CALIFORNIA PUBLIC UTILITIES COMMISSION

CONSUMER PROTECTION & SAFETY DIVISION
UTILITIES SAFETY & RELIABILITY BRANCH
ELECTRIC, NATURAL GAS & PROPANE SAFETY REPORT

2006

JUNE 2007

Headquarters	Sacramento Office	Los Angeles Office
505 Van Ness Avenue	515 "L" Street, Suite 1119	320 West 4th Street, Suite 500
San Francisco, CA 94102	Sacramento, CA 95814	Los Angeles, CA 90013

TABLE OF CONTENTS

Page No.

Executive Summary

This report presents an account of various activities carried out under the California Public Utilities Commission's (CPUC) natural gas, electrical, mobile home park, and propane safety programs for calendar year 2006. The CPUC has been entrusted with safety jurisdiction for these facilities in the state by legislative mandate. It is responsible for enforcing safety regulations, inspecting all work affected by the statutes and making necessary additions and changes to regulations for promoting the safety of the general public and the utility employees that work on the various systems.

General

Regulations for the natural gas and propane safety programs are stated in General Order (GO) 112-E. GO 112-E adopts Title 49 of the Code of Federal Regulations (49 CFR), Parts 190, 191, 192, 193, 199 and Part 40 that pertain to natural gas and/or propane safety. GO 112-E also includes regulations, which are more stringent than the federal regulations. Other pertinent legislation is contained in the Public Utilities (PU) Code. The CPUC has also been entrusted with safety jurisdiction over all electric supply and communication overhead and underground facilities in the state of California. The electric safety program consists of the administration of GOs 95, 128, 165 and PU Code, Sections 315, 768, 8026 through 8038, and 8051 through 8057. The State of California has the nation's largest electric supply and communication systems.

The CPUC's Utilities Safety and Reliability Branch (USRB) oversees the gas and electric safety programs and maintains an adequate level of inspections and surveillance to ensure that these public utility systems are designed, constructed, operated, and maintained in accordance with the regulations for safety of the general public and utility employees. USRB also conducts accident investigations, compliance inspections, reviews of utilities' reports and records, construction

inspections, and special studies, and takes action in response to complaints and inquiries from the general public on issues regarding gas pipeline and electrical safety. USRB is part of the CPUC's Consumer Protection and Safety Division (CPSD).

Gas Inspection Results

The California gas system (natural gas and propane) serves approximately 11 million customers with 100,000 miles of gas mains. Table I and Figure I below illustrate the miles and types of pipelines that make up the natural gas distribution systems in California as reported by pipeline operators to the Department of Transportation (DOT).

Company	Steel Pipe				Plastic	Cast Iron	Total
	Unprotected		Protected				
	Bare Steel	Coated Steel	Bare Steel	Coated Steel	Plastic	Cast Iron	
PG&E	214	0	0	20,879	19,976	200	**41,269**
SCG	3,399	5,631	150	16,821	20,710	0	**46,711**
SDG&E	0	0	0	3,661	4,528	0	**8,189**
SWG	0	1	0	612	2,372	0	**2,985**
SCE	0	0	0	9.19	0	0	**9**
Total	**3,613**	**5,632**	**150**	**41,982**	**47,586**	**200**	**99,163**

Table I Miles of Distribution Pipeline by Utility

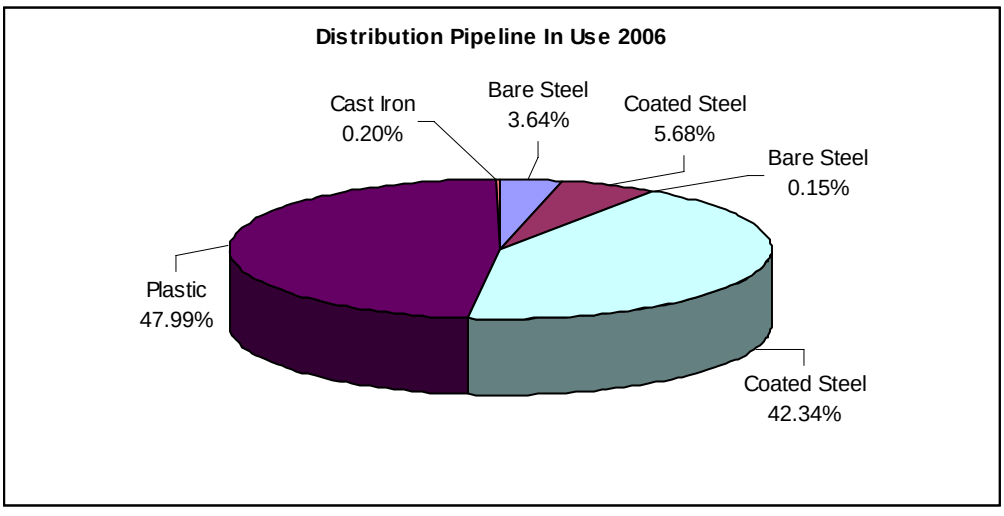

Figure I. Distribution Pipeline by Type

Section IV contains additional information concerning the characteristics of the California gas system.

USRB is divided into two sections. Each one is assigned specific counties in which to conduct GO 112-E inspections. Table II below presents a summary of gas inspections performed by USRB in 2006. Inspections of major utilities are generally conducted over a three or four day period. Mobilehome Park and Propane inspections are conducted within one day. The methodologies USRB uses to inspect the gas systems of gas utilities, mobile home parks (MHP), and propane entities are described in Section I.

	GO 112-E	MHP	Propane	Total
Inspections	33	666	350	1,049
Infractions	75	2,894	770	3,739

Table II Summary of Gas Safety Inspections

Major gas utilities are inspected every two or three years, or more often if conditions are discovered that are unsafe or not in compliance with GO 112-E. MHP gas systems are inspected every five years. Propane systems are inspected every two, three, or five years depending upon the size of the propane system.

Gas Incidents

USRB receives and investigates reportable natural gas and propane incidents from regulated utility companies, and MHP and propane system operators. GO 112-E defines reportable incidents as those which involve a release of gas and: (a) result in a fatality or personal injury rising to the level of in-patient hospitalization, (b) cause over $50,000 in damage including the loss of gas, or (c) become the subject of significant public attention or media coverage. Table III and Figure II provide a summary of gas incidents. In 2006, excavations caused 49% of the reportable gas incidents.

Cause	Total
Corrosion	1
Excavation	34
Other	14
Unknown	10
Vehicle	11
Total	**70**

Table III GO 112-E Reportable Gas Incidents by Cause

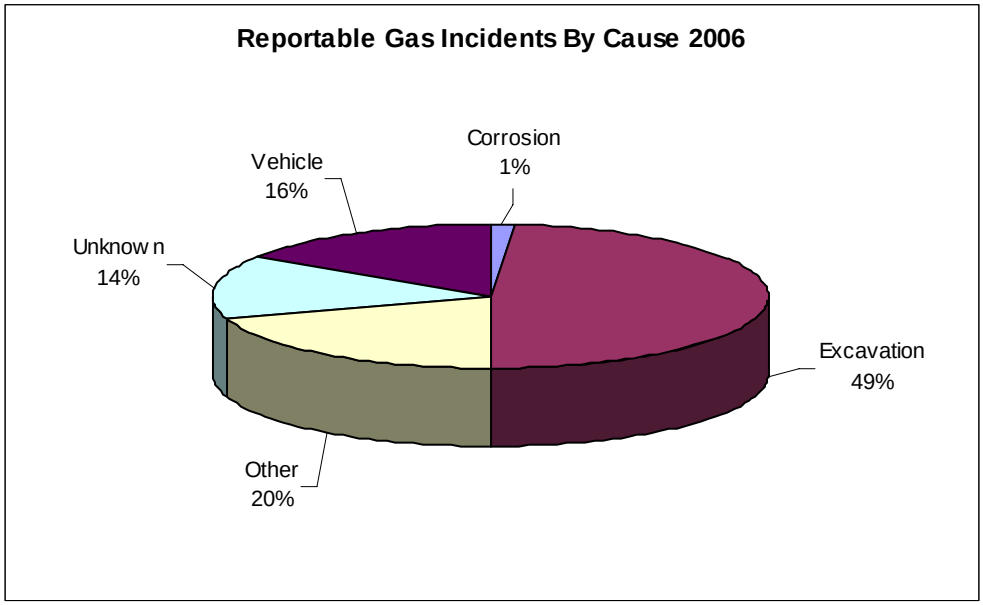

Figure II GO 112-E Reportable Gas Incidents by Cause

Electric Inspection Results

USRB enforces the provisions of GOs 95, 128, and 165. USRB conducts periodic inspections of both overhead and underground electric supply, and communication lines throughout the state. The methodologies USRB uses to inspect electric and communication facilities are described in Section II. Data for overhead electric facilities are summarized in Table IV and Figure III below. Table V provides data for underground electric facilities.

Utility Company	Transmission Lines (miles)	Distribution Lines (miles)	Total Overhead Lines (miles)	Number of Poles
PG&E	18,474	113,561	132,035	2,300,000
SCE	5,127	53,475	58,602	1,500,000
SDG&E	1,869	6,767	8,636	245,653
PacificCorp.	741	2,295	3,036	67,285
Sierra Pacific Power	344	1,086	1,430	22,900
Total	**26,555**	**177,184**	**203,739**	**4,135,838**

Table IV. Summary of Overhead Electric Facilities

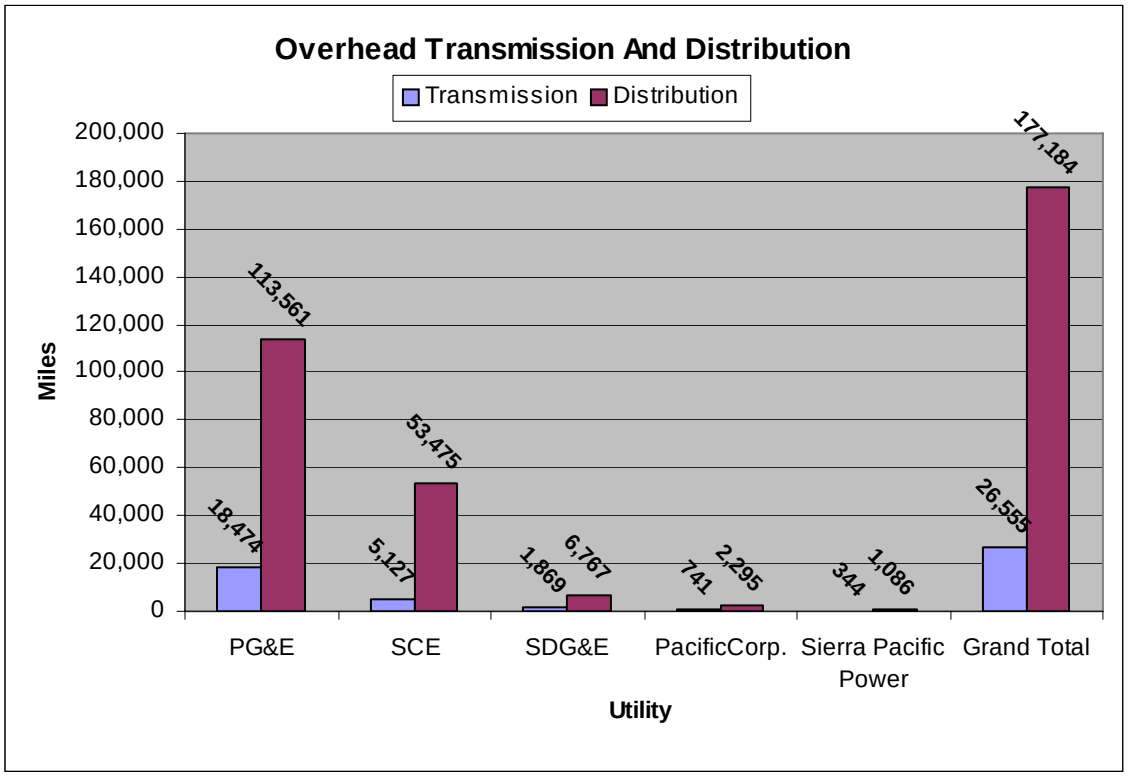

Figure III, Electric Transmission and Distribution Lines by Utility

Utility Company	Transmission Lines (miles)	Distribution Lines (miles)	Total Underground Lines (miles)	Surface Mounted Structures	Underground Structures
PG&E	164	26,488	26,652	130,557	330,000
SCE	312	32,320	32,632	148,758	335,504
SDG&E	94	9,668	9,762	108,724	43,005
PacificCorp.	0	571	571	5,806	236
Sierra Pacific Power	1	390	391	2,900	6,900
Total	**571**	**69,437**	**70,008**	**396,745**	**715,645**

Table V, Summary of Underground Electric Facilities

USRB engineers conduct combined GO 95, 128, and 165 inspections of overhead and underground electric lines. During the inspection, USRB engineers conduct a survey of the electric facilities and perform a document review of pertinent records over a three or four day period. The record review is validated by spot checks in the field. Each violation discovered is recorded and discussed with the appropriate utility personnel. This procedure expedites the violation correction process. Table VI summarizes the inspections and infractions cited by USRB inspectors in 2006**.**

Utility	Inspections	Infractions		
		GO 165	GO 95	GO 128
Pacific Gas and Electric	6	10	25	7
Southern California Edison	3	1	239	113
San Diego Gas and Electric	3	4	10	2
Sierra Pacific Power	1	2	32	16
Municipalities / Others	6	6	195	85
TOTAL	19	23	501	223

Table VI, Summary of Inspections and Infractions

Electric Incidents

USRB staff receives and investigates reportable electric incidents from regulated utility companies. Reportable incidents for 2006 are those which (a) result in fatality or personal injury rising to the level of in-patient hospitalization, (b) result in property damage of $20,000 or more, or (c) are the subject of significant public attention or media coverage. Pacific Gas and Electric (PG&E), Southern California Edison (SCE), and San Diego Gas and Electric (SDG&E)

successfully petitioned the CPUC to remove the requirement for reporting when the incident only involved trees or vegetation.

There were 144 total incidents reported in 2006. Of these, 96 were related to overhead equipment, and 48 involved underground equipment. Section V contains a detailed breakdown of incidents by type.

General Public Complaints and Inquiries

USRB also responds to complaints and inquiries made by the general public in all of the areas under USRB's jurisdiction. There were 56 customer complaints and inquiries in 2006. Section VI contains a summary by type of complaint.

INTRODUCTION

PURPOSE OF REPORT AND ORGANIZATION

This Annual Report provides general information about the Utilities Safety and Reliability Branch (USRB) activities, and summarizes the progress of its safety programs during the 2006 calendar year.

The California Public Utilities Commission (CPUC) monitors the pipeline safety of investor-owned gas utilities, mobile home parks (MHP) and certain propane systems under General Order (GO) 112-E. USRB is charged with enforcing GO 112-E, which adopts Title 49 of the Code of Federal Regulations (49 CFR), Sections 190, 191, 192, 193, and 199. The CPUC also administers GOs 95, 128, and 165 which contain rules regarding regulations for electric supply and communication installation, safety, and maintenance.

The mission of USRB is to regulate pipeline and electrical safety of utilities under CPUC jurisdiction and assure an acceptable level of operational safety and reliability for the protection of the public and the utilities' employees.

Section I of this report provides a discussion of USRB's gas safety compliance and inspection programs. Section II provides a description of USRB's electric supply and communication safety inspections, reports and programs. Section III lists the utilities operating in California by type. Section IV provides statistical data regarding gas facilities, USRB inspection results, and gas incidents reported and investigated by USRB. Section V provides statistical data regarding electric systems, inspection results, and

electric incidents reported and investigated. Section VI summarizes general public complaints and inquiries received and addressed by USRB.

SECTION I: GAS SAFETY COMPLIANCE INSPECTIONS, REPORTS, AND PROGRAMS

1. General Order 112-E

In 1995, the CPUC adopted the sections of 49 CFR pertinent to gas safety in GO 112-E. Subsequent changes to the Federal Pipeline Safety Regulations, 49 CFR, Parts 190, 191, 192, 193, and 199 are automatically updated in GO 112-E with the effective date being the date of the final order as published in the Federal Register.

The Federal Department of Transportation (DOT) has jurisdiction for enforcing the regulations in 49 CFR. In November 2004, Congress authorized the partial reorganization of the DOT. Part of this reorganization created the Pipeline and Hazardous Materials Safety Administration (PHMSA), which replaced the Research and Special Programs Administration. The intent of this reorganization was to place a clear emphasis on the importance of safety in pipeline transportation and hazardous materials transportation. DOT also oversees the PHMSA Office of Training & Qualifications (T&Q). Both PHMSA and T&Q play a role in enforcement and education with regard to federal regulations pertaining to gas pipeline safety.

USRB conducts audits and inspections of gas facilities owned and operated by investor - owned utilities and MHP operators for compliance with GO 112-E. USRB also audits and inspects underground propane gas distribution systems.

2. Description of a Typical GO 112-E Inspection

Investor-owned utilities are made up of a number of operational units or divisions, each of which is normally audited every two or three years. When a significant problem is found, the frequency of inspections is increased to once or twice a year depending on the severity of the problem. Once the problem is remedied, to the satisfaction of USRB, the unit returns to the two or three-year inspection cycle.

USRB inspectors review records and pertinent documents and conduct field audits to determine if gas facilities are being properly maintained and operated. As part of the document review, USRB inspectors determine if the utility possesses a complete and accurate map of the gas or propane system, an adequate Operation and Maintenance (O&M) Plan, an Emergency Plan, and an Operator Qualification Program (with documentation that the plans and programs are being followed). The inspectors review the utility's records and verify that the proper maintenance and appropriate surveys, such as cathodic protection, leak detection, and odorant checks were performed in accordance with state and federal regulations. While auditing the written records in the office, USRB inspectors select utility facilities to inspect in the field.

The field inspection focuses on verifying the utility's records and maps, physically operating valves, checking regulator set points, randomly testing cathodic protection areas, and verifying that unsafe conditions noted by USRB in past inspections were corrected. Inspectors observe the overall condition of the system and how the utility follows its own written procedures. The field inspections also allow inspectors to confirm the qualifications of operators' employees. USRB inspectors will cite the utility for non-compliances and specify the time in which corrective action must be taken. USRB inspectors will monitor the utility until the non-compliances are corrected. USRB inspectors sometimes suggest changes in utility procedures to improve gas pipeline safety. USRB inspectors also audit records pertaining to the anti-drug and alcohol

programs performed by the utilities (propane and MHP operators are exempt from this federal requirement).

3. Mobile Home Park (MHP) Program

Most natural gas customers in California receive gas directly from, and are billed by, the local gas utility. However, residents of some MHPs do not receive gas directly from the local utility, but instead receive gas from, and are billed by, their MHP operator. In this case, the MHP gas system is master-metered. The MHP operator receives natural gas at a slight discount since the local utility is not responsible for maintaining and operating MHP gas systems that are master-metered. The MHP operator, in turn, bills its residents at the rates that are prescribed in CPUC's tariffs for the serving utility. The difference between what the master-meter operator pays for gas from the utility and what the operator may charge its residents is used primarily to maintain the gas system.

Under 49 CFR, California Public Utilities (PU) Code (4351-5361), and GO 112-E, the MHP program provides for inspections of MHP master-metered gas systems. USRB inspectors are responsible for carrying-out this program and have the authority to cite operators who are not in compliance with the Federal regulations. Regulations for MHP gas systems have been collected in the "Guidance Manual for Operators of Small Gas Systems" (http://ops.dot.gov/regs/small_ng/SmallNaturalGas.htm). Operators are required to have a map of the MHP gas system with key valve locations, adequate O&M and Emergency Plans, and an Operator Qualification Program to assure safe operation of their gas systems. USRB inspectors verify that the MHP operators know the requirements of the gas safety code and understand the operation and maintenance of their gas systems. USRB inspectors also perform visual inspections of the MHP gas systems to determine if unsafe conditions exist.

In addition to inspections, USRB offers training seminars to MHP master-meter operators to reacquaint seasoned operators and introduce new operators to the requirements for operating a gas system. USRB is responsible for inspecting over 2,600 master-metered

MHPs in California ranging in size from two customers to over 1,000 customers at least once every five years. Many of the MHPs require special attention to meet the requirements. This requires USRB to conduct follow-up inspections of certain MHP gas systems more than once during the five-year period.

USRB logs the results of each inspection into a database. USRB engineers use the database to follow-up and assure that operators who have been cited take appropriate action. MHP operators are required to submit an annual report to the CPUC regarding their gas systems, which is also entered into the database. The database is also used to identify problem areas, which need to be addressed. The program continues to be successful. USRB inspectors have discovered and caused MHP operators to correct potentially dangerous situations, which if not corrected, could have resulted in serious gas incidents.

4. Propane Safety Program (PSP)

Pursuant to 49 CFR, PU Code (4451-4465), and GO 112-E, the PSP directs operators of jurisdictional propane distribution systems in California to comply with the Federal Pipeline Safety Standards, to protect the health and safety of the operators, their employees and the customers they serve. The CPUC oversees the safety of all propane distribution systems serving 10 or more customers in a residential or commercial district, two or more customers in a MHP, and any system with two or more customers in a public place. Under existing PU Code, jurisdictional propane systems serving over 200 customers are subject to an inspection every two years. Propane systems that serve at least 100, but less than 200 customers, are to be inspected every three years. Approximately 95% of the propane systems serve less than 100 customers and are to be audited at least once every five years.

USRB inspectors work with the propane industry, mainly through the Western Propane Gas Association to improve the PSP. Many propane system operators are also the

propane suppliers. These operators are usually knowledgeable about their propane systems, safety requirements, and the federal regulations. Federal regulations that apply to propane distribution systems are contained in the Guidance Manual for Operators of Small LP Gas Systems(http://ops.dot.gov/regs/small_lp/SmallLPGas.htm).

Based on its experience to date with the PSP, USRB is working at solving several problems. One problem that USRB has experienced since the inception of the PSP is identifying jurisdictional propane systems. USRB maintains a database of propane systems similar to the MHP Database but there is no requirement that operators of new propane systems must report the establishment of these systems to the CPUC. As a result, when out in the field conducting routine inspections, USRB inspectors are constantly looking for jurisdictional propane systems that are not included in the database. The PSP Database must be continuously updated to reflect the addition of new jurisdictional, and removal of non-jurisdictional, propane entities. USRB also collects information from propane suppliers, especially concerning new construction.

USRB has occasionally found it difficult to persuade propane operators to correct common problems discovered during routine inspections. Cathodic protection and record keeping are prime examples. USRB is trying to educate the small propane system operators and suppliers to help them better understand the gas safety regulations and what they need to do in order to achieve compliance at a minimal expense. In 2007, USRB plans to recommend to the CPUC citation procedures similar to those in the MHP program to help USRB inspectors enforce the PSP.

PU Code § 4458 requires jurisdictional propane system operators to pay an annual user fee to the CPUC. At present, the fee is set at twenty-five cents per unit per month or $3.00 per unit per year. In accordance with the legislation enacted to implement the PSP, every operator of a propane system serving ten or more units in a commercial or residential area or two or more mobile homes must prepare and submit to the CPUC a completed Annual Report form and pay the annual user fee.

Collecting the user fee can be problematic due to the changes in propane system ownership, operators, propane suppliers or maintenance staff. This is the only program for which USRB is obligated to invoice and collect a user fee.

5. Gas Incident Reports

USRB monitors and investigates gas incidents, which occur in the service territory of utilities under CPUC jurisdiction. The purpose is twofold: first, to determine the cause and whether the utility was negligent or violated GO 112-E; and second, to determine if measures can be taken to prevent similar incidents. USRB maintains a database of all reportable gas related incidents. The Incident Database helps USRB to monitor the gas incidents and track trends. Tracking leak histories and incident occurrences have led to the "Pipeline Replacement Program", "Meter Protection Program" and the "Above Ground Pipeline Inspection Program". These programs are discussed in more detail in subsections 9, 12, and 14.

Each utility is required to report any incident which involves (a) death or injury requiring in-patient hospitalization, (b) $50,000 or more of damage to property, including loss of gas, or (c) in the operator's judgment is significant, to the CPUC and DOT. These incidents are to be reported to the CPUC within two hours (during working hours) and four hours (during non-working hours) of the crew arriving on the scene. The CPUC also requires an operator to report an incident if there is significant media attention. Most incidents are reported because they involve damage over $50,000. In 2006, there were no fatalities and only eleven injuries related to natural gas incidents. Most injuries were to third parties rather than utility employees.

Although some of these incidents involve considerable damage, death or injury, their cause may not be gas related. For example, a house fire started by faulty wiring causes a wall to fall on the gas meter. It is not immediately obvious that the broken gas meter was not the initial cause of the fire. In order to comply with the state and federal rules, the utility tends to assume an incident to be CPUC or DOT reportable if gas *may* have been

the cause, and rescinds its notification of a reportable incident if gas was subsequently not found to be the cause. USRB determined that 70 gas incidents were reportable in 2006.

GO 112-E requires the utility to file a quarterly report listing all reportable and non-reportable incidents that involve the escape of natural gas. This report includes all incidents caused by excavation or that involve fire or explosion, regardless of the amount of property damage. On average, it includes between 400 and 500 gas events each year. This data is tabulated, analyzed and used to evaluate the need to develop new gas safety programs or modify existing ones.

USRB staff investigates all reportable incidents, but only conducts full-scale investigations for those incidents it believes are significant. This may be done by visiting the site, making written data requests, interviewing the gas operator and witnesses to the incident or a combination of these activities. Leading causes of gas incidents for 2006 are presented in Table 7. Homeowners and small contractors digging near gas pipelines cause many incidents. Most of these incidents are not immediately reportable because they do not meet the criteria established by the CPUC or DOT but should be included in the quarterly report.

6. Safety Related Condition Reports

Safety Related Condition Reports are required by the DOT to monitor situations that could affect public safety if not repaired in a timely manner. These reports are generally required in the event of a natural disaster, physical damage (e.g., dig-in), corrosion, material defect or operating error causing the integrity of a gas pipeline to be compromised or when repairs to the affected pipeline must be delayed. It usually results in the utility reducing pressure or shutting down the line. The complete definition is found in 49 CFR, Parts 191.23 and 191.25. Repairs are often done by utilities before reaching the requirement for safety-related condition reporting. As a result, California utilities file a small number of these reports (1 to 5) during the calendar year.

7. Drug and Alcohol Testing Program

Utility Drug Testing Programs were required by DOT in 1990. Alcohol testing was incorporated in 1995. Each utility is now required to have a drug and alcohol testing program that conforms to the guidelines set forth by DOT in 49 CFR, Parts 40 and 199. In essence, each utility is required to randomly test utility employees that perform "emergency response functions" in accordance with DOT's procedures. USRB audits these drug and alcohol programs, at the headquarters of each utility, to determine compliance with the DOT requirements. USRB audits the procedures, the collection process, drug testing laboratory and the chain of custody of the sample. The audits are supplemented by information gathered in periodic GO 112-E audits of the operator's field offices where questions are asked concerning the Drug and Alcohol Programs.

Propane operators and MHP master-meter operators are exempt from the drug and alcohol testing programs (49CFR 199.2).

8. Underground Service Alert (USA)

USA was established to minimize the damage caused to underground facilities by excavation in California and Nevada. USA is funded by its member utilities (gas, electric, water, telephone, cable, etc.) that are at risk. Each USA member pays dues based on either miles of facilities in the ground or population with some weight given to the importance of the buried facilities (e.g., a fiber optic cable or large high pressure gas line has more importance than a 2 inch water line). There are two USA call centers in California (USA North which covers central and northern California and DigAlert which covers southern California) and each provides a toll-free number for excavators to call two business days before beginning excavation activities. USA notifies utilities that have facilities in the area to locate and mark them so the excavator will be aware of their location prior to digging.

Calls made to their respective toll-free numbers are directed to one of two USA call-center organizations in California. However, beginning in May of 2007 a single number, 811, dialed from anywhere in the USA will automatically direct the caller to the nearest one-call center. Approximately 600,000 calls are made annually to the two locations. When these calls are made and the pipeline is marked there is a very low probability of a contractor damaging a pipeline. Major contractors are aware of the requirement to call before they dig. Some small contractors and homeowners appear to be unaware of the need to call before they dig, and therefore, learn by unfortunate experience. USRB has endeavored to promote legislation to increase penalties for not calling USA, especially for repeat offenders. USRB also sends warning letters in particularly egregious cases. State Contractor's License Board may revoke a contractor's license if it is determined that the contractor is ignoring the rules. USRB created a database to record excavation damage to pipelines, which is being used to monitor the effectiveness of the program and determine those companies that are repeat offenders.

The Common Ground Alliance (CGA) is a nationwide member-driven association dedicated to ensuring public safety, environmental protection, and the integrity of services by promoting effective damage prevention practices. In recent years, the association has established itself as the leading organization in an effort to reduce damage to all underground facilities in North America through shared responsibility among all members. Members include representatives from both regulatory agencies and industry. CGA has various regional organizations such as the California Regional Common Ground Alliance (CARCGA). USRB is an active participant in the CARCGA.

9. Pipeline Replacement Program (PRP)

The PRP is of paramount importance to gas utilities. Its purpose is to replace old gas pipelines, which are technologically obsolete and prone to leakage or failure, with new pipelines. Pacific Gas and Electric Company (PG&E) and Southern California Gas Company (SCG) have implemented programs which evaluate the numerous factors that must be considered in determining the priority of replacement. In general, the type of

pipeline, age, condition, location, proximity of known faults, population density and leak history are the major considerations in setting the priority. As a result of the Loma Prieta earthquake in 1989, seismic effects were added as a major consideration in the formula. A seismic factor is assigned to each pipeline segment by using four components: (1) the probability of strong ground shaking, (2) the probability of surface faulting, (3) the susceptibility to soil liquefaction and (4) the susceptibility to slope failure or landslide.

PG&E and SCG presently use all these factors to develop a priority list for pipeline replacement. Both programs are well designed and appear to be an accurate method for planning and financing future replacements systematically. Each utility tracks the progress of its program detailing what has been accomplished and what remains to be completed. The priorities may be modified with substantial cause, which provides a utility with program flexibility. For example, when a utility learns of a planned re-paving project, it may rearrange priorities so that scheduled pipeline replacement can be accomplished just before the start of the re-paving.

Cast iron pipeline replacement has always been at or near the top of SCG and PG&E's priority lists. Southwest Gas Corporation (SWG) and San Diego Gas and Electric Company (SDG&E) do not have cast iron pipe in their systems. SCG completed replacement of the last of its existing cast iron pipeline during 2005. PG&E still has approximately 130 miles of cast iron pipeline (mainly in the San Francisco Bay Area) in its distribution system as of the end of 2006. PG&E is systematically replacing these pipelines as well as other high priority pipelines. In identifying high priority pipelines, PG&E takes into account its age, leak history, cathodic protection measures in place, seismic susceptibility and structure and population proximity. PG&E projects that it will complete its cast iron pipeline replacement by 2014.

Pre-1931 steel distribution mains and steel transmission lines with joint configurations and girth welds not meeting current standards are also a high priority on all utility pipeline replacement programs.

Quantities by type of both transmission and distribution pipelines are given in Tables 1 and 2 in Section IV.

Leak surveys and evaluations regarding the cause of recently repaired pipelines are used to judge the original pipeline replacement priorities. This coupled with unforeseen events, such as natural disasters, changes in operating conditions, city or county re-paving programs, load shifts and funding all have an impact on the original set of priorities. With proper cause, replacement priorities can and should be modified. USRB monitors these modifications and determines if they are in the best interest of public safety.

10. Operator Qualification and Pipeline Integrity Management

The Pipeline Safety Improvement Act of 2002 amended the pipeline safety law by adding section 49 USC 60131. Section 60131 provides standards and criteria for operator qualification programs, directs PHMSA to ensure their inclusion in industry programs, and directs PHMSA to report to Congress on the status and results of operator qualification progress. PHMSA issued subpart O to the pipeline regulations containing §§192.801 through 192.809. In a final rule published in the Federal Register on March 3, 2005, PHMSA changed its operator qualification regulations to conform to section 60131. Among the changes was the required inclusion of training "as appropriate." PHMSA and CPUC inspectors are completing their first operator qualification audits and are collecting information from those audits for the required Report to Congress. DOT clearly recognizes operator qualification as an important component of pipeline safety**.**

The Pipeline Safety Improvement Act also directed PHMSA to establish a Pipeline Integrity Management Program (IMP). In response PHMSA issued Subpart "O" containing sections 192.903 to 192.949 on May 26, 2004. This Subpart establishes a risk-based assessment program that requires operators of gas *transmission* pipelines to (1) identify all the segments located in "high consequence areas" (HCAs) - areas adjacent to significant population or frequently used areas, such as parks; (2) develop an IMP to

reduce the risks to the public in such areas; (3) undertake baseline integrity assessments (inspections) at all segments located in the HCAs within 10 years; (4) develop a process for repairing any anomalies found in these inspections; and (5) reassess these segments every seven years thereafter to verify continued pipeline integrity. One-half of the baseline assessments must be done by December 2007 and the remainder by December 2012. The risks to be assessed include corrosion, welding defects and failures, third-party damage, land movement, and improper operation. In 2006, major gas operators reported that there are approximately 2,415 miles of HCA pipeline in California with approximately 20 % of the HCAs inspected.

11. Pipeline Inspection, Protection, Enforcement and Safety Act

On December 29, 2006 the President signed into law new legislation entitled the Pipeline Inspection Protection, Enforcement and Safety Act (PIPES Act). Key elements of the PIPES Act are:

- Improves state programs to reduce excavation damage to pipelines and strengthens federal enforcement of damage prevention laws.
- Requires that Distribution Integrity Standards be in place by the end of 2007
- Requires excess flow valves to be installed on all new residential natural gas service lines, where feasible, beginning June 1, 2008.
- Adopts new regulations requiring operators of gas pipeline systems to evaluate and reduce the risks associated with human factors such as fatigue.
- Creates an emergency waiver process
- Implements a pipeline corrosion research program

12. Meter Protection Program

In its 1990 General Rate Case, PG&E introduced a meter protection program because a statistical analysis conducted in cooperation with the Safety Division indicated a major cause of gas incidents was vehicles hitting meters and rupturing gas pipelines. The Commission approved $5 million for the first year of a 27-year program and required

PG&E to file annual reports on the program's progress similar to the reports it files on its Gas Pipeline Replacement Program. Meter readers identify meters that they feel are vulnerable to being struck by a vehicle. An expert evaluates these meters and many are slated to be protected. As a direct result of this program, the numbers of incidents involving a vehicle have decreased substantially. The PG&E program is scheduled to run through 2016. Other gas utilities are required to protect their gas meters from vehicular damage by CFR 49 §192.353 but they don't have formal Commission-approved programs for the purpose.

In 2006, PG&E inspected a total of 291 meter locations and took 2,200 corrective actions to protect the meters.

13. Granting Of Waivers

The process of granting a waiver is initiated by a request from a regulated utility seeking permission to deviate from existing regulations. These requests usually involve new products or gas safety technology. USRB evaluates each request for a waiver to determine if it will provide an acceptable level of safety. If USRB supports a request for a waiver, it will prepare a resolution for CPUC approval to granting the waiver contingent upon DOT (Office of Pipeline Safety) approval. If the waiver is granted, the utility may proceed with the project for which the waiver was granted. It cannot use this technology elsewhere until DOT incorporates the new technology into the regulations or the utility requests and is granted a new waiver to use the technology in another project. A good example of how a request for a waiver eventually is incorporated into the regulations is SCG's request for a waiver to install larger diameter polyethylene pipe than allowed by the regulations on various jobs. SCG was convinced that the larger pipe was safe and economical to use in its gas system. Eventually the regulations were changed to allow this pipe to be installed.

14. Above Ground Pipe Inspections

Specific above ground pipeline inspections were initiated in 1990 after significant corrosion was observed on a major transmission pipeline. Inspections revealed major differences in the surface conditions of exposed piping in different districts within the same utility. In some districts above ground piping was in excellent condition while in an adjacent district, there were frequent instances of surface rust and pitting. All utilities are required to keep inspection records for above ground facilities including frequency of inspection and findings. These records are reviewed during the course of normal GO 112-E inspections.

15. Other Programs

USRB is currently looking at new technology for ways address needed improvements in gas safety. One need is to improve the existing method to control gas during and immediately after a seismic occurrence. Several types of seismic shutoff valves have been designed. These valves are triggered by the motion or vibration of an earthquake to shut off the gas supply to a building. The City of Los Angeles adopted an ordinance to mandate installation of these valves on all new construction. SCG conducted a pilot program to install these devices but discontinued the program due to concerns about false closures and liability. Numerous valves have been installed in southern California at customer expense by plumbing contractors downstream of the customer meter. It is expected that most of the existing seismic shut-off valves will initially experience some problems.

Seismic shutoff valves can be triggered by vibration other than from an earthquake such as from a passing truck. Also, all the valves in an area will trip during an earthquake even though most of the protected houses do not have gas leaks. Relighting pilots in an area with a majority of houses protected by seismic shutoff valves can be time consuming and divert labor from other recovery tasks. Homeowners may attempt to relight their own pilots creating a hazardous situation where there previously wasn’t one.

Excess flow valves shut off gas when they sense a sudden increase in the rate of flow of gas such as from a pipe break. These valves provide some protection from earthquake damage without the nuisance trip problem. This type of valve has gained greater acceptance among regulatory agencies and utilities. They would not be effective against small leaks caused by movement of houses in an earthquake though.

Other firms are working on a product that would sense the presence of gas in the air. The sensor would detect the amount of methane (CH_4) in the environment and possibly carbon monoxide (CO), and at preset levels would shut off the gas supply to the building. The device would also sound an alarm much like a smoke detector notifying the occupants with two alarms: first, that there is a problem and the gas is about to be shut off and second, when the gas is automatically shut off.

USRB is also looking at better ways to measure the condition of pipelines. Manufacturers continue to make improvements to magnetic flux leakage detecting devices, often referred to in the industry as “smart pigs,” that are inserted into a gas pipeline, travel through it and locate any areas of corrosion, cracks, or signs of third party-damage. These devices allow for high quality inspections of pipelines without unduly curtailing their flow. Other devices such as pipe liners capable of being inserted into existing pipelines may greatly reduce the cost of pipeline replacement especially in highly populated areas. System Control and Data Acquisition (SCADA) systems are being used to remotely monitor critical pipeline facilities and in some cases, work as an early warning system to alert the utility to a potential problem such as over pressurization. Programs continue to be enacted as a result of information gathered following a natural disaster (e.g., the water heater strapping program resulted from investigations of the causes of natural gas fires following an earthquake).

16. Other Duties Required by the Pipeline Safety Act

USRB is required to log each of the regulated utility's major construction projects, uprates and hydro tests. During the process of recording the construction projects, USRB staff also checks the utilities' calculations to verify the pipeline has adequate wall thickness to carry the pressure. In addition, USRB reviews the type of project (new or replacement), the location of the project, and the pipeline material being used. It also performs random inspections of these activities. These inspections are usually conducted when time permits or a significant job warrants an inspection.

17. DOT Annual Audit

USRB is audited annually by the DOT to verify its ability to perform as an agent for the federal government. The level of federal funding to USRB for natural gas and propane system inspections carried-out on behalf of the DOT is based upon the results of this audit. The audit consists of reviewing USRB's records of the previous year. Records regarding incident reports, inspections, citations for noncompliance and knowledge of the federal regulations are reviewed. The federal inspector also verifies that each state inspector spends a minimum number of days in the field. The DOT requires USRB to account for its actions and to have its inspectors fully trained by attending all the required courses at TSI.

SECTION II: ELECTRIC SAFETY INSPECTIONS, REPORTS, AND PROGRAMS

1. Electric Safety and Inspection Program

In 2006, USRB revised the process by which it conducts electric safety audits. In the past, USRB inspectors would conduct inspections of the electric utilities' overhead and underground facilities to ensure compliance with GO 95 and 128, respectively. USRB now focuses on the compliance aspects of GO 165 when conducting electric safety audits.

GO 165, "Inspection Cycles for Electric Distribution Facilities", became effective March 31, 1997. Its purpose is to establish minimum inspection cycle requirements for electric distribution facilities, condition ratings, scheduling and performance of corrective action, record keeping, and reporting in order to ensure safe and high quality electrical service. All utilities subject to GO 165 are required to submit an annual report describing the status of their inspections and repairs, and future schedules for inspections.

Under the provisions of GO 165, the electric companies must patrol and inspect their electric facilities on a routine basis. During these routine patrols and inspections, the electric companies must identify and document all GO 95 and 128 violations discovered and take corrective action in accordance with their maintenance programs.

The requirements of GOs 95 and 128 are essential elements of the GO 165 patrol and inspection process. GO 95, "Rules for Overhead Electric Line Construction", became effective July 1, 1942. The rules formulate uniform requirements for overhead electrical line construction. GO 128, "Rules for Construction of Underground Electric Supply and Communications Systems", became effective December 12, 1967. These rules formulate

uniform requirements for underground electrical supply and communication systems. Both GOs are frequently revised to keep up with changes in electric utility technology and practice. The latest editions of both GOs were issued in January, 2006. The application of these requirements provides adequate service and secures safety to all persons engaged in the construction, maintenance, operation or use of overhead and underground electrical facilities (including telephone and cable) and to the general public.

During an electric audit, USRB inspectors will review utility records to ensure compliance with GO 165. The inspectors will determine from the records if the utility conducted its patrols and detailed inspections as required and if GO 95 and 128 violations were properly documented and corrective action taken in accordance with the utility's maintenance program.

Once the review of records is completed, USRB inspectors will perform a quality assurance review in the field on a representative sample of overhead and underground facilities that were recently inspected by the utility. USRB inspectors will determine from this review if the utility properly identified, documented, and repaired GO 95 and 128 violations in accordance with its maintenance program. In addition, USRB inspectors will inspect newly constructed or reconstructed electric facilities to ensure compliance with GOs 95 and 128.

USRB inspectors will document all GO 95, 128, and 165 compliance issues observed during the electric audits. Normally, within 30 days after each audit, a report containing USRB's findings will be sent to the utility. If violations are noted in the report, the utility is required to respond with a plan of action to correct the violations.

2. Incident Reporting and Investigation

In addition to enforcing the above general orders, USRB staff conducts investigations of reportable incidents from the utility companies. Section 315 of the PU Code provides that the CPUC shall investigate the cause of accidents occurring upon the property of any utility.

Reportable electric incidents are defined in Appendix B to CPUC Decision No. 98-07-097 as those which: (a) result in fatality or personal injury rising to the level of in-patient hospitalization and attributable or allegedly attributable to utility owned facilities, (b) involve property damage that exceeds $20,000, (c) are the subject of significant public attention or media coverage and are attributable or allegedly attributable to utility facilities or (d) involve or allegedly involve trees or other vegetation in the vicinity of power lines.

PG&E, SCE, and SDG&E petitioned the CPUC to amend Appendix B with respect to the tree and vegetation reporting requirements. The utilities collectively argued that the current reporting requirements for these incidents was overly inclusive and resulted in excessive reporting of relatively minor events. The CPUC agreed with the utilities and issued D.06-04-055 dated April 27, 2006, which eliminated item (d) for reporting incidents involving or allegedly involving only trees or other vegetation in the vicinity of power lines.

USRB staff also responds to safety related customer complaints pertaining to GOs 95, 128, and 165. This may range from answering a telephone inquiry or correspondence, to conducting a formal investigation.

3. Heat Storm

Much of California experienced a heat storm for two weeks during July 2006. The California Energy Commission defines a heat storm as a weather condition in which temperatures exceed 100 degrees Fahrenheit over a large area for three consecutive days or more.

During this period, the demand for electricity increased, resulting in outages in the service areas of investor-owned utilities. The demand for electricity was specifically related to the increased use of air conditioning units throughout the state during the Heat Storm. This caused an increase in the load on distribution transformers by electric

customers who operated their air conditioners for extended periods of time. In some cases, customers operated their air conditioners as much as 24 hours a day because the heat generated by the Heat Storm during the day did not dissipate in the evening hours. Distribution transformers normally heat up during daily peak load periods and then cool off at night so that they are ready to pick up the load during the next peak period. The lack of nighttime cooling caused distribution transformers to fail or blow a fuse which resulted in electric service outages.

In 2006, USRB initiated a review of the outages that were caused by failure of the distribution transformers during the heat storm. The focus of the review was to determine if there were actions that could have been taken by utilities prior to the heat storm to lessen the amount of outages. Furthermore, USRB is looking at what actions can be done in the future to help minimize outages in the event of another heat storm. USRB will publish a report on its findings in 2007.

4. Substation Inspection Program

On December 20, 2003 a fire occurred at the PG&E Mission Substation in San Francisco which caused an electric outage in the San Francisco area. On February 16, 2006, the CPUC issued D.06-02-003 based on its investigation into the causes of the fire and subsequent outage. The decision approved a settlement agreement among CPSD the City and County of San Francisco and PG&E. As part of the settlement, PG&E contributed $500,000 to assist CPSD in establishing a substation inspection program.

In 2006, USRB staff members attended training courses held throughout the country on substation maintenance and safety procedures to gain the insight necessary to develop and implement a Substation Inspection Program. They also interviewed staff members from PG&E, SCE, and SDG&E on their respective substations programs. In 2007, they plan to meet with other regulated utilities and attend audits conducted by the California Independent System Operator. USRB hopes to have its Substation Inspection Program in operation by 2009.

5. GO 95 Antenna Rule

On February 24, 2005, due to an increase in the number of antennas on utility poles, the CPUC issued an Order Instituting Rulemaking (OIR) that proposed revisions to GO 95 that would establish uniform construction standards for attaching wireless antennas to jointly used utility poles and towers. Throughout 2006, CPSD continued working with stakeholders in resolving their differences regarding the proposed new rule.

Over the course of the OIR, USRB participated in evidentiary hearings and workshops on matters pertaining to the proposed rule. In October 2006, the Administrative Law Judge assigned to the case issued a revised ruling to the OIR, which was later, followed by alternative decisions proposed by two Commissioners. A final settlement was achieved and adopted in D.07-02-030 on February 15, 2007. D.07-02-030 ordered that new rules (Rule 20 and 94) and Appendix H be added to GO 95 to address the issue of antennas on joint utility poles.

SECTION III: UTILITY COMPANIES

The CPUC has authority under the PU Code to enforce the requirements of GO 112-E on investor owned gas utilities. The CPUC also has authority under the PU Code to adopt and enforce the requirements of GOs 95, 128, and 165 requirements on all electric and communication utilities. There are a number of investor-owned electric, gas and communication utility companies providing service in California as well as utilities operated by municipalities and cooperatives.

1. Major Natural Gas and Electric Utilities

1. Southern California Gas Company (SCG)

Southern California Gas Company serves almost 5.6 million customers in southern California. Southern California Gas Company does not provide electric service.

2. Pacific Gas and Electric Company (PG&E)

Pacific Gas and Electric provides gas service to about 4.1 million customers and electric service to about 5.2 million customers. Its service area covers 70,000 square miles.

3. San Diego Gas and Electric Company (SDG&E)

San Diego Gas and Electric provides natural gas service to approximately 825,000 customers and electric service to 1.3 million customers in San Diego and Orange County.

4. Southwest Gas Corporation (SWG)

Southwest Gas provides natural gas service to approximately 150,000 customers in Victorville, Big Bear and North Lake Tahoe within California. The company also serves Nevada and Arizona (1.6 million).

5. Southern California Edison Company (SCE)

SCE provides electric service to 4.8 million customers and operates a propane gas system on Catalina Island that serves approximately 1,300 customers. It also transports gas to one of its power plants. Its service area covers 50,000 square miles.

2. Other Natural Gas Companies

Small Companies

- Alpine Natural Gas
- West Coast Gas

Municipalities

- Long Beach
- Palo alto
- Susanville
- Coalinga

Natural Gas Storage Facilities

- Lodi Underground Storage
- Wild Goose Storage

3. Other Electric Service Companies

Investor Owned Companies

- Bear Valley Electric
- Mountain Utilities
- Sierra Pacific Power Company
- Pacificorp.

ELECTRIC COOPERATIVES

- SURPRISE VALLEY ELECTRIFICATION CORP.
- PLUMAS-SIERRA RURAL CO-OP.
- ANZA ELECTRIC COOPERATIVE
- VALLEY ELECTRIC ASSOCIATION, INC.

MUNICIPALITIES

ALAMEDA	ANAHEIM
AZUSA	BANNING
BIGGS	BURBANK
COLTON	GLENDALE
GRIDLEY	HEALDSBURG
IMPERIAL IRRIGATION DISTRICT	LASSEN MUNICIPAL UTILITY DIST.
LODI	LOMPOC
LOS ANGELES DWP	MODESTO IRRIGATION DIST.
NEEDLES	NORTHERN CAL. POWER AGENCY
OROVILLE-WYANDOTTE IRRIGATION DIST.	PALO ALTO
PASADENA	REDDING
RIVERSIDE	ROSEVILLE
SACRAMENTO MUNICIPAL UTILITY DIST.	ESCONDITO
SILICON VALLEY POWER	SHASTA LAKE
SOUTHERN CAL. PUBLIC POWER AUTH.	MORENO VALLEY
TRINITY COUNTY	TRUCKEE DONNER PUBLIC UTILITY DIST.
TURLOCK IRRIGATION DIST.	UKIAH
VERNON	

SECTION IV: GAS STATISTICS

This section describes the California gas system, summarizes USRB inspection results for 2006, and discusses gas incidents and customer complaints.

1. Size and Character of the California Gas System

The California gas system (natural gas and propane) serves approximately 11 million gas customers with approximately 100,000 miles of gas mains. Table 1 and Figure 1 illustrate the miles and types of distribution pipeline as reported by the operators to the DOT. Table 2 and Figure 2 indicate the miles and types of transmission pipeline by utility. Table 3 and Figure 3 show the number and types of services of each utility on their system during 2006. Table 4 lists the cause of repaired leaks determined by each utility on their systems during 2006. Figure 4 illustrates an overview of the causes of repaired leaks in 2006.

PG&E and SCG are two of the largest utilities in the United States and serve most of northern and southern portions of California, respectively. SDG&E is significantly smaller and serves the greater San Diego area. SWG is smaller still and serves the Lake Tahoe and the high desert near Victorville. SCE also operates a very small propane gas system on Catalina Island. SCE upgraded the system in 2005 with the addition of a mixed gas (propane/air) transportation tank and the deletion of a storage tank. Alpine Natural Gas, a small company, takes gas from a PG&E transmission line to serve customers who were previously served by propane. Finally, MHPs and other multi-family residential facilities may be served by a natural gas master-metered or propane system.

California also has independent firms that have developed underground storage to serve California utilities. Wild Goose Storage and Lodi Underground Storage are examples. Despite their size, these systems fall under CPUC jurisdiction and are required to follow state and federal regulations.

Company	Steel Pipe				Plastic	Cast Iron	Total
	Unprotected		Protected				
	Bare Steel	Coated Steel	Bare Steel	Coated Steel	Plastic	Cast Iron	
PG&E	214	0	0	20,879	19,976	200	**41,269**
SCG	3,399	5,631	150	16,821	20,710	0	**46,711**
SDG&E	0	0	0	3,661	4,528	0	**8,189**
SWG	0	1	0	612	2,372	0	**2,985**
SCE	0	0	0	9.19	0	0	**9**
Total	**3,613**	**5,632**	**150**	**41,982**	**47,586**	**200**	**99,163**

Table 1, Miles of Distribution Pipeline by Utility

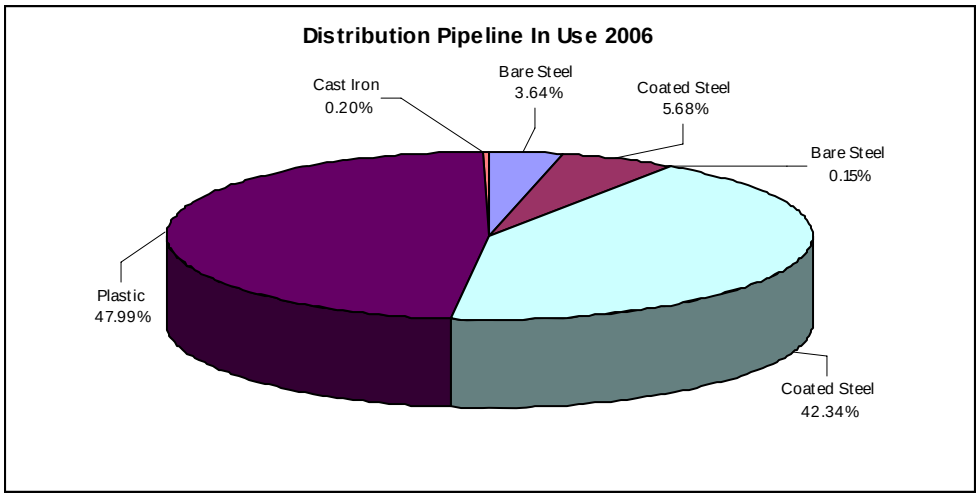

Figure 1, Distribution Pipeline by Type

Company	Unprotected		Protected		Total
	Bare Steel	Coated Steel	Bare Steel	Coated Steel	
PG&E	0	5528	8.751	0	**5,537**
SCG	7	3910	7	2	**3,926**
SDG&E	0	240	0	0	**240**
SWG	0	20	0	0	**20**
SCE	0	0	0	0	**0**
Total	**7**	**9,698**	**16**	**2**	**9,723**

Table 2, Miles of Transmission Pipeline by Type and Utility

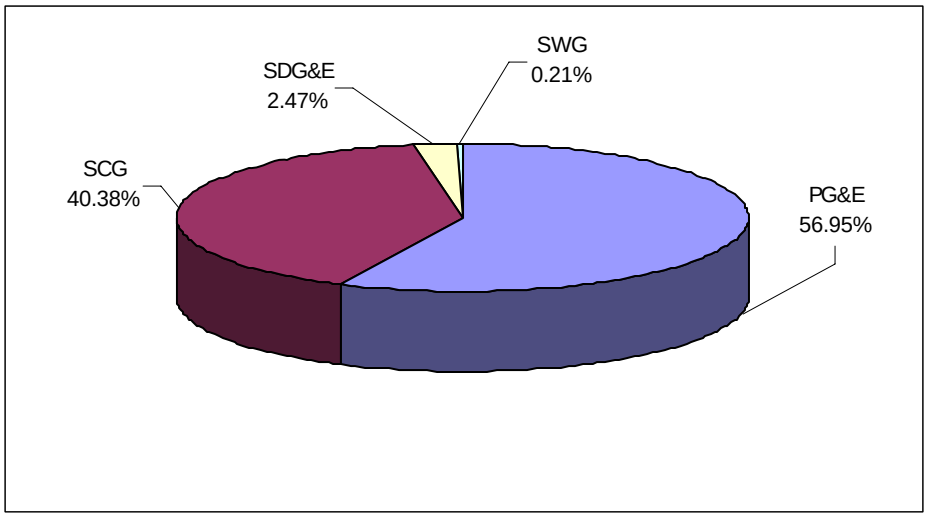

Figure 2, Transmission Pipeline by Utility

Company	Steel Pipe				Plastic	Copper	Total	% Total
	Unprotected		Protected					
	Bare	Coated	Bare	Coated				
PG&E	18,310	0	0	1,208,732	1,953,342	77,080	**3,257,464**	**0.39**
SCG	172	1,025,548	21	765,114	2,482,058	7,662	**4,280,575**	**0.52**
SDG&E	0	0	0	263,736	322,175	0	**585,911**	**0.07**
SWG	0	0	0	11,987	153,276	0	**165,263**	**0.02**
SCE	0	0	0	816	164	0	**980**	**0.00**
Total	**18,482**	**1,025,548**	**21**	**2,250,385**	**4,911,015**	**84,742**	**8,290,193**	

Table 3, Number of Services by Utility

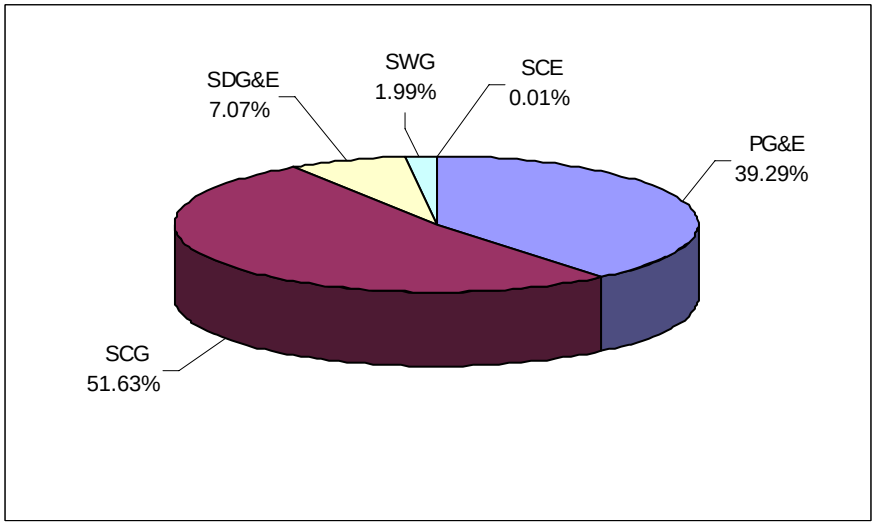

Figure 3, Services by Utility

Company	Corrosion	Natural Forces	Excavation	Outside Force	Material or Welds	Equipment	Operations	Other	Total
PG&E	1,442	171	3039	188	1,727	12	0	974	**7,553**
SCG	5,524	98	6,066	1,574	301	0	0	1,786	**15,349**
SDG&E	502	7	314	99	111	79	0	101	**1,213**
SWG	12	9	463	6	106	25	36	2	**659**
SCE	2	0	0	0	4	2	0	0	**8**
Total	**7,482**	**285**	**9,882**	**1,867**	**2,249**	**118**	**36**	**2,863**	**24,782**

Table 4, Leaks Repaired by Utility

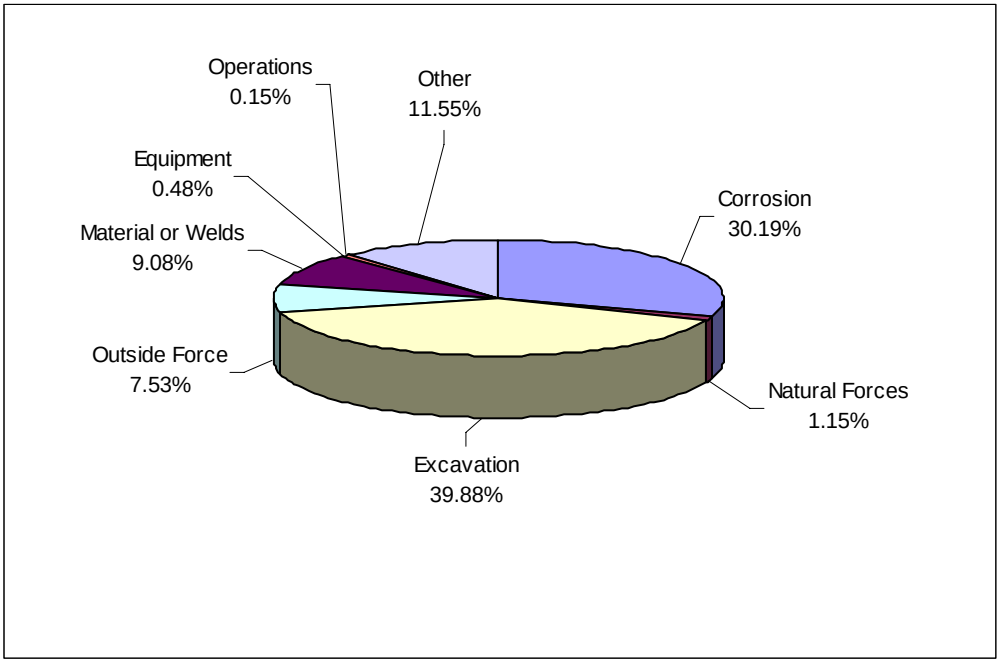

Figure 4, Leaks Repaired by Type

2. USRB Inspection Data

During 2004 and 2005, USRB was divided into two units. Each unit was assigned specific counties in which to conduct GO 112-E inspections in California. The counties inspected by each unit are:

Northern Unit: Alameda, Alpine, Amador, Butte, Calaveras, Colusa, Contra Costa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Inyo, Kern, Kings, Lake, Lassen Madera, Marin, Mariposa, Mendocino, Merced, Modoc, Mono, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Francisco, San Luis Obispo, San Joaquin, San Mateo, Santa Barbara, Santa Clara, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tuolumne, Tulare, Yolo, and Yuba.

Southern Unit: Imperial, Los Angeles, Orange, Riverside, San Bernardino, San Diego and Ventura.

Section I, Subsection 2, contains a description of a typical GO 112-E inspection.

Each inspection of a gas utility is documented and maintained in a file for a period of at least 3 years. Each unit of a gas utility is inspected every two or three years. Gas units may be inspected more frequently if conditions are unsatisfactory or not in compliance with GO 112-E.

MHP gas systems are to be inspected once every five years. Propane systems are to be inspected once every two, three or five years, depending upon the size of the propane system. MHP and propane systems may be inspected more frequently if the systems are not in compliance with GO 112-E. USRB also reviews Annual Reports submitted by MHP and propane systems operators to determine if more frequent inspections are warranted.

The DOT provides funding for the CPUC to inspect intrastate gas pipelines for conformance to federal regulations in addition to state regulations. The DOT provides significant funding to the CPUC to perform these inspections. The level of funding is determined by funds allotted to DOT by Congress and an annual audit of USRB records (see Section I, subsection 16).

An overall summary of USRB inspections of the gas utilities and MHP and propane systems is given in Table 5 below. Table 6 presents GO 112-E inspections by utility.

	GO 112-E	MHP	Propane	Total
Inspections	33	666	350	1,049
Infractions	75	2,894	770	3,739

Table 5, Summary of GO 112-E Inspections

Utility	2006
Alpine	1
PG&E	19
SCG	9
SDG&E	3
SWG	1
West Coast Gas Storage	1
Wild Goose	1
TOTAL	**35**

Table 6, Utility Inspections per Year

3. Gas Incidents

USRB staff receives and investigates reports of gas and propane incidents from regulated utility companies and MHP and propane system operators. GO 112-E defines reportable incidents as those which involve a release of gas and: (a) result in a fatality or personal injury rising to the level of in-patient hospitalization, (b) cause over $50,000 in damage including the loss of gas, or (c) become the subject of significant public attention or media coverage.

The gas utility companies and MHP and propane operators are required to provide notice to designated USRB staff within two hours during working hours or four hours during non-working hours of a reportable incident. The notice must identify the time and date of

the incident, the location of the incident, identification of casualties and property damage, and the name and telephone number of a utility contact person.

USRB maintains an incident database, which tracks incidents by cause. These causes are divided into construction/material defects, corrosion, excavation, vehicle, unknown or other. Table 7 summarizes incidents by cause for 2006. Figure 5 shows reportable incidents by cause for 2006. In 2006, 49% of the reportable gas incidents were caused by excavation.

Cause	Total
Corrosion	1
Excavation	34
Other	14
Unknown	10
Vehicle	11
Total	**70**

Table 7, Reportable Incidents by Cause

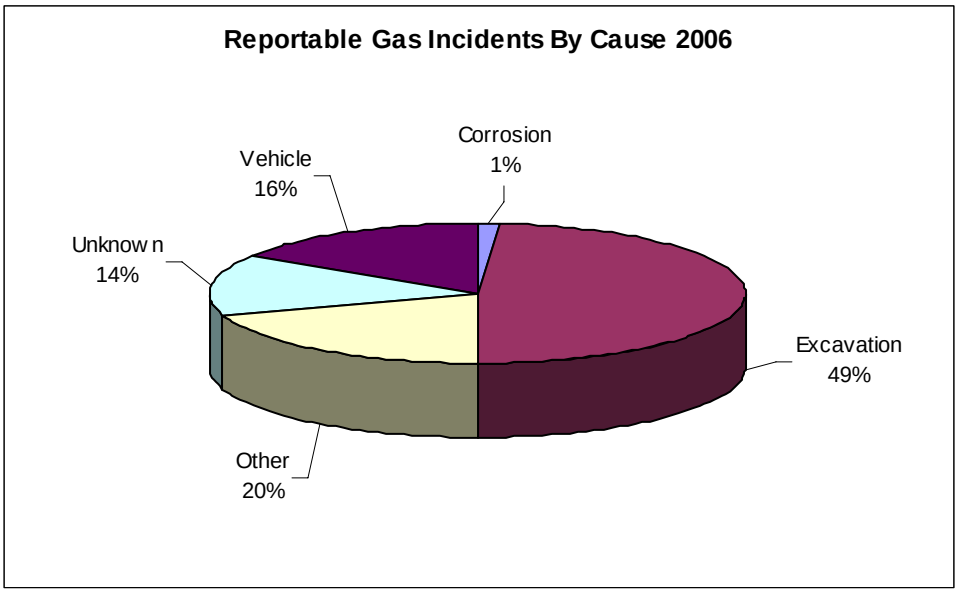

Figure 5, Comparison of Reportable Incidents

SECTION V: ELECTRIC STATISTICS

This section contains information and statistical data on the various electric related activities conducted by USRB during 2006.

USRB is responsible for enforcing the provisions of GOs 95, 128, and 165. USRB conducts periodic inspections of both overhead and underground electric power and communication lines throughout the state. This involves both a document audit and field inspection. USRB maintains records of the inspections and monitors the utilities to ensure violations are corrected.

USRB also investigates accidents involving overhead and underground electric and communication lines as mandated by PU Code Section 315 to determine if the utilities are at fault for non-compliance with the GOs.

USRB is divided into a Northern Unit and a Southern Unit for electric inspections as follows:

Northern Unit: Alameda, Alpine, Amador, Butte, Calaveras, Colusa, Contra Costa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Inyo, Kern, Kings, Lake, Lassen, Madera, Marin, Mariposa, Mendocino, Merced, Modoc, Mono, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Francisco, San Luis Obispo, San Joaquin, San Mateo, Santa Barbara, Santa Clara, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tuolumne, Tulare, Yolo, and Yuba.

Southern Unit: Imperial, Los Angeles, Orange, Riverside, San Bernardino, San Diego, and Ventura.

California has one of the largest electric and communications systems in the United States. Major utility data is presented in Table 8 and Figure 6 for overhead equipment. Utility data for underground facilities is presented in Table 9 and Figure 7. Customer data is provided in Table 10. USRB inspection results are provided in Table 11.

1. Major Utility Data (Overhead)

Utility Company	Transmission Lines (miles)	Distribution Lines (miles)	Total Overhead Lines (miles)	Number of Poles
PG&E	18,474	113,561	132,035	2,300,000
SCE	5,127	53,475	58,602	1,500,000
SDG&E	1,869	6,767	8,636	245,653
PacificCorp.	741	2,295	3,036	67,285
Sierra Pacific Power	344	1,086	1,430	22,900
Total	**26,555**	**177,184**	**203,739**	**4,135,838**

Table 8, Summary of Utility Overhead Facilities

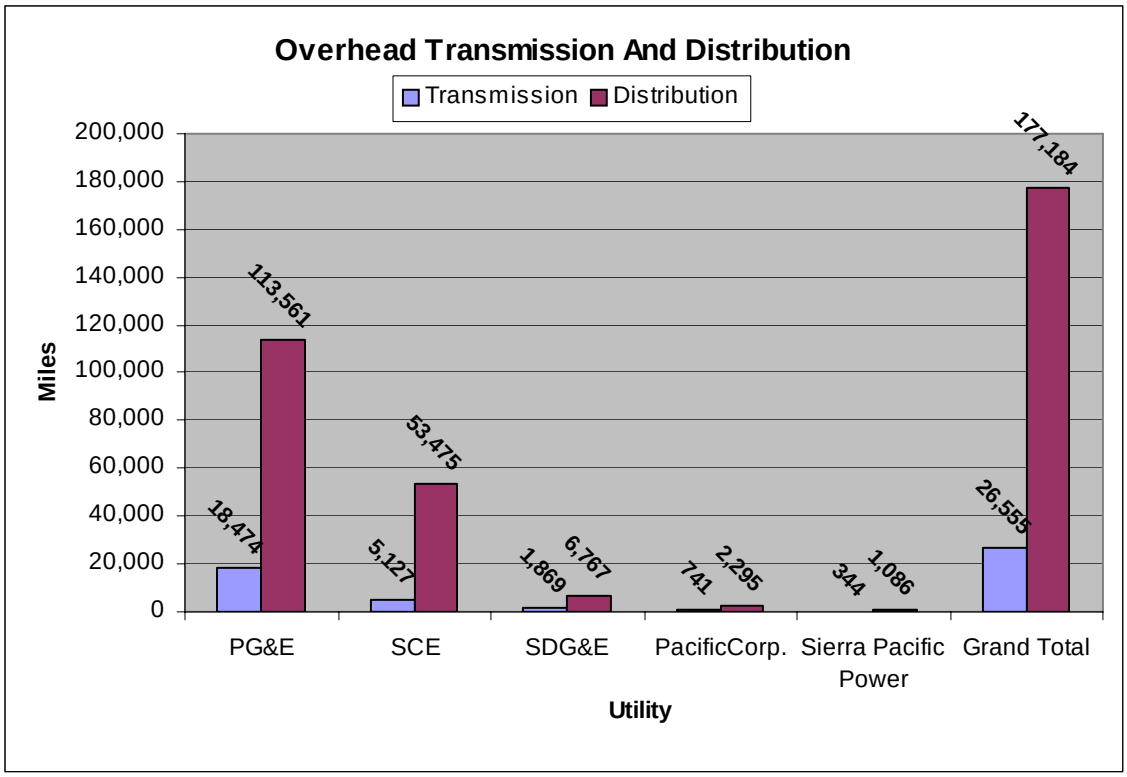

Figure 6, Overhead Distribution and Transmission by Utility

2. Utility Data (Underground)

Utility Company	Transmission Lines (miles)	Distribution Lines (miles)	Total Underground Lines (miles)	Surface Mounted Structures	Underground Structures
PG&E	164	26,488	26,652	130,557	330,000
SCE	312	32,320	32,632	148,758	335,504
SDG&E	94	9,668	9,762	108,724	43,005
PacificCorp.	0	571	571	5,806	236
Sierra Pacific Power	1	390	391	2,900	6,900
Total	**571**	**69,437**	**70,008**	**396,745**	**715,645**

Table 9, Underground Electric Facilities

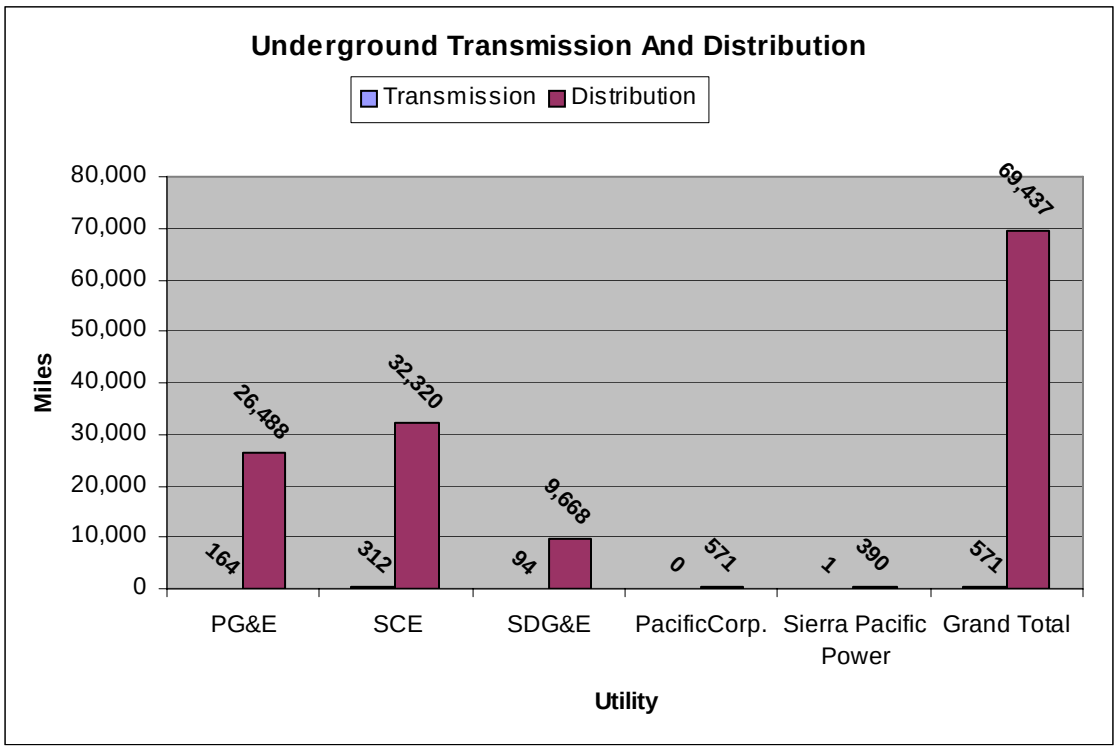

Figure 7, Underground Transmission and Distribution by Utility

3. Customer Data

Utility Company	Number of Customers
PG&E	5,209,310
SCE	4,800,000
SDG&E	1,350,877
PacificCorp.	44,219
Sierra Pacific Power	47,000
Total	**11,451,406**

Table 10, Customer Data for Major Electric Utilities

4. USRB Inspection Data

Utility	Inspections	Infractions		
		GO 165	GO 95	GO 128
Pacific Gas and Electric	6	10	25	7
Southern California Edison	3	1	239	113
San Diego Gas and Electric	3	4	10	2
Sierra Pacific Power	1	2	32	16
Municipalities / Others	6	6	195	85
TOTAL	19	23	501	223

Table 11, USRB Electric Inspections and infractions

5. Electric Incidents

USRB staff receives and investigates reportable electric incidents from regulated utility companies. The electric utility companies are required to provide notice to the designated USRB staff, via the USRB Incident 800 number, within two hours of an incident. The notice shall identify the time and date of the incident, the location of the incident, identification of casualties and property damage, and the name and telephone number of a utility contact person.

USRB staff may investigate incidents at any time. An on-site inspection is performed as soon after notification as possible if a fatality or serious injury has occurred. If it is determined that a GO violation was involved, staff prepares a report and recommends appropriate action against the utility.

USRB maintains a database to record and monitor incidents. If USRB recognizes an increasing trend in one type of incident reported, USRB staff will investigate and work with the utilities to correct the problem. In the past the CPUC has initiated Orders Instituting Investigation based upon the results of USRB's investigations.

There were 144 incidents reported in 2006. Of these, 96 incidents involved overhead equipment and 48 incidents involved underground equipment.

a. Overhead Equipment

Table 12 and Figure 8 represent a summary of the incidents that occurred in 2006. The leading cause of accidents was overhead work.

Cause	Count	Fatalities	Injuries
Aircraft	3	3	3
Animal	5	0	1
Boom	6	3	1
Crane	2	0	0
Falling Branch	2	0	0
Falling Tree	4	0	0
Fire	3	0	0
Insulator Failure	1	0	0
Line Failure	5	0	0
Metal Object	1	0	1
Natural Cause	5	0	0
Other	9	0	2
Rain Gutter	1	1	0
Switch Malfunction	1	0	0
Transformer Malfunction	2	0	0
Tree Trimmer	4	0	5
Tree/Line Contact	5	0	0
Unknown	12	1	1
Vehicle	12	2	1
Working Overhead	13	2	11
Total	96	12	26

Table 12, 2006 Overhead Incidents

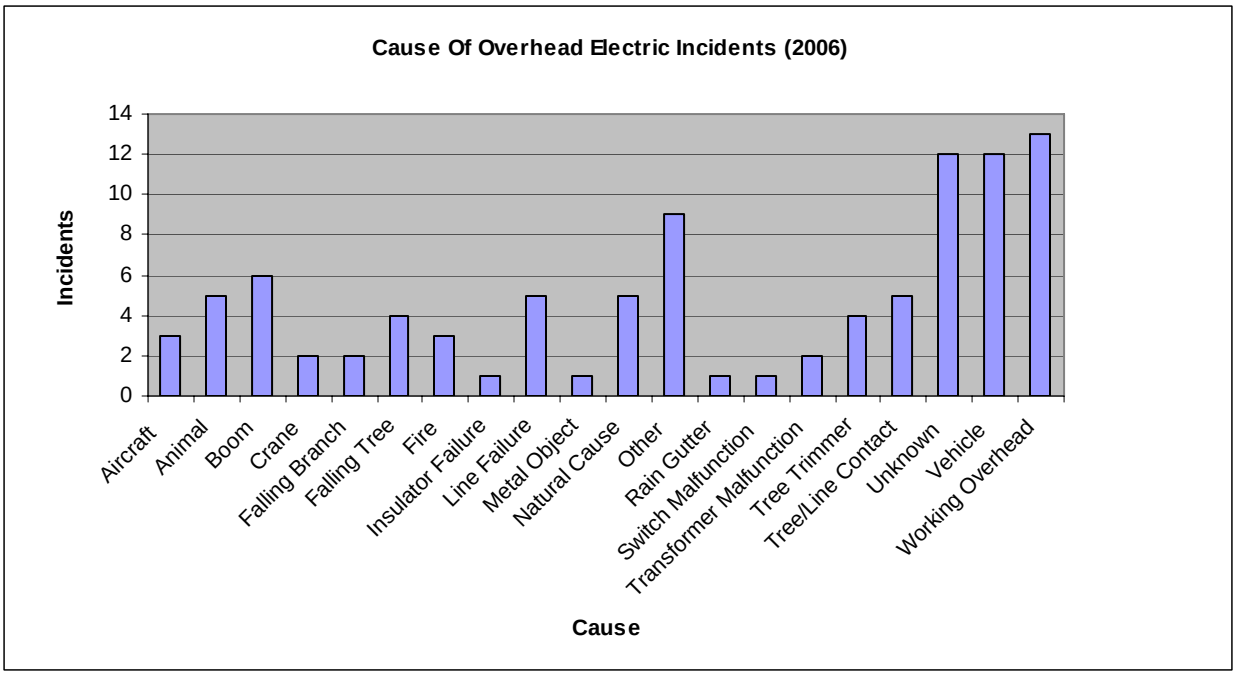

Figure 8, Comparison of Overhead Incidents

b. Underground Equipment

Table 13 and Figure 9 summarize the leading causes of incidents in 2006 related to underground equipment. The leading cause of accidents involving underground equipment in 2006 was excavation.

Cause	Count	Fatalities	Injuries
Excavation	9	0	0
Line Failure	1	0	0
Other	9	1	4
Switch Malfunction	2	0	0
Transformer Malfunction	1	0	0
Underground Cable Failure	9	0	2
Underground Splice Failure	2	0	0
Underground Transformer Failure	2	0	0
Unknown	7	1	2
Vehicle	1	1	0
Working Underground	5	1	4
Total	48	4	12

Table 13, 2006 Underground Incidents

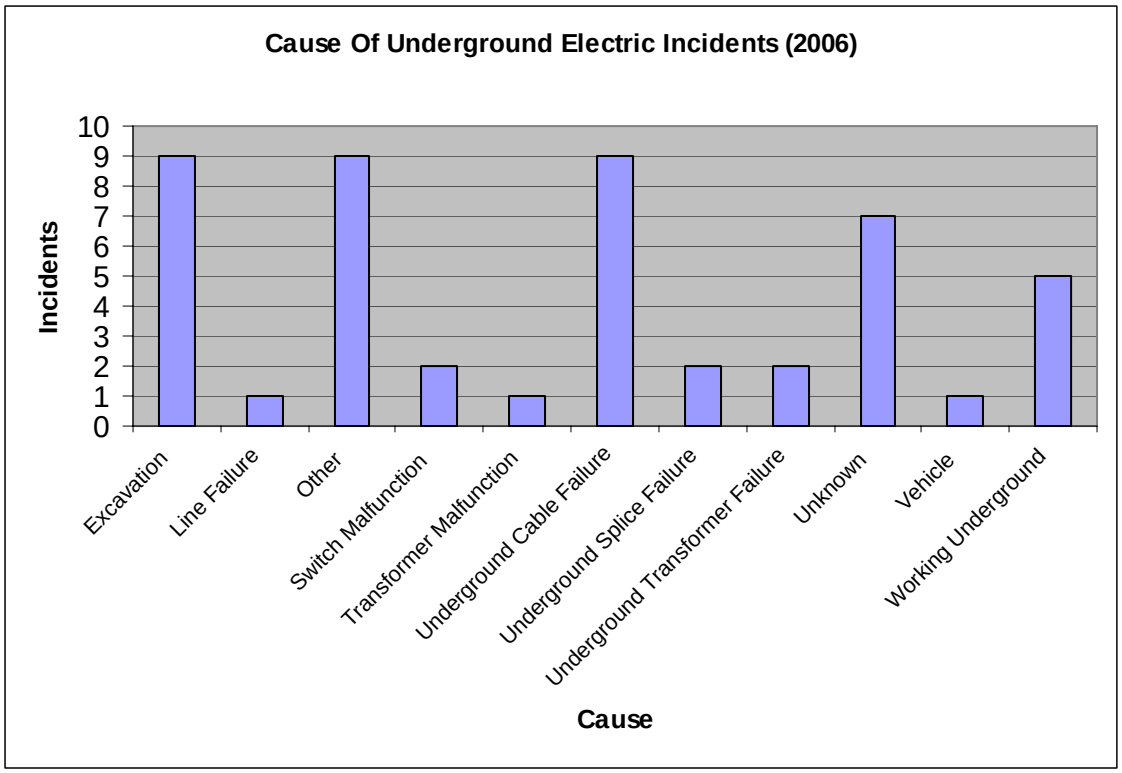

Figure 9, Comparison of Underground Incidents

SECTION VI: PUBLIC COMPLAINTS AND INQUIRIES

USRB responsibilities include recording, analyzing, and resolving complaints and inquiries received from the general public for those areas under USRB jurisdiction. Table 14 provides a summary of inquiries and complaints to USRB in 2006. Figure 10 below provides a comparison of the relative numbers of types of complaints or inquiries.

Category	Complaints
Electric	14
Gas	7
Telecommunications	6
MHP/Propane	17
Miscellaneous	12
Total	**56**

Table 14, Public Complaints and Inquiries

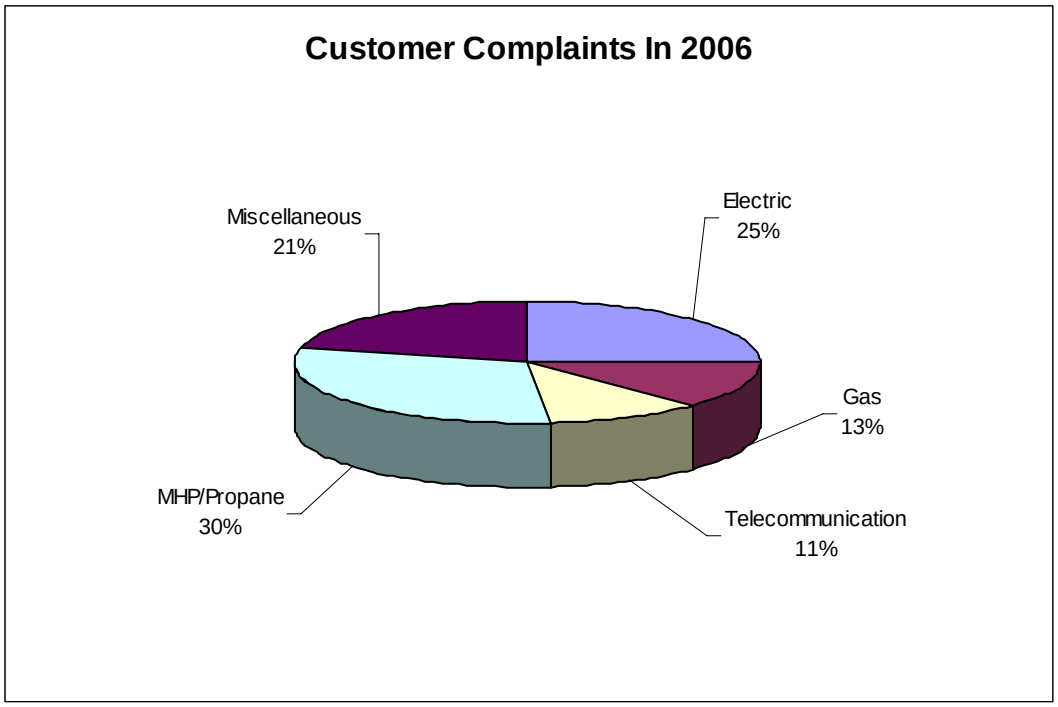

Figure 10, Complaint/Inquiry by Type

Electric complaints and inquiries generally involve problems with pole location or condition (leaning), height of service drops, height of power lines, or proximity of trees to power lines. Gas complaints and inquiries tend to involve customers smelling gas and not receiving a fast response from a utility. Telecommunication complaints and inquiries usually involve service failures or old and abandoned lines. The vast majority of MHP and propane complaints and inquiries are requests for information regarding annual reporting requirements and clarification about operator qualifications and operation and maintenance plans. Miscellaneous complaints and inquiries involve customers who called USRB by mistake and needed another branch of the CPUC, or who needed to talk to another state or local agency, such as the California Department of Forestry and Fire Protection, or a county planning department, etc. In all cases USRB staff assisted the callers by providing the proper information.