SIERRA CENTRAL HERALD

Publication of the Sacramento Model RR Historical Society, Inc.

Our 59th Year **July / August 2007**

Inside This Issue

Look for these and other interesting articles inside this issue of The Herald.

Articles Under Development

Servicing Mines
The End Game
Specialized Trackwork
DCC Tips and Tricks

This is a current list of articles being prepared for the Sierra Central Herald. If you have an idea for an article, please feel free to pull me aside and ask for help!

"Under The Hard Hat" *by President Bob Rohwer*

Wow, just two weeks to our first open house in 2007. We have accomplished a great deal in getting ready. There are still some things to do for open house. Our efforts have been concentrated on getting the running applications submitted, installing resistor axles and the equipment certified and tested. Some of the items are as follows:

1. We need to have the display applications submitted. They should be given to Scott Inman.

2. Test running needs to continue so we can find problems on the layout and repair them. If you have a car derail or a switch not throwing mark it with a sticker. Let me know about it.

3. You need to signup for a position. See Scott Inman for the signup sheet. We want to have all the positions filled.

4. Keep the building clean.

Most of all we want to entertain our guests and have a good time. Many of our guests have attended previous open houses. This year we can show them a lot of new things. Some of the new items are:

1. The Chubb/computer connection for the signal system. This includes the signals themselves. Note that the Keddie "Y" switch will automatically set itself for the occupied block at Beiber giving one automatic train reversing. We hope to add two more signals before open house.

2. The 12th street yard is finished and the Reno holding track is in. Much more scenery.

3. The expansion of the narrow gauge has made significant progress. Much of the track is in and the reversing loop is operational.

Some other topics you might want to discuss with our guests are the two DCC programming stations and how we use Decoder Pro. If you haven't noticed we have upgraded to release 1.7.7. It supports most of the new sound decoders. The software is available for you to copy from the main computer. We will have a meeting just prior to opening the doors to discuss last minute plans. This will also be the first open house that the auxiliary will be supporting and feeding us. Society name tags will be available prior to open house if you need one.

After the open house we will have general train running for a couple of months. For those of you that have patiently waited for construction to end you will now have the opportunity to run trains.

This series will run periodically and pass along information about the Prototype Railroad (ProtoRail) industry. The information may be current or interesting bits from the past.

Full speed ahead in Powder River Basin

Sources: Railway Track & Structures Magazine – March 2007 issue (primary) and various sources on the internet.

Wyoming's Powder River Basin is to coal what the Middle East is to oil. Nearly all of the coal produced in Wyoming is transported by railroad. Unit-trains consist of nearly 115 coal cars that allow each train to transport between 13,000 to 15,000 tons of coal. Every day, between 64 and 70 unit-trains transport coal out of the state. There are many millions of tons of black gold not far beneath the surface, ready to supply heat to produce electricity. But that coal is useless to most utilities while it's in Wyoming, which is why **BSNF** and the **Union Pacific RR's** have been pouring millions of dollars into capital maintenance and expansion of the "Joint Line" to ensure that coal trains keep on rolling. The two railroads agreed to construct more than 40 miles of third and fourth main line tracks through 2008 at a cost of about $100 million. This construction will create what is believed to be the longest four-track main line in the United States devoted exclusively to moving freight. That work is in addition to construction of 14 miles of third main line completed in spring 2005 and an additional 19 miles of third main line competed in May 2006 that went into full service the fall of that year. "We've worked the past two years on the Orin Subdivision, and the Orin Sub again will be the primary focus for us," said Dave Hestermann, AVP & chief engineer for the **BNSF's** Central Region. "Specifically, the expansion will include 46 miles of new track construction. We're adding third main again this year and completing work on the fourth main. Among other activities on the Joint Line, **BNSF** is going to do about 4.12 miles of track shifting in order to achieve 25-foot track centers at new control points. The areas between the new control points will be left on 15-foot centers until 2008 because they require large amounts of track moving that **BNSF** doesn't feel it can do this work in 2007 and maintain train operations at acceptable levels.

Another big event on the Joint Line is installation of 67,000 concrete ties. "This will remove what's left of wood ties on the Orin Line," Hestermann pointed out. "That means we'll have about 300 track miles of railroad on the Orin Sub that is completely concrete crossties, except for the turnouts. We still have wood tie turnouts. The concrete tie program is planned for later third quarter, early fourth quarter, so it will be the last huge push of this year." Hestermann stated: "One of the challenges has been the bad weather this winter. The track-laying machine has fallen about three weeks behind the original schedule. The expansion is suffering a bit, and the maintenance programs are suffering, as well. We actually had ballast trains frozen up in Birmingham, Alabama, during this winter. However, we're optimistic that we will recover and figure out ways to get it all done on time. "People on the ground in the field are always the heroes," he said. "You have to be very proud of what our folks on the ground are accomplishing. I really appreciate what they have to go through out there."

FRA denies DM&E $2.3-billion Powder River Basin loan application

On February 26, 2007, Federal Railroad Administrator Joseph H. Boardman denied a $2.3 billion Railroad Rehabilitation and Improvement Financing (RRIF) loan application from the Dakota, Minnesota, & Eastern **(DM&E)** railroad concluding it posed an unacceptably high risk to federal taxpayers. Boardman found that while the Powder River Basin project met some of the RRIF program's statutory requirements,

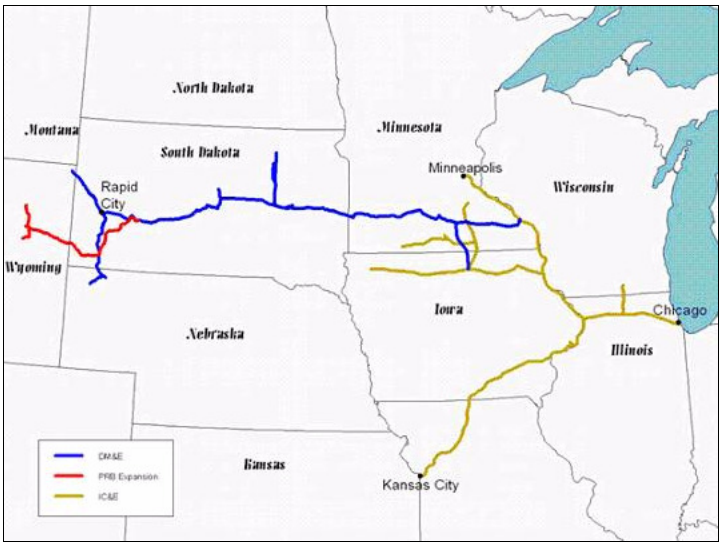
there remained too high a risk concerning the railroad's ability to repay the loan even with an appropriate combination of credit risk premiums and collateral. He said he was concerned by several factors, including the **DM&E**'s current highly leveraged financial position; the size of the loan relative to the limited scale of existing **DM&E** operations; and the possibility that the railroad may not be able to ship the projected amounts of coal needed to generate enough revenue to pay back the loan. In addition, Boardman cited concerns that the application did not sufficiently address how the railroad would handle potential cost overruns and schedule delays with the Powder River Basin construction project. Boardman reached his

Protorail *continued by Dave Good*

final decision after reviewing the **DM&E** application using the criteria set by Congress for the RRIF loan program and following an environmental review of the proposed project. **DM&E** had applied for the RRIF loan to finance construction of a new 280-mile rail line to Wyoming's Powder River Basin coal mines and to reconstruct approximately 600 miles of existing track in South Dakota and Minnesota. **DM&E** had been granted approval by the Surface Transportation Board for the project with only financing being the final hurdle.

DM&E's President and CEO Kevin Schieffer made the following statement in response to the FRA's decision to deny the loan application.

"While **DM&E** is disappointed in the Federal Railroad Administration's decision denying our loan application, we expect to move forward and will spend some time assessing alternatives to accomplish that objective. This project is too important to the future of our company, regional rail transportation and the many supporters in the agriculture and energy sectors, the communities we serve, and beyond who are relying on it. **DM&E** will make appropriate announcements about future steps in the process as it moves forward." The lucrative business of carrying coal from the Powder River Basin has long been provided by the **UNION PACIFIC and BNSF** RR's, but the **DM&E** expects to become the third carrier option in that area and compete on a Class I level with them. As far back as 1997, **DM&E** had selected a route around the Black Hills to extend its line from South Dakota to the coal fields, approximately 40 miles south of Gillette. This route, which **DM&E** said will give it access to more and better quality coal in the southern Powder River Basin, was one of three possible choices when it announced the project in July 1997. The Powder River Basin produces about 260 million tons of coal per year, some 25% of the U.S. total, and is seen as the future of the U.S. coal industry because its low-sulphur coal exceeds current federal environmental regulations.



Reno's ReTrac Project Update
by Karl Griffin

At long last the 8 mile long, 31 foot deep trench right through the middle of downtown Reno is now almost complete! The U**nion Pacific** railroad now has a new double tracked mainline with no at grade crossings as it goes through the city of Reno. The $280 million dollar joint public works project (largest in the city's history) which is on budget and on time is something to behold. It is only the seventh such railroad trench to be constructed but its success assures many more will be built in this country as a way to keep the railroads and car / truck traffic separate reducing accidents and frustration for all.

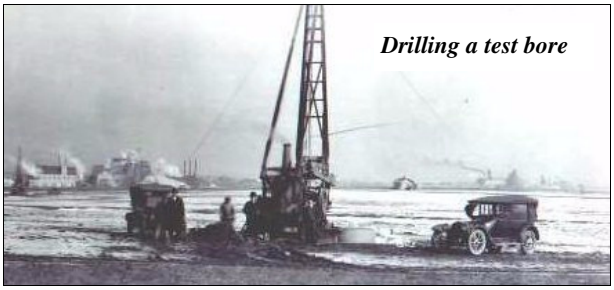
I've included a few pictures to try to give you an idea of how everything turned out. If you get the chance to go up to Reno sometime it would be time well worth spent.

Above-the newest AmTrack station in Reno-the old station is being renovated next door on the right-elevator or stairs takes you down to track level.

The station is on the left just before the overpass.

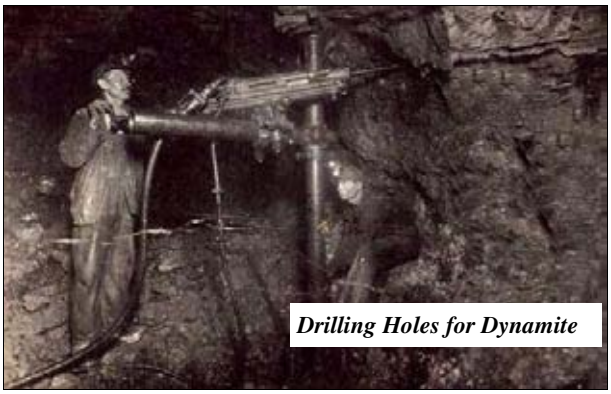
A Lead / Zinc Mine For Your Model Railroad *by Karl Griffin*

It all begins in the ground. Anything that we manufacture that use metals or fossil fuel energy. Agriculture and forestry products have their roots (literally) in the ground. And it is usually extracted or harvested in bulk and transported a long distance which is the railroad's forte.



Drilling a test bore

After visiting a number of model railroad layouts I began to wonder why every layout that had a mine seemed to set theirs up the same way. That is, all coal mines where built into the side of a hill back in an Appalatian mountain setting which is fine for Eastern topography or a gold / silver mine in a Rocky mountain or Sierra Nevada mountain setting for Western topography. And that was it for diversity.



Drilling Holes for Dynamite

Hmmm....dare to be different came screaming to mind.

Every modeler says at some point-I wish I had more space for a longer mainline run and I think that a branchline running up a steep grade to a mine would fit in on my layout somewhere. I believe that it is this line of thinking that has led to the sameness that we see on a lot of layouts.

A couple of ideas began to come to mind along about now that could change this reasoning. First, why does it need to be a branchline-most layouts are too small overall to realistically be thinking that there is a mainline running throughout the area with a branchline(s) coming off at several points with side industries to generate freight traffic revenues. Why not model a longish branchline which is your entire layout?

Second, why does the trackage leading off to your mine have to be going upgrade? If your answer is that I've never seen it done another way...maybe then it is time to start thinking outside the box you've put yourself into. It really can be set up to go downgrade too! And instead of making it deadend at the mine, why not make it continue back upgrade and reconnect with your branchline? This is one of the strengths of a shelf layout configuration. You have the length necessary to do these elevation changes. Instead of constructing a two tier layout you can achieve the height differential (the third dimension, this way).

Third, it is not necessary to have either an upgrade or a downgrade leading to a mine...let's call it flatline mining. This is something many of you haven't come across before but I assure you it is prototypical and is more common than you might think. Let's now take a look at a lead / zinc mine in very flat Oklahoma as an example.

These two basic industry metals are usually found together underground typically within an ore seam that begins as a surface vein that goes down about 300-1000 feet. An elevator mine head shaft is constructed on the surface and roughly horizontal tunnels are dug underground that follow the veins of ore as they meander throughout the hard rock. This ore laden hard rock is brought up to the surface and where it first goes to a crusher, the valuable ores are then separated out

with waste rock going to massive tailings (chad) hills and the metals are melted in a smelter into ingots which are then transported out by railroad to other industries that need these metals.

Those are the basic highlights, now how do you incorporate this into a workable model? Looking at the prototype pictures, most of this should become apparent to you.

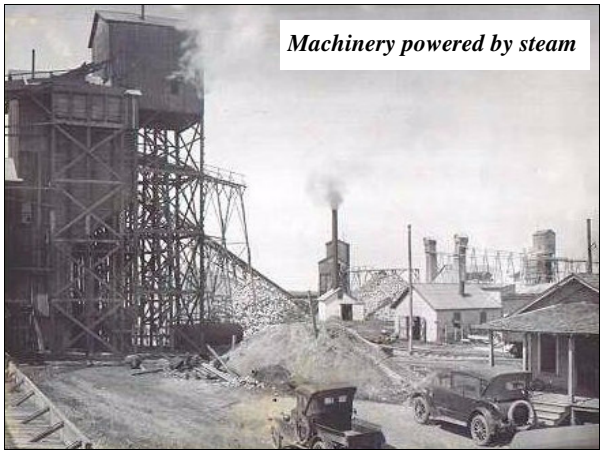
First, you'll notice that this particular mining operation was huge! These pictures were taken at the mine's peak development period-your model can be at an earlier and smaller stage.

Second, the surrounding land was completely flat. The high hills you see are all tailing hills often up to 500' high! This means that you could use this as a scenery divider by backing up the rear half against the divider or by placing it at the end of a turnback peninsula for your layout giving your railroad a legitimate reason for turning 180 degrees as it goes around this area. The entire complex including the massive tailing hill can be blended into a scenery divider.

Third, note that the lead and zinc ingots were transported out in boxcars. You don't have the problem of visible loaded and empty freight cars that you have with coal.

Fourth, since this was a labor intensive operation, there is a large company town adjacent to the mining operation. As space is always a concern for the modeler, only a small portion of this needs to be constructed unless you want this to be a showpiece.

Fifth, a river runs by this area. Important since the separation process needs large quantities of water. Again, only part of this needs to be modeled in your scenery.



Machinery powered by steam

Sixth, the minehead hoists can be readily animated and nightime lighting of the facility would add a wonderful touch of realism.

The picture above gives you an idea of just how large the tailings hill is. Perfect as a scenery divider.

Water is crucial for industry and for the town itself.

In the photo below (about 1935) the town is growing sort of haphazardly which is common. There were no paved roads. All structures were constructed of wood which had to be freighted in by railroad of course. You would arrange and size your supporting town in a manner that accommodates the real estate that you have available.

Most model railroads have numerous lineside industries to generate and receive freight. One of those industries should be a major highlight for your railroad. This operation could certainly be that highlight for you!

Alternatives to Specialized (Custom) Trackwork *by Karl Griffin*

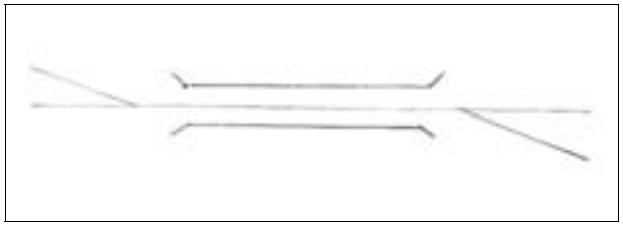
The vast number of modelers now purchase their railroad track from commercial sources rather than handlay their track as was done in past generations. The time it takes to learn the skills necessary and the amount of time it takes to construct the trackwork has been deemed not worth the effort when compared to the quality materials available today at reasonable prices and the speed with which it can be assembled on the model layout.

Regardless of the scale and guage that you model in, manufacturers today provide the basic trackwork that you need to construct a quality appearing and functional layout with only a modest amount of skill required. They offer turnouts, crossings, straight and curved sectional track in varying radii, and hopefully flex track and rail joiners to connect the individual pieces together. Having said that, what they usually don't offer is 'special trackwork' in most cases...why? Because they can't sell enough of it to justify the manufacturing and tooling costs necessary to recoup their investment. So, what does the modeler do to overcome this problem and are there alternatives to this problem?

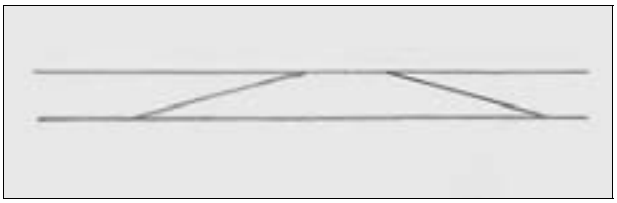
Specialized (custom) trackwork is used by the prototype to reduce the space necessary in congested areas such as terminals, yards and city street areas. Regional transit and freight operations in dockyard areas often feature curves as tight as 50' radius (city block streets that are one way three lanes wide). Union Stub Terminal sheds have from 5-15 double tracks leading and branching out in two or three different directions in a downtown environment. Coachyards need to be constantly switched to make up and break down different consists of cars for their next assignments. All of these special cases demand very expensive solutions such as curved turnouts, double and triple crossings, double crossovers, three way switches, and cascading double slipswitches.

If the manufacturer of your selected trackwork doesn't offer these special pieces of trackwork you only have two choices-construct your own or redesign your trackplan to make it work. If 'construct your own' is not a viable option than plan 'B' (redesign/modify) is your only solution. So, how can we modify existing components and trackwork designs to solve these types of challenges?

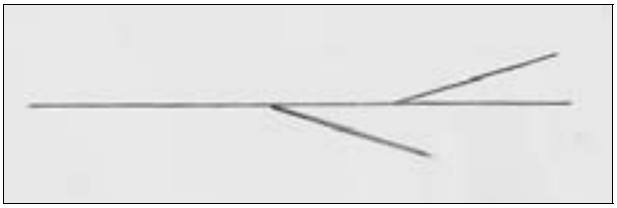
1. The Gauntlet Crossing- two railroads sharing a single tracked bridge and then going their separate ways. No manufacturer anywhere offers this type of specialized trackwork. Solution-install a #6 switch before and after the bridge wired together to route one train or the other through the gauntlet crossing with signal protection. Much cheaper and easier than custom!



2. Double Crossovers- Used on double tracked mainline. If you have space for a double tracked mainline then you have space for two separate paired sets of turnouts (#8's if possible or remove as much of the curve in each turnout to reduce the 'S' curve problem) somewhere along the mainline!



3. The Three Way Turnout- A lefthand switch connected to a righthand switch on the straight portion. Shorten the first switch after the frog as much as possible. If desired, also reduce the curved portion on both as much as possible to reduce the fanout angle (#6 turnouts).

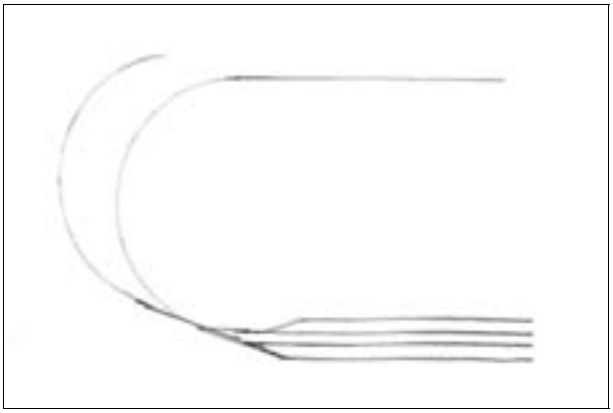


4. Curved Turnouts- Install a standard turnout before the curve begins and shorten the curved portion of the turnout (#6 turnouts).

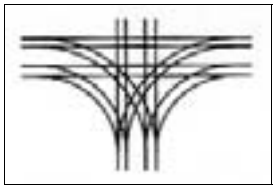
5. Double Slip Switches- Perhaps the toughest common problem of all because their purpose is to shorten the length of the throat area leading into a yard. A couple of ideas come to mind...

a. If you have a single track curving around and leading into a peninsula yard then setup an angled series of #6 switches each having another #6 switch connected to its curved portion. As usual, shorten the curved and straight portions (after the frog) of each switch as much as possible.

b. On the leading switch, connect another switch in reverse. This will be your switching lead track.



6. Double Tracked Streetcar crossings- On the theory that two streetcars can't occupy the same space at the same time...first simplify the double crossing to a single crossing long before the meet area on both sides. Then, add your 90 degree turns in a staggered order.



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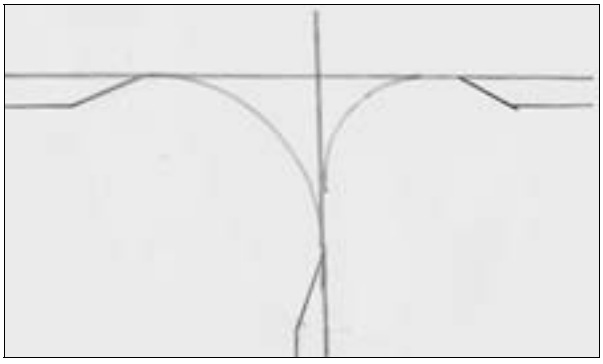
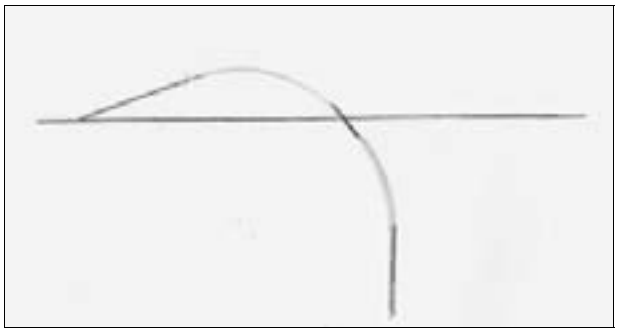
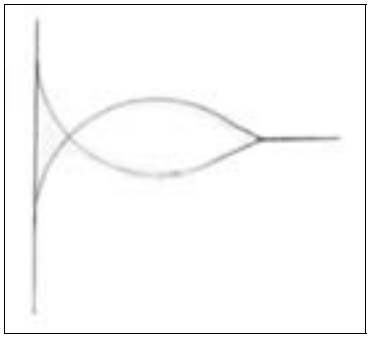
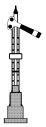


7. Dockyard Wye trackage- Install a turnout going in the opposite direction of your intended turn and cross over your mainline. This will allow you to fit the curve in a 90 degree standard width three lane one way city street. (For standard length freight cars and streetcars/trolleys)



8. The Reduced Space Wye trackage for the dockyard- The leads for both legs of the 'Y' cross first before meeting up at the end of the curve where they rejoin. This will allow you utilize the entire width of a city street to fit this trackage in. (For standard length freight cars and streetcars/trolleys)





Editors' Comments *by Karl Griffin*

It has been an interesting and busy month for our family. We held our family reunion in Williamsburg, VA this year and moved my mother from Muncie, IN to El Paso, TX. And what does this have to do with the hobby of model railroading? Not much except that it emphasizes that family comes first and hobbies second. However, airplane travel does give one a great sense on just how large this country is and gives you a bird's eye view of rail yards and often how they both compete with and complement truck traffic. Located at every large town you could see warehouses with both modes of transportation available to shippers and receivers, both working together to achieve the miracle of our nation's distribution system-the envy of the world. From our seaport terminals to the heartland of America, transportation of goods is a crucial part of what makes this country run. Put diversity in your layout!

Articles for inclusion in the Sept / Oct issue are due NLT the second Friday of August!

The Sacramento Model Railroad Historical Society, Inc. is located at 1990 Grand Ave., Sacramento, CA 95838 and is open every Tuesday and Friday night at 7:30 p.m. It is the home of the ***Sierra Central Railroad*** which is modeled in both HO Standard and Narrow Gauge. Telephone (916) 927-3618 for info and directions. Visitors are always welcome!

Our Internet Club Website: **www.smrhs.com**

Our 2006/2007 Officers:

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Next General Meeting is the last Friday of July, 2007

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