



THE CONSULTANT

The Newsletter of the IEEE Consultants Network of Long Island

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Chairman's Corner — Jerry Brown, Essex Systems

The first thing I would like to do is thank John Dunn for serving as Chairman for 2006 and 2007. He stepped forward when no one else was willing, to insure the continued existence of our organization. He did this at a time when he was as busy as any of us and on top of everything else had to deal with a painful health problem along the way.

On behalf of all of us, John, **thank you.**

I would also like to thank others who actively contributed in 2006 & 2007 to keep the organization functioning.

Sam Sadinski arranged refreshments.

Marty Kanner kept our membership records and helped with refreshments.

Dick LaRosa prepared meeting minutes and produced the monthly newsletter.

Dave Rost collected dues and paid the bills.

Jim LaTourrette maintained our web site.

Peter Buitenkant insured volunteers maintained our referral services.

Irwin Weitman filed our IEEE paperwork and insured we had a video projector for presentations.

Chris Early got the ball rolling on a new directory.

Members who gave presentations or led discussions: Richard Mohr, Stu Senator, Irwin Weitman, Peter Buitenkant, John Liguori, Jack Lubowsky, John Dunn, Dana DeMeo, and Dick LaRosa.

Goals for 2008 are:

1. Follow through on the LICN Directory.
2. Keep the meetings interesting.
3. Do something about our dwindling membership.

Note: Jerry did not mention his own presentations on the history of our profession, for which we thank him.

Meetings

December 2007

The 2008 officers listed on page 1 were chosen by acclamation. Please check the list for mistakes.

Ms. Adrian Miller presented "The Blatant Truth: Getting Real About Selling" assisted by Irwin Weitman at the computer. I counted about 28 people and we all learned a lot. Thank you Adrian, and may you sell zillions of copies of your great book.

January 2008

7:00 PM, Wednesday, January 2, the first Wednesday of the month.

Briarcliffe College, 1055 Stewart Avenue, Bethpage, NY.

Topic: "Serving as an Expert Witness"

Speaker: Irwin Weitman, P.E.
Cedar Engineering Company
East Northport, NY

Admission is free (no charge). No pre-registration is required. For information, contact John Dunn at (516) 378-2149 or e-mail ambertec@ieee.org.
Guests are welcome.

Directions: See our website www.consult-li.com.

Remember to inform the members about seminars and other items that might be of interest. E-mail them at members@consult-li.com.

Newsletter Note

The December 2007 issue got skipped because it was time to list the new officers and get with the new year.

Happy New Year !

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Climate Good Guys Not So Good

— Dr. Richard LaRosa, sealevelcontrol.com

Unfortunately, when we should have all been working together, we have witnessed the likes of a spaghetti western where some scientists, politicians, and citizens have maintained that we have a growing climate crisis while others have assumed the roles of skeptics, contrarians, and deniers. I call the first group "good guys" and the second group "bad guys". This should tell you where I stand, and I tried to explain my reasons in the previous newsletter. Each Saturday I get a new batch of reasons. On December 23 I printed out 27 AGU abstracts. Many of them were bad news.

EXCLUSIVE DEPENDENCE ON EMISSION REDUCTION

Al Gore and the Intergovernmental Panel on Climate Change have been awarded the Nobel Prize for their efforts to wake everybody up. So now that they have the world's attention, what do these good guys say we should do? "Reduce emissions of greenhouse gases into the atmosphere." Good safe idea, but not good enough, because this merely slows down the rate at which greenhouse gases (GHGs) are added to the atmosphere. Atmospheric concentrations of GHGs are already great enough to cause warming, melting, and rising sea levels. Allowing concentrations to increase, no matter how slowly, will accelerate the warming, melting, and flooding. Reducing emissions is a good idea, but without additional help it can't fix the problem.

Most of the good guys are not aware of this simple fact, probably because they have not mastered the discipline of quantitative reasoning. The bad guys don't care because they are not trying to fix anything. Some good guys have proposed methods of reducing solar heating, such as explosions to throw debris into the atmosphere, or sulfate aerosols injected into the atmosphere. Have they forgotten about acid rain?

I learn a lot of science and a lot about how people think from following the reports and comments posted on the RealClimate.org blog. The articles are written by paleo-oceanographers, paleoclimatologists, and people drawn from other disciplines. Engineering knowledge, understanding, and skills are poorly represented. Engineering solutions applied on a global scale are all put in one category called "geoengineering", a word that conjures up visions of volcanic explosions and corrosive atmospheres. For this reason, I will never refer to any of my benign gentle programs as "geoengineering".

RALLY 'ROUND THE FLAG

The orthodox good guys frown on climate problem remedies that do not directly reduce GHG emissions. They have another reason, which requires no examination or understanding of the particular remedy. They say these schemes are dangerous because they undermine devotion to emissions reduction as the sole solution, even though it can't work by itself. People often blame lack of devotion for failure of an inadequate or incorrect idea. Looking at alternatives or supplemental actions is regarded as disloyalty.

CLIMATE SENSITIVITY

Here is another example of good-guy sloppy thinking. One often encounters the term "climate sensitivity" which, as I gather from observing the RealClimate.org blog, refers to the average global temperature that will prevail after the CO₂ concentration is doubled and everything stabilizes. I think that the "stable" condition will actually be continual change brought about by continued warming, melting, and flooding. Never mind doubling the concentration. Continual change is already happening with the present concentration. And the release of methane from thawing tundra and undersea clathrate deposits will be speeding up. It's hard for me to envision a stable planet when ice sheets are slip-sliding downhill on sub-glacial lakes and other interfacial lubricants.

GENTLE ENGINEERING

My programs are large, but gentle. For example, upwelling one million cubic meters per second of deep ocean water is a small perturbation compared to the amount of deep water that upwells naturally in the Southern Ocean. The artificial upwelling is done in the tropics, where cooling and nutrients are needed. Oceanographers used to think that natural upwelling happened in the tropics. Some does, but a lot less than they thought. They only recently discovered that the deep water flows into the Southern Hemisphere and upwells in the Southern Ocean. Upwelling in the tropics will help cold water to sink in the Arctic. This will reinforce the meridional overturning circulation, which some people fear may be decreasing.

I might have some wrong ideas, but we'll never find them unless people are willing to examine my proposals. Scientists and engineers are very cautious and don't want their reputations to be compromised by being associated with unorthodox ideas. There are safer things to study and build a career on.

It is necessary to use ocean thermal energy to run the upwelling pumps. I don't get any support from the people who are promoting ocean thermal energy as a power source because I disagree with them. I think that the best we can do is pump lots of water through the evaporator and condenser heat exchangers to squeeze out enough thermal efficiency to run the turbine. There is little power left over to export and sell. The guys who are still trying to generate power after 90 years of limited success don't like my opinion, but at least they know something about engineering. The climate good guys and the RealClimate.org blog participants don't seem to know much about engineering.

I appreciate the negative responses I get from LICN members and others who are concerned that my efforts might upset nature. One person's persistent concern made me realize that upwelling water in the Caribbean Sea would increase the surface current flow into the Gulf of Mexico (GOM). Since the GOM empties by gravity (I think) through a restricted channel squeezed between Florida and the Bahama Islands, increased input would raise GOM sea level. I think that I have found the ideal places to install spigots to throttle the flow:-- in the passages between the Antilles Islands. A little back pressure from turbines in these passages will keep some North and South Equatorial Current water from flowing through the Caribbean Sea and the GOM and divert it into the Antilles Current, which connects with the Gulf Stream north of the Bahama Islands.

I have a rough estimate that 3 GW of turbine power will lower GOM sea level by 1 cm. Maybe I'm wrong, but it would be nice if somebody with computer modeling skills and facilities would come up with the correct answer.

The Antilles Islands now use petroleum to produce electric power and run desalination plants. The turbine power would help them but they can bear only a fraction of the investment cost. Reducing the strength of the Loop Current that runs through the GOM would benefit the Gulf area by reducing the amount of warm water accumulated inside the Loop. This warm water is an energy source for hurricanes. The Loop Current and its detached rings also interfere with drilling operations in the GOM. Reducing the Loop Current transport will reduce the idle time of expensive drilling and production equipment. Also, reduction of the GOM sea level will aid the recovery of the wetlands. Of course the offshore industry, Gulf Coast communities, and the Federal government will be reluctant to pick up the cost. Some hard-nosed diplomacy will be needed.

ATMOSPHERE - OCEAN EXCHANGE OF CO₂

Many people, myself included until recently, think that atmospheric CO₂ has a lifetime similar to that encountered in radioactive decay. Instead, the partial pressure of CO₂ dissolved in the ocean equals that in the atmosphere at the air-sea interface. The ocean has been absorbing CO₂ from the atmosphere, but the rate is declining. The ocean is an enormous CO₂ reservoir that will replace any CO₂ that we remove from the atmosphere. The total picture is more complicated than this simple exchange. The intent of this paragraph is to point out that the idea of a simple exponential decay of atmospheric CO₂ is invalid.

FUTURE ARTICLES

Future articles in this series will compare wave-powered upwelling pumps with those powered by ocean thermal energy, and will present some quantitative estimates of solar-powered enhancement of orographic rainfall in southeast Australia.