

**BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA**

Order Instituting Rulemaking on the Commission's Proposed Policies and Programs Governing post-2003 Low-Income Assistance Programs.	Rulemaking 04-01-006 (Filed January 8, 2004)
In the Matter of the Application of PACIFICORP for Approval of 2005 Low-Income Assistance Program Budgets.	Application 04-06-038 (Filed June 30, 2004)
In the Matter of the Application of Southwest Gas Corporation (U 905 G) for Approval of Program Year 2005 Low-Income Assistance Program Budgets.	Application 04-07-002 (Filed July 1, 2004)
IN THE MATTER of the Application SIERRA PACIFIC POWER COMPANY (U 903), for an Order Approving its 2005 California Alternate Rates for Energy (CARE) and Low Income Efficiency (LIEE) Plans and Budgets.	Application 04-07-014 (Filed July 1, 2004)
In the Matter of the Application of Avista Corporation for Approval of Program Year 2005 Low-Income Assistance Program Budgets.	Application 04-07-015 (Filed July 1, 2004)
In the Matter of the Application of the SOUTHERN CALIFORNIA WATER COMPANY (U 133 W) Regarding Low Income Assistance Programs for its Bear Valley Electric Service Customers for Program Year 2005.	Application 04-07-020 (Filed July 8, 2004)

Application of Alpine Natural Gas Operating Company No. 1 LLC in Compliance with Decision 03-12-016 (PY 2004 Low Income Energy Efficiency ("LIEE") and California Alternate Rates For Energy ("CARE") program Plans).	Application 04-07-027 (Filed July 2, 2004)
In the Matter of the Application of West Coast Gas Company (U-910-G) For Approval of Program Year 2005 Low-Income Assistance Program Budgets.	Application 04-07-050 (Filed July 29, 2004)

**SIERRA PACIFIC POWER COMPANY'S  
 REPORT TO THE  
 CALIFORNIA PUBLIC UTILITIES COMMISSION  
 ON THE GEOTHERMAL EXCHANGE PILOT PROGRAM  
 IN COMPLIANCE WITH D.05-07-014**

**Submitted by:  
 David M. Norris  
 Associate General Counsel  
 Sierra Pacific Power Company**

**Sierra Pacific Power Company  
(U903 E)**

**Report to the  
California Public Utilities Commission  
On The Geothermal Exchange Pilot Program  
In Compliance With D.05-07-014**

**December 30, 2005**

## **Sierra Pacific Power Company**

### **Sierra Valley Senior Apartments, Geo-Exchange Retrofit Project**

**Program Manager: John Hargrove, Sierra Pacific Power Company**

**Construction Manager: Larry Burton, Burton Consulting, LLC**

**Design and Construction: Peter Millar, Building Energy Solutions**

#### **Project Summary and Program Goals**

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This report is filed in compliance with D.05-07-014, Ordering Paragraph 7, which stated "Sierra Pacific shall report no later than December 30, 2005 on the results of the Geothermal Exchange Pilot Project". The Geo-exchange heat pump project was a part of the SBX funded program by the California Public Utilities commission (CPUC). This Geo-exchange project was part of the SBX low-income program module described as the installation of geo-exchange heat pumps for select, qualifying low-income customers.

In designing the program Sierra Pacific Power Company (Sierra) met with CPUC staff to discuss including a Geo-exchange component in the program. Based on the presentation, the CPUC approved the proposal for up to 50 units as a demonstration project.

Sierra identified several low-income complexes and surveyed each to determine which property reached the most customers and maximized the available funding. The Sierra Valley Senior Citizens Community was selected based on numerous criteria including type of construction, site access, existing construction, needs of the residents, income status and number of units. The property located in Loyalton, California, is a multi-unit wood framed, senior citizens apartment complex with 6 living units consisting of 45 one bedroom and 4 two bedroom apartments. There is a recreation/laundry/community center located in the center of the complex that is heated with a propane forced air system, which is not a part of the project.

The residences of the complex live on fixed incomes and must meet certain income requirements in order to be considered. Rents and allowances for utilities are pro-

rated based on income. Since the residents tend to reside in the complex long term, there is a waiting list of seniors wishing to live in the complex.

The Geo-exchange system replaces existing electric baseboard heat installed during the original construction in 1982. The system provides a much more energy efficient heating system and provides cooling not previously available to the tenants. It is expected the system will substantially reduce the electric load to each unit especially during the heating season.

### **Pre-construction Planning**

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A licensed land surveyor completed a site map of the existing facility. This map provided property lines, building layout, major landscape and utility locations and basic geographical information that assisted the pre-selected contractors who bid on the project with locating the geo-exchange well fields and piping to the units. A Request for Proposal was issued to the contractors along with the site map, a set of design specifications and project guidelines. One contractor withdrew from the bidding process. The remaining proposals were evaluated by Sierra's staff.

In conjunction with the design of the Geo-exchange system, an energy audit was performed on a sampling of typical one and two-bedroom units. Based on the audit, additional weatherization measures were identified which could further reduce energy consumption and assist with the engineering of the Geo-exchange system. Efforts were made and additional funding was secured to complete many of the identified weatherization measures. By working with the local County Community Services Agency available funds were maximized to make the specific improvements that resulted in lowering the heat-loss of the units. This reduction in heat-loss was used in the engineering of the Geo-Exchange system. The measures selected included caulking of doors and windows, weather stripping of doors (as needed), flue damper in the restroom and kitchen exhaust flues, sealing of the ceiling penetration for the exhaust flues, outlet and switch gaskets, compact fluorescent lamps, exterior compact fluorescent fixtures and lamps, additional ceiling insulation, and rigid perimeter insulation at the concrete stem-walls and exposed concrete slab edge. The weatherization measures were completed by the County Community Services Agency with some funding provided by Sierra.

## **Engineering and Design**

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The contractor spent considerable time in the design and engineering of the heat-pump systems. Several manufacturers of Geo-exchange equipment were considered for the project and a final decision was made to use "Trane" units due in part to their willingness to provide the smaller units needed for the apartments with a two staged system and electric resistant back-up heat. The systems are designed to operate using Geo-Exchange technology only but have an electric backup system that will operate during a pump failure or if the thermostat calls for large temperature change (i.e. a thermostat set at 50 degrees is returned to 68 degrees). The tenants were given instructions to make only small changes in their thermostats especially during cold weather. Raising the thermostat substantially will call for the electric backup to operate and result in higher electric bills due to the increase in the electric resistant heating being utilized. It was explained they should raise or lower the thermostat in small increments based on comfort only when needed.

Several other areas where the contractor used design techniques and selected construction techniques and materials to further reduce energy consumption to extend the life of the equipment and provide maximum comfort include:

- Sealed and insulated ducts located in the attic space.
- Low temperature override should the outside temperature drop below 5 degrees below zero. (This calls for the circulation pump to operate at a pre-determined rate to circulate the antifreeze solution in the system to prevent possible freezing even though the system is designed for -20 degree temperatures.)
- Sound attenuation methods to reduce sound transmission from the heat pump unit and from within the duct system.
- Heat pump sizing was determined by actual performance values tested on representative apartments
- Computer design of ducting system with reduction in system pressure drop.

- Dual large return grills to ensure that blockage would not occur when doors were open and slid across one another.
- Circulator pumps were engineered according to flow and pressure drop factors rather than selected to match heat pump size charts to avoid using larger than needed pumps.

### **Owner Coordination and Assistance**

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Prior to the start of construction, a Letter of Agreement was executed by Sierra and Cambridge Real Estate (Cambridge). Cambridge is the operating manager and owner representative of the Sierra Valley Senior Community Apartments. The Agreement basically gave Sierra permission to complete the retrofit and spelled out the responsibilities of each party. Cambridge was responsible for all tenant coordination. Because there is a waiting list for these apartments, the project was completed with all the units occupied during construction. This required the contractor to work closely with the site managers and schedule work in advance so the tenants could be notified. Working in a relatively small occupied apartment was often quite difficult. The contractor and his crew were required to provide necessary safety barriers and to provide clean-up of all dust and debris on a daily basis in addition to interfacing with the tenants.

The site managers for Cambridge were very cooperative and assisted in the construction effort daily. The managers coordinated all access and 24-hour notices with each tenant and arranged for recreational events and planned trips to minimize the impact on the residents. Daily coordination meetings and plans for apartment access were held between the site managers and the contractor. The construction manager, Burton Consulting, LLC managed the construction and coordination efforts with the managers. Weekly meetings were held with the contractor to review progress and discuss issues and the project schedule. Monthly progress meetings were established to review the contractors' progress during the previous month to determine the work completed and the value of that work for invoice purposes.

During construction, the contractor requested and received permission to work on Saturdays to expedite the work and to work around tenants that might not be home during the work week. Residents were encouraged to use the complex recreation

center especially during the noisy parts of the construction and to participate in planned events in the Community Center and day trips for shopping. Construction hours were limited to 8 a.m. to 5 p.m. These hours were adhered to during the construction.

Many residents were surprised by the low noise produced during construction especially during the well drilling. Forty-nine (49) individual wells were dug; one for each apartment and were completed in about 6 weeks (there were short delays and some lost time due to early snow falls during the drilling operation.)

Sierra participated in several planned events and hosted three (3) workshops to explain the construction and operation of the new Geo-exchange systems. The first workshop explained the basic construction steps and what could be expected during each phase. During the first workshop Peter Millar, owner of Building Energy Solutions (contractor) provided a basic explanation of a Geo-Exchange system. The second workshop was to update the customers on the construction and start a dialog of what to expect for the remainder of the construction and explain how and when the units would be activated. The third workshop near the end of construction provided instructions on the operation of the new programmable thermostats and to discuss the system operation of the newly installed heat pump unit.

## **Construction**

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For the most part the contractor used a small crew during the piping and heat pump installation. This made it easier to coordinate daily work with the respective tenant and the tenants became familiar and comfortable with the crew especially the field superintendent.

The construction consisted of these main phases of construction:

1. Drilling
2. Piping
3. Carpentry
4. Ducting
5. Electrical
6. Heat pumps
7. Thermostats
8. Removal and repair of existing baseboard heating
9. Training and Project close-out



## Drilling

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The contractor initially identified buried utilities and then had these confirmed prior to starting construction. Most of the utilities were located in the front of the apartments which worked excellently for the construction of the well field in the back of the units.

The well drilling and extension of the circulatory piping was completed in the first phase. This took approximately 6 weeks to complete the 49 wells. Depths varied by conditions and apartment size from approximately 160 feet to 250 feet. Care was taken to minimize damage to existing lawn and plants by using plywood under the drill rig to minimize damage by the wheels and outriggers. Drilling was stopped for several days due to inclement weather to avoid damage.

After the wells were drilled the circulatory piping was installed and extended to the individual storage sheds for each unit. The wells were grouted and sealed.

## Piping

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Next the piping that had been extended from the well to the storage shed was routed into the storage units where a small area of the storage unit was dedicated to the circulatory pump and valving. The valving allows for the piping into the well to be checked and serviced from within the shed so the maintenance inside the apartment is limited. A complex routing of this piping from the well through the shed, into the attic and then down inside the unit to the heat pump proved difficult and time consuming.

## Carpentry

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The entry closet in the one-bedroom units and a storage closet in the two bedroom units were chosen to house the heat pump units. Initial plans were to place the heat pumps in the attic space. However, further investigation and engineering proved it would reduce the life of the units to place them in an unconditioned space and routine maintenance would be very difficult. The units as designed were compact and fit easily into the closets without substantially reducing the usable space.

The existing closet shelf and pole were removed and a larger shelf (nearly 3' wide) was constructed across the entire width of the closet. The space for the heat pump was separated from the remaining storage space. A closet pole was reinstalled on the side

away from the heat pump and a new pole was added in the space below the heat pump. This actually increased the amount of storage space substantially and only slightly reduced the hanging space. The unit was placed on the upper shelf and separated from the remaining storage space. The shelf was painted to match the existing color.

The 2-bedroom units were similar but the unit was placed in a storage closet located in the bathroom. Because of the interior location the condensation drain could not be routed to the exterior. In lieu of this, a separate condensation drain pan with alarm was installed. This drain should be checked and drained during routine unit maintenance.

### Ducting

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Early in the design process it was decided the duct work would be routed above the ceiling in the attic space due to ease of access. Because this is unconditioned space the ducts were sealed using mastic and insulated to reduce heat loss. Rigid insulated duct was utilized throughout and no spiral or flex duct was use. This reduced friction loss in the pipe allowed for accurate engineering of the ducting and register selection.

Engineering dictated that the ducts be extended and new registers placed in the living room above the sliding glass door, in the bedroom near the window and in the bathroom. Return air grills were placed in the closet doors to minimize cutting additional holes in the ceiling and maximize air flow back to the heat pump. In the 2-bedroom units a larger heat pump was installed and an additional duct and register installed in the second bedroom. The ducting was almost unique for each unit since truss design and layout did not allow for much pre-fabrication.

### Electrical

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Each unit is individually metered and served by a 100 amp panel service allowing wiring of the new units to be relatively simple. Circuits from the existing baseboard heating were used for the new heat pump and circulatory pumps. All the old wiring was capped and left in the walls with approval from the Sierra County Building Department.

### Heat Pumps

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The Trane heat pumps were 1-1/4 ton for the one-bedroom and 1-1/2 ton units for the 2-bedroom apartments. Trane worked with the contractor to provide the correct size units

per the engineering design. Because of the custom nature of the units, delivery took nearly 10-12 weeks to complete. This caused the schedule to be modified to accommodate this long lead time. The units were easily managed due to their relatively small size and easily fit on the shelf above the closets.

Geo-Exchange heat pumps are considered one of the most reliable heating systems. Other than regular filter replacement, the units should be checked yearly for proper fluid and pressure. To this end the contractor provided an easily accessible peets plug to conduct this testing.

Filter access is readily accessible and during the Operation and Maintenance training, the site managers were shown how to replace these filters twice a year.

### Thermostats

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A programmable set-back thermostat specifically designed for geo-exchange systems was installed in each unit. The thermostat can be easily adjusted up or down a few degrees to maintain comfort, but returns to original programming at the next cycle. The tenants were all given individual training on using the thermostat as well as group training during one of the Sierra sponsored workshops held in the recreation center of the complex. These units are highly reliable and relatively easy to re-program. The site managers were given specific training in the use and programming of the thermostats.

### Removal and Repair of Existing Baseboard Heating

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The existing electrical baseboard heating units were disconnected and removed from each unit. Electrical wiring was removed and capped as noted above and damaged drywall was repaired and painted. Removal of the baseboard allowed tenants more usable space and allowed furniture to be moved closer to walls where the baseboard units had been located.

### Training and Project close-out

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Upon completion of the project the Construction Manager, Contractor and site manager met to conduct a training session on the operation and maintenance of each type unit. An inspection and training was held in a one and two-bedroom unit. Training was provided on the operation and programming of the thermostats as well as the heat pump

unit. Next the contractor went over the maintenance required for the heat pump including filters, unit pressure and fluid quality; including how to perform the inspection on the unit as well as the circulatory pumps in the storage sheds outside. The site managers and the main office of Cambridge Real Estate were provided copies of the Operation and Maintenance manual as well as a video copy of the training.

Shortly after completion of the project Sierra hosted a turn-over event and ice cream social at the facility with all of the tenants and management invited. Several SPPC executives attended and spoke at the event including Jeff Ceccarelli, President, Carol Mann, Vice President, Bob Balzar, Director of Energy Efficiency and Conservation, John Hargrove, Program Manager along with the local Sierra manager. Bob Balzar announced the utility was purchasing the first full year of filter replacements for the new systems. The site managers were also given the name of a contact person who will provide filters for the new heat pumps at a discounted price.

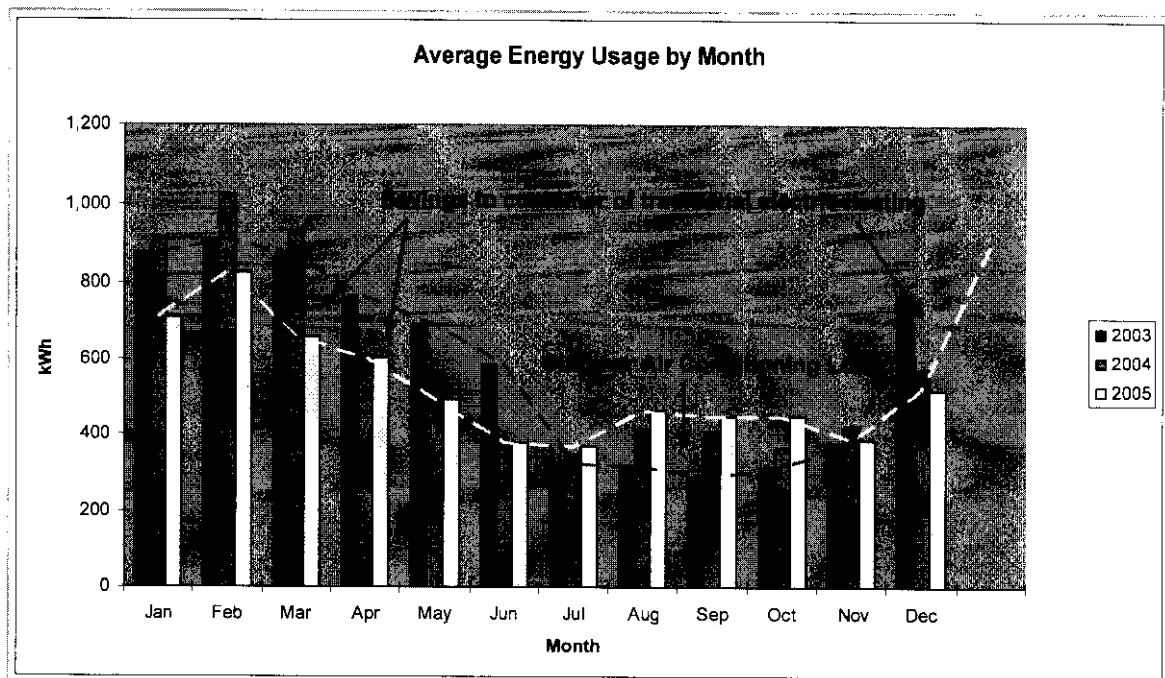
The event was the culmination of three years of effort to bring this project to fruition and to help reduce the electrical consumption for these tenants.

Additionally, during this same time frame, Sierra upgraded their transmission facilities and monitoring equipment. This will enable service to be restored much more quickly than in the past when power outages occur.

### Energy Usage

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The graph that follows reflects the Average monthly kWh usage of the apartments. The most accurate comparison can be made between 2003 and 2005 as the project was completed in the summer of 2004. The Average Usage by residence went down in the winter months, but increased during the months when cooling was used. This was to be expected as these units did not have cooling before the project. Although adding cooling made the energy savings less, it is more than worth it for the comfort of the residents. Overall, the usage went down by 781 kWh or approximately 11% of the total power bill. A more comprehensive breakdown of energy usage is attached as Appendix A.



### Cost Benefit Analysis

The savings were calculated assuming a 10 cent/kWh cost to the customer.

Cost/Savings = Payback

$\$468,181.35 / (3,827) = 122 \text{ year payback}$

### Comfort Before and After

The new geo-exchange system is superior to the previous heating system in terms of comfort. Below is a list of benefits to the owners:

- Air conditioning where there was none
- Superior heating
- Less maintenance and upkeep
- Higher efficiency

## Expenditures

The following table reflects a comparison of budget to actual expenses for the project.

**TABLE - GEOTHERMAL EXCHANGE PROGRAM SUMMARY 2003-2004**

<b>GEO EXPENDITURES</b>	<b>2003</b>	<b>2004</b>	<b>Budget</b>	<b>Percentage of Budget</b>
<b>Program Costs</b>				
Geo Exchange	\$235,558.49	\$217,683.57	\$ 500,000.00	91%
Education	-	-		
<b>Total Program Costs</b>	<b>\$235,558.49</b>	<b>\$217,683.57</b>	<b>\$ 500,000.00</b>	<b>91%</b>
<b>Administrative Costs</b>				
Outreach (1)	-	-		
Inspections (2)	-	-		
General	\$ 1,281.00	\$ 13,658.29		
<b>Total Administrative Costs</b>	<b>\$ 1,281.00</b>	<b>\$ 13,658.29</b>		<b>3%</b>
<b>Grand Total</b>	<b>\$236,839.49</b>	<b>\$231,341.86</b>	<b>\$ 500,000.00</b>	<b>94%</b>

(1) Included in Contractors Weatherization Charges / does not include costs submitted in GRC

(2) Does not include costs submitted in GRC

## Lessons Learned

**Occupied Apartments** -The apartments were occupied throughout this job. This added significant time and complexity to properly executing the job. Anything that can be done to minimize the time spent in the apartments is highly recommended.

**Dedicated Pumps Installed in Conditioned Space** - Each apartment had a dedicated water-to-air heat pump installed on a platform in an internal closet. Internal installation of the equipment, in the conditioned space, avoids starting problems for the heat pump in cold weather that could result in reduced heat pump life and problems with proper operation.

**Individual Wells** - Each heat pump has its own dedicated ground source well. Dedicated wells for each apartment allows for individual metering of costs. This also allows for one system to be shut down at a time for routine maintenance or repair without affecting other systems.

**Heat Pump Sizing from Measured Values** - Heat pump sizing was determined by actual performance values tested on representative apartments, with cost-effective weatherization upgrades carried out. This allows for proper (not oversized) heat pump sizing and is the most economical way to design such a job. Three different sizes of heat pumps were installed: 1 ton, 1 ¼ ton and 1 ½ ton, corresponding to the one bedroom internal unit, the one bedroom end unit, and the two bedroom unit. Correspondingly, nominal well depths of 160, 210, and 250 ft were used to serve the different sized heat pumps.

**Two Stage System with Electric Backup** - A two stage heat pump thermostat was used in each system, the first stage comprising the heat pump, the second stage comprising an electric backup heat stage built into each heat pump. The electric backup heat can be used as an emergency stage also, in case of heat pump failure. A two stage operation represents standard and prudent heat pump system design. The backup heat is intended to make up a calculated shortfall in heat pump capacity for a certain small percentage of the year. Sizing the heat pumps and well fields accordingly saves a lot of money.

**Avoid Complex Routing of Ground loop Piping** – We chose to route the piping through an enclosure constructed on the back of each shed at the back of each apartment, then through the shed, into the attic, and down into the closet with the heat pump equipment. This complex routing was problematic to execute due to many welded

fittings and limited space. An additional problem was that this design required moving resident's possessions quite a number of times because of the multiple installation, testing, flushing and filling steps required. A better approach would have been to use a concrete saw and sawcut a gap leading to each apartment's outside wall, avoiding the sheds altogether, maintaining the piping underground for more of its length (not exposed to outside temperatures) and then up through a very well insulated chase to the attic. This latter approach would have been less complex, less intrusive, and better insulated than the approach taken.

**Ground loop Piping Exposed to Outdoor Temperatures Requires Novel Approach to Antifreeze** – The climate at the facility is fairly extreme, the wintertime lows reaching down toward -10 degrees Fahrenheit. Temperature drawdown in the heat pump coil is typically roundly estimated at 10 degrees. Thus the freeze protection temperature for the loop heat transfer fluid must be on the order of at least -20 Fahrenheit. This low temperature freeze protection requirement is significantly more rigorous than the 20 degrees above zero typically used for ground source heat pump loop freeze protection. Use of straight glycols is prohibited because the concentrations required would be prohibitively viscous and would require large circulator pumps, defeating the low-cost operational purpose of the heat pump system. Use of straight methanol for this low level of freeze protection would require a solution that is unacceptably concentrated and flammable. Thus a novel combination of ethylene glycol and methanol, plus corrosion inhibitors and pH stabilizing chemicals was used to maintain viscosity at a low level while not exceeding flammability limits for the methanol.

**Secondary Freeze Protection System Runs Ground loop Circulator Alone at Low Outdoor Temperature** - A secondary freeze protection system was installed that senses outdoor temperatures. At temperatures of less than -4 degrees Fahrenheit an industrial freezer control and relay installed in heat pump operate the loop circulator alone regardless of heat pump operation, thus ensuring that entering water is at an acceptable temperature and thus allowing proper heat extraction without freezeup in the heat pump coil.

**Sound Attenuation** – The interior installation and variable construction quality of these apartments led to variations in sound level coming from the heat pumps. In some cases



convoluted foam was used to attenuate vibrational and acoustic (air intake) noise. In other cases elastomeric HVAC equipment feet (waffle-style) were used, sometimes in addition to the acoustic foam. The most effective sound attenuation was achieved with use of doubled elastomeric feet, stacked on top of one another. This latter configuration was extremely effective at reducing transmitted vibration from the heat pumps.

**Ducts Designed By Computer** - Heat pump systems can greatly suffer and their performance can be ruined by use of improperly/undersized ducts. Design of the ducting system by computer, with reduction in system pressure drop clearly in mind, is highly recommended.

**Ducting Thoroughly Sealed** – All ducting, especially where exposed to the outdoors (the attic) like this installation **MUST** be sealed with commercial mastic for proper and cost effective operation.

**Ducting Installed in Conditioned Space** – The best design for ducted systems in high performance installations is always where the ducting is installed in a conditioned space. If possible, this should be the approach used. If ducts are installed in the conditioned space, leakage is of little concern (except for possible health and noise concerns) and results in an efficient installation.

**Dual Return Grills Used** – Dual, somewhat oversized return grills were installed in the two closet doors to ensure that blockage would not occur when doors were slid across one another. Oversizing of the grills creates no problem with heat pump operation.

**Circulators Sized for Pumping Requirements** – Circulator sizing should be according to flow and pressure drop factors for each system. Off-the-shelf systems including so-called “Pump Paks”, and “Flow Centers” arbitrarily sized to a particular tonnage for simplified marketing and sales purposes should be avoided. Often these off the shelf systems are grossly oversized for the actual pumping requirements.

## **Conclusion**

Through this project Sierra has determined that a geo-exchange system is a very effective way to provide low cost heating and cooling to virtually any facility. When analyzing the cost/benefit of this type of project, several considerations must be kept in

mind.

- This project was done while the facility was occupied. This added significant cost to the project in the form of additional labor and extraordinary insurance costs.
- These apartments did not have air conditioning and this project provides that technology. All of the tenants report, and the utility analysis substantially supports, that the air conditioning is being used.
- While the annual energy bills for each apartment dropped approximately 13% from 2003 to 2005, overall occupant comfort has been dramatically improved.
- This technology in retrofit form is on the order of 30-50% more expensive than in new construction.

So, as a final conclusion, Sierra recommends that this type of heating/cooling system be considered for any new low income facility construction projects in our service territory, but that in a retrofit application, it is not a cost effective alternative.

## Appendix A

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kWh by Unit

Unit #	2005 Energy Used	2004 Energy Used	2003 Energy Used	▲ 2005 to 2004	▲ 2005 to 2003	▲ 2004 to 2003
1	8,128	12,017	11,347	-3,891	-3,221	670
3	6,921	7,775	6,966	-854	-45	809
5	9,458	9,783	9,892	-325	-434	-109
7	8,963	10,358	11,592	-1,395	-2,629	-1,234
9	3,491	8,158	12,709	-4,667	-9,218	-4,551
11	3,554	4,406	4,785	-852	-1,231	-379
13	4,093	4,687	5,830	-594	-1,737	-1,143
15	5,801	5,600	7,631	201	-1,830	-2,031
17	7,078	6,522	6,157	556	921	365
19	8,096	8,595	8,271	-499	-175	324
21	5,318	6,088	9,385	-770	-4,067	-3,297
23	4,846	5,563	5,794	-717	-948	-231
25	10,324	10,121	7,301	203	3,023	2,820
27	8,753	8,823	7,718	-70	1,035	1,105
29	7,344	7,175	7,037	169	307	138
31	4,944	4,693	4,454	251	490	239
33	5,893	7,075	7,166	-1,182	-1,273	-91
35	4,139	4,357	4,202	-218	-63	155
37	9,279	8,262	9,345	1,017	-66	-1,083
39	6,283	6,860	6,570	-577	-287	290
41	4,035	4,077	6,749	-42	-2,714	-2,672
43	5,411	5,931	6,422	-520	-1,011	-491
45	5,190	5,836	3,761	-646	1,429	2,075
47	6,545	7,228	8,397	-683	-1,852	-1,169
49	4,999	7,257	7,670	-2,258	-2,671	-413
51	7,078	7,078	7,078	-	-	-

kWh usage by unit, month, and year

100 HILL ST #14 LOYALTON, CA

2005	Dec	485	2004	Dec	418	2003	Dec	429
	Nov	308		Nov	298		Nov	192
	Oct	324		Oct	215		Oct	216
	Sep	217		Sep	197		Sep	226
	Aug	256		Aug	217		Aug	263
	Jul	276		Jul	219		Jul	257
	Jun	354		Jun	238		Jun	415
	May	411		May	316		May	385
	Apr	494		Apr	293		Apr	439
	Mar	573		Mar	251		Mar	523
	Feb	661		Feb	702		Feb	592
2005	Jan	567	2004	Jan	428	2003	Jan	548

100 HILL ST #1 LOYALTON, CA

2005	Dec	727	2004	Dec	802	2003	Dec	954
	Nov	358		Nov	617		Nov	467
	Oct	582		Oct	683		Oct	366
	Sep	746		Sep	746		Sep	383
	Aug	698		Aug	585		Aug	424
	Jul	420		Jul	323		Jul	516
	Jun	396		Jun	355		Jun	1187
	May	612		May	924		May	1560
	Apr	775		Apr	1027		Apr	1421
	Mar	776		Mar	1978		Mar	1685
	Feb	1121		Feb	2033		Feb	1516
2005	Jan	915	2004	Jan	1944	2003	Jan	868

100 HILL ST #10 LOYALTON, CA

2005	Dec	669	2004	Dec	738	2003	Dec	946
	Nov	519		Nov	613		Nov	545
	Oct	606		Oct	568		Oct	569
	Sep	672		Sep	668		Sep	495
	Aug	695		Aug	659		Aug	583
	Jul	511		Jul	552		Jul	584
	Jun	556		Jun	634		Jun	872
	May	677		May	861		May	902
	Apr	833		Apr	904		Apr	923
	Mar	899		Mar	1147		Mar	1047
	Feb	1050		Feb	1251		Feb	1087
2005	Jan	912	2004	Jan	1148	2003	Jan	985

100 HILL ST #11 LOYALTON, CA

2005	Dec	265	2004	Dec	292	2003	Dec	533
	Nov	261		Nov	215		Nov	177
	Oct	310		Oct	168		Oct	169
	Sep	320		Sep	222		Sep	204
	Aug	338		Aug	212		Aug	238
	Jul	240		Jul	201		Jul	143
	Jun	251		Jun	260		Jun	239
	May	301		May	371		May	526
	Apr	270		Apr	416		Apr	600
	Mar	194		Mar	713		Mar	607
	Feb	256		Feb	709		Feb	609
2005	Jan	548	2004	Jan	627	2003	Jan	740

100 HILL ST #12 LOYALTON, CA

2005	Dec	389	2004	Dec	415	2003	Dec	556
	Nov	306		Nov	276		Nov	249
	Oct	323		Oct	228		Oct	262
	Sep	340		Sep	279		Sep	210
	Aug	343		Aug	288		Aug	229
	Jul	404		Jul	260		Jul	233
	Jun	229		Jun	283		Jun	566
	May	433		May	405		May	620
	Apr	533		Apr	490		Apr	612
	Mar	588		Mar	814		Mar	648
	Feb	683		Feb	847		Feb	748
2005	Jan	543	2004	Jan	735	2003	Jan	740

100 HILL ST #13 LOYALTON, CA

2005	Dec	238	2004	Dec	287	2003	Dec	727
	Nov	315		Nov	176		Nov	187
	Oct	557		Oct	177		Oct	172
	Sep	561		Sep	133		Sep	175
	Aug	339		Aug	200		Aug	190
	Jul	285		Jul	173		Jul	152
	Jun	228		Jun	161		Jun	353
	May	322		May	383		May	683
	Apr	146		Apr	381		Apr	670
	Mar	66		Mar	799		Mar	711
	Feb	634		Feb	1012		Feb	965
2005	Jan	402	2004	Jan	805	2003	Jan	845

100 HILL ST #15 LOYALTON, CA

2005	Dec	499	2004	Dec	552	2003	Dec	894
	Nov	334		Nov	334		Nov	516
	Oct	319		Oct	236		Oct	423
	Sep	293		Sep	207		Sep	330
	Aug	534		Aug	213		Aug	362
	Jul	433		Jul	278		Jul	370
	Jun	220		Jun	354		Jun	716
	May	478		May	510		May	793
	Apr	541		Apr	417		Apr	841
	Mar	645		Mar	365		Mar	922
	Feb	824		Feb	1073		Feb	940
2005	Jan	681	2004	Jan	1061	2003	Jan	524

100 HILL ST #16 LOYALTON, CA

2005	Dec	391	2004	Dec	466	2003	Dec	563
	Nov	366		Nov	364		Nov	317
	Oct	369		Oct	286		Oct	291
	Sep	345		Sep	262		Sep	261
	Aug	334		Aug	288		Aug	278
	Jul	298		Jul	353		Jul	276
	Jun	334		Jun	394		Jun	543
	May	411		May	566		May	537
	Apr	497		Apr	487		Apr	586
	Mar	568		Mar	703		Mar	629
	Feb	711		Feb	819		Feb	689
2005	Jan	560	2004	Jan	635	2003	Jan	635

100 HILL ST #17 LOYALTON, CA

2005	Dec	566	2004	Dec	642	2003	Dec	594
	Nov	496		Nov	577		Nov	484
	Oct	579		Oct	480		Oct	408
	Sep	486		Sep	505		Sep	435
	Aug	518		Aug	441		Aug	394
	Jul	451		Jul	387		Jul	427
	Jun	458		Jun	389		Jun	555
	May	542		May	448		May	500
	Apr	673		Apr	507		Apr	511
	Mar	640		Mar	648		Mar	578
	Feb	895		Feb	783		Feb	614
2005	Jan	774	2004	Jan	715	2003	Jan	657

100 HILL ST #18 LOYALTON, CA

2005	Dec	425	2004	Dec	607	2003	Dec	880
	Nov	276		Nov	450		Nov	381
	Oct	361		Oct	352		Oct	378
	Sep	352		Sep	337		Sep	291
	Aug	323		Aug	369		Aug	339
	Jul	338		Jul	368		Jul	368
	Jun	390		Jun	496		Jun	724
	May	515		May	688		May	832
	Apr	612		Apr	699		Apr	823
	Mar	698		Mar	1050		Mar	930
	Feb	904		Feb	1134		Feb	1009
2005	Jan	774	2004	Jan	961	2003	Jan	880

100 HILL ST #19 LOYALTON, CA

2005	Dec	677	2004	Dec	882	2003	Dec	806
	Nov	482		Nov	586		Nov	434
	Oct	574		Oct	500		Oct	412
	Sep	586		Sep	529		Sep	288
	Aug	648		Aug	547		Aug	288
	Jul	525		Jul	468		Jul	266
	Jun	484		Jun	458		Jun	597
	May	619		May	626		May	728
	Apr	713		Apr	692		Apr	932
	Mar	892		Mar	1082		Mar	1176
	Feb	999		Feb	1204		Feb	1139
2005	Jan	897	2004	Jan	1021	2003	Jan	1205

100 HILL ST #2 LOYALTON, CA

2005	Dec	524	2004	Dec	605	2003	Dec	740
	Nov	407		Nov	455		Nov	276
	Oct	438		Oct	390		Oct	275
	Sep	421		Sep	544		Sep	234
	Aug	639		Aug	532		Aug	272
	Jul	387		Jul	268		Jul	269
	Jun	359		Jun	346		Jun	532
	May	472		May	630		May	681
	Apr	625		Apr	652		Apr	775
	Mar	755		Mar	922		Mar	875
	Feb	905		Feb	1110		Feb	1001
2005	Jan	800	2004	Jan	923	2003	Jan	844

100 HILL ST #20 LOYALTON, CA

2005	Dec	350	2004	Dec	449	2003	Dec	694
	Nov	211		Nov	306		Nov	211
	Oct	227		Oct	288		Oct	212
	Sep	239		Sep	249		Sep	206
	Aug	223		Aug	257		Aug	210
	Jul	248		Jul	257		Jul	230
	Jun	351		Jun	266		Jun	657
	May	554		May	781		May	780
	Apr	499		Apr	710		Apr	803
	Mar	566		Mar	854		Mar	838
	Feb	681		Feb	889		Feb	916
2005	Jan	591	2004	Jan	751	2003	Jan	840

100 HILL ST #21 LOYALTON, CA

2005	Dec	548	2004	Dec	536	2003	Dec	952
	Nov	401		Nov	310		Nov	481
	Oct	395		Oct	306		Oct	442
	Sep	294		Sep	230		Sep	452
	Aug	240		Aug	265		Aug	425
	Jul	26		Jul	296		Jul	350
	Jun	363		Jun	366		Jun	815
	May	466		May	141		May	974
	Apr	582		Apr	359		Apr	1063
	Mar	543		Mar	596		Mar	1034
	Feb	681		Feb	1381		Feb	1198
2005	Jan	779	2004	Jan	1302	2003	Jan	1199

100 HILL ST #22 LOYALTON, CA

2005	Dec	597	2004	Dec	575	2003	Dec	880
	Nov	533		Nov	544		Nov	425
	Oct	619		Oct	510		Oct	413
	Sep	560		Sep	483		Sep	125
	Aug	611		Aug	525		Aug	178
	Jul	506		Jul	490		Jul	151
	Jun	460		Jun	473		Jun	201
	May	528		May	740		May	196
	Apr	599		Apr	742		Apr	214
	Mar	675		Mar	1031		Mar	252
	Feb	768		Feb	1061		Feb	222
2005	Jan	684	2004	Jan	1020	2003	Jan	454



100 HILL ST #23 LOYALTON, CA

2005	Dec	344	2004	Dec	491	2003	Dec	569
	Nov	244		Nov	342		Nov	252
	Oct	251		Oct	247		Oct	208
	Sep	243		Sep	217		Sep	198
	Aug	253		Aug	232		Aug	234
	Jul	296		Jul	297		Jul	226
	Jun	286		Jun	322		Jun	528
	May	407		May	482		May	541
	Apr	431		Apr	531		Apr	575
	Mar	206		Mar	761		Mar	747
	Feb	1234		Feb	853		Feb	776
2005	Jan	651	2004	Jan	788	2003	Jan	940

100 HILL ST #24 LOYALTON, CA

2005	Dec	308	2004	Dec	347	2003	Dec	515
	Nov	227		Nov	277		Nov	247
	Oct	278		Oct	253		Oct	203
	Sep	367		Sep	265		Sep	217
	Aug	308		Aug	265		Aug	276
	Jul	209		Jul	255		Jul	210
	Jun	205		Jun	299		Jun	400
	May	291		May	476		May	594
	Apr	373		Apr	384		Apr	567
	Mar	441		Mar	634		Mar	662
	Feb	658		Feb	776		Feb	630
2005	Jan	506	2004	Jan	685	2003	Jan	814

100 HILL ST #25 LOYALTON, CA

2005	Dec	903	2004	Dec	864	2003	Dec	853
	Nov	721		Nov	777		Nov	458
	Oct	820		Oct	654		Oct	380
	Sep	848		Sep	665		Sep	314
	Aug	951		Aug	845		Aug	292
	Jul	811		Jul	582		Jul	327
	Jun	751		Jun	623		Jun	417
	May	823		May	975		May	51
	Apr	903		Apr	914		Apr	1372
	Mar	941		Mar	1057		Mar	1085
	Feb	896		Feb	1122		Feb	1024
2005	Jan	956	2004	Jan	1043	2003	Jan	728

100 HILL ST #26 LOYALTON, CA

2005	Dec	623	2004	Dec	684	2003	Dec	985
	Nov	450		Nov	538		Nov	480
	Oct	607		Oct	494		Oct	387
	Sep	733		Sep	514		Sep	386
	Aug	798		Aug	582		Aug	414
	Jul	503		Jul	606		Jul	353
	Jun	543		Jun	831		Jun	812
	May	644		May	1306		May	987
	Apr	765		Apr	1149		Apr	1014
	Mar	876		Mar	1478		Mar	1121
	Feb	1079		Feb	1599		Feb	1358
2005	Jan	905	2004	Jan	1296	2003	Jan	1142

100 HILL ST #27 LOYALTON, CA

2005	Dec	608	2004	Dec	729	2003	Dec	881
	Nov	388		Nov	598		Nov	374
	Oct	512		Oct	678		Oct	259
	Sep	800		Sep	596		Sep	280
	Aug	787		Aug	647		Aug	325
	Jul	639		Jul	398		Jul	312
	Jun	545		Jun	394		Jun	646
	May	663		May	102		May	785
	Apr	925		Apr	987		Apr	805
	Mar	896		Mar	1121		Mar	886
	Feb	1105		Feb	1266		Feb	1054
2005	Jan	885	2004	Jan	1307	2003	Jan	1111

100 HILL ST #28 LOYALTON, CA

2005	Dec	351	2004	Dec	447	2003	Dec	759
	Nov	228		Nov	231		Nov	223
	Oct	271		Oct	188		Oct	179
	Sep	200		Sep	158		Sep	139
	Aug	190		Aug	210		Aug	227
	Jul	242		Jul	213		Jul	236
	Jun	261		Jun	140		Jun	265
	May	187		May	312		May	413
	Apr	439		Apr	497		Apr	727
	Mar	491		Mar	897		Mar	949
	Feb	538		Feb	613		Feb	735
2005	Jan	624	2004	Jan	700	2003	Jan	927

100 HILL ST #29 LOYALTON, CA

2005	Dec	720	2004	Dec	681	2003	Dec	674
	Nov	446		Nov	499		Nov	502
	Oct	577		Oct	365		Oct	310
	Sep	322		Sep	421		Sep	339
	Aug	515		Aug	365		Aug	348
	Jul	363		Jul	390		Jul	334
	Jun	373		Jun	386		Jun	536
	May	616		May	569		May	594
	Apr	916		Apr	618		Apr	646
	Mar	1107		Mar	1019		Mar	827
	Feb	1102		Feb	1061		Feb	915
2005	Jan	287	2004	Jan	801	2003	Jan	1012

100 HILL ST #3 LOYALTON, CA

2005	Dec	579	2004	Dec	541	2003	Dec	758
	Nov	401		Nov	493		Nov	431
	Oct	577		Oct	616		Oct	384
	Sep	816		Sep	834		Sep	432
	Aug	651		Aug	779		Aug	569
	Jul	431		Jul	460		Jul	524
	Jun	444		Jun	412		Jun	546
	May	450		May	483		May	693
	Apr	544		Apr	531		Apr	615
	Mar	613		Mar	850		Mar	634
	Feb	718		Feb	944		Feb	686
2005	Jan	697	2004	Jan	832	2003	Jan	694

100 HILL ST #30 LOYALTON, CA

2005	Dec	547	2004	Dec	463	2003	Dec	785
	Nov	361		Nov	374		Nov	341
	Oct	389		Oct	321		Oct	243
	Sep	423		Sep	317		Sep	246
	Aug	448		Aug	332		Aug	261
	Jul	319		Jul	291		Jul	249
	Jun	373		Jun	266		Jun	187
	May	252		May	565		May	719
	Apr	634		Apr	710		Apr	798
	Mar	658		Mar	946		Mar	978
	Feb	760		Feb	1179		Feb	985
2005	Jan	843	2004	Jan	1065	2003	Jan	848

100 HILL ST #31 LOYALTON, CA

2005	Dec	411	2004	Dec	420	2003	Dec	492
	Nov	310		Nov	274		Nov	252
	Oct	310		Oct	252		Oct	246
	Sep	283		Sep	230		Sep	238
	Aug	281		Aug	239		Aug	271
	Jul	271		Jul	234		Jul	262
	Jun	331		Jun	261		Jun	357
	May	414		May	428		May	410
	Apr	501		Apr	471		Apr	433
	Mar	591		Mar	588		Mar	493
	Feb	665		Feb	736		Feb	529
2005	Jan	576	2004	Jan	560	2003	Jan	471

100 HILL ST #32 LOYALTON, CA

2005	Dec	344	2004	Dec	718	2003	Dec	569
	Nov	44		Nov	494		Nov	686
	Oct	908		Oct	493		Oct	659
	Sep	558		Sep	547		Sep	515
	Aug	573		Aug	474		Aug	586
	Jul	471		Jul	350		Jul	627
	Jun	495		Jun	344		Jun	1019
	May	669		May	514		May	1130
	Apr	775		Apr	352		Apr	1231
	Mar	904		Mar	1261		Mar	1418
	Feb	1085		Feb	389		Feb	1557
2005	Jan	930	2004	Jan	554	2003	Jan	1447

100 HILL ST #33 LOYALTON, CA

2005	Dec	456	2004	Dec	496	2003	Dec	674
	Nov	358		Nov	390		Nov	390
	Oct	438		Oct	431		Oct	256
	Sep	565		Sep	486		Sep	337
	Aug	618		Aug	336		Aug	348
	Jul	366		Jul	279		Jul	303
	Jun	359		Jun	342		Jun	542
	May	366		May	476		May	659
	Apr	453		Apr	582		Apr	791
	Mar	548		Mar	1108		Mar	928
	Feb	747		Feb	1011		Feb	992
2005	Jan	619	2004	Jan	1138	2003	Jan	946

100 HILL ST #34 LOYALTON, CA

2005	Dec	560	2004	Dec	656	2003	Dec	663
	Nov	451		Nov	424		Nov	315
	Oct	387		Oct	296		Oct	218
	Sep	328		Sep	305		Sep	205
	Aug	330		Aug	311		Aug	393
	Jul	319		Jul	306		Jul	394
	Jun	405		Jun	264		Jun	686
	May	569		May	403		May	850
	Apr	719		Apr	488		Apr	867
	Mar	820		Mar	915		Mar	959
	Feb	1056		Feb	1046		Feb	952
2005	Jan	949	2004	Jan	941	2003	Jan	1043

100 HILL ST #35 LOYALTON, CA

2005	Dec	268	2004	Dec	356	2003	Dec	382
	Nov	198		Nov	326		Nov	186
	Oct	403		Oct	287		Oct	252
	Sep	363		Sep	364		Sep	282
	Aug	315		Aug	353		Aug	288
	Jul	248		Jul	221		Jul	216
	Jun	214		Jun	160		Jun	259
	May	271		May	257		May	291
	Apr	340		Apr	261		Apr	359
	Mar	438		Mar	553		Mar	485
	Feb	609		Feb	727		Feb	641
2005	Jan	472	2004	Jan	492	2003	Jan	561

100 HILL ST #36 LOYALTON, CA

2005	Dec	633	2004	Dec	578	2003	Dec	940
	Nov	578		Nov	514		Nov	484
	Oct	528		Oct	473		Oct	427
	Sep	562		Sep	398		Sep	470
	Aug	673		Aug	433		Aug	544
	Jul	644		Jul	413		Jul	457
	Jun	459		Jun	494		Jun	663
	May	738		May	801		May	692
	Apr	816		Apr	787		Apr	769
	Mar	967		Mar	1204		Mar	935
	Feb	1056		Feb	1272		Feb	910
2005	Jan	775	2004	Jan	1108	2003	Jan	913

100 HILL ST #37 LOYALTON, CA

2005	Dec	668	2004	Dec	851	2003	Dec	661
	Nov	547		Nov	579		Nov	455
	Oct	589		Oct	559		Oct	434
	Sep	602		Sep	639		Sep	384
	Aug	714		Aug	655		Aug	14
	Jul	593		Jul	517		Jul	1006
	Jun	556		Jun	507		Jun	971
	May	710		May	660		May	1057
	Apr	908		Apr	697		Apr	960
	Mar	1044		Mar	834		Mar	1215
	Feb	1272		Feb	988		Feb	1067
2005	Jan	1076	2004	Jan	776	2003	Jan	1121

100 HILL ST #38 LOYALTON, CA

2005	Dec	483	2004	Dec	446	2003	Dec	816
	Nov	366		Nov	370		Nov	420
	Oct	403		Oct	301		Oct	330
	Sep	572		Sep	364		Sep	230
	Aug	363		Aug	536		Aug	258
	Jul	312		Jul	383		Jul	235
	Jun	380		Jun	352		Jun	692
	May	491		May	525		May	805
	Apr	593		Apr	567		Apr	932
	Mar	643		Mar	891		Mar	964
	Feb	726		Feb	306		Feb	920
2005	Jan	621	2004	Jan	581	2003	Jan	811

100 HILL ST #39 LOYALTON, CA

2005	Dec	501	2004	Dec	579	2003	Dec	693
	Nov	387		Nov	453		Nov	355
	Oct	358		Oct	222		Oct	316
	Sep	303		Sep	139		Sep	294
	Aug	357		Aug	408		Aug	330
	Jul	376		Jul	370		Jul	342
	Jun	404		Jun	424		Jun	523
	May	496		May	589		May	636
	Apr	728		Apr	632		Apr	613
	Mar	799		Mar	933		Mar	751
	Feb	797		Feb	1204		Feb	861
2005	Jan	777	2004	Jan	907	2003	Jan	856

100 HILL ST #4 LOYALTON, CA

2005	Dec	497	2004	Dec	432	2003	Dec	112
	Nov	287		Nov	68		Nov	111
	Oct	262		Oct	86		Oct	81
	Sep	186		Sep	546		Sep	131
	Aug	220		Aug	384		Aug	93
	Jul	244		Jul	315		Jul	99
	Jun	326		Jun	391		Jun	545
	May	469		May	763		May	531
	Apr	579		Apr	437		Apr	723
	Mar	728		Mar	739		Mar	802
	Feb	851		Feb	1152		Feb	925
2005	Jan	611	2004	Jan	1117	2003	Jan	686

100 HILL ST #40 LOYALTON, CA

2005	Dec	749	2004	Dec	472	2003	Dec	833
	Nov	454		Nov	303		Nov	437
	Oct	415		Oct	155		Oct	326
	Sep	407		Sep	157		Sep	263
	Aug	410		Aug	129		Aug	258
	Jul	315		Jul	201		Jul	303
	Jun	341		Jun	696		Jun	716
	May	438		May	878		May	800
	Apr	527		Apr	824		Apr	763
	Mar	597		Mar	1055		Mar	987
	Feb	708		Feb	1175		Feb	1006
2005	Jan	630	2004	Jan	995	2003	Jan	1036

100 HILL ST #41 LOYALTON, CA

2005	Dec	489	2004	Dec	98	2003	Dec	491
	Nov	369		Nov	177		Nov	320
	Oct	399		Oct	271		Oct	185
	Sep	433		Sep	270		Sep	96
	Aug	414		Aug	183		Aug	257
	Jul	319		Jul	184		Jul	234
	Jun	114		Jun	217		Jun	667
	May	141		May	357		May	680
	Apr	268		Apr	400		Apr	888
	Mar	292		Mar	517		Mar	1007
	Feb	346		Feb	699		Feb	914
2005	Jan	451	2004	Jan	704	2003	Jan	1010

100 HILL ST #42 LOYALTON, CA

2005	Dec	956	2004	Dec	967	2003	Dec	1104
	Nov	617		Nov	731		Nov	484
	Oct	627		Oct	521		Oct	269
	Sep	548		Sep	582		Sep	273
	Aug	509		Aug	503		Aug	327
	Jul	453		Jul	502		Jul	388
	Jun	644		Jun	526		Jun	770
	May	863		May	618		May	825
	Apr	1014		Apr	748		Apr	896
	Mar	791		Mar	951		Mar	981
	Feb	1449		Feb	1262		Feb	1125
2005	Jan	861	2004	Jan	1234	2003	Jan	1135

100 HILL ST #43 LOYALTON, CA

2005	Dec	504	2004	Dec	810	2003	Dec	954
	Nov	264		Nov	252		Nov	394
	Oct	200		Oct	173		Oct	208
	Sep	376		Sep	212		Sep	198
	Aug	295		Aug	322		Aug	184
	Jul	188		Jul	168		Jul	156
	Jun	262		Jun	163		Jun	352
	May	480		May	323		May	546
	Apr	504		Apr	529		Apr	599
	Mar	653		Mar	989		Mar	806
	Feb	791		Feb	1105		Feb	988
2005	Jan	894	2004	Jan	885	2003	Jan	1037

100 HILL ST #44 LOYALTON, CA

2005	Dec	523	2004	Dec	554	2003	Dec	628
	Nov	416		Nov	441		Nov	457
	Oct	560		Oct	311		Oct	466
	Sep	595		Sep	641		Sep	430
	Aug	555		Aug	569		Aug	525
	Jul	422		Jul	432		Jul	443
	Jun	417		Jun	388		Jun	618
	May	589		May	563		May	659
	Apr	586		Apr	597		Apr	715
	Mar	608		Mar	801		Mar	940
	Feb	784		Feb	999		Feb	1035
2005	Jan	712	2004	Jan	890	2003	Jan	1127



100 HILL ST #45 LOYALTON, CA

2005	Dec	422	2004	Dec	417	2003	Dec	784
	Nov	312		Nov	277		Nov	225
	Oct	280		Oct	212		Oct	213
	Sep	289		Sep	228		Sep	202
	Aug	308		Aug	256		Aug	222
	Jul	207		Jul	184		Jul	180
	Jun	254		Jun	203		Jun	433
	May	372		May	484		May	646
	Apr	478		Apr	559		Apr	637
	Mar	626		Mar	928		Mar	64
	Feb	819		Feb	1116		Feb	81
2005	Jan	823	2004	Jan	972	2003	Jan	74

100 HILL ST #46 LOYALTON, CA

2005	Dec	469	2004	Dec	505	2003	Dec	637
	Nov	515		Nov	376		Nov	251
	Oct	440		Oct	325		Oct	254
	Sep	365		Sep	374		Sep	271
	Aug	443		Aug	464		Aug	282
	Jul	360		Jul	308		Jul	251
	Jun	350		Jun	273		Jun	431
	May	457		May	466		May	550
	Apr	552		Apr	548		Apr	622
	Mar	644		Mar	863		Mar	749
	Feb	809		Feb	972		Feb	818
2005	Jan	733	2004	Jan	774	2003	Jan	789

100 HILL ST #47 LOYALTON, CA

2005	Dec	590	2004	Dec	540	2003	Dec	875
	Nov	388		Nov	427		Nov	404
	Oct	413		Oct	390		Oct	346
	Sep	485		Sep	419		Sep	334
	Aug	595		Aug	409		Aug	379
	Jul	428		Jul	351		Jul	361
	Jun	402		Jun	300		Jun	770
	May	480		May	603		May	840
	Apr	623		Apr	603		Apr	949
	Mar	694		Mar	982		Mar	1021
	Feb	790		Feb	1143		Feb	1099
2005	Jan	657	2004	Jan	1061	2003	Jan	1019

100 HILL ST #48 LOYALTON, CA

2005	Dec	602	2004	Dec	590	2003	Dec	706
	Nov	530		Nov	467		Nov	103
	Oct	590		Oct	469		Oct	92
	Sep	304		Sep	643		Sep	87
	Aug	421		Aug	523		Aug	85
	Jul	300		Jul	279		Jul	96
	Jun	320		Jun	319		Jun	97
	May	374		May	533		May	73
	Apr	597		Apr	665		Apr	75
	Mar	701		Mar	882		Mar	76
	Feb	826		Feb	1027		Feb	85
2005	Jan	705	2004	Jan	944	2003	Jan	192

100 HILL ST #49 LOYALTON, CA

2005	Dec	429	2004	Dec	503	2003	Dec	886
	Nov	269		Nov	295		Nov	405
	Oct	217		Oct	169		Oct	172
	Sep	163		Sep	168		Sep	141
	Aug	200		Aug	187		Aug	153
	Jul	226		Jul	235		Jul	176
	Jun	305		Jun	344		Jun	629
	May	436		May	676		May	865
	Apr	553		Apr	801		Apr	951
	Mar	681		Mar	1330		Mar	1116
	Feb	817		Feb	1420		Feb	1148
2005	Jan	703	2004	Jan	1129	2003	Jan	1028

100 HILL ST #5 LOYALTON, CA

2005	Dec	780	2004	Dec	875	2003	Dec	899
	Nov	616		Nov	686		Nov	753
	Oct	672		Oct	603		Oct	490
	Sep	673		Sep	622		Sep	522
	Aug	756		Aug	669		Aug	569
	Jul	651		Jul	540		Jul	499
	Jun	589		Jun	597		Jun	744
	May	708		May	803		May	893
	Apr	894		Apr	857		Apr	934
	Mar	950		Mar	1120		Mar	1142
	Feb	1116		Feb	1283		Feb	1217
2005	Jan	1053	2004	Jan	1128	2003	Jan	1230

100 HILL ST #6 LOYALTON, CA

2005	Dec	437	2004	Dec	477	2003	Dec	682
	Nov	310		Nov	325		Nov	283
	Oct	318		Oct	298		Oct	264
	Sep	364		Sep	326		Sep	223
	Aug	355		Aug	341		Aug	241
	Jul	244		Jul	286		Jul	242
	Jun	394		Jun	236		Jun	444
	May	288		May	333		May	602
	Apr	520		Apr	421		Apr	599
	Mar	605		Mar	832		Mar	796
	Feb	705		Feb	1005		Feb	780
2005	Jan	604	2004	Jan	791	2003	Jan	791

100 HILL ST #7 LOYALTON, CA

2005	Dec	665	2004	Dec	680	2003	Dec	1074
	Nov	547		Nov	614		Nov	603
	Oct	733		Oct	515		Oct	532
	Sep	746		Sep	602		Sep	443
	Aug	741		Aug	586		Aug	488
	Jul	437		Jul	513		Jul	473
	Jun	518		Jun	648		Jun	1251
	May	701		May	831		May	1315
	Apr	856		Apr	1057		Apr	1140
	Mar	949		Mar	1383		Mar	1377
	Feb	1069		Feb	1635		Feb	1459
2005	Jan	1001	2004	Jan	1294	2003	Jan	1437

100 HILL ST #8 LOYALTON, CA

2005	Dec	518	2004	Dec	463	2003	Dec	504
	Nov	235		Nov	302		Nov	173
	Oct	278		Oct	211		Oct	192
	Sep	318		Sep	250		Sep	227
	Aug	240		Aug	364		Aug	228
	Jul	188		Jul	224		Jul	212
	Jun	197		Jun	191		Jun	261
	May	347		May	360		May	296
	Apr	523		Apr	397		Apr	388
	Mar	403		Mar	634		Mar	803
	Feb	544		Feb	743		Feb	786
2005	Jan	559	2004	Jan	533	2003	Jan	502

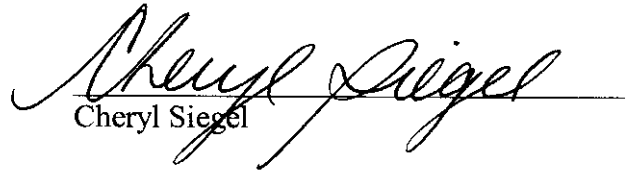
100 HILL ST #9 LOYALTON, CA

2005	Dec	103	2004	Dec	1029	2003	Dec	2641
	Nov	386		Nov	795		Nov	733
	Oct	302		Oct	605		Oct	519
	Sep	295		Sep	881		Sep	426
	Aug	314		Aug	859		Aug	455
	Jul	241		Jul	669		Jul	517
	Jun	341		Jun	374		Jun	921
	May	536		May	778		May	1050
	Apr	235		Apr	475		Apr	1157
	Mar	232		Mar	1412		Mar	1328
	Feb	143		Feb	265		Feb	1491
2005	Jan	363	2004	Jan	16	2003	Jan	1471

**CERTIFICATE OF MAILING**

I hereby certify that I am an employee of Sierra Pacific Power Company and on this 29<sup>th</sup> day of December, 2005, I served each party on the CPUC internet service list with a copy of Sierra Pacific Power Company's Report to the California Public Utilities Commission on the Geothermal Exchange Pilot Program in Compliance with D.05-07-014 by Federal Express Mail, U.S. Mail and/or electronic mail, postage prepaid.

DATED this 29<sup>th</sup> day of December, 2005.

  
Cheryl Siegel

# CALIFORNIA PUBLIC UTILITIES COMMISSION

## Service Lists

**Proceeding: R0401006 - PUC - LOW-INCOME PRO**

**Filer: CPUC**

**List Name: LIST**

**Last changed: December 21, 2005**

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