

# PEAK CHARGE

*Dedicated to the promotion of electric propulsion in all types of aeromodeling.*

SEFSD Newsletter

July 2002

Volume XII Issue VII

## CALENDAR

### July Meeting

7:00 pm Tuesday  
July 23, 2002

Automotive Museum,  
Balboa Park

### June RAFFLE

No word on this month raffle prizes. Come to the meeting and discover the goodies for yourself.

## OFF TO THE DUMP

As you drive west along Sea World Drive entering into Mission Bay from highway 5, have you ever asked “why is all the land to my right not used for a nice park of grass, picnic tables, playgrounds, and shade trees rather than being left to the tumble weeds, mulch bark and a few birds? The answer is that all that desirable property is really the cap of a class 1 toxic waste dump.

In 1953 the City of San Diego opened a public dump in the area roughly west from what is now highway 5 (then 110 or Pacific Coast Highway or PCH), to the SD river on the south, Mission Bay itself to the north and probably west to what is now called Sea World. Nobody is really quite sure where the boundaries are for this dump. Soon after the dump was closed in 1959 the records for the dump “disappeared”. There were records kept by the City of what was dumped, how much was dumped, where it was dumped, and by whom. Apparently, however, all these records were “destroyed” and, therefore, it cannot be established who may have dumped toxic waste and, of course, who should be responsible for clean up. And there is no map of the dump to be found anywhere.

During the 6 years, 1953 to 1959, the dump was open many of the local manufacturing companies dumped their toxic waste here without much thought of the toxic contamination or future pollution of Mission Bay and the San Diego River. There is hearsay testimony of many 55 gallon drums of industrial residue being left in the dump which, by now, must have certainly rusted through.

In 1983 the Ramada Inn wanted to build a hotel on the southern shore of Mission Bay, in the area called South Shores. The city and Ramada Inn people began to test the soil in and about South Shores and found the soil contaminated with 68 toxic pollutants. Most of these pollutants are metals, some petroleum products, plating solutions, cyanide, etc. Commercial process solutions and liquid waste are the politically correct description of these toxic pollutants. Toxic gasses were also found in the form of hydrogen sulfide and methane.

continued on page 4

Silent Electric Flyers of  
San Diego

Club Information:

Web Site: <http://sefsd.org/>

**2002 Officers**

President Bill Knoll  
stinkbugworks@hotmail.com

Vice President Tom DeShon  
258-1538  
EWUTODE@am1.ericsson.se

Recording Secretary

Treasurer Mike Neale  
1-858-674-1378  
mneale@enerdyne.com

Newsletter editors Charlie White  
1-619-223-8903  
charliewhite@cox.net

1-619-277-8034

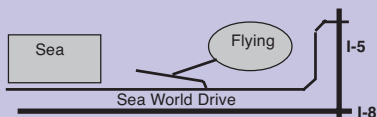
Bob Davis

Safety SteveNue  
1-619-284-0816  
SNEU@aol.com

Membership Dennis Collins  
1-858-569-5015  
dennisc@pobox.com

**Flying Site**

Located one half mile East of  
Sea World on Sea World Drive at  
South Shores Park Drive



Membership or Subscription  
\$25 per year, \$15 for subscrip-  
tion only. \$10 for under 18 or  
additional family member. Mail  
to the Subscription Secretary:  
Dennis Collins, 5150 Corte Playa  
Catalina, San Diego, CA 92124.

## ***Mission Statement***

The objective of the Silent Electric Flyers of San Diego is to promote and further the technology of electric powered R/C aeromodeling: encourage competition in Electric Soaring, Pylon Racing, FAI-F5B/D, Scale, Old Timer, and Pattern Electric categories by hosting major Industry sponsored events and sanctioning "Fun-Fly" types of contests; provide forums for the exchange of technical information, instruction and experience; and participate in demonstrations of electric propulsion in area wide model aviation events.

---

---

## **PREZ SEZ**

Welcome to episode VI of "Prez Sez". Well, I have had discussions with various members and Officers regarding our frequency control (or lack thereof) and have come up with an interim solution that will be instigated within the next few months. And yes, there have been additional "incidents" brought to my attention since the last writing of this column and the club meeting. The following proposal will be initiated as soon as the appropriate hardware is fabricated. I will be asking for volunteers to assist in having a new frequency board constructed that will list all the frequencies and have a pin (most likely a short  $\phi$ -20 machine screw secured with jam nuts) on each frequency.

In order to secure a frequency, members will punch a hole in their membership card and place it on the pin that corresponds to the appropriate frequency. At that time, the transmitter may be turned on. When the flight is completed, the member will turn off the transmitter and remove his/her membership card. Visitors may use their AMA card to secure a frequency, however if an individual continually uses an AMA card, he (or she) will be asked to either join the club, or refrain from using our facilities free of charge. The ONLY acceptable method of securing a frequency will be a club membership card or an AMA card. The use of ANYTHING else other than a club or AMA card will result in an immediate grounding of that person's aircraft until an approved card is placed on the board. Exceptions will be allowed for foreign visitors, however they too must have adequate documentation from their country of origin. (Through clenched teeth in a thick German accent: "Your papers are not in order!")

Do not leave your card on the board when you are done flying. All cards inadvertently abandoned on the board will be removed by one of the Club Officers and sequestered. New cards to replace those confiscated will be available from the Membership Director (Dennis Collins) for the cost of the regular membership fee. Lost cards will still be replaced at no cost. Dennis will have a list of all confiscated cards.

Another measure that will be instigated is limiting the number of aircraft in the air. In order to accomplish this, and to aid in helping pilots remember to remove their cards when done flying, we will now limit the number of cards on the board at any one time to a maximum of five. That does not mean a limit of five airplanes in the air at any one time, rather that means a maximum of five frequencies reserved. If five pilots have cards on the board, and they are not flying at the time, you may not put your card on the board until someone removes their card from the board. Removing someone else's card (if they are present at the field) without their knowledge and consent will result in expulsion from the club.

continued on page 4

# *June 2002 SEFSD Minutes*

By Uranna Greene

6/25/02 Minutes

Meeting came to order 7:05 pm

New Member: Paul Breed plans to set solar altitude record for models.

Guest from Germany, Herbert Gunterberg.

President threatened to close field for safety reasons if people don't start policing Frequency Control rules:

Post pin.

Turn on radio.

Turn off radio.

Immediately remove pin.

Anyone getting caught not doing this will be ejected from the club, no refund. Anyone who down's someone else's plane will be made to pay for it right there.

Bob Davis brought T-shirts for Midwinter Electrics.

Tim Gantz said training program was halted but should resume this weekend.

Revised Bylaws will be published in the newsletter.

Lots of money in the treasury.

Uranna Greene in process of purchasing videos. Will announce new acquisitions at meetings and publish in newsletter.

New web hosting needed. Stillianos Jackson, Webmaster club site needs drastic size reduction. The club voted and passed a resolution permitting up to \$20/month expenditure for this. Tim Gantz to collaborate with him on this.

Wayne asked for others to go in on placing an order for 3" x 36' Kapton tape.

Steve Neu safety report: Follow rules!

Newsletter needs material: Articles, pictures!

Saturday, July 20, 9:00 am Swap Meet in Balboa Park.

Show and Tell:

Paul Breed discussed his solar altitude project and passed panels around. GPS telemetry would be used to measure altitude. Slow flying (approx. 13 mph). RPM's will vary according to solar cell output. Getting radio power to last for hours is a challenge.

Lou showed his Butterfly modifications. Collapsible landing gear, snap closed hatch.

Herbert Gunterberg showed his indoor flying apparatus; different props, motors and gears. 35 MHz receiver.

Meeting adjourned at 7:50 pm for club swap meet.

The big problem with our little dump is that it was never lined so any and all the dumpings can and do drift into the San Diego river and Mission Bay waters and nobody really knows how much stuff is buried below our feet.

Test of the river water up stream from Mission Bay show low to acceptable levels of toxic wastes, while test of the same river near its mouth and abreast of the dump site show increasing concentrations of pollution as the testing moves down stream. So the question is, where are these contaminants coming from?

When the dump was closed in 1959 and Mission Bay was developing, a dirt cap was placed on the dump to seal it closed. This cap came from the dredgings that created Mission Bay. On top of this was placed a thin layer of just plain old dirt that we now walk and drive upon.

At the time of discovery of pollutants in 1983, the surface soil was tested and at that time there were unacceptable levels of contaminants. There is no evidence that any of these contaminants have harmful effects on people who are on and about South Shores.

San Diego City is now embarking upon a pollution study of this dump which is expected to be completed within a 1 year to 18 months. The intent of this study is to attempt:

1. To determine the boundaries of the dump.
2. What was dumped, by whom, and how much.
3. Where the underground toxic plumes have spread.
4. The duration of toxicity.

As a side note, within the past year there were some exploratory wells dug in an attempt to locate the dump boundaries and toxic plumes. A survey well was dug and toxic levels were found on Gains Street, near the SD County Animal Pound and Western SDPD Station.

At the present time there are no plans development of the South Shores other than the current boat ramp. The ground may look stable and feel stable but it is not stable enough to support the weight of a hotel, restaurant, or any another structure.

If you are interested in pursuing this dump story, on Tuesday July 2, 2002 the Mission Bay Committee met to discuss this dump problem and the minutes are available to the public.

It is interesting to note that as a result of the redistricting of the SD City Council in 2001 this area of Mission Bay, South Shores was moved from Councilmember Byron Wear, district 2, to Councilmember Donna Fyre, district 6. It was soon after this that the matter of the MB pollution arose.

So what does all this mean for SEFSD? Probably not much for the immediate future but possibly in a number of years in the future a "clean up" of the dump would mean that SEFSD would have to find another flying site, but don't hold your breath.

---

PREZ SEZ continued from page 1

Should this system fail to work, the only remaining option is a transmitter impound. I seriously doubt this will be popular, so my advice is to make the new system work. Failure to use the new system as outlined will result in expulsion from the club.

On a friendlier note, I have ordered the biggest, gnarliest, most indestructible padlock that can be configured to the City's key. I have also ordered a 5/8" steel cable to go with it. I need the help of someone to weld appropriate fittings to the gate to attach this lock and cable. Once again, I seek the assistance of a volunteer to fabricate and weld the hardware to the gate.

---

Work is the greatest thing in the world, so save some for tomorrow.

## **SEFSD Book and Video List:**

As of June 1, 2002

### **Book Title:**

Electric Motor Handbook  
Entering Electrics  
Foam Wings  
The Quiet Revolution

### **Video Title:**

1994 KRC Electric Fly  
1996 KRC Electric Fly  
1997 KRC Electric Fly  
1996 London Bridge Seaplane Classic  
1996 NATS Highlights  
2000 San Diego Midwinter Electrics  
Advanced Kit Conversions  
Airborne R/C Video (Fred Harris)  
Airplane ( Joe Wurts )  
Airforce Top Gun  
A Celebration of Eagles  
Basic Construction for Beginners  
Building with Foam  
Byron Originals show season 1985  
Desert Storm/ Tornado  
Double Eagle  
Electric Jet Factory  
Electric Flight ( Building & Flying )  
Electric Flight & Schneider Cup  
Electrifying the FANTASY (Vol. III)  
F-16 Falcon  
Float Flying – John Sullivan  
Gas to Electric Conversions  
Learn How to Build a Power Airplane  
Let's Get Serious About Electric Flight  
Mini-Max Power Gliders  
Monokote I  
Monokote A  
Neat 2001+  
Power for Performance Electric Flight  
Schneider Sport Electric  
T-Birds  
U.S. Air Core Basic Building Tips  
Vacuum Bagging tips  
Warbirds over Schenectady  
Wring it Out ( Vol. 1 )  
Wring it Out ( Vol. 2 )

### **Missing Videos:**

Basic Flight Training for Beginners  
Cutting Foam Cores  
Getting Started in Electric Flight  
Polyspan Covering Instructions  
QSAA Fly-In 1994 ( Vol. 1 )  
QSAA Fly-In 1994 ( Vol. 2 )  
RC Flying  
Speedy Bee / Lazy Bee – Clancy Aviation

Members, please check your video library for these!

Listed videos are available from Uranna Greene who usually attends the club meetings and is down at the electric field either Saturday or Sunday of every weekend. Phone no.: (858) 543-4249 or email: [ugreene@san.rr.com](mailto:ugreene@san.rr.com)

---

### **VIDEO REVIEW: By Bob Able**

#### **ELECTRIC FLIGHT, Building and Flying Techniques 40 min. 1990**

General overview of building planes, soldering battery packs, and flying planes.  
Mostly outdated technology, but good for someone very new to electric planes.  
A good starting place to get a general idea of electric planes.  
Other videos mentioned, sales pitch for them.

#### **MINIMAX, Learn how to build a model airplane. Gliders and Motor Gliders.**

Excellent comprehensive step by step video of building, covering and flying a two meter sailplane or motor glider. A long and sometimes draggy video for an experienced builder. Covers all aspects of building, covering, set-up and flying a standard balsa build-up wing and fuselage. Pointers on how to prevent building problems. Recommended viewing.

---

There is a “new kid on the block” in the form of a new and much improved model supply store. DYMOND MODEL SPORT is now open for your business at 3904 Convoy #110 (858-495-0092, [www.re-dymond.com](http://www.re-dymond.com), [dymondrc@execpc.com](mailto:dymondrc@execpc.com)). Dymond Model Sport is originally from Oskosh WI and opened their new store several weeks ago.

Dymond's location is just north of the OLD location of Hobby Shack, the next strip mall up Convoy on the same side of the street.

Helmut Goesti is the owner and president of DYMOND MODEL SPORT. He has been a vendor at MWE.

The information below is from Eflight - - for what it may be worth

... With AM, the pulses turn on the rf carrier signal in step with the pulses.

Wrong. An AM radio output is driven by an oscillator which produces a pulsed output from the final stage and out the antenna. When you move the control sticks, you vary the amplitude (height) of the pulses. The only "nothing at all" part is in between the individual pulses. This process is called Amplitude Modulation (AM). Since most RF noise is AM, an AM receiver is going to be more susceptible to it, especially if the receiver is closer to the noise source than it is to your transmitter. After all, I believe your transmitter is only putting out about 500 milli-watts or so of RF power.

... the carrier is either present, or not.

The "carrier" produced by the oscillator is present all the time. It's never off as long as the transmitter is operating. Pulses produced by the oscillator are divided into pulse "trains" which include one pulse for each channel plus one sync pulse for reference. The position of each pulse in each pulse train corresponds to the channel it represents. First pulse is sync ... second pulse is Aileron ... third pulse is elevator ... etc.

Each pulse will vary in amplitude from neutral value corresponding to the amount of deflection of that channel's control stick.

This means the the receiver can not fully capture the transmitted signal during the 'off' periods.

Nope again. You always have the carrier present as long as the transmitter is on, but what happens is that AM noise will overpower the receiver or will inject pulses into the antenna and detector stage which interfere with the normal pulse trains, causing erratic operation or the inability of the receiver to detect and act on the normal pulse trains. The result is either erratic operation, no operation or servos hard over, etc. until the noise source stops or gets far enough away from the receiver that the normal transmitter signal can be reacquired.

FM, differs in that the carrier is always 'on' either in the base frequency, or the shifted frequency allowing full capture of the transmitted signal.

Huh? FM means "Frequency Modulation" and if you look at the signal on a scope, you will see a series of "square wave pulses", one pulse for each channel and a sync pulse. In the case of FM, the amplitude of the transmitted signal remains constant ; when you move one of the control sticks, the "width" of the corresponding pulse changes.

The reason FM is "better" than AM at rejecting noise is because most noise is AM and the FM receiver will simply ignore it. It's looking for the variation in pulse width of the transmitted signal and could not give a hoot about extraneous AM noise ... unless the power of the noise is just so great (it's so loud) that it swamps the receiver. Also, the receiver has a filter stage or two or three which is supposed to remove any extraneous signals which are above and below the frequency (channel) the receiver is operating on.

Now if someone will kindly explain PCM/PPM maybe I can learn something new.

Eddie Warren  
Wilmington Model Flying Club  
Wilmington, NC USA

---

We are seeking a method of producing the club membership cards. The volume is small- about 250 annually but is getting to be too much for one-off production. A printing program that would print the cards using an excel spreadsheet or equivalent would work. Other method would also be considered.

Any suggestions would be appreciated.

Dennis Collins

This was also taken from Eflight - - - -

Here is the latest update to my ongoing measurement of various servo wires. The important lesson that I have learned is that it is always better to check the wire yourself than to believe what the manufacturers' claim.

This is a comparison of various servo wires. The following procedure was used. The diameter of an individual strand in a conductor was measured using a Mitutoyo Digital caliper. The number of strands in that conductor were then counted with the aid of a magnifying lens. This comparison uses the European system for wire sizes, where the equivalent area of a conductor is the total cross-sectional area of all strands in the conductor. For example, the equivalent CS area of a wire with 65 strands of .07mm dia each is calculated as follows:  $\text{sq}(.07/2) * \pi * 65 = 0.25 \text{ sq mm}$ . The AWG (American Wire Gage) was not used because it is not straightforward for stranded wires. Explanations of AWG can be found on the Internet - here is one of them: [http://www.fiskalloy.com/c-fact-pages/c\\_sizenomen.html](http://www.fiskalloy.com/c-fact-pages/c_sizenomen.html)

#### Sample 1

Source: Included with an ASW-27 from HKM Modellbau

Conductor colors, in order = black, red, yellow

CS of one stand, in mm = 0.07

Total number of strands = 65

Equivalent area of conductor, sq mm = 0.25

#### Sample 2

Source: Local Hobby shop, from a spool labelled "Multitplex" and ".25 sq mm"

Conductor colors, in order = red, black, yellow

CS of one stand, in mm = 0.04

Total number of strands = 128

Equivalent area of conductor, sq mm = 0.161

#### Sample 3

Source: Hitec servo wire, 50ft, pn RCD57417

Conductor colors, in order = black, red, yellow

CS of one stand, in mm = 0.08

Total number of strands = 28

Equivalent area of conductor, sq mm = 0.141

#### Sample 4

Source: Cermark servo wire, pn CM3713

Conductor colors, in order = black, red, white

CS of one stand, in mm = 0.07

Total number of strands = 60

Equivalent area of conductor, sq mm = 0.231

#### Sample 5

Source: Local hobby shop, Robbe Futaba (rx battery wire with connector)

Conductor colors, in order = black, red

CS of one strand, in mm = 0.07

Total number of strands = 60

Equivalent area of conductor, sq mm = 0.231

#### Sample 6

Source: Electroynamics Futaba J Heavy wire male pigtail, pn EDC1300

Conductor colors, in order = black, red, white

CS of one stand, in mm = 0.07

Total number of strands = 60

Equivalent area of conductor, sq mm = 0.231

SEFSD c/o Charlie White  
4420 Ladera Street  
San Diego CA 92107



---

**Membership Application**

NAME: Last \_\_\_\_\_ First \_\_\_\_\_ Middle Initial \_\_\_\_\_

ADDRESS: \_\_\_\_\_

CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

PHONE: (H) \_\_\_\_\_ (W) \_\_\_\_\_

FAX: \_\_\_\_\_ E-MAIL \_\_\_\_\_

AMA NUMBER: \_\_\_\_\_ Dues Paid \_\_\_\_\_

Date of birth \_\_\_\_\_ Date \_\_\_\_\_

Note: AMA Membership **Required**

Flying membership \$25, Newsletter only membership \$15. Join after July \$10. Bring to club meeting or mail with copy of AMA card and check to Subscription Secretary: Dennis Collins, 5150 Corte Playa Catalina, San Diego, CA 92124.