off there isn't enough daylight to get a day's work done in a day. I hear that someone was out setting tile with a flashlight last week in order to beat a penalty clause.

Things are a-changin at the regional level. As most of you know, Mike Galloway is now president of the region. Mike is your insurance agent in case you forgot, He also is past president of our chapter.

The region, as you may recall, had gone quite broke. By some logic quite beyond anyone on our board, the region was still keeping a full time employee. The employee's salary was taking the region from empty

(Continued on page 2)

San Diego NSPI Board of Directors				
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NEWSLETTER WEBMASTER	Rick English	English Pool Consulting	1445 Twenty Eighth Street San Diego, CA 92102 rick@english.net	619-338-9197 619-338-9167 619-331-8389

(Continued from page 1)

pockets to red ink. Guess who was supposed to make up that red ink?

Well, at our last region meeting, several San Diego NSPI board members showed up. They combined with Mike to stop the foolish spending until things get better.

Our whole philosophy is simple. When the San Diego Chapter got into a financial squeeze, we started doing things on a all volunteer basis. The events, the newsletter, membership, and so on are all done by members.

That was the first step.

The region meets again in January.

Phil Grider, NSPI San Diego President



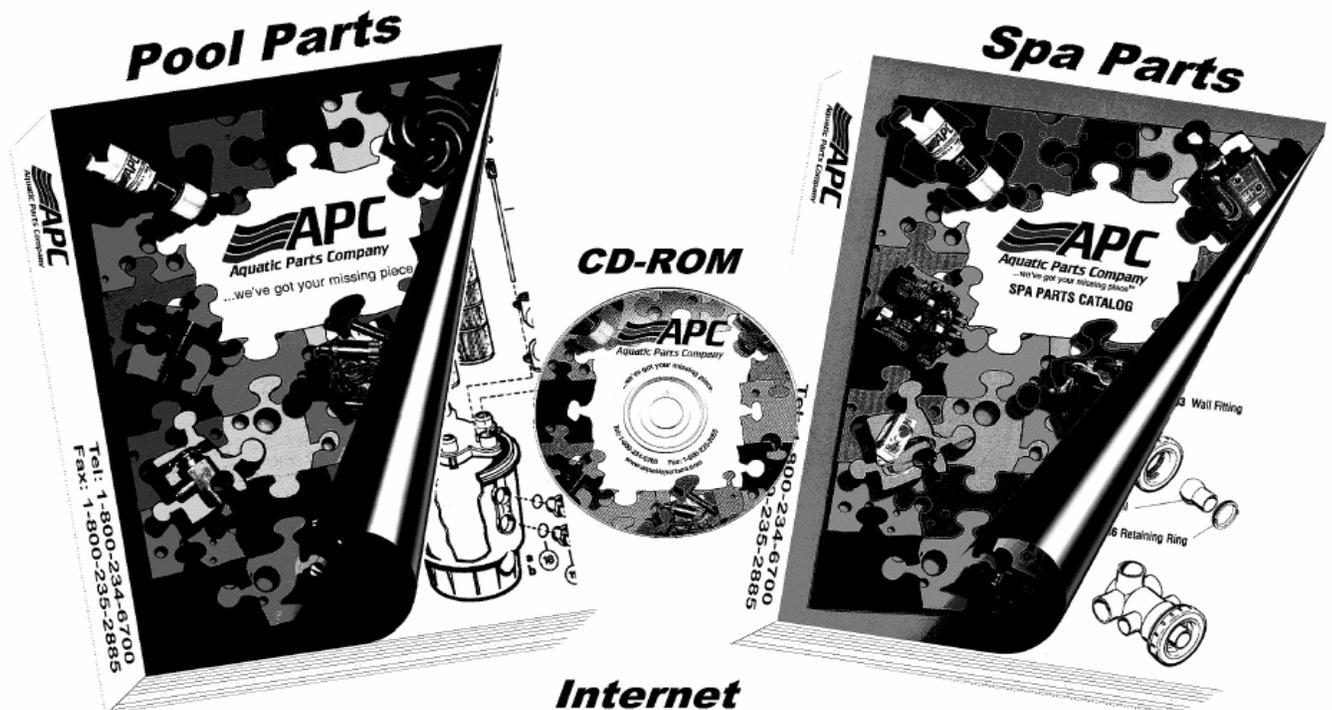
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Killer Watts Revisited by Rick English

Wow, I actually got a response to last month's article on energy consumption. He wisely suggested that I could get the wattage consumption by looking at the amperage that is on the pump's name plate. For those of you that have forgotten, multiply amps times volts and you get watts.

I had thought of that approach. When I did had done it years ago, the manufacturers told me that my numbers were too high. So I chose the conservative approach this time. I did not want to be accused of trying to create a county wide panic. So I assumed that a one horsepower pump would consume exactly one horsepower's worth of electricity.

What I really need to do is buy an amp meter and check out some pumps. Maybe I can get a better idea of what these things eat. Meanwhile, the numbers I gave last month are conservative.

So why am I wasting your time on the same subject?

Utility rates are going crazy. Sooner or later, we consumers will feel the impact. Until now there was a statewide cap of \$250 per megawatt.

I know that it doesn't take a rocket scientist to know that there are 1000 kilowatts in a megawatt. That means that a statewide cap of \$250 per megawatt translates to \$.25 per kilowatt.

Last month, I figured everything out at \$0.20 per kilowatt. So, at the old cap my conservative figures are already 25% low.

To make it more interesting the cap has been removed and \$600 to \$800 per megawatt is expected any day. That means that you would increase my estimates by 300% to 400%. This week the price of energy hit \$1100 per megawatt. (Multiply last month's



Tom Casebier
Vice-President

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tables by 5.5.)

That means that filtering the pool for a day would cost more than replacing the water in the pool! (Please, don't start draining pools.)

I think that this represents a more significant threat to our industry than last decade's drought. The drought was a cosmetic political problem. The general perception was that pools waste water. So, we became the scapegoats. Mother Nature bailed us out before it got too serious.

Mother Nature won't bail us out of this one. Despite all that you hear, the problem is really not that complex. There are not enough power plants to generate all the electricity that we need.

In the 1970's SDGE had a speaker's corps that went out to groups to explain why we needed to build new power plants. I was one of those speakers. Since then, I watched, from the outside, as almost every application to build power plants was denied. Applications were fought by residential groups, environmental groups, business groups.

I had high hopes for deregulation, because now we could compete for power from other states. But even with that capability, there are not enough plants.

We can complain to utilities, politicians, regulators, and each other. The problem will not go away until the bulldozers start rolling and the new turbines start spinning.

That will take years, if not decades.

Meanwhile, we have to live with it. So what strategies can builders and service people implement

(Continued on page 6)

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NSPI, we are your HDR Insurance Services underwriters, We thank you and your agent for placing your coverage and trust with us.

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Barbara L. Neal*

*Michelle Storey
Nancy Frediger*

For further information, please contact Mike Galloway at Wateridge Agency 1-800-223-6756.

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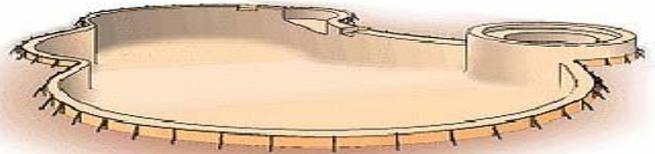
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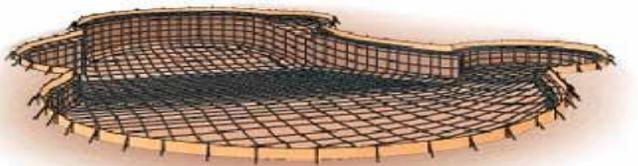






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to help their customers and themselves.

Energy efficient pumps is probably the first thing that we should all look at. I don't know why manufacturers even give us a choice but they do.

Realistic run times. We know that if a 2hp pump runs 8 hours per day then the energy cost is at least \$800 per year. That means that if electricity goes to \$600 to \$800 per megawatt then the consumer will be spending \$2400 to \$3200 per year. That's more than some of your customers paid for their pool! I always tell customers to cut back run times by one half hour. Let the system run for a week or tow and if everything is fine then cut back by another half hour. This is tedious and a bit risky. The customer or service person needs to learn the pool's behavior.

Smaller pumps. Last month's article showed that for a given number of gallons pumped the small 1/2 HP pump delivered the best value. So why do we have all those 2 HP pumps out there.

Multiple pumps. If the need is there for spas, solar, water features the consider separate, smaller pumps sized for each application. Size them carefully. Don't guess. Don't guess. Work out the hydraulics.

Better time clocks. Lets face it, the old mechanical time clocks are not precision instruments. In addition,

they are not that convenient for the customer. Many customers are actually afraid to fool around inside.

You can build a simple remote control using X10 technology (www.x10.com). You'll need a relay, an appliance module, and a mini-timer. Parts would cost about \$60. The customer would then have a pump controlling device that looks like a digital alarm clock in the house. Its sends the signals over the power lines. Installation consists of plugging it in. Don't attempt the installation of the module and relay unless you are an electrician.

Better hydraulics. The investment in additional skimmers, additional returns, careful return placement, bigger pipe sizes, and so on will really pay back. The pump be able to run for fewer hours and the reduced resistance will mean that the pump is not working so hard. That may mean that it is drawing less current.

Better Chemistry. The anthem of the past seemed to be that electricity was cheaper than chemicals. Why shock the pool? Why change the water if TDS gets high? Just increase run times. The customer needs to be aware of the difference between filtration and sanitization. Shocking a pool today is easy. Calculate what it costs to change water versus running the pump a few extra hours per day.

(Continued on page 7)

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(Continued from page 6)

Manual pool cleaning. If that cleaner is causing your customer to run a bigger pump or a separate pump then calculate what it costing them. It may be a lot more than their kid's allowance. Maybe their little darling could earn that allowance.

Those are my harebrained ideas. Some of them will work and others may be impractical for all of your customers. But, the important thing is that each and every one of us discuss electric costs with our

customers. If we take a proactive approach then we can meet the real needs of our customers and it may actually increase our profitability.

Please let me know if you agree or disagree with my comments. If you have any energy saving ideas to share then send them to me.

SOLAR FOR THE MASSES By Andrew Callus

The following article appeared in Yahoo news. Whenever we talk electric cost, the topic of solar comes up. This article, which I have condensed, addresses the feasibility.

LONDON, Dec 13 (Reuters) - Why do we burn oil and split the atom at great risk to the planet when enough clean solar energy to power the world for 27 years falls from the sky every day?

Three reasons really:

1. A daytime-only motor car with a roof the size of a swimming pool has limited market potential.
2. Static solar power costs many times more to generate than traditional grid sources.
3. The populations of areas with no access to electricity grids -- solar power's most obvious market -- are poor. Major obstacles perhaps. But power generation and transport together consume just 41 percent of total world primary energy supply, according to the International Energy Agency (IEA).

Meanwhile the developing regions that offer most of the "off grid" solar opportunities may be poor, but the IEA says they will account for 68 percent of a projected 57 percent increase in energy demand between 1997 and 2020.

Photovoltaic (PV) technology -- the generation of electric power from the sun's rays -- is the solar industry's driving force, having left behind direct solar heating panels as a niche market for warmer countries. PV cells are made from layers of semiconductor materials such as silicon, producing an electric current when photon light particles hit them. Cloud cover reduces their efficiency, but on a "bright overcast" day a PV panel will generate 50-70 percent of capacity. There is one big drag -- the manufacturing process remains complicated and expensive.

"I think the industry is still maturing in that much of it is still R&D orientated," said Ian Simm, who manages a specialist solar energy fund for Impax Capital Corp.

"There is still a credibility gap that it needs to close if it is going to go mainstream."

Grid electricity costs 6-15 cents a kilowatt hour (kWh) to produce off peak in the U.S., and 11-18 cents in the UK.

For solar, a household sized four kilowatt roof installation produces 20 kilowatt hours of power through an average five hours of daylight, and costs about 25-30 cents per kWh over a 25 year life span according to **BP Amoco** (quote from Yahoo! UK & Ireland: BP.L), self-styled champion of the industry and the biggest manufacturer of PV cells.

A home in South Africa might need only a 3 kW unit. In London a five kW system would be required.

TECHNOLOGY AND LEGISLATION TIP THE BALANCE

BP's 4 kW unit costs \$40,000 to install in the U.S., a prohibitive price for most householders, but the technology is moving on fast, and environmental legislation across the world is tipping the economic balance further.

BP says it has brought the uninstalled cost of making PV cells to below \$7 a watt from over \$30 a decade ago. In October German electronics major Siemens announced a breakthrough with its monocrystalline roof modules that improved the power of its systems by 20-35 percent.

A new generation of "thin film" PV's are now being developed by most industry players. These are still 2-3 years away from commercial production and sacrifice some efficiency, but are much cheaper to make and can be incorporated into building materials like glass roofs - a property demonstrated in a new BP fuel station unveiled in London this week.

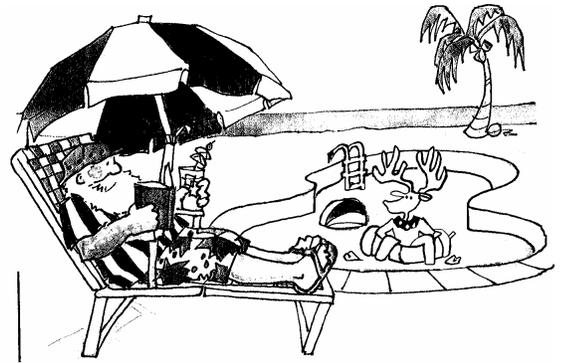
In the United States, 34 of 50 states have introduced net

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metering laws, under which any excess power generated by household roofs gets sold back to the grid -- effectively making the grid a store of power in the daytime and a source at night. This reduces dependence on a battery for solar powered homes - typically about one third of system installation costs. Despite all the progress and its

own \$500 million investment pledge for the next three years, BP reckons PVs will not compete on cost alone in countries where the grid is widely available for another five to 10 years.



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HOLIDAY TRIVIA

The average American takes six months to pay off holiday credit-card bills.

Pogonophobia: the fear of beards.

There are currently 78 people named S. Claus living in the U.S. -- and one Kriss Kringle.

December is the most popular month for nose jobs.

Weight of Santa's sleigh loaded with one Beanie Baby for every kid on earth: 333,333 tons.

Number of reindeer required to pull a 333,333-ton sleigh: 214,206 -- plus Rudolph.

Average wage of a mall Santa: \$11 an hour. With real beard: \$20.

To deliver his gifts in one night, Santa would have to make 822.6 visits per second, sleighing at 3,000 times the speed of sound.

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Instructor

Robert W. Lowry is one of the top chemists and top experts in the pool and spa industry today. He has been in the pool industry for almost 30 years. During his time in the pool industry, he has co-owned two chemical companies and a publishing company, has written or co-authored six books on pool and spa water chemistry, written more than 120 articles that have been published in trade publication, given more than 500 seminars on pool and spa water chemistry, and invented researched, developed and formulated 108 chemical products for the industry. Mr. Lowry also started Robarb and Leisure Time Chemical and invented almost all of the products they offer.

Robert W. Lowry is a chemist who has bothered to learn everything about the swimming pool and spa industry from retailing to pool service tech, from spa chemical manufacturing to hydraulics & repairs. He is one of those rare individuals that can explain complex chemistry and technology in everyday language.

Mr. Lowry started Service Industry News and wrote 119 technical articles, the three books he wrote have become industry standards: "*Service Industry News Guide to Chlorine*", "*Service Industry News Guide to pH, Alkalinity, Water Testing & Water Balance*" and "*Service Industry News Guide to Alternative Sanitizers*." In addition, he re-wrote and re-published the book "*Everything You Always Wanted To Know About Pool Care*." He also wrote the "*Swimming Pool Maintenance Manual*" and the safety training manual for Leslie's Swimming Pool Supplies. He edited the Nation Swimming Pool Foundation Certified Pool Operator (CPO) Handbook. For two years he wrote a monthly column in Pool & Spa News called "*Lab Notes*."

He is a CPO, HAZMAT and HAZWOPR instructor. He wrote the entire Injury & Illness Prevention Plan, the Safety Plan and the total chemical safety training for Leslie's. He served on the NSPI Chemical Treatment and Process Committee for eight years. That committee wrote the Chemical Operational Standards for Pools and Spas.

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Advice for Diving Into the Commercial Market

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Around the nation, there are more than 230,000 commercial or public pools, and that total is growing. Moreover, as older pools begin to show signs of aging, renovations represent a major opportunity for business. Does your pool company want to be part of that action?

Here's how to get started in commercial work, according to industry experts:

Network with general contractors who build subdivisions. Often, they also work on commercial projects.

Continue that practice of networking by getting involved with local industry associations. Also, ask to get on bid lists so you'll be notified when new projects come up.

Stay abreast of new local projects by reading your newspaper and business journal. Then, follow up on what you read regarding new or potential projects.

Work for someone else. If you're an excavation expert, for

example, offer your services to a commercial builder and learn about their business while you work. After you've gained experience and have met some general contractors, it will be easier for you to earn your own projects.

Don't underestimate the power of Yellow Page advertising. Out-of-state general contractors and architects will frequently begin their searches for subcontractors by using the Yellow Pages.

Build a reputation. Nothing speaks louder about contractors than their track records.

Research the industry. One good place to start is P.K. Data Inc., which has published a report on the U.S. commercial swimming pool market. The study offers an extensive look at trends, forecasts and key companies impacting the industry. P.K. Data can be reached at (770) 931-9677

Ozone: Life-Threatening Pollutant or Powerful Healing Agent?

By Nathaniel Altman - Author of Oxygen Healing Therapies from www.howstuffworks.com

It's summer in New York City and the National Weather Service has posted another ozone advisory. That's because when combined with carbon dioxide, peroxyacetyl nitrate and other gases ozone becomes a dangerous pollutant. It can not only damage the sensitive surfaces of the respiratory tract and the lungs, but also corrodes buildings and monuments. It can kill the leaves of the trees and also damages crops.

Yet at a clinic on West 72nd Street in the heart of Manhattan, the treatment room is filled with patients who are paying up to \$100 to have ozone and oxygen infused into their veins. They believe that ozone will help heal them of cancer, heart disease, candida, HIV-related problems and a host of other diseases. Over ten million people have been treated in Europe with ozone, and many swear by its' safety and effectiveness.

Ozone is an elemental form of oxygen occurring naturally in the Earth's atmosphere, it surrounds the Earth at an altitude of between 50,000 and 100,000 feet. As a pale blue gas that condenses to a deep blue liquid at very low temperatures, it is created in nature when ultraviolet energy causes oxygen atoms to temporarily recombine in groups of three. Ozone is also formed by the action of electrical discharges on oxygen, so it is often created by thunder and lightning. Ozone is also produced commercially in ozone generators, which involve sending an electrical discharge through a specially-built condenser containing oxygen.

When occurring in the upper atmosphere, ozone forms a protective layer that absorbs much of the sun's ultraviolet radiation. If it were not for the ozone layer, the survival of animal and plant life on this planet would be impossible. The depletion of the ozone layer by the use of chloroflourocarbons (CFC's), is of grave concern to scientists and physicians the world over. In addition to the health problems, ultraviolet radiation has also been cited as a factor in poor crop growth.

However, ozone becomes a pollutant in the lower

atmosphere when hydrocarbons (like carbon dioxide and nitrogen oxide) from vehicular exhaust and other sources combine with ozone in sunlight, creating photochemical smog. As a result, new and often highly corrosive pollutants are formed

Scientific studies in this country have emphasized the negative effects of ozone on breathing. This may be one reason why physicians and others feel that ozone is not only medically useless, but is a dangerous substance to take into the body under any circumstances. However, the value of ozone cannot be dismissed so easily.

First "discovered" until 1840 by the German chemist Christian Frederick Schonbein at the University of Basel in Switzerland, ozone gas was used for the first time to disinfect operating rooms in 1856, with the first water treatment plant to use ozone to purify municipal water supplies built in Monaco in 1860. Purifying water with ozone simple: a small amount of ozone is added to oxygen and bubbled through the water. Not only does it kill viruses and bacteria, but it removes the microorganisms that cause bad taste and odor in the water as well.

Ozone is powerful oxidizer that can kill a wide variety of viruses, bacteria and other toxins. It also oxidizes phenolics (a poisonous compound of methanol and benzene), pesticides, detergents, chemical manufacturing wastes and aromatic (smelly) compounds more rapidly and effectively than chlorine, yet without its harmful residues. Ozone has become the element of choice to disinfect and purify drinking water and wastewater .

Ozone has been used to purify the water in public swimming pools since 1950. During the Olympic Games held in Los Angeles during the summer of 1984, the European teams insisted that the water in the swimming pools be treated with ozone (as opposed to chlorine) or they would not participate in the events.

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