



# The CQ Monthly

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## Moving with the times

ConQuip kicked the year off right with our move to a new 35,000 sq ft. facility. It took a lot of planning and hard work to pull this off, but we did it. Thank you to our dedicated employee's who helped to make this move as flawless as possible. We could not have done it with out your help and enthusiasm. In addition, we would like the Thank our customers and vendors for remaining patient and understanding during this transition. Our particular business does not lend itself to quick and easy moving and the logistics of moving some of our machinery put our engineering know how to the test, but we persevered. Now with the move behind us, we are ready to face any challenges that come our way. We are also able to support our expanding business and personal, which is making our move a successful one. Thank you again to everyone for their support and hard work.



**Origami Foods is our Customer of the month.** The machine consists of three main components; an unwind, a knife over roll coater, and a product winder. This machine is used to process a thin film of edible fruit. Origami has developed vegetable and fruit alternatives for seaweed sheets used for sushi and other Asian cuisine. The fruit is used to create an edible film, which then can used for any number of flavor combinations and food creations. For all of us who love sushi, but may not care for seaweed, this is an awesome invention. If you would like to read more about their process and products there is a great article about Origami Foods that may interest you, just go to [www.sciencenew.org/articles/20050806/food.asp](http://www.sciencenew.org/articles/20050806/food.asp).



## Emerging Markets In Converting

### **New approach may power future of Solar** By Richard Dobson, Los Angeles Times

Taipei, Taiwan- High energy prices are fueling a sleek new kind of solar technology that could someday set skyscrapers and high-rise apartment windows quietly buzzing with renewable power. The emerging technology uses so-called thin films mounted on glass windows and other surfaces to harness the sun's rays.

It's more attractive and cheaper than the bulkier conventional solar cells made from polycrystalline silicon. Plus, the silicon supply has tightened and prices have risen as solar energy has taken off. Current thin film surfaces generate less power in the same area than polysilicon modules, but they use much less polysilicon than conventional cells, making them attractive to some of the world's top solar panel makers. "Silicon is in short supply. This is a very critical issue, so at the moment we are focusing on thin film investment", said Tatsuo Saga, deputy general manager of Japan's Sharp Corp., solar systems, an industry leader.

Thin film is cheaper to produce, more durable and less unsightly than bulky solar panels, which are often called eyesores. The transparent sheets can serve as facades for skyscrapers and house roofs, where they turn sunshine into energy. "One big advantage of the thin film products is that they don't have to use too many raw materials and they are much cheaper than silicon solar wafers," said Robin Cheng, an analyst at UBS Securities.

Silicon accounts for 40-50% of the cost of conventional modules, which require 200 times more silicone than thin film. The latter's cost advantage combines with its ability to serve as attractive transparent panels on large buildings. "We are sure in the years to come we'll have the same-sized products as architectural glass," said Winfried Hoffmann, chief technology officer of Applied Materials' solar business group.

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**Employee Spotlight!** This month's spotlight is on **Paul Richardson**, who has been a dedicated employee here at ConQuip for the last 5 years. Paul's start at ConQuip began as an Intern, where under the guidance of our then Engineering Manager he quickly advanced to a full time employee. The journey to this point in Paul's life has been an exciting one, with 20 years of service to the Air Force where he was a Flight Simulator Technician for 15 years and a Telephone switch Technician the last five. He has also been blessed with 32 years of marriage to Christi, who loved him enough to move to four different states for him. Paul and Christi now reside in Rocklin, CA where Christi is an Accounting Manager. Paul's experience in the service helped him to become a very mechanically inclined person, which aids in one of his hobbies of flying radio controlled airplanes. Another hobby Paul and Christi enjoy is motorcycle riding. They are known for hitting the open road on their motorcycle and traveling around the country, or on weekends they can be found out riding their dirt bikes off Hwy 49. ConQuip's work environment is enhanced because of people like Paul and we would like to say **Thank You** for your hard work and dedication.



Who was awarded the very first gold record?

**Choose Your Answer:** A: [Elvis Presley](#), B: [Nat King Cole](#), C: [The Beatles](#), D: [Perry Como](#)

Answer: D

**Cont. from page. 2:** “Despite thin film’s promise, the technology still faces many challenges,” said Jerry yang, vice president of United Solar Ovonic Corp. In terms of generating efficiency, or the percentage of power produced from captured sunlight, thin film modules average around 6%. That is less than half the 15% of traditional crystalline silicon cells, according to Solarbuzz, a research and consulting company. “A lot of work needs to be done to expand the market, reduce costs and improve the efficiency,” Yang said. “Our products efficiency is 8%. Within a short time, we will reach 8.5% or even 9%. That’s our goal.” The payoff is the lower cost. Thin film modules were being sold in Europe in November for \$3.69 a watt, compared with \$4.29 a watt for the lowest-priced traditional multicrystalline module of similar power in the U.S., according to Solarbuzz. Many believe thin film’s efficiency will steadily rise with improving technology, possibly reaching 15%, which would enable it to take a bigger share of the solar energy market. Thin film could account for up to 30% of the global solar cell market by 2010, from around 7% in 2006, Taiwan’s E-ton Solar estimates. Sharp, Corp. plans to boost its thin film solar cell production capacity from 15 megawatts a year to 1,000 megawatts by 2010 with the construction of a massive plant in Sakai, City, Japan.

<http://www.latimes.com/technology/la-ft-solar28jan28,1,6984782.story?track=rss>

## Nothing beats a good joke!

### The electric chair

These three Texans go on vacation and one night and they get drunk and wake up in jail. They found out that they are to be executed for their crimes but none of them can remember what they have done.

The first one is strapped in the electric chair and is asked if he has any last words. He says, "I am from the Baylor School of Divinity and I believe in the almighty power of God to intervene on behalf of the innocent."

They throw the switch and nothing happens, so they figure God must not want this guy to die, so they let him go.

The second one is strapped in and gives his last words. "I am from the University of Texas School of Law and I believe in the eternal power of Justice to intervene on the part of the innocent."

The switch is thrown and again nothing happens. They figure that the law is on this guy's side, so they let him go.

The last one is strapped in and says, "Well, I'm a fighting Texas Aggie Electrical Engineer, and I'll tell you right now you'll never electrocute anybody if you don't connect those two wires!"



Hmm???

### Quote of the Month

***Death and Taxes are just unsolved Engineering Problems***

*Romana Machado*

## *In The News*

### **AP Probe Finds Drugs in Drinking Water By Jeff Donn, Martha Mendoza & Justin Pritchard**

A vast array of pharmaceuticals- including antibiotics, anti-convulsants, mood stabilizers and sex hormones- have been found in the drinking water supplies of at least 41 million Americans, an Associated Press investigation shows.

In the course of a five-month inquiry, the AP discovered that drugs have been detected in the drinking water supplies of 24 major metropolitan areas – from Southern California to Northern New Jersey, from Detroit to Louisville, KY.

People take pills. Their bodies absorb some of the medication, but the rest of it passes through and is flushed down the toilet. The wastewater is treated before it is discharged into reservoirs, rivers or lakes. Then, some of the water is cleansed again at drinking water treatment plants and piped to consumers. But most treatments do not remove all drug residue. And while researchers do not yet understand the exact risks from decades of persistent exposure to random combinations of low levels of pharmaceuticals, recent studies- which have gone virtually unnoticed by the general public- have found alarming effects on human cells and wildlife.

Members of the AP National Investigative Team reviewed hundreds of scientific reports, analyzed federal drinking water databases, visited environmental study sites and treatment plants interviewed more than 230 officials, academics and scientists. They also surveyed the nation's 50 largest cities and a dozen other major water providers, as well as smaller community water providers in all 50 states.

The AP's investigation also indicates that watersheds, the natural sources of most of the nation's water supply, also are contaminated. Tests were conducted in the watersheds of 35 of the 62 major providers surveyed by the AP, and pharmaceuticals were detected in 28. The AP also contacted 52 small water providers- one in each state, and two each in Missouri and Texas- that serve communities with populations around 25,000. All but one said that their drinking water had not been screened for pharmaceuticals.

Even users of bottles water and home filtration systems don't necessarily avoid exposure. Bottlers, some of which simply repackage tap water, do not typically treat or test for pharmaceuticals, according to the industry's main trade group. The same goes for the makers of home filtration systems. Some drugs, including widely used cholesterol fighters, tranquilizers and anti-epileptic medications, resist modern drinking water and wastewater treatment processes. One technology, reverse osmosis, removes virtually all pharmaceuticals contaminants but is very expensive for large-scale use and leaves several gallons of polluted water for every one that is made drinkable.

For several decades, federal environmental officials and nonprofit watchdog environmental groups have focused on regulated contaminants- pesticides, leads, PCBs- which are present in higher concentrations and clearly pose a health risk. However, some experts say medications may pose a unique danger because, unlike most pollutants, they were crafted to act on the human body.

To read this article in it's entirety please go to

[www.sfgate.com/cgi-bin/article.cgi?file=/n/a/2008/03/09\\_national/a091634d19.dtl](http://www.sfgate.com/cgi-bin/article.cgi?file=/n/a/2008/03/09_national/a091634d19.dtl)



**Horse Power = Torque x RPM / 5250**



## Health News

Summer is fast approaching and for all of us who truly enjoyed the holidays, getting into shape is now a priority. But with all of the fad diets out there and the ever changing recommendations on health, it's hard to know where to start. Here are some helpful tips on maintaining a healthy weight and lifestyle.

Body weight is not always an accurate way to determine health and fitness, for one thing muscle weighs more than fat. So, in the beginning of a new fitness routine you may not notice a rapid weight loss and that is ok, because the more muscle you have the more calories you are able to burn while resting. So what should you pay attention to? Well, one of the most accurate and recommended ways to determine health is by calculating your Body Mass Index. This is a number scale that gives you a range of where you should be for your height. To calculate your BMI you divide your weight in pounds by height in inches squared and multiplying a conversion factor of 703, an example calculation is:  $[150 \div (65)^2] \times 703 = 24.96$ . The American Cancer Society and the CDC both recommend maintaining a healthy BMI along with diet and exercise. Where do you stack up? Well here is a chart that shows the BMI ranges.

BMI	Weight Status
Below 18.5	Underweight
18.5 – 24.9	Normal
25.0 – 29.9	Overweight
30.0 and Above	Obese

Along with your BMI, physical activity should be incorporated throughout the day. Now don't run out and join a gym or think that you have to do something drastic, an activity such as walking can have just as many health benefits and it's free. The intensity of physical activity, or how hard your body is working, is typically categorized as light, moderate, or vigorous based on the amount of energy or effort a person expends in performing the activity. So what should adults be doing to meet these recommendations? The CDC suggests the following:

- **Cardio or aerobic activities.** Achieve the aerobic activity recommendation through one of the following options:
  - A minimum of 30 minutes of moderate-intensity physical activity per day (such as brisk walking) most days of the week
  - or**
  - A minimum of 20 minutes of vigorous-intensity physical activity (such as jogging or running) 3 days a week
- **Resistance, strength-building, and weight-bearing activities.** Two days a week, incorporate strength training into your routine. Strength training activities, such as weight lifting, maintain and increase muscle strength and endurance. A goal to reach towards is completing 6-8 strength training exercises, with 8-12 repetitions per exercise.

**With these two helpful tips you will be on your way to a healthier lifestyle and just in time for summer!**